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VAPOR-LIQUID EQUILIBRIUM AT LOW PRESSURES:  
CORRELATION OF BINARY AND PREDICTION OF MULTICOMPONENT DATA

Volume II

Binary Data and Computer Results

by Norman I. Silverman



1 1  
ACETIC ACID(1) - ETHYLBENZE(2)

SYSTEM 001

1	45	1	10	2
725.	127.		.05	.175
725.	126.		.06	.2
725.	125.		.075	.225
725.	123.		.09	.27
725.	121.		.145	.355
725.	120.		.175	.385
725.	117.		.29	.505
725.	113.		.55	.695
725.	112.		.72	.765
725.	112.2		.82	.805
725.	113.		.907	.87
725.	114.		.96	.92
725.	115.		.98	.95

ACETIC ACID(1) - P-XYLENE(2)

SYSTEM 002

1	36	1	10	2
725.	132.		.01	.16
725.	125.5		.11	.32
725.	122.5		.185	.44
725.	120.		.24	.52
725.	118.		.32	.585
725.	116.5		.36	.645
725.	115.		.51	.72
725.	114.1		.745	.785
725.	114.		.837	.834
725.	114.2		.87	.855
725.	114.8		.925	.895
725.	115.3		.955	.93
725.	116.3		.996	.992

ACETONE(1) - ACETIC ACID(2)

SYSTEM 003

2	1	1	10	2
760.	112.1		.042	.108
760.	107.4		.103	.257
760.	106.3		.12	.289
760.	106.1		.127	.31
760.	105.4		.118	.303
760.	104.6		.158	.356
760.	101.4		.194	.433
760.	98.7		.186	.464
760.	94.3		.226	.564
760.	92.5		.236	.58
760.	90.4		.271	.63
760.	87.0		.294	.66
760.	86.3		.307	.709
760.	78.6		.433	.844
760.	74.2		.538	.92
760.	70.8		.55	.918
760.	65.6		.668	.966
760.	63.6		.761	.981
760.	60.7		.935	.997

ACETONE(1) - ACETONITRILE(2)

SYSTEM 004

2	3	1	10	1
225.3	45.		.052	.12



239.9	45.	.095	.206
268.5	45.	.192	.367
302.7	45.	.305	.51
331.7	45.	.403	.611
355.2	45.	.481	.682
393.2	45.	.606	.781
423.6	45.	.706	.849
454.1	45.	.807	.904
481.4	45.	.896	.951

ACETONE(1) - BENZENE(2)

SYSTEM 005

	2	5	1	10	2
760.		79.5		.02	.063
760.		78.3		.05	.14
760.		76.4		.1	.243
760.		72.8		.2	.4
760.		69.6		.3	.512
760.		66.7		.4	.594
760.		64.3		.5	.665
760.		62.4		.6	.73
760.		60.7		.7	.795
760.		59.6		.8	.863
760.		58.8		.9	.932

ACETONE(1) - CARBON TETRACHLORIDE(2)

SYSTEM 006

	2	6	1	10	1
328.		50.		.0115	.0513
336.		50.		.0201	.091
362.		50.		.0385	.159
359.		50.		.0395	.1767
402.		50.		.0868	.2849
457.		50.		.1699	.412
507.5		50.		.286	.5134
553.		50.		.4396	.6093
566.5		50.		.5073	.6511
579.5		50.		.561	.6856
592.		50.		.6465	.73
599.		50.		.7031	.7669
605.		50.		.7649	.8055
610.		50.		.8293	.8492
612.5		50.		.8759	.8856
614.		50.		.947	.9468
615.		50.		.9763	.9755

ACETONE(1) - CHLOROFORM(2)

SYSTEM 007A

	2	8	1	10	1
514.		50.		.0213	.0115
506.		50.		.0526	.0318
505.		50.		.0574	.035
494.		50.		.0967	.0646
483.		50.		.144	.109
469.		50.		.207	.172
461.		50.		.261	.232
457.		50.		.311	.29
457.		50.		.335	.322
457.		50.		.365	.363
457.		50.		.382	.381
459.		50.		.431	.458

466.	50.	.492	.546
469.	50.	.509	.57
474.	50.	.54	.618
483.	50.	.581	.677
494.	50.	.624	.727
511.	50.	.688	.789
520.	50.	.709	.794
532.	50.	.751	.83
547.	50.	.797	.886
551.	50.	.816	.894
559.	50.	.834	.915
572.	50.	.871	.934
582.	50.	.904	.954
592.	50.	.935	.97
599.	50.	.961	.982
606.	50.	.978	.99
607.	50.	.981	.991

ACETONE(1) - CHLOROFORM(2)

SYSTEM 007B

	2	8	1	10	1
586.8		55.		.1003	.063
563.2		55.		.2003	.147
548.6		55.		.3008	.27
547.1		55.		.398	.411
560.1		55.		.4883	.545
578.3		55.		.5925	.678
613.3		55.		.6951	.795
646.4		55.		.7945	.883
686.1		55.		.8951	.947

ACETONE(1) - CHLOROFORM(2)

SYSTEM 007C

	2	8	1	10	2
760.		62.63		.6064	.6887
760.		63.66		.5211	.5788
760.		62.03		.6448	.7311
760.		60.39		.7474	.8337
760.		58.77		.8391	.9045
760.		62.06		.0563	.0387
760.		63.22		.1491	.1126
760.		64.35		.2747	.2495
760.		64.07		.2224	.1885

ACETONE(1) - ETHANOL(2)

SYSTEM 008A

	2	11	1	10	1
223.3		48.		.025	.121
244.1		48.		.05	.2155
263.6		48.		.075	.289
281.6		48.		.1	.346
314.2		48.		.15	.437
341.5		48.		.2	.507
365.5		48.		.25	.56
387.		48.		.3	.602
424.9		48.		.4	.67
457.4		48.		.5	.731
485.		48.		.6	.785
510.1		48.		.7	.838
533.		48.		.8	.889
553.6		48.		.9	.942

## ACETONE(1) - ETHANOL(2)

SYSTEM 0088

2	11	1	10	2
760.	75.4		.05	.155
760.	73.		.1	.262
760.	71.		.15	.348
760.	69.		.2	.417
760.	67.3		.25	.478
760.	65.9		.3	.524
760.	64.7		.35	.566
760.	63.6		.4	.605
760.	61.8		.5	.674
760.	60.4		.6	.739
760.	59.1		.7	.802
760.	58.		.8	.865
760.	57.		.9	.929

## ACETONE(1) - 2-PROPANOL(2)

SYSTEM 009A

2	22	1	10	1
707.37	55.		.9214	.9629
684.21	55.		.8569	.924
644.62	55.		.7338	.8729
637.84	55.		.7216	.8617
602.2	55.		.6084	.8098
563.06	55.		.5234	.7655
533.87	55.		.4314	.7284
517.54	55.		.3879	.6995
456.4	55.		.2687	.6024
442.9	55.		.2353	.5722
390.23	55.		.1591	.4762
331.59	55.		.0971	.3625
299.5	55.		.0642	.2777
257.97	55.		.0237	.1166

## ACETONE(1) - 2-PROPANOL(2)

SYSTEM 009B

2	22	1	10	2
760.	56.78		.9249	.9614
760.	58.75		.7691	.8873
760.	61.19		.6077	.8081
760.	63.8		.4629	.7242
760.	64.6		.4215	.6974
760.	65.01		.3997	.686
760.	69.32		.2486	.5261
760.	71.63		.1927	.4525
760.	73.41		.1468	.3793
760.	75.41		.108	.3018
760.	79.78		.0359	.1135

## ACETONE(1) - METHANOL(2)

SYSTEM 010A

2	23	1	10	1
421.	50.		.0031	.0086
424.	50.		.0073	.0203
430.	50.		.0162	.0452
434.	50.		.0221	.0603
442.	50.		.0339	.091
465.	50.		.0709	.169
471.	50.		.0807	.189
489.	50.		.121	.256

499.	50.	.136	.266
510.	50.	.167	.315
524.	50.	.206	.352
544.	50.	.257	.39
542.	50.	.26	.4
560.	50.	.316	.455
569.	50.	.338	.479
570.	50.	.357	.499
580.	50.	.396	.533
581.	50.	.405	.538
583.	50.	.412	.543
593.	50.	.452	.574
602.	50.	.502	.57
613.	50.	.578	.658
621.	50.	.662	.7
615.	50.	.674	.728
623.	50.	.677	.711
624.	50.	.691	.718
623.	50.	.696	.728
624.	50.	.721	.746
621.	50.	.736	.754
625.	50.	.767	.782
624.	50.	.798	.816
626.	50.	.812	.81
625.	50.	.881	.871
623.	50.	.924	.917
619.	50.	.949	.941

ACETONE(1) - METHANOL(2)

SYSTEM 010B

	2	23	1	10	1	
542.17	55.		.0287			.0647
564.61	55.		.0570			.1295
569.56	55.		.0644			.1407
581.45	55.		.0858			.1848
592.15	55.		.1046			.219
610.13	55.		.1357			.2637
618.98	55.		.1452			.2694
628.16	55.		.1663			.3055
650.74	55.		.2173			.3633
657.7	55.		.239			.3863
675.68	55.		.2787			.4184
699.07	55.		.3579			.4779
712.65	55.		.405			.5135
722.76	55.		.448			.5512
732.37	55.		.5052			.5844
738.49	55.		.5432			.6174
748.61	55.		.6332			.6772
752.18	55.		.6538			.6849
749.65	55.		.6605			.6926
752.11	55.		.6945			.7124
753.53	55.		.7327			.7383
753.85	55.		.7525			.7618
757.52	55.		.7752			.7729
757.97	55.		.7922			.7876
749.1	55.		.908			.8959
750.31	55.		.9088			.8963
750.47	55.		.9197			.8941
748.52	55.		.9448			.9336

## ACETONE(1) - METHYL ACETATE(2)

SYSTEM 011

	2	24	1	10	1
595.		50.		.019	.025
596.		50.		.04	.045
599.		50.		.087	.101
607.		50.		.189	.207
610.		50.		.253	.271
612.5		50.		.313	.334
614.5		50.		.371	.387
626.		50.		.454	.468
622.5		50.		.471	.484
624.		50.		.554	.561
620.2		50.		.586	.591
621.7		50.		.628	.636
624.2		50.		.688	.688
622.2		50.		.723	.717
623.9		50.		.748	.75
622.4		50.		.778	.774
620.7		50.		.803	.805
619.6		50.		.837	.838
618.		50.		.871	.865
616.7		50.		.946	.936
613.7		50.		.959	.954
613.2		50.		.983	.982
610.		50.		.991	.991

## ACETONE(1) - METHYL ETHYL KETONE(2)

SYSTEM 012

	2	28	1	10	2
760.		78.5		.026	.05
760.		76.6		.081	.153
760.		74.2		.153	.29
760.		71.4		.245	.437
760.		69.		.373	.571
760.		67.		.45	.64
760.		65.1		.51	.657
760.		64.1		.544	.715
760.		62.1		.62	.775
760.		61.1		.676	.817
760.		60.3		.727	.84
760.		58.9		.817	.903
760.		57.9		.891	.942
760.		56.9		.95	.972

## ACETONE(1) - METHYL ISOBUTYL KETONE(2)

SYSTEM 013

	2	29	1	10	2
760.		110.13		.034	.145
760.		99.03		.124	.432
760.		91.59		.21	.596
760.		84.09		.303	.722
760.		76.67		.423	.819
760.		70.88		.546	.885
760.		65.78		.679	.933
760.		61.64		.7935	.967
760.		58.56		.91	.985

## ACETONE(1) - WATER(2)

SYSTEM 014

	2	34	1	10	2
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760.	87.8	.01	.335
760.	83.	.023	.462
760.	76.5	.041	.585
760.	66.2	.12	.756
760.	61.8	.264	.802
760.	61.1	.3	.809
760.	60.	.444	.832
760.	59.7	.506	.837
760.	59.5	.538	.84
760.	58.9	.609	.847
760.	58.5	.661	.86
760.	57.4	.793	.9
760.	57.1	.85	.917

ACETONITRILE(1) - WATER(2)

SYSTEM 015A

	3	34	1	10	2	
150.		36.6		.98		.955
150.		36.0		.955		.91
150.		34.6		.9		.86
150.		34.1		.772		.835
150.		34.5		.513		.81
150.		36.7		.168		.732
150.		44.8		.052		.507
150.		58.7		.003		.064

ACETONITRILE(1) - WATER(2)

SYSTEM 015B

	3	34	1	10	2	
300.		53.2		.99		.953
300.		52.3		.98		.914
300.		51.6		.914		.835
300.		51.2		.86		.808
300.		51.1		.7		.772
300.		51.4		.52		.746
300.		51.7		.311		.732
300.		54.0		.118		.686
300.		64.7		.03		.42
300.		73.5		.008		.107

ACETONITRILE(1) - WATER(2)

SYSTEM 015C

	3	34	1	10	2	
760.		79.2		.96		.879
760.		78.8		.95		.851
760.		77.9		.914		.835
760.		77.1		.88		.795
760.		76.3		.795		.740
760.		76.0		.726		.726
760.		76.3		.597		.693
760.		78.2		.349		.645
760.		78.4		.279		.627
760.		79.3		.188		.585
760.		80.9		.099		.550
760.		85.2		.039		.447
760.		90.1		.015		.320
760.		91.7		.006		.279
760.		95.0		.002		.180

ACETONITRILE(1) - WATER(2)

SYSTEM 015D

	3	34	1	10	2
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760.	90.3	.031	.285
760.	84.2	.054	.458
760.	80.9	.103	.549
760.	80.7	.105	.554
760.	78.0	.192	.598
760.	77.2	.443	.609
760.	76.8	.622	.672
760.	77.2	.663	.684
760.	77.0	.685	.691
760.	76.8	.725	.697
760.	77.0	.802	.733
760.	78.1	.903	.825
760.	79.4	.964	.903

ACETONITRILE(1) - WATER(2)

SYSTEM 015E

	3	34	1	10	2	
760.		86.5		.029		.263
760.		81.1		.093		.505
760.		80.		.142		.559
760.		78.6		.254		.617
760.		77.4		.402		.655
760.		76.7		.507		.664
760.		76.6		.527		.673
760.		76.		.718		.728
760.		76.6		.839		.78
760.		76.8		.856		.761
760.		80.4		.986		.945

ACRYLONITRILE(1) - ACETONITRILE(2)

SYSTEM 016

	40	3	1	10	2	
760.		79.8		.079		.098
760.		79.2		.168		.206
760.		78.5		.317		.35
760.		78.2		.406		.431
760.		77.7		.557		.586
760.		77.4		.78		.791
760.		73.3		.917		.921

ALLYL ALCOHOL(1) - WATER(2)

SYSTEM 017

	48	34	1	10	2	
760.		99.18		.0025		.0309
760.		98.68		.0049		.0554
760.		97.54		.0113		.0994
760.		96.14		.0193		.1446
760.		95.18		.0267		.178
760.		94.04		.0397		.226
760.		93.06		.0556		.2634
760.		92.48		.0622		.2793
760.		90.58		.1058		.3456
760.		89.96		.168		.3658
760.		89.14		.4216		.4336
760.		89.06		.5517		.475
760.		90.04		.6921		.5747
760.		90.88		.7658		.6338
760.		92.18		.8340		.7058
760.		93.16		.8813		.769
760.		94.96		.9402		.8696
760.		96.58		.9824		.9596

BENZENE(1) - CYCLOHEXANE(2)

SYSTEM 018A

5	9	1	10	1
194.94	39.99		.1282	.1657
200.65	39.99		.2354	.2766
204.75	39.99		.3685	.3912
206.12	39.99		.4932	.495
205.18	39.99		.6143	.5909
201.73	39.99		.7428	.6979
195.04	39.99		.8650	.8205

BENZENE(1) - CYCLOHEXANE(2)

SYSTEM 018B

5	9	1	10	1
567.6	69.98		.1186	.1486
584.9	69.98		.2409	.2805
596.16	69.98		.3759	.3982
600.27	69.98		.4945	.4975
599.32	69.98		.618	.6027
593.48	69.98		.7248	.6962
577.79	69.98		.8659	.8311

BENZENE(1) - CYCLOHEXANE(2)

SYSTEM 018C

5	9	1	10	1
563.4	70.		.125	.167
579.	70.		.25	.297
590.5	70.		.375	.412
596.6	70.		.5	.511
596.2	70.		.625	.611
589.4	70.		.75	.716
570.9	70.		.875	.834

BENZENE(1) - CYCLOHEXANE(2)

SYSTEM 018D

5	9	1	10	2
760.	79.8		.077	.096
760.	79.5		.096	.118
760.	79.25		.118	.145
760.	79.05		.145	.176
760.	78.85		.176	.208
760.	78.7		.208	.243
760.	78.5		.245	.28
760.	78.25		.28	.314
760.	78.1		.314	.346
760.	77.95		.346	.375
760.	77.85		.375	.402
760.	77.75		.402	.426
760.	77.6		.507	.512
760.	77.6		.512	.516
760.	77.6		.516	.519
760.	77.55		.519	.522
760.	77.55		.522	.524
760.	77.55		.524	.526
760.	77.65		.628	.612
760.	77.7		.645	.628
760.	77.75		.663	.645
760.	77.8		.685	.663
760.	77.9		.712	.685
760.	78.		.742	.712
760.	78.05		.775	.744



760.	78.3	.806	.775
760.	78.55	.836	.806
760.	78.8	.865	.836
760.	79.05	.892	.865
760.	79.25	.916	.892

BENZENE(1) - CYCLOHEXANE(2)

SYSTEM 018E

	5	9	1	10	2	
760.		79.5		.101		.131
760.		78.9		.171		.211
760.		78.4		.256		.293
760.		77.8		.343		.376
760.		77.5		.428		.445
760.		77.4		.525		.529
760.		77.4		.571		.564
760.		77.6		.665		.645
760.		77.9		.759		.728
760.		78.2		.81		.777
760.		78.6		.863		.834
760.		79.3		.945		.926

BENZENE(1) - ETHANOL(2)

SYSTEM 019A

	5	11	1	10	1	
89.5		25.		.1		.397
106.5		25.		.2		.53
115.7		25.		.3		.594
120.8		25.		.4		.632
123.5		25.		.5		.658
124.4		25.		.6		.672
124.9		25.		.7		.688
124.5		25.		.8		.7
121.2		25.		.9		.74

BENZENE(1) - ETHANOL(2)

SYSTEM 019B

	5	11	1	10	2	
760.		75.55		.03		.142
760.		72.3		.065		.244
760.		70.4		.114		.309
760.		68.7		.216		.374
760.		68.15		.317		.41
760.		68.		.406		.435
760.		68.		.544		.48
760.		68.45		.639		.515
760.		69.4		.749		.575
760.		70.6		.828		.642
760.		72.7		.896		.74
760.		74.8		.943		.837
760.		76.15		.968		.9
760.		77.15		.984		.948

BENZENE(1) - FURFURAL(2)

SYSTEM 020

	5	15	1	10	2	
760.		154.7		.0299		.29
760.		130.		.1271		.6832
760.		121.7		.174		.7789
760.		105.7		.3274		.902
760.		100.5		.4675		.9297
760.		94.1		.6167		.9599

760.	90.6	.7079	.969
760.	87.1	.7945	.9804
760.	84.	.875	.9891
760.	82.7	.9248	.9933

BENZENE(1) - HEPTANE(2)

SYSTEM 021A

	5	16	1	10	1
454.62		80.		.0464	.0988
476.25		80.		.0861	.1729
534.38		80.		.2004	.3473
569.49		80.		.2792	.4412
613.53		80.		.3842	.5464
650.16		80.		.4857	.6304
679.74		80.		.5824	.7009
708.78		80.		.6904	.7759
729.77		80.		.7842	.8384
748.46		80.		.8972	.9149

BENZENE(1) - HEPTANE(2)

SYSTEM 021B

	5	16	1	10	2
180.		51.5		.1	.245
180.		48.3		.2	.404
180.		45.9		.3	.516
180.		44.2		.4	.603
180.		42.8		.5	.672
180.		41.7		.6	.734
180.		40.9		.7	.79
180.		40.4		.8	.848
180.		39.8		.9	.914

BENZENE(1) - HEPTANE(2)

SYSTEM 021C

	5	16	1	10	2
400.		73.9		.1	.218
400.		70.5		.2	.373
400.		68.		.3	.49
400.		66.		.4	.583
400.		64.4		.5	.66
400.		63.3		.6	.727
400.		62.1		.7	.788
400.		61.4		.8	.849
400.		60.8		.9	.916

BENZENE(1) - HEPTANE(2)

SYSTEM 021D

	5	16	1	10	2
760.		97.4		.023	.048
760.		94.		.116	.217
760.		91.7		.192	.325
760.		92.9		.151	.269
760.		90.3		.244	.39
760.		87.8		.342	.502
760.		86.6		.406	.561
760.		88.1		.332	.487
760.		88.		.334	.494
760.		88.3		.323	.483
760.		85.7		.448	.599
760.		84.1		.549	.679
760.		83.2		.61	.723
760.		82.4		.675	.768

760.	82.1	.699	.782
760.	81.8	.729	.802
760.	81.6	.745	.813
760.	81.3	.768	.827
760.	80.9	.825	.864
760.	80.6	.881	.901
760.	80.4	.903	.922
760.	80.2	.94	.949

BENZENE(1) + HEXANE(2)

SYSTEM 022

	5	18	1	10	2	
760.		68.7		.08		.078
760.		68.75		.082		.08
760.		68.75		.085		.082
760.		68.8		.088		.085
760.		68.8		.091		.088
760.		68.8		.095		.091
760.		68.85		.144		.137
760.		68.9		.152		.144
760.		68.95		.16		.152
760.		68.95		.17		.16
760.		69.		.183		.17
760.		69.		.199		.183
760.		69.		.252		.226
760.		69.15		.281		.252
760.		69.35		.318		.281
760.		69.65		.366		.318
760.		70.05		.43		.366
760.		70.65		.512		.43
760.		71.35		.583		.489
760.		72.7		.69		.583
760.		74.55		.797		.69
760.		76.65		.881		.797
760.		78.1		.94		.881
760.		79.1		.972		.94

BENZENE(1) - HEXYLENE GLYCOL(2)

SYSTEM 023

	5	55	1	10	2	
400.		137.1		.042		.785
400.		121.1		.060		.881
400.		77.1		.327		.990

BENZENE(1) - METHYL CELLOSOLVE(2)

SYSTEM 024

	5	25	1	10	2	
760.		117.6		.0426		.2411
760.		92.5		.2724		.7384
760.		86.9		.4274		.8154
760.		82.7		.6314		.8756
760.		81.6		.61		.8733
760.		80.3		.782		.9082
760.		80.2		.9058		.9361

BENZENE(1) - 2-PROPANOL(2)

SYSTEM 025A

	5	22	1	10	1	
327.		50.		.845		.76
336.7		50.		.7		.68
330.2		50.		.5		.609
306.7		50.		.3		.523

266.3 50. .155 .421

BENZENE(1) - 2-PROPANOL(2)

SYSTEM 025B

	5	22	1	10	2
500.		69.5		.039	.148
500.		67.1		.089	.262
500.		65.4		.142	.35
500.		63.9		.197	.424
500.		62.9		.255	.469
500.		61.8		.335	.525
500.		61.		.414	.563
500.		60.9		.495	.6
500.		60.3		.566	.626
500.		60.2		.64	.647
500.		60.1		.716	.674
500.		60.3		.797	.707
500.		63.		.942	.828
500.		64.7		.976	.896

BENZENE(1) - 2-PROPANOL(2)

SYSTEM 025C

	5	22	1	10	2
760.		73.05		.845	.728
760.		71.86		.7	.648
760.		71.94		.5	.572
760.		73.39		.3	.472
760.		76.18		.155	.33

BENZENE(1) - TOLUENE(2)

SYSTEM 026

	5	33	1	10	2
760.		108.7		.052	.110
760.		107.2		.083	.172
760.		105.9		.119	.238
760.		105.1		.141	.274
760.		103.9		.173	.322
760.		102.8		.194	.360
760.		101.5		.224	.402
760.		100.6		.253	.434
760.		99.		.299	.501
760.		98.3		.314	.523
760.		96.6		.366	.581
760.		94.7		.433	.643
760.		92.7		.502	.706
760.		90.7		.571	.761
760.		89.1		.621	.801
760.		87.1		.705	.853
760.		85.3		.769	.889
760.		84.2		.820	.919
760.		83.1		.879	.946
760.		81.8		.931	.968
760.		81.3		.961	.983

BENZENE(1) - P-XYLENE(2)

SYSTEM 027

	5	36	1	10	2
760.		129.		.086	.285
760.		125.		.124	.382
760.		124.7		.131	.396
760.		120.2		.179	.497
760.		115.1		.238	.602

760.	111.8	.287	.66
760.	107.1	.362	.793
760.	105.	.402	.77
760.	101.1	.466	.816
760.	93.8	.596	.888
760.	89.4	.718	.934
760.	86.4	.802	.96
760.	83.6	.886	.979

1-BUTANOL(2) - BENZENE(1)

SYSTEM 028

	5	43	1	10	2
760.		80.16		.954	.966
760.		80.21		.948	.963
760.		80.28		.942	.96
760.		80.39		.928	.952
760.		80.67		.897	.947
760.		80.87		.848	.92
760.		81.36		.79	.904
760.		81.98		.714	.885
760.		83.19		.631	.867
760.		84.54		.56	.847
760.		86.39		.475	.819
760.		88.28		.397	.787
760.		89.69		.369	.779
760.		92.25		.308	.724
760.		95.6		.234	.66
760.		98.7		.18	.59
760.		100.22		.161	.56
760.		102.22		.134	.51
760.		107.1		.085	.38
760.		112.		.04	.217
760.		116.9		.004	.025

1-BUTANOL(1) - TOLUENE(2)

SYSTEM 029

	43	33	1	10	2
760.		116.05		.028	.075
760.		112.9		.096	.221
760.		110.5		.165	.321
760.		109.		.227	.399
760.		107.6		.318	.487
760.		106.4		.415	.554
760.		106.		.487	.595
760.		105.8		.532	.617
760.		105.7		.558	.627
760.		105.6		.614	.653
760.		105.5		.668	.675
760.		105.5		.675	.676
760.		105.5		.701	.687
760.		105.6		.766	.72
760.		106.3		.859	.784
760.		106.5		.871	.794
760.		108.1		.948	.894

CARBON TETRACHLORIDE(1) - BENZENE(2)

SYSTEM 030A

	6	5	1	10	1
185.		40.		.0994	.1244
189.		40.		.1858	.2233
195.		40.		.3401	.3824

198.	40.	.4393	.4815
201.	40.	.5324	.5681
203.	40.	.6063	.6363
205.	40.	.6815	.7043
207.	40.	.7812	.7964
209.	40.	.8926	.8990
210.	40.	.9529	.9555
210.	40.	.9632	.9653

CARBON TETRACHLORIDE(1) - BENZENE(2)					SYSTEM 030B
6	5	1	10	1	
190.18	40.		.1398	.1703	
194.7	40.		.2378	.2774	
200.07	40.		.3735	.4159	
204.02	40.		.4919	.5295	
204.2	40.		.4986	.5359	
207.44	40.		.6201	.6475	
210.37	40.		.7585	.7739	
211.97	40.		.8718	.8783	

CARBON TETRACHLORIDE(1) - BENZENE(2)					SYSTEM 030C
6	5	1	10	1	
568.89	70.		.1428	.1666	
579.13	70.		.2394	.2702	
591.62	70.		.3791	.4105	
600.77	70.		.4930	.5204	
599.67	70.		.4939	.5215	
607.22	70.		.6224	.6411	
613.08	70.		.7624	.7719	
616.02	70.		.8750	.8780	

CARBON TETRACHLORIDE(1) - BENZENE(2)					SYSTEM 030D
6	5	1	10	2	
760.	79.3		.1364	.1582	
760.	78.8		.2157	.2415	
760.	78.6		.2573	.288	
760.	78.5		.2944	.3215	
760.	78.2		.3634	.3915	
760.	78.		.4057	.435	
760.	77.6		.5269	.548	
760.	77.4		.6202	.638	
760.	77.1		.7223	.733	

CARBON TETRACHLORIDE(1) - CYCLOHEXANE(2)					SYSTEM 031
6	9	1	10	2	
760.	80.34		.045	.068	
760.	79.6		.124	.155	
760.	79.66		.134	.163	
760.	79.17		.201	.23	
760.	78.88		.256	.273	
760.	79.1		.201	.22	
760.	76.74		.791	.805	
760.	77.06		.675	.693	
760.	77.07		.685	.696	
760.	77.4		.579	.6	
760.	77.53		.54	.569	
760.	77.63		.519	.545	
760.	78.06		.412	.436	

760.	78.46	.314	.345
760.	78.8	.26	.285
760.	79.25	.198	.23
760.	79.54	.146	.171
760.	79.73	.113	.135
760.	78.07	.404	.427

CARBON TETRACHLORIDE(1) - 2-PROPANOL(2)

SYSTEM 032A

6	22	1	10	1
579.6	70.	.086	.255	
659.	70.	.166	.392	
707.8	70.	.238	.469	
766.3	70.	.384	.561	
798.2	70.	.559	.634	
804.3	70.	.711	.686	
793.8	70.	.815	.733	
723.5	70.	.945	.846	
675.1	70.	.975	.916	

CARBON TETRACHLORIDE(1) - 2-PROPANOL(2)

SYSTEM 032B

6	22	1	10	2
760.	79.9	.034	.114	
760.	78.5	.062	.185	
760.	76.8	.092	.252	
760.	74.	.173	.376	
760.	72.8	.224	.442	
760.	70.6	.342	.534	
760.	69.7	.412	.575	
760.	69.1	.486	.604	
760.	69.	.578	.64	
760.	68.8	.647	.665	
760.	68.9	.73	.692	
760.	69.1	.804	.719	
760.	70.2	.88	.76	
760.	72.2	.943	.821	
760.	74.1	.97	.893	

CELLOSOLVE(1) - HEXANE(2)

SYSTEM 033

7	18	1	10	2
760.	94.	.905	.223	
760.	91.4	.893	.2	
760.	82.1	.822	.125	
760.	76.1	.717	.088	
760.	72.5	.558	.067	
760.	71.7	.469	.063	
760.	71.4	.447	.061	
760.	70.2	.296	.052	
760.	69.9	.287	.05	
760.	69.7	.133	.035	

CELLOSOLVE(1) - 1-HEXENE(2)

SYSTEM 034

7	38	1	10	2
760.	110.5	.95	.435	
760.	94.7	.895	.237	
760.	95.	.833	.15	
760.	73.9	.672	.082	
760.	71.2	.573	.065	
760.	68.5	.423	.049	

760.	66.2	.227	.03
760.	65.1	.124	.018

CHLOROFORM(1) - BENZENE(2)

SYSTEM 035A

	8	5	1	10	1
276.2		50.		.034	.055
278.8		50.		.055	.077
288.6		50.		.121	.182
294.7		50.		.149	.218
302.3		50.		.184	.271
317.6		50.		.276	.395
329.4		50.		.314	.438
348.4		50.		.406	.554
353.		50.		.434	.581
363.6		50.		.479	.636
384.		50.		.547	.702
388.4		50.		.564	.715
410.8		50.		.647	.791
424.		50.		.693	.824
437.6		50.		.746	.863
467.7		50.		.833	.922
478.2		50.		.868	.942
499.8		50.		.946	.980
501.6		50.		.951	.983

CHLOROFORM(1) - BENZENE(2)

SYSTEM 035B

	8	5	1	10	2
760.		79.2		.06	.089
760.		79.		.068	.1
760.		78.4		.116	.167
760.		77.9		.133	.19
760.		76.9		.193	.27
760.		76.2		.229	.316
760.		75.7		.266	.361
760.		74.7		.318	.429
760.		74.4		.333	.443
760.		73.3		.388	.508
760.		72.2		.443	.57
760.		71.6		.467	.601
760.		70.8		.517	.652
760.		69.7		.57	.702
760.		68.3		.637	.762
760.		67.		.7	.814
760.		65.4		.783	.875
760.		64.1		.853	.922
760.		62.6		.934	.968

CHLOROFORM(1) - ETHYL ACETATE(2)

SYSTEM 036

	8	12	1	10	2
760.		77.5		.071	.064
760.		77.6		.11	.102
760.		77.7		.14	.134
760.		77.8		.174	.171
760.		77.8		.223	.227
760.		77.5		.259	.27
760.		77.3		.301	.323
760.		76.8		.365	.408
760.		76.		.448	.522



760.	75.1	.504	.596
760.	74.7	.528	.628
760.	73.5	.581	.7
760.	71.8	.65	.78
760.	70.4	.704	.839
760.	68.9	.751	.879
760.	67.7	.79	.91
760.	65.6	.856	.95
760.	63.7	.922	.978

CHLOROFORM(1) - METHANOL(2)

SYSTEM 037A

	8	23	1	10	1	
420.		50.		.006		.0151
424.		50.		.0122		.0312
428.		50.		.018		.0438
442.		50.		.0341		.0855
479.		50.		.08		.199
495.		50.		.10		.24
496.		50.		.102		.243
527.		50.		.143		.309
526.		50.		.145		.316
548.		50.		.178		.352
549.		50.		.179		.359
583.		50.		.234		.434
598.		50.		.262		.468
656.		50.		.427		.593
664.		50.		.536		.613
662.		50.		.554		.617
666.		50.		.653		.663
669.		50.		.704		.67
666.		50.		.785		.695
658.		50.		.852		.727
624.		50.		.935		.789
606.		50.		.957		.834
583.		50.		.977		.871

CHLOROFORM(1) - METHANOL(2)

SYSTEM 037B

	8	23	1	10	2	
760.		63.		.04		.102
760.		62.		.065		.154
760.		60.9		.095		.215
760.		59.3		.146		.304
760.		57.8		.196		.378
760.		57.		.23		.42
760.		55.9		.287		.472
760.		55.3		.332		.507
760.		54.7		.383		.54
760.		54.3		.425		.564
760.		54.		.459		.58
760.		53.8		.52		.607
760.		53.7		.557		.619
760.		53.5		.628		.643
760.		53.5		.636		.646
760.		53.5		.667		.655
760.		53.7		.753		.684
760.		53.9		.797		.701
760.		54.4		.855		.73
760.		55.2		.904		.768

760.	56.3	.937	.812
760.	57.9	.97	.875

CHLOROFORM(1) - METHYL ISOBUTYL KETONE

SYSTEM 038

	8	29	1	10	2
760.		113.45		.045	.0944
760.		112.31		.067	.1385
760.		109.3		.1091	.2254
760.		107.9		.147	.2935
760.		102.2		.2437	.4736
760.		97.38		.3225	.6002
760.		92.08		.4055	.7158
760.		85.47		.5069	.8245
760.		78.12		.6411	.9097
760.		73.27		.7325	.9481
760.		66.37		.8516	.986
760.		63.07		.9358	.997
760.		61.85		.9774	.999

CYCLOHEXANE (1) - CYCLOHEXENE(2)

SYSTEM 039

	9	51	1	10	2
760.		82.92		.0281	.0321
760.		82.85		.0276	.0312
760.		82.64		.0627	.0758
760.		82.81		.0997	.1139
760.		82.58		.1742	.1902
760.		82.45		.2211	.2428
760.		82.15		.2939	.3128
760.		82.17		.3149	.3438
760.		82.		.377	.402
760.		81.93		.4291	.461
760.		81.86		.4538	.4798
760.		81.8		.4886	.5085
760.		81.67		.5395	.5546
760.		81.52		.5776	.5868
760.		81.46		.5998	.61
760.		81.35		.6547	.6677
760.		81.12		.707	.714

CYCLOHEXANE (1) - 1,2-DICHLOROETHANE(2)

SYSTEM 040

	9	52	1	10	2
760.		83.24		.0065	.0209
760.		82.8		.0113	.0426
760.		82.86		.0123	.0498
760.		82.42		.0165	.0646
760.		82.25		.0206	.0661
760.		81.69		.0321	.0891
760.		81.55		.0326	.0878
760.		80.95		.0537	.1279
760.		78.9		.1165	.2357
760.		77.5		.1804	.2869
760.		76.47		.2582	.3712
760.		75.7		.3533	.4478
760.		75.08		.5631	.5489
760.		75.42		.6979	.617
760.		75.7		.7473	.656
760.		76.38		.8103	.7158
760.		76.75		.8395	.7579

760.	77.6	.8826	.8015
760.	78.7	.928	.8598
760.	79.32	.9521	.9007
760.	80.3	.9545	.9024
760.	80.8	.9731	.9369
760.	80.	.9754	.9424
760.	80.5	.993	.9771

CYCLOHEXANE(1) - FURFURAL(2)

SYSTEM 041

	9	15	1	10	2
760.		147.9		.01	.4171
760.		99.2		.1116	.8936
760.		91.7		.2001	.9265
760.		85.8		.379	.9489
760.		84.8		.4536	.9466
760.		84.1		.4822	.9543
760.		84.6		.6022	.9471
760.		83.		.8435	.9626
760.		82.8		.8897	.9625
760.		81.8		.9521	.9756

CYCLOHEXANE(2) - HEXANE(1)

SYSTEM 042A

	18	9	1	10	1
580.		70.		.125	.179
612.1		70.		.25	.336
642.6		70.		.375	.465
675.3		70.		.5	.59
705.2		70.		.625	.708
734.8		70.		.742	.806

CYCLOHEXANE(1) - HEXANE(2)

SYSTEM 042B

	9	18	1	10	2
760.		70.05		.123	.096
760.		70.4		.16	.123
760.		70.85		.203	.16
760.		71.4		.26	.203
760.		72.05		.329	.26
760.		72.9		.409	.329
760.		73.7		.477	.398
760.		74.7		.562	.477
760.		75.4		.616	.532
760.		75.7		.647	.562
760.		76.4		.7	.616
760.		76.75		.73	.647
760.		77.35		.774	.7
760.		78.2		.833	.774
760.		79.		.879	.833
760.		79.5		.918	.879

CYCLOHEXANE(1) - METHYL CELLOSOLVE(2)

SYSTEM 043

	9	25	1	10	2
760.		105.1		.056	.4849
760.		97.		.084	.6105
760.		79.8		.2756	.75
760.		79.		.3622	.7475
760.		78.1		.5726	.7934
760.		77.5		.8327	.8365
760.		78.5		.9556	.8843

## CYCLOHEXANE (1) - 2-PROPANOL (2)

SYSTEM 044A

	9	22	1	10	2
500.		67.3		.029	.132
500.		67.		.068	.253
500.		63.1		.138	.394
500.		61.2		.213	.476
500.		60.1		.266	.517
500.		59.1		.313	.538
500.		58.3		.408	.578
500.		58.		.475	.598
500.		57.8		.556	.619
500.		57.8		.637	.632
500.		57.9		.734	.664
500.		58.5		.818	.687
500.		59.1		.884	.713
500.		61.9		.963	.816

## CYCLOHEXANE (1) - 2-PROPANOL (2)

SYSTEM 044B

	9	22	1	10	2
760.		69.35		.473	.555
760.		69.37		.442	.55
760.		69.01		.538	.582
760.		69.1		.708	.627
760.		69.45		.784	.66
760.		69.2		.516	.57
760.		68.8		.528	.583
760.		69.21		.621	.605
760.		69.42		.742	.649
760.		69.66		.807	.673
760.		70.11		.862	.697
760.		71.5		.921	.773
760.		74.01		.99	.838
760.		76.73		.995	.893
760.		74.96		.116	.283
760.		74.8		.12	.276
760.		72.28		.191	.271
760.		70.19		.306	.489
760.		69.11		.518	.568
760.		69.14		.516	.572
760.		69.02		.485	.548
760.		69.08		.571	.582
760.		69.06		.64	.595
760.		74.74		.978	.85
760.		70.31		.873	.709
760.		78.71		.027	.112
760.		76.91		.07	.218

## CYCLOHEXENE (1) - 1,2-DICHLOROETHANE (2)

SYSTEM 045

	51	52	1	10	2
760.		82.9		.9935	.9852
760.		82.72		.9854	.9672
760.		82.5		.9735	.9514
760.		82.1		.9385	.901
760.		81.6		.9276	.8835
760.		81.2		.8775	.827
760.		80.8		.8428	.7918
760.		80.48		.8124	.7598

760.	80.22	.7808	.7251
760.	79.9	.7318	.6743
760.	79.75	.7047	.6547
760.	79.45	.6349	.5944
760.	79.1	.5144	.504
760.	79.18	.5056	.5059
760.	79.38	.4512	.4629
760.	79.55	.3564	.4042
760.	79.55	.3387	.4079
760.	79.72	.2978	.3752
760.	80.2	.2401	.3382
760.	80.82	.1671	.256
760.	81.5	.1215	.1886
760.	81.8	.0969	.159
760.	82.2	.0719	.1214
760.	82.8	.0367	.0673
760.	83.28	.02	.0398
760.	83.65	.004	.0078
760.	83.65	.0038	.0069

DECANE(1) - 1-BUTANOL(2)

SYSTEM 046

	44	43	1	10	1
386.1	100.			.01	.02
385.	100.			.025	.04
384.3	100.			.033	.039
385.	100.			.045	.045
384.7	100.			.048	.047
380.7	100.			.096	.062
380.	100.			.127	.082
376.5	100.			.153	.093
371.7	100.			.215	.106
364.	100.			.264	.122
359.8	100.			.312	.142
354.	100.			.375	.14
350.7	100.			.398	.156
334.3	100.			.563	.163
319.5	100.			.65	.19
315.1	100.			.68	.225
292.8	100.			.78	.212
273.4	100.			.845	.22
278.1	100.			.87	.232

2,3-DIMETHYLBUTANE(1) - ACETONE(2)

SYSTEM 047

	35	2	1	10	2
760.	50.8			.071	.198
760.	47.5			.173	.337
760.	46.0			.297	.407
760.	45.8			.322	.415
760.	45.7			.397	.456
760.	45.6			.496	.494
760.	45.6			.536	.511
760.	46.0			.669	.557
760.	46.6			.749	.595
760.	50.6			.910	.748
760.	55.2			.975	.904

2,3-DIMETHYLBUTANE(1) - CHLOROFORM(2)

SYSTEM 048

	35	8	1	10	2
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760.	59.2	.087	.130
760.	58.1	.176	.230
760.	57.0	.275	.326
760.	56.5	.367	.406
760.	56.0	.509	.525
760.	56.0	.588	.588
760.	56.1	.688	.671
760.	56.5	.785	.760
760.	57.0	.894	.872

2,3-DIMETHYLBUTANE(1) - METHANOL(2)

SYSTEM 049

	35	23	1	10	2
760.		60.4		.009	.139
760.		55.3		.024	.297
760.		51.4		.045	.420
760.		46.6		.096	.536
760.		45.4		.149	.563
760.		44.6		.216	.579
760.		44.5		.296	.594
760.		44.6		.408	.604
760.		44.5		.507	.608
760.		44.5		.532	.606
760.		44.5		.585	.608
760.		44.5		.610	.607
760.		44.6		.726	.609
760.		44.6		.847	.615
760.		45.8		.949	.658
760.		48.9		.983	.734
760.		51.3		.991	.810

2,4-DIMETHYLPENTANE(1) - BENZENE(2)

SYSTEM 050

	50	5	1	10	2
400.		60.		.953	.931
400.		59.2		.87	.83
400.		58.5		.799	.743
400.		57.8		.691	.645
400.		57.5		.627	.588
400.		57.5		.548	.521
400.		57.4		.519	.502
400.		57.4		.461	.461
400.		57.1		.459	.459
400.		57.4		.407	.415
400.		57.7		.389	.404
400.		57.5		.331	.361
400.		58.1		.219	.271
400.		58.8		.134	.192
400.		59.4		.063	.108
400.		60.		.037	.07

2,4-DIMETHYLPENTANE(1) - HEXYLENE GLYCOL(2)

SYSTEM 051

	50	55	1	10	2
400.		147.7		.020	.675
400.		127.0		.048	.837
400.		69.5		.210	.990
400.		66.6		.276	.996

1,4-DIOXANE(1) - ETHANOL(2)

SYSTEM 052

	10	11	1	10	2
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760.	78.22	.0079	.0116
760.	78.19	.0268	.0284
760.	78.13	.0509	.0509
760.	78.17	.0725	.0648
760.	78.23	.0955	.0833
760.	78.35	.1285	.1048
760.	78.36	.1975	.1464
760.	79.10	.2747	.1867
760.	79.87	.3804	.2373
760.	80.15	.4045	.2482
760.	80.18	.4243	.2561
760.	80.93	.4894	.2854
760.	81.32	.5116	.3005
760.	81.40	.5321	.3039
760.	82.33	.5857	.3291
760.	84.42	.6752	.4045
760.	85.43	.7447	.4427
760.	87.17	.7686	.4916
760.	89.08	.8280	.5555
760.	92.02	.8793	.6496
760.	93.	.8912	.6766
760.	94.89	.9316	.7477
760.	97.99	.9754	.8658
760.	99.05	.9773	.9051

1,4-DIOXANE(1) - HEXANE(2)

SYSTEM 053

	10	18	1	10	2
760.		84.9		.89	.565
760.		79.2		.783	.429
760.		76.5		.713	.37
760.		75.3		.676	.348
760.		74.3		.627	.325
760.		71.7		.457	.26
760.		70.8		.363	.217
760.		69.6		.23	.163
760.		68.9		.138	.114
760.		68.8		.113	.1

1,4-DIOXANE(1) - 1-HEXENE(2)

SYSTEM 054

	10	38	1	10	2
760.		87.6		.902	.61
760.		85.2		.875	.55
760.		83.1		.845	.498
760.		79.3		.79	.424
760.		76.9		.723	.363
760.		72.9		.624	.29
760.		71.6		.53	.245
760.		69.		.393	.19
760.		67.4		.265	.135
760.		65.2		.128	.07
760.		64.8		.068	.04

ETHANOL(1) - BENZENE(2)

SYSTEM 055A

	11	5	1	10	1
208.4		40.		.02	.145
239.8		40.		.095	.28
249.1		40.		.204	.332
252.3		40.		.378	.362

248.8	40.	.49	.384
245.7	40.	.592	.405
237.3	40.	.702	.44
219.4	40.	.802	.507
196.3	40.	.88	.605
169.5	40.	.943	.747
145.6	40.	.987	.912

ETHANOL(1) - BENZENE(2)

SYSTEM 055B

11	5	1	10	1
314.7	50.	.025	.165	
358.7	50.	.089	.3	
378.3	50.	.206	.36	
384.6	50.	.385	.392	
383.2	50.	.486	.411	
378.1	50.	.586	.434	
366.9	50.	.694	.47	
344.4	50.	.79	.526	
316.8	50.	.866	.61	
276.8	50.	.936	.745	
239.6	50.	.984	.909	

ETHANOL(1) - BENZENE(2)

SYSTEM 055C

11	5	1	10	1
452.7	60.	.026	.161	
518.2	60.	.08	.31	
553.7	60.	.185	.375	
565.	60.	.322	.408	
568.	60.	.398	.42	
566.6	60.	.484	.436	
562.6	60.	.568	.455	
548.7	60.	.68	.49	
524.2	60.	.771	.537	
485.	60.	.859	.625	
431.6	60.	.929	.747	
377.4	60.	.981	.904	

ETHANOL(1) - BENZENE(2)

SYSTEM 055D

11	5	1	10	2
180.	33.6	.1	.277	
180.	32.8	.2	.314	
180.	32.5	.3	.331	
180.	32.5	.338	.338	
180.	32.6	.4	.349	
180.	32.9	.5	.37	
180.	33.3	.6	.399	
180.	34.	.7	.434	
180.	35.5	.8	.5	
180.	39.3	.9	.652	

ETHANOL(1) - BENZENE(2)

SYSTEM 055E

11	5	1	10	2
400.	52.8	.1	.301	
400.	51.6	.2	.353	
400.	51.3	.3	.377	
400.	51.2	.399	.399	
400.	51.2	.4	.399	
400.	51.3	.5	.424	



400.	51.6	.6	.453
400.	52.2	.7	.491
400.	54.1	.8	.554
400.	56.3	.9	.68

ETHANOL(1) - ETHYL ACETATE(2)

SYSTEM 056A

	11	12	1	10	1
206.		40.		.0757	.1226
212.		40.		.1285	.1874
213.5		40.		.2256	.2745
216.		40.		.2316	.2614
216.		40.		.3441	.3414
215.5		40.		.3554	.3307
216.		40.		.4389	.4022
211.		40.		.541	.4317
204.5		40.		.6359	.491
200.5		40.		.7166	.5315
191.5		40.		.7576	.576
191.5		40.		.7715	.583
184.		40.		.826	.6442
176.		40.		.8638	.6921
165.		40.		.9009	.7544
158.		40.		.9312	.8164
151.5		40.		.9636	.8868
146.		40.		.9776	.9192

ETHANOL(2) - ETHYL ACETATE(1)

SYSTEM 056B

	12	11	1	10	1
136.6		40.		.006	.022
150.9		40.		.044	.144
163.1		40.		.084	.227
183.0		40.		.187	.370
191.9		40.		.242	.428
199.7		40.		.320	.484
208.3		40.		.454	.560
210.2		40.		.495	.574
211.8		40.		.552	.607
213.2		40.		.663	.664
212.1		40.		.749	.716
204.6		40.		.885	.829
200.6		40.		.920	.871
195.3		40.		.960	.928

ETHANOL(2) - ETHYL ACETATE(1)

SYSTEM 056C

	12	11	1	10	1
284.3		55.		.0055	.0185
302.5		55.		.037	.104
325.2		55.		.083	.201
349.7		55.		.151	.297
360.3		55.		.196	.348
371.6		55.		.243	.389
386.4		55.		.340	.453
397.5		55.		.464	.521
402.0		55.		.592	.601
400.9		55.		.682	.652
399.5		55.		.715	.674
385.2		55.		.853	.786
376.5		55.		.898	.839

365.0      55.            .944            .902

ETHANOL(1) - ETHYL ACETATE(2)

SYSTEM 056D

11	12	1	10	1	
444.	60.			.0505	.1107
444.5	60.			.0595	.11
464.	60.			.1319	.2023
478.	60.			.2286	.2801
478.5	60.			.2286	.2889
484.5	60.			.3279	.3257
485.	60.			.4437	.4244
481.	60.			.5011	.4578
479.5	60.			.5229	.4625
474.	60.			.586	.4865
473.	60.			.62	.5294
466.	60.			.687	.588
454.	60.			.7541	.6285
444.5	60.			.8064	.68
421.5	60.			.8559	.726
411.	60.			.894	.773
389.	60.			.9247	.8491
375.	60.			.9565	.8849
361.5	60.			.976	.9393

ETHANOL(2) - ETHYL ACETATE(1)

SYSTEM 056E

12	11	1	10	1	
548.6	70.			.0065	.0175
559.4	70.			.018	.046
633.6	70.			.131	.237
664.6	70.			.210	.321
680.4	70.			.263	.367
703.8	70.			.387	.454
710.0	70.			.452	.493
712.2	70.			.488	.517
711.2	70.			.625	.597
706.4	70.			.691	.641
697.8	70.			.755	.681
679.2	70.			.822	.747
651.6	70.			.903	.839
635.4	70.			.932	.888
615.6	70.			.975	.948

ETHANOL(1) - ETHYL ACETATE(2)

SYSTEM 056F

11	12	1	10	2	
760.	75.55			.0505	.1036
760.	73.82			.126	.2146
760.	73.78			.1343	.2146
760.	73.04			.2271	.296
760.	72.5			.3128	.3634
760.	72.28			.3358	.3643
760.	72.18			.5052	.4803
760.	72.35			.5441	.5074
760.	72.7			.6442	.5618
760.	72.9			.6828	.6092
760.	74.14			.786	.6819
760.	75.5			.8774	.7908
760.	76.7			.9482	.8924

## ETHANOL(1) - HEPTANE(2)

SYSTEM 057A

11	16	1	10	1
78.	30.		.04	.282
103.6	30.		.0684	.4556
112.5	30.		.1236	.4986
117.7	30.		.2803	.5344
118.	30.		.3342	.5381
119.9	30.		.5151	.5496
119.9	30.		.5934	.5679
119.6	30.		.7174	.5828
118.9	30.		.7687	.5971
117.	30.		.8154	.6282
114.5	30.		.855	.6454
111.3	30.		.8902	.7116
106.3	30.		.9173	.8269
97.1	30.		.9545	.8958
82.5	30.		.9913	.943

## ETHANOL(1) - HEPTANE(2)

SYSTEM 057B

11	16	1	10	2
760.	92.07		.01	.1669
760.	85.04		.025	.3371
760.	78.81		.05	.4667
760.	76.3		.075	.511
760.	75.01		.1	.5396
760.	72.62		.2	.5853
760.	71.84		.3	.6029
760.	71.49		.4	.614
760.	71.28		.5	.625
760.	71.22		.6	.6302
760.	71.25		.7	.6495
760.	71.57		.8	.6634
760.	72.65		.9	.7449
760.	74.31		.95	.8214
760.	75.78		.975	.8869

## ETHANOL(2) - HEXANE(1)

SYSTEM 058A

18	11	1	10	1
145.2	25.		.1	.62
172.1	25.		.2	.694
182.8	25.		.3	.721
187.5	25.		.4	.734
189.1	25.		.5	.739
190.	25.		.6	.794
190.4	25.		.7	.749
190.4	25.		.8	.758
189.4	25.		.9	.776

## ETHANOL(1) - HEXANE(2)

SYSTEM 058B

18	11	1	10	1
528.6	55.		.0978	.511
615.4	55.		.1983	.615
650.4	55.		.2995	.655
664.9	55.		.3984	.662
667.7	55.		.498	.666
669.2	55.		.5995	.671
669.5	55.		.699	.675
668.0	55.		.803	.679

652.5      55.      .9012      .693

ETHANOL(2) - HEXANE(1)

SYSTEM 058C

	11	18	1	10	2
760.		66.7		.006	.065
760.		63.5		.01	.16
760.		60.2		.045	.255
760.		59.15		.102	.29
760.		58.45		.235	.325
760.		58.25		.275	.33
760.		58.		.33	.34
760.		58.1		.412	.35
760.		58.35		.548	.36
760.		58.7		.667	.37
760.		59.4		.755	.395
760.		61.8		.848	.468
760.		65.9		.92	.58
760.		67.4		.94	.635
760.		73.2		.98	.807
760.		76.		.99	.905

ETHANOL(1) - METHYLCYCLOPENTANE(2)

SYSTEM 059

	11	27	1	10	2
760.		66.3		.015	.15
760.		63.7		.03	.222
760.		61.25		.085	.295
760.		60.3		.216	.332
760.		60.05		.348	.35
760.		60.1		.467	.361
760.		60.3		.58	.382
760.		61.2		.713	.413
760.		62.8		.8	.46
760.		64.6		.857	.519
760.		67.		.898	.593
760.		73.65		.965	.815
760.		76.1		.985	.908

ETHANOL(1) - 1-PROPANOL(2)

SYSTEM 060

	11	37	1	10	2
760.		93.85		.126	.24
760.		92.66		.188	.318
760.		91.6		.210	.339
760.		88.32		.358	.55
760.		86.25		.461	.65
760.		84.98		.546	.711
760.		84.13		.6	.76
760.		83.06		.663	.799
760.		80.59		.844	.914

ETHANOL(1) - 2-PROPANOL(2)

SYSTEM 061

	11	22	1	10	2
760.		81.5		.18	.1935
760.		81.15		.302	.3235
760.		80.88		.3655	.414
760.		80.68		.401	.4275
760.		80.27		.514	.56
760.		80.1		.541	.5725
760.		79.9		.629	.662

760.	79.57	.7182	.7536
760.	79.03	.7916	.825
760.	78.95	.8606	.8705

ETHANOL(1) - TOLUENE(2)

SYSTEM 062A

	11	33	1	10	1
43.8		30.		.005	.138
48.85		30.		.01	.23
53.2		30.		.015	.295
56.9		30.		.02	.343
66.95		30.		.04	.449
73.3		30.		.06	.502
77.2		30.		.08	.531
79.5		30.		.1	.547
83.05		30.		.15	.572
85.4		30.		.2	.588
88.3		30.		.3	.611
90.		30.		.4	.628
91.3		30.		.5	.645
92.1		30.		.6	.665
92.4		30.		.7	.691
91.55		30.		.8	.735
90.3		30.		.85	.77
88.1		30.		.9	.818
84.45		30.		.95	.889

ETHANOL(1) - TOLUENE(2)

SYSTEM 062B

	11	33	1	10	1
85.2		45.		.005	.119
94.0		45.		.01	.204
101.8		45.		.015	.268
108.8		45.		.02	.318
130.1		45.		.04	.438
143.9		45.		.06	.497
153.15		45.		.08	.532
159.6		45.		.10	.555
169.55		45.		.15	.588
175.7		45.		.2	.608
183.1		45.		.3	.634
187.8		45.		.4	.653
191.3		45.		.5	.672
193.65		45.		.6	.693
194.9		45.		.7	.719
194.3		45.		.8	.761
192.55		45.		.85	.794
189.1		45.		.9	.823
183.0		45.		.95	.902

ETHANOL(1) - TOLUENE(2)

SYSTEM 062C

	11	33	1	10	1
155.4		60.		.005	.103
169.55		60.		.01	.181
182.55		60.		.015	.242
194.4		60.		.02	.291
232.6		60.		.04	.416
260.4		60.		.06	.485
281.2		60.		.08	.529
296.45		60.		.1	.557

319.7	60.	.15	.597
333.5	60.	.2	.62
351.65	60.	.3	.652
363.7	60.	.4	.675
371.6	60.	.5	.695
377.7	60.	.6	.717
381.7	60.	.7	.743
382.65	60.	.8	.785
380.7	60.	.85	.814
375.9	60.	.9	.856
366.8	60.	.95	.914

ETHANOL (1) - WATER (2)  
 11 34 1 10 1

SYSTEM 063A

66.3	40.	.025	.18
79.6	40.	.058	.316
91.9	40.	.099	.424
99.6	40.	.13	.473
115.2	40.	.293	.536
121.	40.	.398	.595
127.4	40.	.56	.686
130.5	40.	.676	.744
132.9	40.	.779	.808
134.	40.	.86	.869

ETHANOL (1) - WATER (2)  
 11 34 1 10 1

SYSTEM 063B

75.14	40.	.062	.374
89.	40.	.077	.406
94.6	40.	.098	.450
101.5	40.	.128	.488
109.	40.	.181	.543
116.9	40.	.319	.598
121.05	40.	.399	.628
125.5	40.	.511	.676
130.4	40.	.663	.746
132.5	40.	.774	.809
132.8	40.	.810	.829
133.5	40.	.875	.879
133.8	40.	.957	.956

ETHANOL (1) - WATER (2)  
 11 34 1 10 1

SYSTEM 063C

115.7	50.	.029	.208
161.	50.	.11	.439
187.9	50.	.246	.521
204.8	50.	.451	.623
213.4	50.	.581	.685
218.1	50.	.682	.74
222.8	50.	.862	.87
222.9	50.	.885	.891
223.	50.	.926	.929
223.1	50.	.947	.945

ETHANOL (1) - WATER (2)  
 11 34 1 10 1

SYSTEM 063D

173.35	55.	.051	.336
197.8	55.	.085	.428

207.5	55.	.106	.461
227.3	55.	.18	.524
236.3	55.	.23	.555
248.2	55.	.324	.589
258.	55.	.429	.628
267.	55.	.553	.680
274.9	55.	.685	.746
278.4	55.	.774	.801
279.4	55.	.810	.829
280.6	55.	.894	.898
280.5	55.	.954	.952

ETHANOL(1) - WATER(2)

SYSTEM 063E

11	34	1	10	1
195.7	60.	.033	.233	
270.	60.	.125	.446	
306.5	60.	.267	.511	
330.8	60.	.459	.58	
343.1	60.	.597	.664	
349.4	60.	.682	.738	
354.2	60.	.865	.875	
355.4	60.	.891	.89	
355.	60.	.928	.928	
354.6	60.	.949	.949	

ETHANOL(1) - WATER(2)

SYSTEM 063F

11	34	1	10	1
362.5	70.	.062	.374	
399.	70.	.095	.439	
424.	70.	.131	.482	
450.9	70.	.194	.524	
468.	70.	.252	.552	
485.5	70.	.334	.583	
497.6	70.	.401	.611	
525.9	70.	.593	.691	
534.3	70.	.680	.739	
542.7	70.	.793	.816	
543.1	70.	.810	.826	
544.5	70.	.943	.941	
544.5	70.	.947	.945	

ETHANOL(1) - WATER(2)

SYSTEM 063G

11	34	1	10	2
760.	95.5	.018	.179	
760.	90.6	.054	.3375	
760.	85.4	.124	.47	
760.	83.7	.176	.514	
760.	82.75	.23	.542	
760.	82.	.288	.57	
760.	81.	.385	.612	
760.	80.5	.44	.633	
760.	79.8	.514	.657	
760.	78.9	.673	.735	
760.	78.26	.84	.85	

ETHANOL(1) - WATER(2)

SYSTEM 063H

11	34	1	10	2
760.	98.62	.0051	.0486	

760.	98.06	.0069	.0752
760.	95.97	.0162	.1442
760.	92.95	.0316	.2929
760.	87.07	.0823	.3985
760.	85.67	.1065	.4513
760.	84.53	.1368	.4812
760.	84.24	.145	.4805
760.	83.5	.177	.5095
760.	80.59	.4034	.612
760.	79.35	.5733	.6849
760.	78.63	.7152	.7607
760.	78.43	.7715	.7961
760.	78.32	.816	.8246
760.	78.31	.818	.8322
760.	78.28	.8386	.845
760.	78.24	.878	.8789
760.	78.22	.9167	.9117
760.	78.37	.991	.9892
760.	84.	.489	.906

ETHYL ACETATE(1) - BENZENE(2)

SYSTEM 064

	12	5	1	10	2
760.		77.19		.95	.951
760.		77.23		.912	.914
760.		77.29		.857	.86
760.		77.31		.841	.845
760.		77.32		.834	.838
760.		77.38		.774	.780
760.		77.49		.697	.707
760.		77.67		.587	.605
760.		77.84		.528	.547
760.		78.12		.441	.465
760.		78.19		.422	.448
760.		78.43		.359	.387
760.		78.66		.3	.329
760.		78.96		.23	.256
760.		79.28		.16	.184
760.		79.40		.136	.157
760.		79.77		.06	.071
760.		79.95		.027	.033
760.		80.01		.016	.02

ETHYL ACETATE(1) - TOLUENE(2)

SYSTEM 065

	12	33	1	10	2
760.		77.6		.97	.987
760.		77.81		.954	.98
760.		78.39		.922	.967
760.		78.8		.891	.953
760.		79.91		.835	.928
760.		81.14		.773	.899
760.		82.25		.715	.867
760.		83.55		.656	.837
760.		85.16		.598	.8
760.		89.22		.452	.703
760.		92.09		.365	.629
760.		95.02		.283	.545
760.		95.51		.27	.528
760.		99.8		.175	.391



760.	103.46	.107	.265
760.	106.94	.048	.137
760.	107.87	.032	.097
760.	108.82	.021	.064

ETHYL ACETATE(1) - P-XYLENE(2)

SYSTEM 066

12	36	1	10	2
760.	77.92		.965	.992
760.	78.17		.949	.989
760.	79.2		.912	.981
760.	80.91		.846	.967
760.	83.1		.765	.948
760.	85.65		.667	.925
760.	86.54		.635	.916
760.	90.12		.524	.878
760.	93.17		.44	.847
760.	95.		.399	.825
760.	99.62		.31	.771
760.	105.05		.235	.695
760.	111.13		.165	.612
760.	115.97		.124	.53
760.	119.08		.1	.475
760.	123.44		.07	.384
760.	127.88		.044	.28
760.	130.03		.033	.22
760.	133.12		.019	.138
760.	136.54		.006	.048

ETHYL ACETATE(1) - WATER(2)

SYSTEM 067A

12	34	1	10	1
55.66	40.		.00011	.0036
55.84	40.		.00012	.0054
55.84	40.		.00012	.0055
202.1	40.		.9648	.9022
199.1	40.		.9746	.9246
197.1	40.		.9807	.9431
193.4	40.		.9879	.9649
190.4	40.		.9942	.9884

ETHYL ACETATE(1) - WATER(2)

SYSTEM 067B

12	34	1	10	1
118.85	55.		.00012	.0052
119.25	55.		.00017	.0081
119.30	55.		.00018	.0081
372.0	55.		.9695	.9093
371.7	55.		.9699	.9085
364.7	55.		.9780	.9382
358.0	55.		.9894	.9676
352.2	55.		.9927	.9846

ETHYL ACETATE(1) - WATER(2)

SYSTEM 067C

12	34	1	10	1
233.9	70.		.00004	.0015
234.9	70.		.00010	.0056
235.7	70.		.00015	.0084
235.7	70.		.00016	.0085
646.3	70.		.9676	.9059
641.1	70.		.9723	.9173

630.6	70.	.9788	.9395
623.1	70.	.9855	.9630
610.3	70.	.9927	.9826

ETHYL ACETATE(1) - WATER(2)

SYSTEM 067D

	12	34	1	10	2	
760.		74.8		.971		.914
760.		75.		.974		.927
760.		75.6		.983		.947
760.		75.7		.986		.954
760.		75.9		.984		.953

ETHYLBENZENE(1) - FURFURAL(2)

SYSTEM 068

	45	15	1	10	2	
723.		132.7		.979		.974
723.		132.5		.96		.955
723.		132.3		.942		.942
723.		132.45		.93		.931
723.		132.5		.923		.926
723.		132.6		.847		.867
723.		132.7		.775		.835
723.		133.5		.654		.762
723.		134.		.6		.732
723.		134.5		.558		.709
723.		136.4		.467		.657
723.		138.5		.381		.642
723.		144.9		.181		.468
723.		149.8		.092		.297
723.		152.5		.05		.177
723.		154.5		.035		.138

ETHYL ETHER(1) - ETHANOL(2)

SYSTEM 069A

	14	11	1	10	1	
238.		40.		.05		.4618
330.3		40.		.1		.6303
408.5		40.		.15		.7150
473.2		40.		.2		.7650
529.5		40.		.25		.7992
577.		40.		.3		.8234
617.6		40.		.35		.8420
653.7		40.		.4		.8571
687.6		40.		.45		.8706
717.6		40.		.5		.8820
742.		40.		.55		.8912
764.3		40.		.6		.8998
785.2		40.		.65		.9083
805.9		40.		.7		.9167
826.5		40.		.75		.9257
846.8		40.		.8		.9357
866.		40.		.85		.9466
885.		40.		.9		.9598
903.3		40.		.95		.9762

ETHYL ETHER(1) - ETHANOL(2)

SYSTEM 069B

	14	11	1	10	1	
364.		50.		.05		.4203
486.1		50.		.1		.5863
584.6		50.		.15		.6723

674.	50.	.2	.7285
748.8	50.	.25	.7666
813.	50.	.3	.7946
868.8	50.	.35	.8161
919.6	50.	.4	.8341
967.5	50.	.45	.8496
1006.8	50.	.5	.8621
1041.	50.	.55	.8732
1070.7	50.	.6	.8835
1100.8	50.	.65	.8939
1128.3	50.	.7	.9040
1157.4	50.	.75	.9148
1183.6	50.	.8	.9268
1209.0	50.	.85	.9396
1233.3	50.	.9	.9543
1255.2	50.	.95	.9727

HEPTANE(1) - ANILINE(2)

SYSTEM 070

	16	4	1	10	2
742.		117.		.088	.87
742.		112.2		.154	.897
742.		106.5		.267	.923
742.		105.4		.367	.925
742.		104.7		.413	.925
742.		103.8		.633	.932
742.		101.1		.845	.951
742.		100.2		.899	.9645

HEPTANE(1) - 1-BUTANOL(2)

SYSTEM 071

	16	43	1	10	2
684.		103.8		.057	.37
684.		98.2		.142	.544
684.		95.2		.221	.621
684.		92.2		.329	.693
684.		90.2		.434	.73
684.		89.5		.552	.758
684.		89.		.614	.774
684.		88.8		.738	.795
684.		89.3		.911	.846
684.		93.4		.98	.935

HEPTANE(1) - TOLUENE(2)

SYSTEM 072A

	16	33	1	10	2
760.		107.73		.1	.166
760.		105.62		.2	.294
760.		103.88		.3	.4005
760.		102.59		.4	.497
760.		101.52		.5	.5825
760.		100.60		.6	.664
760.		99.82		.7	.744
760.		99.26		.8	.8275
760.		98.43		.9	.912

HEPTANE(1) - TOLUENE(2)

SYSTEM 072B

	16	33	1	10	2
760.		109.1		.048	.083
760.		108.4		.069	.118
760.		107.1		.123	.193

760.	106.2	.166	.246
760.	105.	.224	.317
760.	104.	.291	.387
760.	102.9	.365	.46
760.	102.1	.434	.521
760.	101.1	.539	.608
760.	100.2	.641	.694
760.	99.5	.739	.775
760.	98.7	.901	.913
760.	98.6	.912	.922

HEPTANE(1) - P-XYLENE(2)

SYSTEM 073

	16	36	1	10	2
760.		136.3		.022	.07
760.		134.		.05	.145
760.		132.1		.075	.202
760.		130.2		.102	.204
760.		128.2		.13	.32
760.		124.1		.198	.434
760.		121.		.259	.518
760.		120.9		.26	.521
760.		120.8		.262	.52
760.		120.4		.27	.536
760.		117.2		.341	.61
760.		115.7		.381	.64
760.		113.5		.439	.693
760.		113.1		.448	.698
760.		113.1		.45	.694
760.		112.8		.455	.7
760.		110.7		.521	.75
760.		108.2		.599	.806
760.		108.1		.607	.812
760.		105.6		.694	.858
760.		103.4		.779	.902
760.		101.6		.851	.938
760.		100.7		.894	.956
760.		99.7		.94	.975

HEXANE(1) - BENZENE(2)

SYSTEM 074A

	18	5	1	10	1
115.4		25.		.1	.242
126.4		25.		.2	.363
134.5		25.		.3	.456
140.4		25.		.4	.529
144.5		25.		.5	.592
147.7		25.		.6	.661
150.6		25.		.7	.744
153.		25.		.8	.82
154.3		25.		.9	.904

HEXANE(2) - BENZENE(1)

SYSTEM 074B

	5	18	1	10	1
791.6		70.		.125	.12
785.2		70.		.25	.225
768.7		70.		.375	.3125
744.7		70.		.5	.405
711.6		70.		.625	.505
676.5		70.		.75	.625

620.9      70.      .875      .773

HEXANE(1) - BENZENE(2)

SYSTEM 074C

18	5	1	10	2
760.	77.6		.073	.14
760.	75.1		.172	.268
760.	73.4		.268	.376
760.	72.		.372	.46
760.	70.9		.462	.54
760.	70.		.585	.644
760.	69.4		.692	.725
760.	69.1		.792	.807
760.	69.		.828	.838
760.	68.9		.883	.888
760.	68.8		.947	.95
760.	68.8		.962	.964

HEXANE(1) - BENZENE(2)

SYSTEM 074D

18	5	1	10	2
760.	77.7		.079	.149
760.	75.6		.151	.251
760.	74.0		.226	.338
760.	72.9		.305	.412
760.	71.7		.414	.507
760.	71.0		.484	.561
760.	70.3		.589	.644
760.	69.7		.666	.696
760.	69.4		.772	.791
760.	69.2		.920	.919

HEXANE(1) - CHLOROBENZENE(2)

SYSTEM 075A

18	56	1	10	1
166.4	65.		.083	.544
222.3	65.		.144	.679
264.1	65.		.201	.744
319.7	65.		.284	.803
382.3	65.		.394	.852
403.9	65.		.438	.866
428.3	65.		.485	.882
453.8	65.		.54	.896
477.9	65.		.591	.91
516.3	65.		.679	.929
578.	65.		.806	.957
638.4	65.		.927	.984

HEXANE(1) - CHLOROBENZENE(2)

SYSTEM 075B

18	56	1	10	2
759.8	127.56		.018	.118
759.8	121.06		.049	.282
759.8	115.66		.081	.406
759.8	111.53		.109	.491
759.8	106.62		.146	.527
759.8	101.04		.2	.666
759.8	92.7		.309	.769
759.8	86.84		.419	.835
759.8	82.66		.516	.872
759.8	80.19		.591	.896
759.8	80.13		.593	.896

759.8	80.17	.594	.896
759.8	78.31	.644	.912
759.8	75.7	.737	.934
759.8	74.17	.79	.95
759.8	74.14	.793	.96
759.8	72.72	.847	.965

HEXANE(1) - 1-HEXENE(2)

SYSTEM 076

18	38	1	10	2
760.	67.9	.903	.887	
760.	67.8	.895	.877	
760.	67.2	.807	.78	
760.	66.5	.708	.674	
760.	65.9	.614	.577	
760.	65.7	.588	.55	
760.	65.4	.523	.485	
760.	64.8	.413	.378	
760.	64.8	.408	.374	
760.	64.7	.397	.373	
760.	64.4	.324	.293	
760.	64.3	.285	.256	
760.	64.1	.220	.197	
760.	64.	.214	.192	
760.	63.7	.116	.103	
760.	63.7	.108	.1	

HEXANE(1) - P-XYLENE(2)

SYSTEM 077

18	36	1	10	2
760.	136.1	.011	.069	
760.	130.	.042	.224	
760.	118.3	.123	.486	
760.	112.1	.165	.587	
760.	109.7	.192	.625	
760.	96.3	.338	.785	
760.	91.3	.409	.831	
760.	86.6	.497	.867	
760.	82.9	.578	.898	
760.	78.2	.701	.941	
760.	74.8	.797	.966	
760.	70.	.953	.993	
760.	72.6	.868	.978	

HEXANE(1) - TOLUENE(2)

SYSTEM 078A

18	33	1	10	2
760.	103.5	.069	.228	
760.	103.3	.070	.229	
760.	103.1	.072	.253	
760.	100.5	.104	.314	
760.	99.4	.116	.346	
760.	99.2	.120	.345	
760.	97.9	.137	.380	
760.	97.6	.140	.391	
760.	97.5	.142	.388	
760.	95.1	.177	.459	
760.	94.9	.181	.463	
760.	94.8	.182	.462	
760.	91.1	.246	.553	
760.	90.8	.254	.565	

760.	90.5	.260	.571
760.	89.	.293	.609
760.	88.	.309	.621
760.	86.6	.345	.651
760.	86.1	.356	.659
760.	83.4	.429	.721
760.	83.1	.434	.724
760.	83.	.441	.733
760.	81.1	.449	.763
760.	80.9	.503	.768
760.	80.7	.510	.776
760.	79.	.568	.806
760.	78.7	.578	.809
760.	76.7	.652	.852
760.	76.6	.658	.852
760.	73.1	.796	.918
760.	72.5	.820	.927
760.	72.1	.834	.935
760.	70.9	.884	.955

HEXANE(1) - TOLUENE(2)

SYSTEM 078B

	18	33	1	10	2
760.		102.1		.09	.282
760.		100.95		.1	.31
760.		96.05		.18	.459
760.		94.4		.196	.484
760.		93.		.217	.518
760.		90.85		.254	.563
760.		89.8		.28	.593
760.		86.85		.339	.657
760.		86.35		.352	.664
760.		85.35		.392	.697
760.		82.5		.443	.742
760.		82.4		.464	.751
760.		81.95		.473	.757
760.		80.85		.491	.769
760.		81.		.508	.777
760.		78.5		.579	.822
760.		77.8		.605	.832
760.		76.75		.64	.848
760.		74.85		.707	.88
760.		74.2		.73	.89
760.		73.5		.77	.907
760.		72.25		.813	.927
760.		72.15		.822	.93
760.		71.5		.862	.946
760.		71.15		.869	.948

ISONONANE(1) - PHENOL(2)

SYSTEM 079

	19	32	1	10	2
760.		126.1		.9648	.9659
760.		124.4		.9936	.9936
760.		124.4		.9971	.9971

ISO-OCTANE(1) - METHYLCYCLOHEXANE(2)

SYSTEM 080

	20	26	1	10	2
741.		99.8		.04	.048
741.		99.65		.088	.107

741.	99.5	.14	.163
741.	99.4	.19	.204
741.	99.3	.245	.257
741.	99.1	.34	.35
741.	98.95	.407	.416
741.	98.85	.476	.49
741.	98.55	.695	.707
741.	98.4	.794	.809
741.	98.3	.879	.888

ISO-OCTANE(1) - PHENOL(2)

SYSTEM 081

	20	32	1	10	2
760.		125.6		.238	.888
760.		113.3		.427	.9364
760.		107.8		.666	.914
760.		103.9		.9015	.9459
760.		101.1		.953	.9693
760.		101.1		.9546	.9704
760.		100.6		.9795	.9864
760.		100.6		.9892	.9914
760.		100.		.9959	.9966

ISO-OCTANE(1) - TOLUENE(2)

SYSTEM 082

	20	33	1	10	1
604.3		100.		.1	.1703
643.6		100.		.2	.298
676.		100.		.3	.4022
702.		100.		.4	.4905
721.3		100.		.5	.5753
736.2		100.		.6	.6559
748.4		100.		.7	.7395
758.5		100.		.8	.8223
769.5		100.		.9	.9092

METHANOL(1) - BENZENE(2)

SYSTEM 083A

	23	5	1	10	1
203.29		35.		.0242	.2733
211.10		35.		.0254	.3128
274.25		35.		.1302	.4858
288.47		35.		.3107	.5304
292.50		35.		.4989	.5546
292.70		35.		.5191	.5571
292.49		35.		.6305	.5790
283.58		35.		.7965	.6421
255.82		35.		.9197	.7688

METHANOL(1) - BENZENE(2)

SYSTEM 083B

	23	5	1	10	1
465.84		55.		.0304	.3019
527.12		55.		.0493	.4851
597.48		55.		.1031	.4841
664.24		55.		.3297	.5540
675.62		55.		.4874	.5845
675.99		55.		.4984	.5858
678.44		55.		.6076	.6078
664.91		55.		.7896	.6716
622.29		55.		.9014	.7697



METHANOL(1) - BENZENE(2)				
23	5	1	10	2
760.	70.67		.026	.267
760.	66.44		.05	.371
760.	62.87		.088	.457
760.	60.2		.164	.526
760.	58.64		.333	.559
760.	58.02		.549	.595
760.	58.1		.699	.633
760.	58.47		.782	.665
760.	59.9		.898	.76
760.	62.71		.973	.907

SYSTEM 083C

METHANOL(1) - CARBON TETRACHLORIDE(2)				
23	6	1	10	1
259.13	35.		.0169	.3297
262.31	35.		.0189	.3374
315.12	35.		.1349	.4630
324.64	35.		.3560	.4915
325.71	35.		.4776	.5030
325.71	35.		.4939	.5056
323.81	35.		.6557	.5302
312.61	35.		.7912	.5792
277.37	35.		.9120	.7024

SYSTEM 084A

METHANOL(1) - CARBON TETRACHLORIDE(2)				
23	6	1	10	1
580.66	55.		.0254	.3619
591.16	55.		.0579	.3639
716.95	55.		.1493	.4981
741.36	55.		.3647	.5284
745.60	55.		.4893	.5431
745.72	55.		.4946	.5438
744.54	55.		.6448	.5686
724.28	55.		.7903	.6187
658.37	55.		.9089	.7337

SYSTEM 084B

METHANOL(1) - ETHANOL(2)				
23	11	1	10	2
760.	76.60		.134	.183
760.	75.00		.242	.326
760.	73.60		.320	.428
760.	72.30		.401	.529
760.	71.70		.435	.566
760.	70.00		.542	.676
760.	68.60		.652	.759
760.	67.70		.728	.813
760.	66.90		.790	.858
760.	66.60		.814	.875
760.	65.80		.873	.919
760.	65.60		.910	.937

SYSTEM 085

METHANOL(1) - ETHYL ACETATE(2)				
23	12	1	10	1
231.5	40.		.05	.2115
231.5	40.		.067	.213
240.	40.		.097	.262
259.	40.		.154	.3718

SYSTEM 086A

268.5	40.	.2175	.4242
284.	40.	.262	.4695
289.5	40.	.3	.4912
296.5	40.	.382	.5356
298.	40.	.45	.536
304.	40.	.568	.615
305.	40.	.656	.66
302.	40.	.719	.694
303.5	40.	.78	.73
301.5	40.	.81	.7495

METHANOL(1) - ETHYL ACETATE(2)

SYSTEM 086B

23	12	1	10	1	
330.5	50.			.0525	.17
373.5	50.			.126	.3375
405.5	50.			.2315	.436
435.	50.			.3435	.5125
455.5	50.			.45	.5685
459.5	50.			.5425	.617
460.5	50.			.568	.6325
461.5	50.0			.6350	.6640
463.	50.			.706	.6975
461.5	50.			.758	.729
457.5	50.			.8215	.7655
452.5	50.			.8755	.81
444.5	50.			.925	.855

METHANOL(1) - ETHYL ACETATE(2)

SYSTEM 086C

23	12	1	10	1	
456.	60.			.0190	.095
490.5	60.			.0495	.1785
545.	60.			.1090	.310
558.	60.			.1360	.345
591.5	60.			.1900	.416
611.	60.			.2375	.435
644.	60.			.3590	.532
660.	60.			.4020	.550
673.	60.			.4950	.594
684.5	60.			.5900	.643
690.	60.			.6990	.702
687.5	60.			.7350	.728
688.	60.			.7480	.732
677.	60.			.8980	.847
674.5	60.			.9100	.8535

METHANOL(1) - ETHYL ACETATE(2)

SYSTEM 086D

23	12	1	10	2	
730.	73.5			.034	.142
730.	70.6			.089	.26
730.	68.7			.127	.335
730.	66.8			.206	.407
730.	65.2			.273	.476
730.	64.2			.325	.5
730.	64.1			.348	.521
730.	63.5			.398	.547
730.	63.4			.414	.559
730.	63.1			.505	.594
730.	62.5			.552	.636

730.	62.3	.598	.652
730.	62.6	.602	.643
730.	62.3	.617	.645
730.	62.2	.67	.69
730.	62.2	.812	.779
730.	62.4	.852	.81
730.	62.8	.894	.856
730.	63.5	.937	.903
730.	63.6	.958	.928

METHANOL(1) - ETHYL ACETATE(2)

SYSTEM 086E

	23	12	1	10	2
760.		76.1		.0125	.0475
760.		74.15		.032	.133
760.		71.24		.08	.2475
760.		67.75		.155	.365
760.		65.6		.251	.455
760.		64.1		.3465	.5205
760.		64.		.402	.556
760.		63.25		.4975	.597
760.		62.97		.561	.638
760.		62.5		.589	.656
760.		62.65		.622	.667
760.		62.5		.696	.7
760.		62.35		.765	.742
760.		62.6		.825	.789
760.		62.8		.855	.807
760.		63.21		.916	.86
760.		63.9		.955	.929

METHANOL(1) - ETHYL ACETATE(2)

SYSTEM 086F

	23	12	1	10	2
760.		74.8		.019	.079
760.		74.		.024	.093
760.		72.3		.056	.181
760.		67.1		.181	.384
760.		64.7		.311	.492
760.		64.2		.35	.52
760.		63.6		.403	.557
760.		62.6		.566	.64
760.		62.4		.616	.675
760.		62.4		.646	.678
760.		62.3		.708	.711
760.		62.1		.720	.716
760.		62.3		.734	.717
760.		62.5		.743	.732
760.		62.6		.744	.733
760.		62.5		.81	.779
760.		62.4		.815	.784
760.		62.8		.889	.846
760.		63.3		.939	.903

METHANOL(1) - ETHYL ACETATE(2)

SYSTEM 086G

	23	12	1	10	2
760.		74.4		.028	.12
760.		74.		.037	.133
760.		71.5		.073	.22
760.		69.3		.123	.31

760.	66.4	.211	.42
760.	66.	.236	.442
760.	65.8	.239	.44
760.	65.3	.265	.468
760.	64.	.352	.526
760.	63.7	.408	.558
760.	63.6	.44	.573
760.	63.1	.533	.62
760.	62.9	.585	.647
760.	62.4	.664	.687
760.	62.4	.708	.711
760.	62.4	.748	.737
760.	62.4	.793	.766
760.	62.5	.822	.79
760.	62.8	.883	.842
760.	64.	.961	.934

METHANOL(1) - HEPTANE(2)

SYSTEM 087

	23	16	1	10	2
760.		60.60		.138	.720
760.		59.47		.178	.733
760.		58.93		.390	.739
760.		58.82		.668	.746
760.		58.81		.810	.748
760.		59.01		.885	.765
760.		59.90		.946	.809

METHANOL(1) - HEXANE(2)

SYSTEM 088

	23	18	1	10	1
615.		45.		.1	.481
626.		45.		.2	.492
627.		45.		.3	.494
627.		45.		.4	.496
627.		45.		.5	.496
627.		45.		.6	.498
627.		45.		.7	.498
627.		45.		.8	.498
616.		45.		.9	.511

METHANOL(1) - ISOPRENE(2)

SYSTEM 089

	23	21	1	10	2
745.		32.6		.014	.084
745.		30.1		.154	.154
745.		32.8		.638	.190
745.		37.5		.810	.240
745.		44.0		.910	.342
745.		51.5		.967	.550

METHANOL(1) - ISOPROPYL ETHER(2)

SYSTEM 090

	23	46	1	10	2
730.		62.4		.07	.198
730.		60.7		.124	.29
730.		58.		.285	.418
730.		57.4		.42	.48
730.		57.		.551	.534
730.		57.2		.65	.577
730.		57.8		.727	.613
730.		58.1		.762	.633

730.	58.5	.82	.679
730.	58.9	.839	.695
730.	60.	.888	.75
730.	60.1	.901	.762
730.	60.9	.927	.796
730.	62.8	.968	.881

METHANOL(1) - METHYL ETHYL KETONE(2)

SYSTEM 091

	23	28	1	10	2
760.		75.3		.076	.193
760.		72.2		.147	.308
760.		70.7		.197	.377
760.		68.8		.265	.453
760.		67.5		.356	.528
760.		65.9		.498	.622
760.		65.1		.622	.695
760.		64.4		.747	.777
760.		64.3		.829	.832
760.		64.3		.841	.842
760.		64.3		.873	.869
760.		64.4		.936	.926

METHANOL(1) - 2-METHYLPENTANE(2)

SYSTEM 092

	23	30	1	10	2
745.		54.		.04	.234
745.		47.8		.127	.336
745.		44.7		.395	.395
745.		44.9		.566	.417
745.		44.9		.568	.415
745.		48.4		.881	.492

METHANOL(1) - 3-METHYLPENTANE(2)

SYSTEM 093

	23	31	1	10	2
745.		52.7		.079	.321
745.		47.8		.190	.380
745.		46.2		.425	.425
745.		47.4		.782	.472
745.		56.4		.932	.569

METHANOL(1) - 1-PROPANOL(2)

SYSTEM 094

	23	37	1	10	2
760.		88.3		.155	.437
760.		83.5		.265	.595
760.		81.6		.31	.66
760.		78.8		.386	.725
760.		72.6		.61	.872
760.		67.2		.86	.965
760.		66.5		.895	.975

METHANOL(1) - 2-PROPANOL(2)

SYSTEM 095A

	23	22	1	10	1
494.8		55.		.9529	.9816
488.41		55.		.9232	.9636
478.39		55.		.8854	.9479
466.47		55.		.8432	.9191
460.54		55.		.7946	.8915
445.49		55.		.7372	.8596
432.97		55.		.6983	.833

402.85	55.	.599	.7693
383.3	55.	.531	.7189
364.13	55.	.4682	.6664
346.22	55.	.3986	.6027
320.89	55.	.3498	.546
312.66	55.	.2739	.4626
297.66	55.	.2314	.407
287.66	55.	.2107	.3711
289.25	55.	.1902	.3428
273.03	55.	.1638	.3062
258.93	55.	.1069	.2056
250.9	55.	.0822	.1702
247.02	55.	.0451	.112

METHANOL(1)1- 2-PROPANOL(2)

SYSTEM 095B

23	22	1	10	2
760.	79.9	.135	.205	
760.	79.7	.14	.21	
760.	79.4	.165	.255	
760.	78.3	.215	.315	
760.	78.	.22	.327	
760.	77.6	.255	.38	
760.	73.7	.467	.637	
760.	73.1	.49	.665	
760.	71.2	.597	.755	
760.	70.2	.665	.808	
760.	69.5	.7	.835	
760.	66.4	.91	.958	

METHANOL(1) - TOLUENE(2)

SYSTEM 096

23	33	1	10	2
760.	89.9	.046	.519	
760.	84.3	.058	.627	
760.	80.4	.070	.704	
760.	74.75	.094	.777	
760.	71.3	.114	.793	
760.	69.7	.132	.801	
760.	66.75	.224	.813	
760.	65.75	.320	.822	
760.	65.1	.439	.828	
760.	64.15	.675	.842	
760.	63.7	.830	.866	
760.	63.6	.870	.878	
760.	63.7	.920	.912	
760.	64.1	.974	.957	

METHANOL(1) - WATER(2)

SYSTEM 097

23	34	1	10	2
760.	95.2	.0293	.1831	
760.	94.5	.0346	.2107	
760.	93.7	.0406	.2363	
760.	92.8	.0422	.2652	
760.	91.8	.0557	.2978	
760.	90.9	.0644	.3265	
760.	90.0	.0737	.3608	
760.	89.1	.0838	.3861	
760.	89.2	.0948	.4142	
760.	78.8	.2601	.6621	

760.	77.6	.3004	.6892
760.	77.6	.3212	.6882
760.	76.9	.3435	.7002
760.	76.2	.3664	.7178
760.	75.7	.3909	.7274
760.	75.1	.4141	.7428
760.	74.6	.4391	.7597
760.	74.0	.4637	.7668
760.	67.2	.8457	.9360
760.	66.6	.8869	.9632
760.	65.7	.9293	.9771

METHYL ACETATE(1) - BENZENE(2)

SYSTEM 098A

24	5	1	10	1
131.3	25.	.1		.3232
152.5	25.	.2		.4661
167.3	25.	.3		.5531
178.7	25.	.4		.6210
188.3	25.	.5		.6810
190.3	25.	.5223		.6922
197.1	25.	.6		.7380
205.3	25.	.7		.8007
206.8	25.	.7399		.83
213.1	25.	.8		.864
220.3	25.	.9		.9307

METHYL ACETATE(1) - BENZENE(2)

SYSTEM 098B

24	5	1	10	1
195.8	35.0	.10		.3037
226.2	35.0	.20		.4463
248.2	35.0	.30		.5414
265.6	35.0	.40		.6158
280.8	35.0	.50		.6785
283.7	35.0	.5273		.6940
294.6	35.0	.6		.7408
307.6	35.0	.7		.8040
312.6	35.0	.7399		.8284
320.1	35.0	.8		.8660
334.7	35.0	.9		.9349

METHYL ACETATE(1) - BENZENE(2)

SYSTEM 098C

24	5	1	10	1
291.	50.	.041		.105
309.8	50.	.08		.194
334.3	50.	.133		.288
349.3	50.	.171		.341
387.	50.	.254		.461
405.2	50.	.303		.509
432.7	50.	.371		.577
445.7	50.	.414		.614
464.4	50.	.466		.657
483.7	50.	.548		.716
506.3	50.	.616		.766
525.1	50.	.702		.816
540.	50.	.759		.851
555.3	50.	.811		.884
570.7	50.	.882		.928
581.2	50.	.927		.955

583. 50. .943 .965

METHYL ACETATE(1) - BENZENE(2)

SYSTEM 098D

24	5	1	10	2
760.	77.81	.052		.13
760.	76.76	.084		.193
760.	73.12	.192		.369
760.	72.4	.214		.403
760.	71.17	.255		.456
760.	69.28	.328		.532
760.	66.87	.427		.62
760.	64.81	.522		.697
760.	63.03	.616		.767
760.	61.31	.711		.827
760.	59.75	.806		.885
760.	58.58	.887		.929
760.	57.78	.939		.962

METHYL ACETATE(1) - BENZENE(2)

SYSTEM 098E

24	5	1	10	2
760.	57.9	.895		.933
760.	58.4	.863		.914
760.	60.1	.735		.832
760.	61.8	.62		.749
760.	63.8	.505		.665
760.	66.8	.362		.545
760.	67.5	.338		.528
760.	71.	.212		.387
760.	71.8	.189		.356
760.	73.5	.139		.282
760.	75.9	.076		.175
760.	76.9	.055		.123

METHYL ACETATE(1) - CHLOROFORM(2)

SYSTEM 099A

24	8	1	10	1
500.3	50.	.064		.04
482.	50.	.134		.089
472.1	50.	.178		.131
455.6	50.	.258		.22
450.1	50.	.314		.308
449.1	50.	.356		.354
450.6	50.	.394		.405
453.8	50.	.438		.47
458.1	50.	.477		.526
465.3	50.	.525		.584
483.6	50.	.612		.698
508.	50.	.707		.796
512.8	50.	.726		.814
518.	50.	.747		.835
535.2	50.	.815		.886
571.9	50.	.935		.966

METHYL ACETATE(1) - CHLOROFORM(2)

SYSTEM 099B

24	8	1	10	2
760.	58.1	.92		.953
760.	59.2	.851		.907
760.	60.3	.782		.854
760.	61.4	.706		.791



760.	62.4	.64	.719
760.	63.2	.563	.631
760.	63.7	.532	.592
760.	64.2	.463	.502
760.	64.7	.406	.425
760.	64.7	.335	.327
760.	64.6	.263	.236
760.	64.2	.224	.191
760.	63.7	.171	.13
760.	63.5	.159	.117
760.	62.2	.064	.04

METHYL ACETATE(1) - CYCLOHEXANE(2)

SYSTEM 100

	24	9	1	10	2
760.		74.3		.033	.182
760.		68.4		.085	.35
760.		64.9		.142	.443
760.		59.7		.283	.575
760.		59.		.313	.594
760.		57.9		.373	.625
760.		56.8		.475	.664
760.		56.7		.507	.673
760.		56.		.616	.714
760.		55.8		.688	.744
760.		55.7		.722	.759
760.		55.5		.781	.789
760.		55.55		.835	.82
760.		55.8		.94	.914

METHYL ACETATE(1) - METHANOL(2)

SYSTEM 101

	24	23	1	10	1
418.5		50.		.005	.018
429.		50.		.0125	.047
451.		50.		.0315	.109
480.5		50.		.06	.189
567.		50.		.188	.381
596.		50.		.259	.443
641.		50.		.428	.556
651.		50.		.5	.58
660.5		50.		.608	.638
660.5		50.		.729	.707
657.		50.		.783	.743
654.		50.		.816	.766
645.5		50.		.864	.807
632.5		50.		.911	.855
607.5		50.		.972	.944

METHYLETHYLKETONE(1)-HEPTANE(2)

SYSTEM 102

	28	16	1	10	2
760.		96.1		.0033	.06
760.		93.7		.027	.141
760.		89.4		.074	.285
760.		86.4		.122	.3755
760.		82.25		.230	.4950
760.		79.95		.354	.572
760.		80.05		.369	.578
760.		78.35		.475	.632
760.		78.2		.507	.645

760.	77.45	.6115	.691
760.	77.15	.706	.736
760.	77.0	.765	.7685
760.	77.25	.864	.832
760.	78.10	.932	.908
760.	78.70	.973	.954
760.	79.05	.994	.987

METHYL ETHYL KETONE(1) - TOLUENE(2)

SYSTEM 103

	28	33	1	10	2
760.		110.2		.0045	.014
760.		109.88		.0085	.029
760.		109.25		.0175	.0555
760.		107.2		.0405	.1281
760.		104.2		.0850	.2350
760.		102.28		.1190	.3043
760.		99.55		.18	.395
760.		98.7		.1981	.42
760.		97.1		.2359	.4709
760.		94.3		.3127	.5521
760.		91.85		.3982	.628
760.		89.9		.4682	.6854
760.		87.85		.5479	.7428
760.		86.75		.5858	.7708
760.		85.8		.642	.8027
760.		84.85		.6924	.8342
760.		84.4		.7012	.8396
760.		83.15		.7846	.8858
760.		82.65		.8015	.8955
760.		81.8		.8611	.9281
760.		80.5		.935	.9629
760.		79.85		.9774	.9878
760.		79.5		.9939	.9954

METHYL ETHYL KETONE(1) - WATER(2)

SYSTEM 104

	28	34	1	10	2
760.		97.6		.002	.085
760.		93.2		.004	.184
760.		92.		.005	.207
760.		84.6		.011	.394
760.		81.2		.017	.515
760.		75.5		.036	.618
760.		74.4		.197	.645
760.		74.4		.55	.645
760.		73.8		.635	.654
760.		73.3		.655	.655
760.		73.6		.665	.657
760.		73.5		.667	.661
760.		73.9		.709	.671
760.		73.8		.721	.676
760.		73.7		.729	.676
760.		73.8		.744	.683
760.		74.		.775	.696
760.		73.5		.784	.698
760.		73.9		.8	.707
760.		73.9		.803	.707
760.		74.1		.836	.728
760.		73.8		.848	.736

760.	74.5	.88	.767
760.	75.3	.912	.816
760.	76.4	.958	.898
760.	77.	.977	.929
760.	78.3	.993	.963

METHYLCYCLOHEXANE(1) - 1-BUTANOL(2)

SYSTEM 105

	26	43	1	10	2
760.		112.5		.05	.207
760.		108.6		.1	.324
760.		104.		.2	.473
760.		101.3		.3	.558
760.		99.4		.4	.619
760.		97.9		.5	.665
760.		96.9		.6	.706
760.		96.6		.7	.733
760.		96.6		.8	.756
760.		97.6		.9	.824
760.		98.6		.95	.895

METHYLCYCLOHEXANE(1) - PHENOL(2)

SYSTEM 106

	26	32	1	10	2
760.		150.		.114	.6775
760.		130.		.262	.871
760.		120.		.38	.884
760.		112.2		.652	.9088
760.		105.6		.9026	.9384
760.		102.5		.9518	.9683
760.		102.2		.9611	.9741
760.		101.7		.9874	.9914
760.		101.1		.9952	.9963

METHYLCYCLOHEXANE(1) - TOLUENE(2)

SYSTEM 107

	26	33	1	10	1
593.84		100.02		.1002	.1523
624.22		100.02		.2	.2775
624.59		100.02		.2	.2772
648.85		100.02		.299	.38
649.59		100.02		.3005	.3815
671.34		100.02		.4003	.4775
670.58		100.02		.4003	.4785
689.38		100.02		.4995	.5655
705.29		100.02		.5995	.6505
705.59		100.02		.6	.65
717.89		100.02		.6995	.736
719.13		100.02		.7002	.7365
727.49		100.02		.7995	.8205
727.55		100.02		.7995	.8195
735.61		100.02		.9005	.908

METHYLCYCLOPENTANE(1) - BENZENE(2)

SYSTEM 108

	27	5	1	10	2
760.		79.64		.0297	.0526
760.		77.62		.108	.1668
760.		76.62		.1751	.2533
760.		74.85		.3017	.387
760.		74.		.3806	.4598
760.		73.43		.445	.5179

760.	72.84	.5737	.6255
760.	72.06	.6434	.6795
760.	71.97	.7206	.7442
760.	71.54	.8224	.8299
760.	71.47	.903	.9034
760.	71.53	.918	.9174
760.	71.65	.9373	.936
760.	71.68	.945	.9442
760.	71.8	.9518	.9503

METHYLCYCLOPENTANE(2) - HEXANE(1)

SYSTEM 109

	18	27	1	10	2
760.		71.75		.025	.035
760.		71.55		.0815	.098
760.		71.4		.123	.142
760.		71.2		.168	.188
760.		71.		.222	.248
760.		70.85		.273	.3
760.		70.65		.326	.353
760.		70.6		.334	.359
760.		70.5		.359	.39
760.		70.4		.393	.424
760.		70.35		.396	.422
760.		70.3		.415	.458
760.		70.25		.43	.462
760.		70.2		.45	.472
760.		70.1		.476	.502
760.		70.05		.493	.5165
760.		69.95		.532	.5625
760.		69.9		.547	.571
760.		69.75		.605	.623
760.		69.7		.626	.648
760.		69.6		.666	.685
760.		69.55		.679	.692
760.		69.4		.74	.756
760.		69.35		.758	.774
760.		69.2		.811	.82
760.		69.15		.833	.845
760.		69.1		.845	.854
760.		69.05		.882	.891
760.		68.9		.925	.934

OCTANE(1) - ETHYLCYCLOHEXANE(2)

SYSTEM 110A

	41	42	1	10	2
50.		52.22		.110	.127
50.		52.		.194	.215
50.		51.72		.289	.314
50.		51.44		.384	.414
50.		51.16		.481	.508
50.		50.89		.593	.616
50.		50.67		.689	.708
50.		50.39		.791	.804
50.		50.17		.898	.905

OCTANE(1) - ETHYLCYCLOHEXANE(2)

SYSTEM 110B

	41	42	1	10	2
100.		68.66		.099	.117
100.		68.33		.193	.217

100.	68.06	.296	.323
100.	67.67	.385	.413
100.	67.31	.492	.522
100.	66.97	.599	.627
100.	66.64	.689	.712
100.	66.31	.783	.797
100.	65.94	.889	.897

OCTANE(1) - ETHYLCYCLOHEXANE(2)

SYSTEM 110C

	41	42	1	10	2
400.		108.72		.095	.113
400.		108.17		.191	.215
400.		107.67		.289	.317
400.		107.11		.394	.424
400.		106.61		.481	.513
400.		106.06		.593	.623
400.		105.5		.688	.710
400.		105.		.795	.811
400.		104.6		.898	.908

OCTANE(1) - ETHYLCYCLOHEXANE(2)

SYSTEM 110D

	41	42	1	10	2
500.		116.11		.112	.132
500.		115.56		.190	.215
500.		115.		.290	.318
500.		114.5		.383	.416
500.		114.		.480	.512
500.		113.5		.591	.621
500.		112.89		.692	.716
500.		112.33		.791	.815
500.		111.81		.906	.910

OCTANE(1) - ETHYLCYCLOHEXANE(2)

SYSTEM 110E

	41	42	1	10	2
760.		131.22		.119	.143
760.		130.89		.192	.220
760.		130.06		.286	.315
760.		129.36		.388	.424
760.		128.75		.489	.525
760.		128.03		.589	.623
760.		127.44		.689	.715
760.		126.89		.785	.806
760.		126.33		.894	.902

1-PROPANOL(1) - ETHYL ACETATE(2)

SYSTEM 111A

	37	12	1	10	1
185.		40.		.0857	.0477
178.		40.		.1476	.0825
176.5		40.		.1799	.1
171.		40.		.255	.13
170.		40.		.2777	.1416
165.		40.		.3519	.1695
161.5		40.		.3851	.1802
154.		40.		.4874	.2285
127.5		40.		.6913	.3344
109.		40.		.7988	.413
95.		40.		.85	.4869
84.		40.		.899	.5715

## 1-PROPANOL(1) - ETHYL ACETATE(2)

SYSTEM 111B

37	12	1	10	1
402.	60.		.0843	.056
393.	60.		.186	.112
379.	60.		.2977	.166
362.5	60.		.3738	.2122
343.	60.		.4716	.25
324.5	60.		.5842	.3109
305.5	60.		.6375	.3528
285.5	60.		.7230	.4097
262.	60.		.7811	.4768
239.5	60.		.8404	.5405
222.	60.		.8825	.6235
205.	60.		.9095	.69
189.	60.		.9362	.7575
179.	60.		.952	.805

## 1-PROPANOL(1) - ETHYL ACETATE(2)

SYSTEM 111C

37	12	1	10	2
760.	78.		.0926	.0699
760.	78.5		.1667	.1209
760.	79.5		.268	.1764
760.	80.38		.3623	.2381
760.	82.8		.5316	.3373
760.	84.15		.6178	.413
760.	85.47		.6779	.4566
760.	87.5		.756	.5392
760.	89.2		.8198	.6116
760.	90.55		.8806	.6565
760.	91.95		.8863	.7269
760.	93.25		.9062	.7678
760.	94.9		.9477	.8669
760.	96.		.9762	.9237

## 1-PROPANOL(1) - HEPTANE(2)

SYSTEM 112A

37	16	1	10	1
63.49	30.		.005	.079
66.59	30.		.01	.125
69.56	30.		.02	.166
72.02	30.		.04	.199
74.63	30.		.1	.238
76.04	30.		.2	.27
76.13	30.		.3	.281
75.81	30.		.4	.296
75.15	30.		.5	.308
73.96	30.		.6	.322
71.81	30.		.7	.343
67.10	30.		.8	.382
62.83	30.		.85	.419
56.34	30.		.9	.482
52.76	30.		.92	.522
48.44	30.		.94	.577
43.27	30.		.96	.657
37.03	30.		.98	.781
33.42	30.		.99	.873

## 1-PROPANOL(1) - HEPTANE(2)

SYSTEM 112B

	37	16	1	10	1
123.08		45.		.005	.067
129.1		45.		.01	.114
137.2		45.		.02	.171
143.96		45.		.04	.216
151.38		45.		.1	.266
155.57		45.		.2	.305
156.26		45.		.3	.320
156.02		45.		.4	.338
154.92		45.		.5	.353
152.73		45.		.6	.370
148.7		45.		.7	.393
139.85		45.		.8	.436
131.89		45.		.85	.475
119.78		45.		.9	.540
113.14		45.		.92	.580
105.13		45.		.94	.633
95.55		45.		.96	.708
84.03		45.		.98	.819
77.38		45.		.99	.897

1-PROPANOL(1) - HEPTANE(2)

SYSTEM 112C

	37	16	1	10	1
222.79		60.		.005	.056
232.66		60.		.01	.099
248.25		60.		.02	.162
266.09		60.		.04	.226
284.32		60.		.1	.289
295.79		60.		.2	.337
298.30		60.		.3	.357
298.86		60.		.4	.379
297.42		60.		.5	.397
293.83		60.		.6	.417
286.86		60.		.7	.443
271.61		60.		.8	.489
257.93		60.		.85	.529
237.10		60.		.9	.594
225.72		60.		.92	.633
212.04		60.		.94	.684
195.70		60.		.96	.753
176.12		60.		.98	.851
164.82		60.		.99	.917

1-PROPANOL(2) - HEPTANE(1)

SYSTEM 112D

	16	37	1	10	1
348.3		75.		.02	.075
388.9		75.		.037	.145
398.4		75.		.045	.18
424.4		75.		.06	.218
442.6		75.		.078	.275
467.9		75.		.094	.305
486.5		75.		.108	.338
502.4		75.		.138	.37
517.2		75.		.163	.402
541.6		75.		.207	.42
549.2		75.		.320	.47
552.3		75.		.356	.463
550.		75.		.375	.48

548.8	75.	.51	.54
547.4	75.	.565	.55
538.9	75.	.66	.57
516.6	75.	.82	.64
506.6	75.	.86	.655
497.4	75.	.88	.685
483.1	75.	.905	.71
446.1	75.	.97	.785

1-PROPANOL(1) - HEPTANE(2)

SYSTEM 112E

	37	16	1	10	2	
760.		88.8		.1		.315
760.		86.1		.2		.4
760.		85.2		.3		.425
760.		84.7		.4		.45
760.		84.6		.5		.475
760.		84.8		.6		.51
760.		85.7		.7		.555
760.		87.1		.8		.61
760.		89.5		.9		.72

1-PROPANOL(1) - METHYLCYCLOHEXANE(2)

SYSTEM 113

	37	26	1	10	2	
760.		93.		.05		.242
760.		88.9		.1		.325
760.		88.1		.2		.404
760.		87.4		.3		.431
760.		87.1		.4		.455
760.		87.		.5		.48
760.		87.2		.6		.492
760.		87.7		.7		.525
760.		88.3		.8		.575
760.		91.4		.9		.72
760.		93.7		.95		.832

1-PROPANOL(1) - WATER(2)

SYSTEM 114A

	37	34	1	10	1	
85.75		40.		.0805		.341
86.5		40.		.1295		.3555
86.5		40.		.1525		.3615
86.5		40.		.305		.387
86.75		40.		.398		.3995
86.5		40.		.47		.4225
86.		40.		.5755		.454
83.5		40.		.666		.4995
81.5		40.		.7385		.5405
72.5		40.		.844		.6625
69.5		40.		.85		.726
69.		40.		.8975		.7535

1-PROPANOL(1) - WATER(2)

SYSTEM 114B

	37	34	1	10	1	
202.5		60.		.039		.28
223.		60.		.065		.3575
228.5		60.		.1545		.367
230.5		60.		.179		.3735
228.5		60.		.196		.375
229.		60.		.262		.392



229.5	60.	.3	.394
231.	60.	.409	.412
231.	60.	.426	.4175
230.	60.	.4895	.4455
229.	60.	.566	.503
216.	60.	.705	.553
215.	60.	.735	.5575
204.5	60.	.796	.621
184.5	60.	.88	.746
178.5	60.	.894	.76
182.5	60.	.925	.785
169.5	60.	.95	.85

1-PROPANOL(1) - WATER(2)

SYSTEM 114C

	37	37	1	10	2
760.		92.35		.039	.281
760.		88.85		.072	.36
760.		89.05		.075	.375
760.		87.95		.179	.388
760.		88.		.2	.379
760.		87.5		.425	.426
760.		87.8		.482	.438
760.		89.2		.712	.56
760.		91.7		.85	.625
760.		95.		.94	.855

2-PROPANOL(1) - CARBON TETRACHLORIDE(2)

SYSTEM 115

	22	6	1	10	2
760.		79.15		.942	.862
760.		75.71		.896	.717
760.		74.9		.862	.69
760.		71.62		.764	.562
760.		69.28		.153	.258
760.		69.		.211	.292
760.		68.75		.307	.371
760.		69.15		.578	.416
760.		71.78		.775	.567
760.		70.12		.683	.503
760.		70.63		.711	.527
760.		70.51		.706	.517
760.		72.54		.81	.601
760.		74.27		.86	.604
760.		69.54		.657	.5
760.		71.4		.054	.158
760.		74.79		.011	.06
760.		78.85		.056	.854
760.		77.96		.041	.817
760.		74.48		.868	.604
760.		73.71		.842	.655
760.		70.87		.72	.537
760.		69.7		.623	.469
760.		68.86		.488	.411
760.		68.46		.506	.412
760.		68.31		.413	.381
760.		68.56		.339	.359
760.		68.76		.319	.351
760.		68.91		.259	.33
760.		68.88		.242	.325

760.	69.08	.211	.305
760.	69.28	.176	.289
760.	69.59	.146	.265
760.	69.43	.538	.442
760.	68.9	.258	.332

2-PROPANOL(1) - ETHYL ACETATE(2)

SYSTEM 116A

	22	12	1	10	1	
118.		40.		.962		.8653
120.5		40.		.95		.834
126.		40.		.93		.7825
137.		40.		.8845		.6935
148.5		40.		.85		.627
152.5		40.		.801		.577
161.5		40.		.73		.505
164.		40.		.71		.496
174.		40.		.615		.422
178.		40.		.5385		.3775
183.5		40.		.46		.3335
191.		40.		.3595		.288
194.		40.		.186		.185
192.		40.		.0915		.1014

2-PROPANOL(1) - ETHYL ACETATE(2)

SYSTEM 116B

	22	12	1	10	1	
425.		60.		.0775		.1068
432.		60.		.0805		.1
430.5		60.		.165		.1795
434.		60.		.2475		.2555
432.		60.		.32		.3023
430.5		60.		.4095		.3578
420.		60.		.5085		.4168
413.		60.		.568		.4587
411.5		60.		.5725		.4631
404.5		60.		.64		.5119
394.		60.		.6865		.5387
385.		60.		.7335		.5787
358.5		60.		.8245		.6795
355.		60.		.841		.702
343.		60.		.8705		.7372
330.5		60.		.9065		.7824
329.5		60.		.9145		.81
321.5		60.		.926		.8415
312.5		60.		.9545		.8746

2-PROPANOL(1) - ETHYL ACETATE(2)

SYSTEM 116C

	22	12	1	10	2	
760.		76.85		.096		.1114
760.		75.92		.385		.3538
760.		76.4		.539		.4662
760.		76.85		.5985		.524
760.		77.25		.6555		.575
760.		78.7		.771		.675
760.		79.38		.8295		.741
760.		80.3		.8815		.8068

2-PROPANOL(1) - HEPTANE(2)

SYSTEM 117A

	22	16	1	10	1
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66.5	30.	.005	.121
72.33	30.	.01	.194
82.75	30.	.03	.302
85.61	30.	.05	.328
90.61	30.	.1	.374
93.23	30.	.15	.399
94.64	30.	.2	.414
96.38	30.	.3	.44
97.18	30.	.4	.459
97.28	30.	.5	.476
96.81	30.	.6	.496
95.3	30.	.7	.523
91.8	30.	.8	.567
88.8	30.	.85	.6
83.94	30.	.9	.652
75.2	30.	.95	.753
66.76	30.	.98	.87
63.18	30.	.99	.927

2-PROPANOL(1) - HEPTANE(2)

SYSTEM 117B

22	16	1	10	1	
127.75	45.			.005	.101
138.51	45.			.01	.173
163.45	45.			.03	.307
172.33	45.			.05	.347
184.57	45.			.1	.399
191.31	45.			.15	.429
195.59	45.			.2	.449
200.09	45.			.3	.476
202.93	45.			.4	.5
203.84	45.			.5	.52
203.5	45.			.6	.542
201.17	45.			.7	.571
195.17	45.			.8	.617
189.85	45.			.85	.65
181.21	45.			.9	.7
165.59	45.			.95	.793
150.53	45.			.98	.894
144.16	45.			.99	.941

2-PROPANOL(1) - HEPTANE(2)

SYSTEM 117C

22	16	1	10	1	
229.1	60.			.005	.082
245.78	60.			.01	.147
294.64	60.			.03	.297
318.61	60.			.05	.356
347.43	60.			.1	.419
362.44	60.			.15	.452
373.32	60.			.2	.474
384.23	60.			.3	.507
391.83	60.			.4	.534
395.3	60.			.5	.558
396.17	60.			.6	.583
393.29	60.			.7	.614
384.11	60.			.8	.661
375.54	60.			.85	.693
361.39	60.			.9	.741
335.93	60.			.95	.826

311.31	60.	.98	.913
300.92	60.	.99	.952

2-PROPANOL(1) - ISOPROPYLETHER(2)				SYSTEM 118
22	46	1	10	2
760.	80.6		.975	.923
760.	78.9		.94	.83
760.	77.2		.91	.74
760.	74.3		.84	.61
760.	72.3		.778	.53
760.	70.5		.705	.45
760.	68.9		.6	.385
760.	68.2		.545	.355
760.	67.		.383	.279
760.	66.6		.31	.245
760.	66.5		.295	.24
760.	66.2		.27	.2
760.	66.2		.16	.17
760.	66.4		.135	.16
760.	66.6		.06	.085
760.	66.8		.03	.055
760.	67.3		.01	.02

2-PROPANOL(2) - METHYLCYCLOHEXANE(2)				SYSTEM 119
22	26	1	10	2
500.	75.4		.03	.344
500.	71.		.077	.434
500.	64.8		.18	.491
500.	68.		.25	.511
500.	67.		.331	.54
500.	66.8		.427	.558
500.	66.7		.509	.581
500.	66.6		.581	.6
500.	66.5		.668	.623
500.	66.5		.735	.65
500.	67.		.788	.682
500.	67.5		.843	.719
500.	68.1		.887	.768
500.	69.2		.935	.835
500.	70.3		.965	.899

2-PROPANOL(1) - WATER(2)				SYSTEM 120A
22	34	1	10	2
760.	97.6		.005	.06
760.	95.		.008	.16
760.	91.3		.016	.285
760.	89.8		.025	.325
760.	88.2		.032	.365
760.	84.9		.065	.435
760.	83.		.11	.49
760.	81.6		.235	.546
760.	81.1		.34	.57
760.	80.7		.42	.59
760.	80.3		.55	.625
760.	80.2		.56	.635
760.	80.1		.59	.65
760.	80.		.72	.7
760.	80.		.75	.73

760.	80.1	.78	.75
760.	80.2	.83	.79
760.	80.9	.87	.82
760.	80.6	.9	.85
760.	81.	.945	.9
760.	81.2	.96	.92
760.	81.7	.99	.965

2-PROPANOL(1) - WATER(2)

SYSTEM 1208

	22	34	1	10	2
760.		97.57		.0045	.0815
760.		96.2		.0069	.1405
760.		93.66		.0127	.2185
760.		87.84		.0357	.3692
760.		84.28		.0678	.4647
760.		82.84		.133	.5036
760.		82.52		.1651	.5153
760.		81.52		.3204	.5456
760.		81.45		.3336	.5489
760.		81.19		.3752	.5615
760.		80.77		.472	.586
760.		80.73		.4756	.5886
760.		80.58		.5197	.6033
760.		80.52		.5945	.633
760.		80.46		.788	.7546
760.		80.55		.802	.768
760.		81.32		.9203	.901
760.		81.85		.966	.9525

TETRAHYDROFURAN(1) - DIMETHYLFORMAMIDE(2)

SYSTEM 121

	53	54	1	10	2
760.		114.3		.087	.69
760.		109.		.134	.754
760.		96.		.212	.81
760.		77.6		.679	.939
760.		74.		.885	.958
760.		70.2		.96	.974

TETRAHYDROFURAN(1) - WATER(2)

SYSTEM 122

	53	34	1	10	1
303.2		50.0		0.028	0.700
359.8		50.0		0.038	0.745
383.4		50.0		0.046	0.767
420.5		50.0		0.075	0.781
440.4		50.0		0.1165	0.797
445.4		50.0		0.183	0.800
447.0		50.0		0.228	0.802
447.8		50.0		0.264	0.800
449.4		50.0		0.354	0.802
451.1		50.0		0.441	0.803
453.5		50.0		0.531	0.805
456.2		50.0		0.611	0.810
459.8		50.0		0.698	0.820
463.4		50.0		0.765	0.832
464.8		50.0		0.798	0.840
465.4		50.0		0.868	0.865
464.3		50.0		0.888	0.870
462.1		50.0		0.922	0.901

456.4	50.0	0.956	0.936
450.0	50.0	0.979	0.965

TOLUENE(1) - ETHANOL(2)

SYSTEM 123

33	11	1	10	2
756.	91.06		.0666	.4478
756.	88.2		.0908	.5083
756.	87.45		.0985	.5224
756.	85.6		.1191	.557
756.	83.4		.1576	.5991
756.	80.6		.2523	.6536
756.	79.1		.3469	.683
756.	78.4		.4283	.7018
756.	77.95		.489	.7141
756.	77.3		.633	.7444
756.	77.04		.731	.7751
756.	77.		.8082	.8094
756.	77.15		.8794	.8554
756.	77.4		.9262	.8975
756.	77.45		.9382	.9099
756.	77.6		.9545	.9304

TOLUENE(1) - ISOCAMYL ALCOHOL(2)

SYSTEM 124A

33	47	1	10	1
135.	80.		.055	.312
143.	80.		.074	.345
162.	80.		.112	.455
201.	80.		.236	.605
210.	80.		.241	.61
212.	80.		.256	.63
246.	80.		.432	.721
258.	80.		.52	.755
264.	80.		.566	.786
268.	80.		.578	.776
280.	80.		.73	.832
282.	80.		.813	.864
285.	80.		.82	.872
295.	80.		.914	.928

TOLUENE(1) - ISOCAMYL ALCOHOL(2)

SYSTEM 1248

33	47	1	10	1
415.	107.		.11	.3
470.	107.		.191	.436
525.	107.		.251	.512
536.	107.		.289	.551
547.	107.		.296	.561
594.	107.		.398	.644
643.	107.		.511	.709
669.	107.		.629	.763
680.	107.		.694	.793
690.	107.		.964	.964
683.	107.		.96	.976

TOLUENE(1) - OCTANE(2)

SYSTEM 125

33	41	1	10	2
760.	124.4		.035	.059
760.	124.4		.025	.058
760.	122.3		.118	.184

760.	121.3	.159	.25
760.	121.2	.164	.251
760.	121.1	.169	.262
760.	119.4	.252	.366
760.	119.4	.252	.36
760.	119.3	.256	.366
760.	119.2	.26	.369
760.	117.5	.356	.467
760.	117.4	.357	.471
760.	117.4	.36	.483
760.	116.3	.427	.542
760.	116.2	.429	.546
760.	114.6	.539	.64
760.	114.5	.539	.641
760.	113.	.67	.745
760.	113.	.67	.748
760.	112.8	.693	.76
760.	112.3	.74	.797
760.	111.7	.807	.848
760.	111.6	.821	.857
760.	111.1	.879	.902
760.	110.9	.916	.93
760.	110.9	.915	.929

TOLUENE (1) - PHENOL (2)

SYSTEM 126

	33	32	1	10	2
760.		172.7		.0435	.341
760.		159.4		.0872	.512
760.		153.8		.1186	.621
760.		149.4		.1246	.625
760.		142.2		.219	.785
760.		133.8		.275	.807
760.		128.3		.408	.8725
760.		126.7		.48	.8901
760.		122.2		.5898	.9159
760.		120.2		.6346	.928
760.		120.		.6512	.926
760.		119.7		.74	.9463
760.		119.4		.773	.9536
760.		115.6		.8012	.9545
760.		112.7		.884	.975
760.		112.2		.9108	.9796
760.		113.3		.9394	.9861
760.		111.1		.977	.9948
760.		111.1		.991	.998
760.		110.5		.9939	.9986
760.		110.5		.9973	.9993

1,2,3-TRICHLOROPROPANE (1) - HEXANE (2)

SYSTEM 127

	39	18	1	10	2
760.		112.6		.908	.247
760.		99.3		.837	.146
760.		88.7		.713	.089
760.		82.6		.553	.062
760.		79.7		.427	.052
760.		76.4		.33	.042
760.		76.3		.308	.04
760.		73.8		.203	.033

760.	73.4	.202	.032
760.	70.7	.105	.02

1,2,3-TRICHLOROPROPANE(1) - 1-HEXENE(2)				SYSTEM 128
39	38	1	10	2
760.	117.1	.903	.269	
760.	101.1	.832	.16	
760.	90.3	.726	.097	
760.	83.6	.622	.067	
760.	81.3	.571	.058	
760.	77.4	.482	.047	
760.	77.2	.473	.045	
760.	75.6	.422	.039	
760.	72.8	.321	.031	
760.	68.4	.17	.017	
760.	67.7	.157	.016	
760.	66.1	.084	.009	

VINYL ACETATE(1) - 2,4-DIMETHYLPENTANE(2)				SYSTEM 129
49	50	1	10	2
760.	75.	.073	.187	
760.	70.8	.188	.381	
760.	67.7	.421	.513	
760.	67.4	.47	.541	
760.	67.2	.606	.606	
760.	67.37	.709	.662	
760.	68.9	.879	.792	
760.	71.	.965	.922	

WATER(1) - ACETIC ACID(2)				SYSTEM 130A
34	1	1	10	2
125.	64.25	.039	.071	
125.	61.53	.107	.17	
125.	59.83	.214	.298	
125.	58.61	.356	.447	
125.	58.1	.457	.538	
125.	57.58	.601	.662	
125.	57.28	.713	.756	
125.	56.92	.822	.854	
125.	56.68	.902	.925	
125.	56.57	.948	.963	

WATER(1) - ACETIC ACID(2)				SYSTEM 130B
34	1	1	10	2
250.	80.42	.046	.083	
250.	77.33	.105	.175	
250.	75.86	.165	.255	
250.	75.12	.208	.307	
250.	73.76	.342	.446	
250.	73.09	.45	.55	
250.	72.51	.61	.682	
250.	72.33	.708	.761	
250.	71.87	.839	.875	
250.	71.63	.957	.938	

WATER(1) - ACETIC ACID(2)				SYSTEM 130C
34	1	1	10	2
500.	99.55	.05	.091	



500.	94.28	.14	.233
500.	92.54	.228	.348
500.	91.43	.316	.454
500.	90.74	.407	.550
500.	89.94	.518	.654
500.	89.53	.634	.740
500.	89.20	.749	.822
500.	88.98	.866	.908
500.	88.83	.955	.970

WATER(1) - ACETIC ACID(2)

SYSTEM 130D

	34	1	1	10	2
760.		117.5		.0045	.0115
760.		109.1		.089	.156
760.		105.6		.173	.281
760.		103.0		.3285	.476
760.		101.6		.474	.624
760.		101.2		.5575	.685
760.		100.9		.636	.745
760.		100.59		.743	.817
760.		100.37		.840	.886
760.		100.12		.954	.968

WATER(1) - ACETIC ACID(2)

SYSTEM 130E

	34	1	1	10	2
760.		115.4		.05	.092
760.		113.8		.1	.167
760.		110.1		.2	.302
760.		107.5		.3	.425
760.		105.8		.4	.530
760.		104.4		.5	.626
760.		103.2		.6	.716
760.		102.1		.7	.795
760.		101.3		.8	.864
760.		100.6		.9	.920
760.		100.3		.95	.963

WATER(1) - ACETIC ACID(2)

SYSTEM 130F

	34	1	1	10	2
760.		117.96		.0002	.0002
760.		117.92		.0002	.0003
760.		117.91		.0002	.0004
760.		117.64		.0034	.0069
760.		117.51		.0055	.0112
760.		115.03		.0474	.0979
760.		113.81		.0812	.1446
760.		111.51		.1497	.2382
760.		109.84		.2198	.3273
760.		108.16		.2917	.4071
760.		107.36		.3378	.4573
760.		105.85		.4198	.5496
760.		104.17		.5359	.6591
760.		102.86		.6463	.7524
760.		101.92		.7388	.8217
760.		101.24		.8251	.8783
760.		100.54		.9210	.9429
760.		100.24		.9676	.9761
760.		100.07		.9891	.9921

WATER(1) - DIOXANE(2)

	34	10	1	10	1	
42.7			25.		.05	.1545
45.2			25.		.1	.241
47.5			25.		.24	.31
47.7			25.		.45	.35
45.5			25.		.72	.405
43.9			25.		.77	.44
37.5			25.		.89	.56
30.			25.		.96	.77

SYSTEM 131

P-XYLENE(1) - FURFURAL(2)

	36	15	1	10	2	
723.			135.2		.962	.954
723.			134.8		.946	.942
723.			134.6		.933	.925
723.			134.4		.917	.911
723.			134.2		.899	.897
723.			134.4		.85	.859
723.			134.6		.765	.8
723.			135.3		.686	.752
723.			136.2		.604	.714
723.			136.8		.542	.684
723.			137.6		.473	.634
723.			138.8		.416	.632
723.			140.		.345	.562
723.			141.3		.295	.526
723.			144.8		.195	.46
723.			148.		.125	.352
723.			149.5		.093	.289
723.			151.5		.064	.232
723.			153.2		.044	.164
723.			155.8		.022	.096

SYSTEM 132

ISOPROPYLETHER(1) - WATER(2)

	46	34	1	10	2	
760.			67.		.994	.928
760.			66.		.988	.9
760.			65.		.976	.87
760.			64.		.96	.846
760.			63.		.936	.82
760.			62.2		.9	.78
760.			62.2		.85	.78
760.			62.2		.78	.78
760.			62.2		.7	.78
760.			62.2		.6	.78
760.			62.2		.5	.76
760.			62.2		.4	.78
760.			62.2		.3	.78
760.			62.2		.2	.78
760.			62.2		.1	.78
760.			62.2		.05	.78
760.			62.2		.01	.78
760.			64.		.005	.762
760.			68.		.004	.735
760.			82.		.001	.692
760.			86.		.001	.655

SYSTEM 133

760.	90.	.0005	.586
760.	95.	.0002	.415

ACRYLONITRILE(1) - WATER(2)

SYSTEM 134A

	40	34	1	10	1	
29.6		25.			.0012	.199
34.2		25.			.0026	.31
39.4		25.			.0035	.401
44.5		25.			.0051	.57
48.2		25.			.0064	.51
55.3		25.			.0089	.575
67.4		25.			.0108	.653
74.3		25.			.0132	.685
81.4		25.			.0154	.713
86.6		25.			.0172	.732
94.2		25.			.0198	.754
97.6		25.			.0201	.762
96.9		25.			.0207	.76
106.9		25.			.0214	.783
103.6		25.			.0233	.777
103.8		25.			.0244	.777
108.		25.			.0251	.786
109.4		25.			.0258	.788

ACRYLONITRILE(1) - WATER(2)

SYSTEM 134B

	40	34	1	10	1	
67.		40.			.0013	.176
77.2		40.			.0025	.285
95.3		40.			.0049	.422
133.9		40.			.0113	.592
171.5		40.			.0172	.683
186.4		40.			.0224	.709
194.2		40.			.0241	.722
199.9		40.			.0258	.731
191.9		40.			.0273	.72

BENZENE(1) - CHLOROBENZENE(2)

SYSTEM 135

	5	56	1	10	1	
126.1		70.0			.068	.241
128.8		70.			.0787	.272
166.9		70.			.1628	.486
169.7		70.			.1839	.503
206.7		70.			.2728	.632
251.3		70.			.3758	.74
315.5		70.			.4948	.8321
347.2		70.			.5862	.8675
367.1		70.			.6062	.8849
435.		70.			.7744	.9395
493.5		70.			.8885	.9734
525.2		70.			.9503	.9893
535.2		70.			.9715	.9933

BENZENE(1) - ACETIC ACID(2)

SYSTEM 136

	5	1	1	10	2	
758.		79.8			.9499	.9613
758.		80.			.8823	.9309
758.		82.8			.5325	.7932
758.		85.8			.3407	.7032

758.	91.5	.1731	.5924
758.	100.	.0738	.3948
758.	109.	.0279	.2407
758.	115.1	.0093	.0603

METHYLCYCLOPENTANE(1) - CYCLOHEXANE(2)

SYSTEM 137

	27	9	1	10	2
760.		79.68		.102	.131
760.		76.17		.477	.541
760.		73.65		.771	.814

METHYLCYCLOPENTANE(1) - TOLUENE(2)

SYSTEM 138

	27	33	1	10	2
760.		108.8		.023	.068
760.		107.2		.040	.127
760.		105.35		.0635	.193
760.		103.4		.092	.2375
760.		102.3		.106	.290
760.		102.0		.110	.296
760.		99.3		.151	.3725
760.		96.8		.191	.446
760.		95.3		.220	.488
760.		92.9		.267	.549
760.		90.75		.3125	.602
760.		89.85		.3335	.625
760.		88.5		.371	.657
760.		87.0		.4125	.695
760.		85.35		.455	.725
760.		84.1		.498	.748
760.		83.05		.531	.777
760.		82.3		.5525	.792
760.		81.8		.568	.802
760.		80.3		.622	.831
760.		78.95		.675	.857
760.		77.7		.727	.8825
760.		76.05		.796	.915
760.		74.8		.846	.936
760.		73.7		.892	.954
760.		72.9		.929	.969
760.		72.2		.966	.9825

CYCLOHEXANE(1) - TOLUENE(2)

SYSTEM 139

	9	33	1	10	2
760.		108.25		.041	.102
760.		105.45		.091	.212
760.		103.85		.118	.264
760.		102.85		.143	.308
760.		101.75		.164	.348
760.		100.55		.192	.386
760.		99.5		.217	.422
760.		98.35		.245	.457
760.		98.35		.243	.46
760.		97.4		.273	.492
760.		96.95		.283	.504
760.		96.35		.304	.523
760.		95.5		.323	.547
760.		95.25		.336	.56
760.		94.2		.368	.596

760.	93.8	.379	.599
760.	92.75	.416	.633
760.	91.85	.452	.662
760.	90.55	.504	.702
760.	89.75	.533	.724
760.	88.85	.559	.749
760.	87.95	.599	.774
760.	88.	.602	.777
760.	87.35	.634	.794
760.	86.55	.672	.811
760.	85.25	.727	.852
760.	84.8	.763	.864
760.	84.45	.78	.877
760.	83.75	.814	.895
760.	82.7	.874	.926
760.	81.1	.964	.973

BENZENE(1) - METHYLCYCLOHEXANE(2)

SYSTEM 140

	5	26	1	10	2
760.		100.4		.015	.026
760.		99.5		.035	.072
760.		98.65		.052	.1095
760.		97.6		.083	.1635
760.		96.5		.1095	.2075
760.		94.5		.167	.297
760.		93.2		.2035	.352
760.		92.4		.231	.3855
760.		91.3		.269	.436
760.		90.25		.307	.483
760.		89.5		.337	.5115
760.		88.9		.361	.532
760.		88.35		.3885	.555
760.		87.7		.42	.582
760.		87.15		.448	.6085
760.		86.5		.483	.637
760.		85.95		.51	.655
760.		85.5		.5315	.675
760.		84.9		.573	.7025
760.		82.25		.617	.733
760.		83.5		.665	.767
760.		83.05		.705	.7895
760.		82.55		.739	.815
760.		82.1		.777	.838
760.		81.65		.821	.867
760.		81.2		.8605	.896
760.		80.9		.9	.923
760.		80.6		.9335	.948
760.		80.35		.965	.973

METHANOL(1) - 1,4-DIOXANE(2)

SYSTEM 141

	23	10	1	10	2
760.		64.72		.9870	.9930
760.		64.9		.9689	.9781
760.		64.96		.9472	.9689
760.		65.1		.9302	.9587
760.		65.27		.9070	.9454
760.		65.34		.8955	.9406
760.		65.55		.8635	.9247

760.	65.78	.8158	.9065
760.	66.5	.7678	.8955
760.	66.94	.7206	.8793
760.	67.1	.6355	.8772
760.	67.6	.5386	.8663
760.	67.89	.5290	.8533
760.	68.2	.4074	.8428
760.	68.5	.3603	.8296
760.	69.3	.3336	.8209
760.	70.4	.2280	.7983
760.	73.2	.1493	.7539
760.	78.2	.1004	.6845
760.	82.8	.0956	.5503
760.	89.2	.0633	.3936
760.	93.5	.0428	.2556
760.	96.04	.0190	.2076
760.	100.38	.0082	.0506
760.	100.54	.0082	.0480

3-METHYL PYRIDINE(1) - WATER(2) TASSIOS DATA SYSTEM 142

	57	34	1	10	1
547.8		89.83		0.00306	0.04263
580.6		89.83		0.0187	0.1048
584.1		89.83		0.0605	0.1119
584.1		89.83		0.0941	0.1120
584.0		89.83		0.1371	0.1123
584.0		89.83		0.1900	0.1135
582.3		89.83		0.2410	0.1157
577.6		89.83		0.3018	0.1210
566.8		89.83		0.3748	0.1309
553.3		89.83		0.4267	0.1403
542.0		89.83		0.4641	0.1488
512.0		89.83		0.5386	0.1685
482.4		89.83		0.5976	0.1900
417.4		89.83		0.7118	0.2508
368.9		89.83		0.7818	0.2948
171.4		89.83		0.9747	0.7947

METHYL ETHYL KETONE(1) - BENZENE(2) SYSTEM 143A

	28	5	1	10	1
273.7		50.		.845	.825
278.5		50.		.7	.685
282.3		50.		.5	.497
282.1		50.		.3	.309
278.6		50.		.155	.17

METHYL ETHYL KETONE(1) - BENZENE(2) SYSTEM 143B

	28	5	1	10	2
760.		78.97		.845	.83
760.		78.59		.7	.69
760.		78.34		.5	.495
760.		78.54		.3	.315
760.		79.01		.155	.177

METHYL ETHYL KETONE(1) - 2-PROPANOL(2) SYSTEM 144A

	28	22	1	10	1
226.1		50.		.2	.38
253.2		50.		.4	.55

267.4	50.	.6	.69
272.5	50.	.8	.82
272.4	50.	.92	.925

METHYL ETHYL KETONE(1) - 2-PROPANOL(2)  
 28 22 1 10 2

SYSTEM 144B

760.	79.62	.2	.28
760.	78.1	.4	.478
760.	77.41	.6	.65
760.	77.83	.8	.785
760.	78.73	.92	.907

ETHANOL(1) - CHLOROFORM(2)

SYSTEM 145

	11	8	1	10	1	
626.79		55.		.0348		.0592
644.24		55.		.057		.085
650.38		55.		.0963		.1202
653.11		55.		.161		.1583
650.96		55.		.2236		.1819
646.79		55.		.2731		.199
641.49		55.		.3149		.2143
632.14		55.		.3789		.2361
623.67		55.		.427		.2473
599.03		55.		.5206		.2839
569.02		55.		.6035		.324
566.74		55.		.6096		.328
560.25		55.		.6233		.3359
545.72		55.		.6555		.3581
543.53		55.		.6588		.3593
508.78		55.		.7194		.4058
469.41		55.		.7799		.4729
441.04		55.		.8131		.5205
407.9		55.		.8521		.5965
367.01		55.		.8971		.6877
346.89		55.		.9198		.7467
339.89		55.		.9288		.7698
306.38		55.		.9669		.8838

CHLOROFORM(1) - HEXANE(2)

SYSTEM 146

	8	18	1	10	1	
519.4		55.		.1035		.161
552.1		55.		.2035		.296
575.1		55.		.2905		.385
595.6		55.		.3964		.484
617.3		55.		.4992		.569
627.6		55.		.5965		.64
635.1		55.		.6991		.72
636.9		55.		.8		.794
631.2		55.		.9003		.883

ACETONE(1) - HEXANE(2)

SYSTEM 147

	2	18	1	10	1	
669.8		55.		.0926		.33
780.9		55.		.1846		.476
851.8		55.		.2989		.54
873.8		55.		.3933		.578
893.4		55.		.4975		.602
905.2		55.		.5998		.628

899.8	55.	.6993	.661
883.4	55.	.8021	.7
841.3	55.	.909	.795

CYCLOHEXANE(1) - METHYL ETHYL KETONE(2)

SYSTEM 148

	9	28	1	10	1
760.		75.3		.124	.223
760.		74.0		.196	.302
760.		78.0		.264	.366
760.		72.1		.355	.426
760.		71.5		.520	.535
760.		71.8		.631	.58
760.		72.6		.758	.644
760.		73.7		.825	.701
760.		74.7		.869	.747
760.		77.0		.940	.836





ACETIC ACID(1) ETHYLBENZE(2)

SYSTEM 001

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	725.00	127.0	0.0500	0.1750	974.32	568.15	0.9840	0.9585	2.5580	1.0579	0.8830	-392.19	-1421.42	-1028.50
2	725.00	126.0	0.0600	0.2000	947.19	552.65	0.9842	0.9580	2.5063	1.0653	0.8556	-394.21	-1430.67	-1034.81
3	725.00	125.0	0.0750	0.2250	920.65	537.48	0.9843	0.9576	2.3211	1.0778	0.7671	-396.26	-1440.01	-1041.18
4	725.00	123.0	0.0900	0.2700	869.32	508.09	0.9846	0.9567	2.4587	1.0906	0.8129	-400.46	-1459.01	-1054.12
5	725.00	121.0	0.1450	0.3550	820.26	479.97	0.9852	0.9555	2.1278	1.0844	0.6741	-404.77	-1478.44	-1067.33
6	725.00	120.0	0.1750	0.3850	796.55	466.36	0.9853	0.9549	1.9693	1.1021	0.5804	-406.98	-1488.32	-1074.05
7	725.00	117.0	0.2900	0.5050	728.65	427.33	0.9859	0.9529	1.7050	1.1225	0.4180	-413.79	-1518.63	-1094.61
8	725.00	113.0	0.5500	0.6950	645.31	379.30	0.9866	0.9495	1.3980	1.2251	0.1320	-423.35	-1560.71	-1123.09
9	725.00	112.0	0.7200	0.7650	625.70	367.98	0.9868	0.9483	1.2125	1.5617	-0.2531	-425.83	-1571.54	-1130.40
10	725.00	112.2	0.8200	0.8050	629.58	370.22	0.9869	0.9480	1.1135	2.0029	-0.5870	-425.33	-1569.36	-1128.93
11	725.00	113.0	0.9070	0.8700	645.31	379.30	0.9871	0.9476	1.0618	2.5216	-0.8650	-423.35	-1560.71	-1123.09
12	725.00	114.0	0.9600	0.9200	665.40	390.89	0.9873	0.9475	1.0290	3.5004	-1.2243	-420.91	-1550.01	-1115.85
13	725.00	115.0	0.9800	0.9500	685.98	402.76	0.9874	0.9476	1.0097	4.2470	-1.4365	-418.50	-1539.43	-1108.69

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 594.80 P = 57.10 V = 171.30 OMEGA = 0.444 OMEGAH = 0.187 DIPOLE = 1.75 ETA = 0.0  
 2 T = 617.20 P = 37.00 V = 366.00 OMEGA = 0.301 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.71881E 01 B = 0.14167E 04 C = 0.21100F 03  
 2 A = 0.69572F 01 B = 0.14243E 04 C = 0.21321F 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.58702E 02 B = .61178E 01 C = 0.19158E 03  
 2 A = 0.11139E 03 B = -.50868F 01 C = 0.29917E 03

VAPOR PRESSURE AT NBP

P = 764.4 AT T = 118.1  
 P = 760.0 AT T = 136.2

COMPONENT ID ECHO CHECK

ID NUMBER = 1  
 ID NUMBER = 45

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.79920E 00 B = .19600E 00 C = .19505E 01

STANDARD DEVIATION = 0.11168E 00

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.2238 G2INF = 3.8469  
 T1INF = 134.44 T2INF = 116.35

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.3039  
 AREA BELOW THE X-AXIS IS -0.2528  
 CROSS-OVER POINT IS X = 0.59  
 NORMALIZED AREA DIFFERENCE IS 0.0917  
 HERRINGTON J-FACTOR IS 8.74  
 CONSISTENCY INDEX IS 0.43

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	698.82	351.35	0.4547E-10	39.63	0.01223
2	1461.84	164.23	0.1206E-01	27.69	0.04929
3	796.23	372.19	0.4752E-00	22.45	0.01528
4	796.39	336.87	0.1126E-00	25.39	0.01394
5	868.35	306.26	0.2688E-01	18.05	0.02043
6	673.92	440.82	0.4874E-02	36.78	0.01193
7	701.71	613.58	0.2492E-01	20.76	0.01601
8	1066.67	126.73	0.5513E-02	13.38	0.03239
9	1067.03	126.21	0.5512E-02	13.39	0.03240
10	816.72	352.09	0.2636E-01	21.18	0.01661

ACETIC ACID(1) P-XYLENE(2)

SYSTEM 002

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	725.00	132.0	0.0100	0.1600	1119.15	612.85	0.9850	0.9569	10.1909	0.9566	2.3658	-382.49	-1495.93	-1044.98
2	725.00	125.5	0.1100	0.3200	933.85	512.62	0.9858	0.9539	2.2222	1.0265	0.7723	-395.23	-1560.72	-1087.37
3	725.00	122.5	0.1850	0.4400	856.85	470.86	0.9864	0.9520	1.9812	1.0031	0.6806	-401.53	-1592.22	-1107.90
4	725.00	120.0	0.2400	0.5200	796.55	438.12	0.9866	0.9505	1.9419	0.9893	0.6744	-406.98	-1619.28	-1125.51
5	725.00	118.0	0.3200	0.5850	750.76	413.22	0.9867	0.9491	1.7387	1.0121	0.5411	-411.49	-1641.50	-1139.94
6	725.00	116.5	0.3600	0.6450	717.75	395.29	0.9869	0.9480	1.7825	0.9605	0.6183	-414.96	-1658.50	-1150.96
7	725.00	114.1	0.4450	0.7850	667.43	367.86	0.9871	0.9456	1.1276	1.5649	-0.3277	-420.67	-1686.32	-1168.99
8	725.00	114.0	0.8370	0.8340	665.40	366.75	0.9872	0.9451	1.0657	1.8949	-0.5718	-420.91	-1687.50	-1169.75
9	725.00	114.2	0.8700	0.8550	669.47	368.97	0.9873	0.9450	1.0487	2.0626	-0.6764	-420.43	-1685.15	-1168.22
10	725.00	114.8	0.9250	0.8950	681.82	375.70	0.9874	0.9449	1.0139	2.5423	-0.9193	-418.98	-1678.13	-1163.68
11	725.00	115.3	0.9550	0.9300	692.25	381.38	0.9875	0.9448	1.0052	2.7824	-1.0182	-417.79	-1672.31	-1159.92
12	725.00	116.3	0.9960	0.9920	713.48	392.54	0.9876	0.9446	0.9976	3.4716	-1.2470	-415.42	-1660.79	-1152.45

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 594.80 P = 57.10 V = 171.30 OMEGA = 0.444 OMEGAH = 0.187 DIPCLE = 1.75 ETA = 0.0  
 2 T = 616.30 P = 34.60 V = 369.40 OMEGA = 0.324 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.71881E 01 B = 0.14167E 04 C = 0.21100E 03 P = 764.4 AT T = 118.1  
 2 A = 0.69905E 01 B = 0.14534E 04 C = 0.21531E 03 P = 760.0 AT T = 138.3

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.58702E 02 B = -.61178E-01 C = 0.19158E-03 ID NUMBR = 1  
 2 A = 0.12940E 03 B = -.14187E 00 C = 0.41800E 03 ID NUMBER = 36

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.17603E 01 B = -.42747E 01 C = 0.15231E 01

STANDARD DEVIATION = 0.34536E 00

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 5.8144 G2INF = 2.6946

T1INF = 136.60 T2INF = 116.35

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.4093

AREA BELOW THE X-AXIS IS -0.2786

CROSS-OVER POINT IS X = 0.50

NORMALIZED AREA DIFFERENCE IS 0.1900

HERINGTON J-FACTOR IS 8.76

CONSISTENCY INDEX IS 10.24

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)	
				PRESSURE	COMPOSITION
1	1907.03	-458.01	0.9095E-12	30.68	0.03902
2	643.57	354.55	0.2530E-02	21.22	0.03169
3	2630.35	-600.42	0.3302E 01	39.75	0.04021
4	1120.47	-114.27	0.6837E 00	11.97	0.02961
5	903.01	140.37	0.5207E-01	11.37	0.02888
6	834.04	305.43	0.4286E-01	16.63	0.02954
7	748.22	456.69	0.2954E-01	18.10	0.02975
8	991.22	-2.43	0.7869E-02	9.36	0.02879
9	991.22	-2.43	0.7856E-02	9.36	0.02879
10	2509.72	-505.99	0.1195E 00	46.50	0.04155

\*\*DIAGNOSTIC\*\*

1 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
 SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	112.1	0.0420	0.1080	3186.41	627.63	0.9786	0.9866	0.5986	1.1101	-0.6176	-794.64	-425.58	-535.90
2	760.00	107.4	0.1030	0.2570	2873.51	541.49	0.9763	0.9863	0.6426	1.1444	-0.5771	-828.09	-437.74	-553.02
3	760.00	106.3	0.1200	0.2890	2803.43	522.75	0.9758	0.9863	0.6354	1.1562	-0.5986	-836.08	-440.71	-557.14
4	760.00	106.1	0.1270	0.3100	2790.82	519.41	0.9756	0.9863	0.6468	1.1384	-0.5654	-837.54	-441.26	-557.90
5	760.00	105.4	0.1180	0.3030	2746.95	507.82	0.9755	0.9862	0.6911	1.1640	-0.5213	-842.67	-443.18	-560.55
6	760.00	104.6	0.1580	0.3560	2657.47	454.82	0.9745	0.9863	0.6172	1.1563	-0.6278	-848.55	-445.41	-563.61
7	760.00	94.3	0.2260	0.5640	2113.93	350.02	0.9705	0.9863	0.8683	1.2038	-0.3267	-927.45	-476.68	-605.31
8	760.00	92.5	0.2360	0.5800	2021.93	328.66	0.9698	0.9862	0.8934	1.2511	-0.3367	-941.86	-482.69	-613.08
9	760.00	90.4	0.2710	0.6300	1918.19	305.08	0.9688	0.9864	0.8899	1.2445	-0.3354	-958.92	-489.93	-622.34
10	760.00	86.3	0.3070	0.7090	1726.62	262.99	0.9670	0.9867	0.9802	1.1948	-0.1980	-993.02	-504.82	-641.06
11	760.00	78.6	0.4330	0.8440	1404.45	196.70	0.9635	0.9875	1.0134	1.0476	-0.0332	-1060.10	-535.73	-678.70
12	760.00	74.2	0.5380	0.9200	1241.26	165.43	0.9614	0.9883	1.0038	0.7846	0.2465	-1100.34	-555.34	-701.81
13	760.00	70.8	0.5500	0.9180	1125.00	144.17	0.9599	0.9880	1.0793	0.9470	0.1308	-1132.46	-571.59	-720.54
14	760.00	65.6	0.6680	0.9660	963.00	116.05	0.9574	0.9884	1.0896	0.6614	0.4991	-1183.40	-598.47	-750.80
15	760.00	63.6	0.7610	0.9810	905.57	106.52	0.9564	0.9885	1.0318	0.5594	0.6121	-1203.62	-609.52	-762.99

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 508.70 P = 46.60 V = 213.50 OMEGA = 0.309 OMEGAH = 0.187 DIPOLE = 2.88 ETA = 0.0  
 2 T = 594.80 P = 57.10 V = 171.30 OMEGA = 0.444 OMEGAH = 0.187 DIPOLE = 1.75 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.70200E 01 B = 0.11610E 04 C = 0.22400E 03 P = 760.3 AT T = 56.5  
 2 A = 0.71081E 01 B = 0.14167E 04 C = 0.21100E 03 P = 764.4 AT T = 118.1

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.56865E 02 B = 0.84265E 02 C = 0.16507E 03 COMPONENT ID ECHO CHECK  
 2 A = 0.58702E 02 B = -0.61178E 01 C = 0.19158E 03 ID NUMBER = 2  
 ID NUMBER = 1

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = -0.73955E 00 B = 0.14755E 01 C = 0.44925E 00  
 STANDARD DEVIATION = 0.61674E 01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 0.4773 G2INF = 0.3057  
 T1INF = 117.91 T2INF = 56.49

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS -0.1698  
 AREA BELOW THE X-AXIS IS 0.3178  
 CROSS-OVER POINT IS X = 0.44  
 NORMALIZED AREA DIFFERENCE IS -0.3035  
 HERINGTON J-FACTOR IS 27.95  
 CONSISTENCY INDEX IS 2.40

SUMMARY OF WILSON PARAMETERS

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	-643.45	82.33	0.1311E-09	152.84	0.01649
2	6383.52	552.68	0.4883E-01	76.60	0.07432
3	-36.42	-195.33	0.6691E 00	76.03	0.03021
4	-117.77	-191.79	0.6725E 00	93.34	0.02092
5	232.01	-265.19	0.1750E 00	46.51	0.04732
6	-131.24	-298.82	0.3559E-02	128.09	0.00825
7	284.72	-319.50	0.1509E 00	54.54	0.04220
8	81.38	-79.56	0.3790E-01	32.18	0.06452
9	76.47	-76.25	0.3787E-01	32.18	0.06451
10	-182.97	-92.16	0.9297E-00	78.23	0.02965

\*\*DIAGNOSTIC\*\*

4 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
 SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	225.30	45.0	0.0520	0.1200	486.65	201.02	0.9870	0.9641	1.0534	1.0024	0.0496	-1410.53	-3163.44	-2130.11
2	239.90	45.0	0.0950	0.2060	486.69	201.02	0.9855	0.9619	1.0524	1.0065	0.0446	-1410.53	-3163.44	-2130.11
3	258.50	45.0	0.1920	0.3670	486.69	201.02	0.9827	0.9578	1.0353	1.0015	0.0332	-1410.53	-3163.44	-2130.11
4	302.70	45.0	0.3050	0.5100	486.69	201.02	0.9747	0.9530	1.0177	1.0110	0.0067	-1410.53	-3163.44	-2130.11
5	331.70	45.0	0.4030	0.6110	486.69	201.02	0.9773	0.9492	1.0085	1.0196	-0.0109	-1410.53	-3163.44	-2130.11
6	355.20	45.0	0.4810	0.6820	486.69	201.02	0.9754	0.9461	1.0079	1.0233	-0.0152	-1410.53	-3163.44	-2130.11
7	393.20	45.0	0.6060	0.7810	486.69	201.02	0.9724	0.9414	1.0109	1.0224	-0.0113	-1410.53	-3163.44	-2130.11
8	423.60	45.0	0.7060	0.8490	486.69	201.02	0.9700	0.9376	1.0136	1.0136	0.0000	-1410.53	-3163.44	-2130.11
9	454.10	45.0	0.8070	0.9040	486.69	201.02	0.9678	0.9339	1.0097	1.0480	-0.0372	-1410.53	-3163.44	-2130.11
10	481.40	45.0	0.8960	0.9510	486.69	201.02	0.9658	0.9307	1.0120	1.0487	-0.0356	-1410.53	-3163.44	-2130.11

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 508.70 P = 46.60 V = 213.50 OMEGA = 0.309 OMEGAH = 0.187 DIPOLE = 2.88 ETA = 0.0  
 2 T = 547.90 P = 47.70 V = 173.10 OMEGA = 0.321 OMEGAH = 0.152 DIPOLE = 3.94 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.70200E 01 B = 0.11610E 04 C = 0.22400E 03 P = 760.3 AT T = 56.5  
 2 A = 0.70735E 01 B = 0.12792E 04 C = 0.22400E 03 P = 777.0 AT T = 81.8

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.56865E 02 B = 0.84265E -02 C = 0.16507E -03 COMPONENT ID ECHO CHECK  
 ID NUMBER = 2  
 2 A = 0.40237E 02 B = 0.11816E -01 C = 0.10223E -03 ID NUMBER = 3

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.58891E -01 B = -0.18323E 00 C = 0.93689E -01

STANDARD DEVIATION = 0.11804E -01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.0607 G2INF = 1.0311

T1INF = 45.00 T2INF = 45.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0109

AREA BELOW THE X-AXIS IS -0.0124

CROSS-OVER POINT IS X = 0.41

NORMALIZED AREA DIFFERENCE IS -0.0642

CONSISTENCY INDEX IS 6.42

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	62.75 3.40	0.1819E -11
2	-511.75 670.00	0.1172E -03
3	-47.67 98.81	0.1164E -02
4	-43.42 95.28	0.1119E -02
5	7.67 56.64	0.4033E -03
6	210.14 -80.82	0.3730E -04
7	9.03 66.82	0.4058E -03
8	-476.41 596.34	0.2504E -03
9	-476.41 596.34	0.2505E -03
10	-57.73 107.21	0.1656E 00

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
2.23	0.00133
1.79	0.00317
1.74	0.00163
1.74	0.00161
1.76	0.00163
2.39	0.00116
1.74	0.00145
1.50	0.00264
1.50	0.00264
1.74	0.00166



ACETONE(1) BENZENE(2)

SYSTEM 005

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	79.5	0.0200	0.0630	1439.67	719.04	0.9749	0.9664	1.6166	0.9734	0.5073	-1052.05	-974.42	-828.73
2	760.00	78.3	0.0500	0.1400	1392.85	693.42	0.9728	0.9662	1.4821	0.9554	0.4390	-1062.80	-982.61	-835.38
3	760.00	76.4	0.1000	0.2430	1321.02	654.28	0.9700	0.9661	1.3523	0.9407	0.3629	-1080.04	-995.83	-846.10
4	760.00	72.8	0.2000	0.4000	1192.36	584.76	0.9658	0.9663	1.2278	0.9387	0.2685	-1113.46	-1021.74	-867.06
5	760.00	69.6	0.3000	0.5120	1085.95	527.87	0.9628	0.9667	1.1468	0.9670	0.1705	-1144.01	-1045.77	-886.43
6	760.00	66.7	0.4000	0.5940	995.73	480.09	0.9605	0.9671	1.0856	1.0325	0.0501	-1172.43	-1068.42	-904.64
7	760.00	64.3	0.5000	0.6650	925.37	443.13	0.9586	0.9678	1.0441	1.1083	-0.0597	-1196.50	-1087.83	-920.19
8	760.00	62.4	0.6000	0.7300	872.37	415.48	0.9570	0.9687	1.0115	1.1520	-0.1642	-1215.92	-1103.64	-932.84
9	760.00	60.7	0.7000	0.7950	826.90	391.90	0.9557	0.9699	0.9947	1.2809	-0.2529	-1233.57	-1118.14	-944.41
10	760.00	59.6	0.8000	0.8630	798.44	377.21	0.9547	0.9716	0.9775	1.3364	-0.3127	-1245.14	-1127.70	-952.03
11	760.00	58.8	0.9000	0.9320	778.21	366.80	0.9540	0.9736	0.9621	1.3671	-0.3513	-1253.63	-1134.75	-957.63

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 508.70 P = 46.60 V = 213.50 OMEGA = 0.309 OMEGAH = 0.187 DIPOLE = 2.88 ETA = 0.0  
 2 T = 562.00 P = 48.60 V = 260.10 OMEGA = 0.211 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.70200E 01 B = 0.11610E 04 C = 0.22400E 03 P = 760.3 AT T = 56.5  
 2 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03 P = 760.0 AT T = 80.1

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.56865E 02 B = 0.84265E 02 C = 0.16507E 03 COMPONENT ID ECHO CHECK  
 2 A = 0.70863E 02 B = 0.14907E 01 C = 0.15880E 03 ID NUMBER = 2  
 ID NUMBER = 5

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.51999E 00 B = -0.13774E 01 C = 0.43192E 00  
 STANDARD DEVIATION = 0.18505E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.6820 G2INF = 1.5303  
 T1INF = 80.10 T2INF = 56.49

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.1077  
 AREA BELOW THE X-AXIS IS -0.1325  
 CROSS-OVER POINT IS X = 0.44  
 NORMALIZED AREA DIFFERENCE IS -0.1029  
 HERRINGTON J-FACTOR IS 10.74  
 CONSISTENCY INDEX IS -0.45

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	486.67 -121.64	0.4547E-11	43.79	0.00388
2	266.07 684.28	0.6749E-02	8.13	0.02581
3	560.56 -224.46	0.5656E-01	31.41	0.00694
4	551.60 -224.12	0.4760E-01	30.08	0.00762
5	392.19 -189.55	0.1245E-01	13.04	0.01713
6	554.57 -174.22	0.4643E-03	42.67	0.00371
7	519.11 -267.68	0.1430E-01	15.30	0.01542
8	102.88 317.25	0.1870E-02	7.70	0.02406
9	-102.30 316.36	0.1868E-02	7.70	0.02405
10	474.53 -154.18	0.1103E-00	34.08	0.00628

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	328.00	50.0	0.0115	0.0513	580.40	307.08	0.9856	0.9799	2.4816	1.0022	0.9067	-1351.26	-1237.37	-1034.73
2	336.00	50.0	0.0201	0.0910	580.40	307.08	0.9846	0.9794	2.5773	0.9918	0.9550	-1351.26	-1237.37	-1034.73
3	362.00	50.0	0.0385	0.1590	580.40	307.08	0.9823	0.9780	2.5268	1.0059	0.9211	-1351.26	-1237.37	-1034.73
4	359.00	50.0	0.0395	0.1767	580.40	307.08	0.9822	0.9782	2.7140	0.9778	1.0208	-1351.26	-1237.37	-1034.73
5	402.00	50.0	0.0868	0.2849	580.40	307.08	0.9783	0.9762	2.2207	0.9979	0.7999	-1351.26	-1237.37	-1034.73
6	457.00	50.0	0.1699	0.4120	580.40	307.08	0.9734	0.9739	1.8554	1.0234	0.5949	-1351.26	-1237.37	-1034.73
7	507.50	50.0	0.2860	0.5134	580.40	307.08	0.9651	0.9723	1.5181	1.0912	0.3302	-1351.26	-1237.37	-1034.73
8	553.00	50.0	0.4396	0.6093	580.40	307.08	0.9651	0.9713	1.2718	1.2148	0.0458	-1351.26	-1237.37	-1034.73
9	566.50	50.0	0.5073	0.6511	580.40	307.08	0.9638	0.9714	1.2047	1.2640	-0.0480	-1351.26	-1237.37	-1034.73
10	579.50	50.0	0.5610	0.6856	580.40	307.08	0.9626	0.9714	1.1720	1.3076	-0.1095	-1351.26	-1237.37	-1034.73
11	592.00	50.0	0.6465	0.7300	580.40	307.08	0.9614	0.9718	1.1048	1.4251	-0.2546	-1351.26	-1237.37	-1034.73
12	599.00	50.0	0.7031	0.7669	580.40	307.08	0.9607	0.9723	1.0789	1.4829	-0.3180	-1351.26	-1237.37	-1034.73
13	605.00	50.0	0.7649	0.8055	580.40	307.08	0.9600	0.9730	1.0514	1.5793	-0.4069	-1351.26	-1237.37	-1034.73
14	610.00	50.0	0.8293	0.8492	580.40	307.08	0.9594	0.9740	1.0302	1.7019	-0.5021	-1351.26	-1237.37	-1034.73
15	612.50	50.0	0.8759	0.8856	580.40	307.08	0.9591	0.9749	1.0210	1.7849	-0.5586	-1351.26	-1237.37	-1034.73
16	614.00	50.0	0.9470	0.9468	580.40	307.08	0.9589	0.9766	1.0118	1.9518	-0.6570	-1351.26	-1237.37	-1034.73
17	615.00	50.0	0.9763	0.9755	580.40	307.08	0.9587	0.9775	1.0127	2.0151	-0.6881	-1351.26	-1237.37	-1034.73

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 508.70 P = 46.60 V = 213.50 OMEGA = 0.309 OMEGAH = 0.187 DIPOLE = 2.88 ETA = 0.0  
 2 T = 556.40 P = 45.00 V = 279.60 OMEGA = 0.193 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.70200E 01 B = 0.11610E 04 C = 0.22400E 03  
 2 A = 0.69339E 01 B = 0.12424E 04 C = 0.23000E 03

## VAPOR PRESSURE AT NBP

P = 760.3 AT T = 56.5  
 P = 766.0 AT T = 76.8

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.56865E 02 B = 0.84265E 02 C = 0.16507E 03  
 2 A = 0.61938E 02 B = -0.29977E 00 C = 0.16761E 02

## COMPONENT ID CHECK

ID NUMBER = 2  
 ID NUMBER = 6

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.10066E 01 B = -0.24423E 01 C = 0.74211E 00  
 STANDARD DEVIATION = 0.39845E 01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1 INF = 2.7362 G2 INF = 2.0010  
 T1 INF = 50.00 T2 INF = 50.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2292  
 AREA BELOW THE X-AXIS IS -0.1964  
 CROSS-OVER POINT IS X = 0.48  
 NORMALIZED AREA DIFFERENCE IS 0.0770  
 CONSISTENCY INDEX IS 7.70

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	975.10	-326.02	0.3365F-10	6.06	0.00579
2	774.58	-152.43	0.5938E-03	2.05	0.00707
3	953.46	-292.03	0.1140E 00	3.83	0.00522
4	946.79	-289.62	0.2161E-01	3.86	0.00524
5	899.84	-239.97	0.1914E-02	2.19	0.00515
6	938.40	-267.73	0.1392E-02	2.77	0.00502
7	875.90	-218.51	0.2078E-02	1.89	0.00546
8	857.49	-210.12	0.3696E-03	1.60	0.00566
9	857.38	-210.13	0.3697E-03	1.60	0.00566
10	959.91	-300.95	0.1004E-01	4.31	0.00530

## SUMMARY VLF DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	514.00	50.0	0.0213	0.0115	580.40	499.37	0.9900	0.9742	0.4724	1.0107	-0.7605	-1351.26	-1009.80	-692.78
2	506.00	50.0	0.0526	0.0318	580.40	499.37	0.9891	0.9747	0.5203	1.0072	-0.6604	-1351.26	-1009.80	-692.78
3	505.00	50.0	0.0574	0.0350	580.40	499.37	0.9890	0.9747	0.5237	1.0070	-0.6539	-1351.26	-1009.80	-692.78
4	494.00	50.0	0.0967	0.0646	580.40	499.37	0.9879	0.9753	0.5606	0.9971	-0.5758	-1351.26	-1009.80	-692.78
5	483.00	50.0	0.1440	0.1090	580.40	499.37	0.9862	0.9761	0.6201	0.9807	-0.4584	-1351.26	-1009.80	-692.78
6	469.00	50.0	0.2070	0.1720	580.40	499.37	0.9841	0.9772	0.6596	0.9564	-0.3715	-1351.26	-1009.80	-692.78
7	461.00	50.0	0.2610	0.2320	580.40	499.37	0.9823	0.9781	0.6923	0.9366	-0.3023	-1351.26	-1009.80	-692.78
8	457.00	50.0	0.3110	0.2900	580.40	499.37	0.9805	0.9790	0.7187	0.9215	-0.2486	-1351.26	-1009.80	-692.78
9	457.00	50.0	0.3350	0.3220	580.40	499.37	0.9795	0.9794	0.7400	0.9121	-0.2090	-1351.26	-1009.80	-692.78
10	457.00	50.0	0.3650	0.3630	580.40	499.37	0.9783	0.9800	0.7648	0.8980	-0.1606	-1351.26	-1009.80	-692.78
11	457.00	50.0	0.3820	0.3810	580.40	499.37	0.9778	0.9803	0.7666	0.8969	-0.1570	-1351.26	-1009.80	-692.78
12	459.00	50.0	0.4310	0.4580	580.40	499.37	0.9758	0.9817	0.8186	0.8579	-0.0469	-1351.26	-1009.80	-692.78
13	466.00	50.0	0.4920	0.5460	580.40	499.37	0.9734	0.9834	0.8658	0.8186	0.0561	-1351.26	-1009.80	-692.78
14	469.00	50.0	0.5090	0.5700	580.40	499.37	0.9728	0.9839	0.8787	0.8077	0.0842	-1351.26	-1009.80	-692.78
15	474.00	50.0	0.5400	0.6180	580.40	499.37	0.9716	0.9850	0.9064	0.7749	0.1567	-1351.26	-1009.80	-692.78
16	483.00	50.0	0.5810	0.6770	580.40	499.37	0.9701	0.9866	0.9389	0.7341	0.2460	-1351.26	-1009.80	-692.78
17	494.00	50.0	0.6240	0.7270	580.40	499.37	0.9687	0.9880	0.9587	0.7082	0.3029	-1351.26	-1009.80	-692.78
18	511.00	50.0	0.6980	0.7890	580.40	499.37	0.9668	0.9900	0.9743	0.6837	0.3543	-1351.26	-1009.80	-692.78
19	520.00	50.0	0.7090	0.7940	580.40	499.37	0.9662	0.9900	0.9675	0.7282	0.2841	-1351.26	-1009.80	-692.78
20	532.00	50.0	0.7510	0.8300	580.40	499.37	0.9651	0.9913	0.9757	0.7195	0.3046	-1351.26	-1009.80	-692.78
21	547.00	50.0	0.7970	0.8860	580.40	499.37	0.9637	0.9938	1.0075	0.6099	0.5019	-1351.26	-1009.80	-692.78
22	551.00	50.0	0.8160	0.8940	580.40	499.37	0.9633	0.9941	0.9999	0.6305	0.4611	-1351.26	-1009.80	-692.78
23	559.00	50.0	0.8340	0.9150	580.40	499.37	0.9627	0.9951	1.0151	0.5691	0.5787	-1351.26	-1009.80	-692.78
24	572.00	50.0	0.8710	0.9340	580.40	499.37	0.9617	0.9960	1.0142	0.5823	0.5548	-1351.26	-1009.80	-692.78
25	582.00	50.0	0.9040	0.9540	580.40	499.37	0.9610	0.9971	1.0147	0.5555	0.6025	-1351.26	-1009.80	-692.78
26	592.00	50.0	0.9350	0.9700	580.40	499.37	0.9603	0.9980	1.0139	0.5447	0.6212	-1351.26	-1009.80	-692.78
27	599.00	50.0	0.9610	0.9820	580.40	499.37	0.9598	0.9987	1.0099	0.5516	0.6049	-1351.26	-1009.80	-692.78
28	606.00	50.0	0.9780	0.9900	580.40	499.37	0.9593	0.9992	1.0116	0.5498	0.6097	-1351.26	-1009.80	-692.78
29	607.00	50.0	0.9810	0.9910	580.40	499.37	0.9593	0.9993	1.0111	0.5739	0.5663	-1351.26	-1009.80	-692.78

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 508.70 P = 46.60 V = 213.50 OMEGA = 0.309 OMEGAH = 0.187 DIPOLE = 2.88 ETA = 0.0  
 2 T = 536.60 P = 54.00 V = 276.00 OMEGA = 0.214 OMEGAH = 0.187 DIPOLE = 1.02 ETA = 0.28

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.7020E 01 B = 0.1161E 04 C = 0.2240E 03 P = 760.3 AT T = 56.5  
 2 A = 0.6903E 01 B = 0.1163E 04 C = 0.2274E 03 P = 749.5 AT T = 61.3

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.5686E 02 B = 0.8426E 02 C = 0.1650E 03 COMPONENT ID ECHO CHECK  
 2 A = 0.6106E 02 B = 0.3026E 01 C = 0.1191E 03 ID NUMBER = 2  
 ID NUMBER = 8

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = -.7765E 00 B = 0.1973E 01 C = -.5414E 00  
 STANDARD DEVIATION = 0.4432E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 0.4600 G2INF = 0.5192  
 T1INF = 50.00 T2INF = 50.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS -0.1661  
 AREA BELOW THE X-AXIS IS 0.1957  
 CROSS-OVER POINT IS X = 0.45  
 NORMALIZED AREA DIFFERENCE IS -0.0819  
 CONSISTENCY INDEX IS 8.19

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION
1		-52.71 -359.16	0.9237E-13
2		122.81 -479.71	0.1833E-02
3		-2.08 -399.43	0.2860E-01
4		-34.57 -372.87	0.5722E-01
5		123.21 -485.15	0.6063E-02
6		71.39 -488.62	0.2539E-02
7		140.14 -456.91	0.6563E-02
8		192.05 -524.41	0.2191E-02
9		192.05 -524.41	0.2192E-02
10		0.08 -398.50	0.1481E-01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
5.97	0.00571
4.19	0.00618
5.37	0.00554
5.65	0.00561
4.10	0.00603
9.32	0.00507
4.07	0.00617
4.06	0.00679
4.06	0.00679
5.12	0.00558

ACETONE(1) CHLOROFORM(2)

SYSTEM 007R

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	586.80	55.0	0.1003	0.0630	687.37	590.44	0.9865	0.9725	0.5278	1.0041	-0.6432	-1294.80	-963.12	-661.69
2	563.20	55.0	0.2003	0.1470	687.37	590.44	0.9831	0.9740	0.5899	0.9888	-0.5165	-1294.80	-963.12	-661.69
3	548.60	55.0	0.3008	0.2700	687.37	590.44	0.9786	0.9760	0.6996	0.9447	-0.3003	-1294.80	-963.12	-661.69
4	547.10	55.0	0.3980	0.4110	687.37	590.44	0.9740	0.9785	0.7989	0.8851	-0.1024	-1294.80	-963.12	-661.69
5	550.10	55.0	0.4883	0.5450	687.37	590.44	0.9699	0.9813	0.8802	0.8258	0.0638	-1294.80	-963.12	-661.69
6	578.30	55.0	0.5925	0.6780	687.37	590.44	0.9662	0.9850	0.9281	0.7605	0.1991	-1294.80	-963.12	-661.69
7	613.30	55.0	0.6951	0.7950	687.37	590.44	0.9624	0.9891	0.9798	0.6890	0.3521	-1294.80	-963.12	-661.69
8	646.40	55.0	0.7945	0.8830	687.37	590.44	0.9595	0.9931	1.0004	0.6173	0.4827	-1294.80	-963.12	-661.69
9	696.10	55.0	0.8951	0.9470	687.37	590.44	0.9567	0.9966	1.0076	0.5835	0.5464	-1294.80	-963.12	-661.69

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 508.70 P = 46.60 V = 213.50 CMEGA = 0.309 OMEGAH = 0.187 DIPOLE = 2.88 ETA = 0.0  
 2 T = 536.60 P = 54.00 V = 276.00 CMEGA = 0.214 OMEGAH = 0.187 DIPOLE = 1.02 FTA = 0.28

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.70200E 01 B = 0.11610E 04 C = 0.22400E 03 P = 760.3 AT T = 56.5  
 2 A = 0.69033E 01 B = 0.11630E 04 C = 0.22740E 03 P = 749.5 AT T = 61.3

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.56865E 02 B = 0.84265E 02 C = 0.16507E 03 COMPONENT ID ECHO CHECK  
 2 A = 0.61065E 02 B = 0.30264E 01 C = 0.11910E 03 ID NUMBER = 2  
 ID NUMBER = 8

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.90533E 00 B = 0.23032E 01 C = 0.73246E 00

STANDARD DEVIATION = 0.29542E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 0.4044 G2INF = 0.5141

T1INF = 55.00 T2INF = 55.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS -0.1965

AREA BELOW THE X-AXIS IS 0.1987

CROSS-OVER POINT IS X = 0.46

NORMALIZED AREA DIFFERENCE IS -0.0054

CONSISTENCY INDEX IS 0.54

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	24.34 -457.66	0.3020E-12
2	55.79 -425.86	0.9965E-04
3	36.13 -451.30	0.7025E-02
4	20.51 -444.20	0.1020E-01
5	76.31 -449.27	0.2250E-02
6	23.85 -492.04	0.1383E-03
7	72.43 -442.94	0.2817E-02
8	100.02 -451.30	0.2885E-03
9	100.25 -451.51	0.2888E-03
10	33.78 -449.50	0.1318E-01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
13.60	0.00393
3.32	0.00943
10.67	0.00515
11.64	0.00468
4.38	0.00855
20.10	0.00224
3.76	0.00893
3.07	0.01021
3.06	0.01020
10.67	0.00516

ACETONE(1) CHLOROFORM(2)

SYSTEM 007C

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	62.6	0.6064	0.6887	878.66	753.44	0.9590	0.9826	0.9394	0.7815	0.1840	-1213.55	-898.13	-618.62
2	760.00	63.7	0.5211	0.5788	907.26	777.83	0.9620	0.9784	0.8926	0.8382	0.0629	-1203.01	-889.88	-613.17
3	760.00	62.0	0.6448	0.7311	862.31	739.50	0.9580	0.9845	0.9546	0.7636	0.2233	-1219.74	-902.99	-621.83
4	760.00	60.4	0.7474	0.8337	818.80	702.41	0.9557	0.9856	0.9867	0.7028	0.3393	-1236.82	-916.48	-630.75
5	760.00	58.8	0.8391	0.9045	777.46	667.18	0.9542	0.9937	1.0026	0.6698	0.4034	-1253.95	-930.12	-639.79
6	760.00	62.1	0.0563	0.0387	863.12	746.20	0.9854	0.9672	0.5947	1.0085	-0.5282	-1219.43	-902.74	-621.67
7	760.00	63.2	0.1491	0.1126	894.96	767.34	0.9811	0.9680	0.6274	0.9568	-0.4629	-1207.50	-893.39	-615.49
8	760.00	64.3	0.2747	0.2495	926.80	794.50	0.9743	0.9700	0.7236	0.9572	-0.2797	-1196.00	-884.43	-609.57
9	760.00	64.1	0.2224	0.1885	918.83	787.71	0.9772	0.9691	0.6832	0.9727	-0.3534	-1198.84	-886.64	-611.03

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 508.79 P = 46.60 V = 213.50 OMEGA = 0.309 OMEGAH = 0.187 DIPOLE = 2.88 ETA = 0.0  
 2 T = 536.60 P = 54.00 V = 276.00 OMEGA = 0.214 OMEGAH = 0.187 DIPOLE = 1.02 ETA = 0.28

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.70200E 01 B = 0.11610E 04 C = 0.22400E 03 P = 760.3 AT T = 56.5  
 2 A = 0.69033E 01 B = 0.11630E 04 C = 0.22740E 03 P = 749.5 AT T = 61.3

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.56865E 02 B = 0.84265E 02 C = 0.16507E 03 COMPONENT ID ECHO CHECK  
 2 A = 0.61065E 02 B = 0.30264E 01 C = 0.11910E 03 ID NUMBER = 2  
 ID NUMBER = 8

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = -0.64977E 00 B = -0.14719E 01 C = -0.21932E 00  
 STANDARD DEVIATION = 0.27887E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 0.5222 G2INF = 0.5472  
 T1INF = 61.73 T2INF = 56.49

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS -0.1504  
 AREA BELOW THE X-AXIS IS 0.1635  
 CROSS-OVER POINT IS X = 0.48  
 NORMALIZED AREA DIFFERENCE IS -0.0417  
 HERRINGTON J-FACTOR IS 3.58  
 CONSISTENCY INDEX IS 0.59

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	81.41 -298.95	0.8882E-13
2	27.88 -366.72	0.3204E-03
3	13.40 -349.72	0.3680E-02
4	-54.45 -314.93	0.6303E-02
5	72.68 -405.65	0.1010E-02
6	21.79 -410.15	0.7627E-04
7	77.08 -411.57	0.1151E-02
8	50.79 -381.23	0.3994E-03
9	50.71 -381.18	0.3995E-03
10	-15.07 -349.53	0.8348E-02

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
9.15	0.00411
4.15	0.00558
6.84	0.00413
7.19	0.00443
4.64	0.00459
13.77	0.00172
4.48	0.00471
4.18	0.00583
4.18	0.00583
7.12	0.00402



SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	223.30	48.0	0.0250	0.1210	541.39	197.06	0.9860	0.9816	1.9667	1.0021	0.6742	-1374.62	-1649.95	-1433.64
2	244.10	48.0	0.0500	0.2155	541.39	197.06	0.9844	0.9800	1.9112	1.0017	0.6461	-1374.62	-1649.95	-1433.64
3	263.60	48.0	0.0750	0.2890	541.39	197.06	0.9830	0.9785	1.8423	1.0052	0.6058	-1374.62	-1649.95	-1433.64
4	281.60	48.0	0.1000	0.3460	541.39	197.06	0.9816	0.9771	1.7647	1.0137	0.5544	-1374.62	-1649.95	-1433.64
5	314.20	48.0	0.1500	0.4370	541.39	197.06	0.9792	0.9746	1.6536	1.0283	0.4751	-1374.62	-1649.95	-1433.64
6	341.50	48.0	0.2000	0.5070	541.39	197.06	0.9772	0.9726	1.5666	1.0376	0.4082	-1374.62	-1649.95	-1433.64
7	365.50	48.0	0.2500	0.5600	541.39	197.06	0.9755	0.9708	1.4731	1.0552	0.3337	-1374.62	-1649.95	-1433.64
8	387.00	48.0	0.3000	0.6020	541.39	197.06	0.9739	0.9692	1.3949	1.0810	0.2550	-1374.62	-1649.95	-1433.64
9	424.90	48.0	0.4000	0.6700	541.39	197.06	0.9712	0.9665	1.2746	1.1447	0.1075	-1374.62	-1649.95	-1433.64
10	457.40	48.0	0.5000	0.7310	541.39	197.06	0.9689	0.9642	1.1946	1.2024	-0.0065	-1374.62	-1649.95	-1433.64
11	485.00	48.0	0.6000	0.7850	541.39	197.06	0.9669	0.9624	1.1311	1.2713	-0.1168	-1374.62	-1649.95	-1433.64
12	510.10	48.0	0.7000	0.8380	541.39	197.06	0.9651	0.9608	1.0864	1.3409	-0.2104	-1374.62	-1649.95	-1433.64
13	533.00	48.0	0.8000	0.8890	541.39	197.06	0.9635	0.9594	1.0519	1.4378	-0.3126	-1374.62	-1649.95	-1433.64
14	553.60	48.0	0.9000	0.9420	541.39	197.06	0.9620	0.9582	1.0274	1.5587	-0.4168	-1374.62	-1649.95	-1433.64

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 508.70 P = 46.60 V = 213.50 OMEGA = 0.309 OMEGAH = 0.187 DIPCLE = 2.88 ETA = 0.0  
 2 T = 516.00 P = 63.00 V = 161.30 OMEGA = 0.637 OMEGAH = 0.152 DIPOLE = 1.69 FTA = 1.10

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.70200E 01 B = 0.11610E 04 C = 0.22400E 03  
 2 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.56865E 02 B = 0.84265E-02 C = 0.16507E-03  
 2 A = 0.53701E 02 B = -0.31109E-01 C = 0.16000E-03

VAPOR PRESSURE AT NEP

P = 760.3 AT T = 56.5  
 P = 762.1 AT T = 78.4

COMPONENT ID ECHO CHECK

ID NUMBER = 2  
 ID NUMBER = 11

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.72318E 00 B = -0.17003E 01 C = 0.49552E 00  
 STANDARD DEVIATION = 0.87008E-02

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.0610 G2INF = 1.6186  
 T1INF = 48.00 T2INF = 48.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.1697  
 AREA BELOW THE X-AXIS IS -0.1315  
 CROSS-OVER POINT IS X = 0.50  
 NORMALIZED AREA DIFFERENCE IS 0.1269  
 CONSISTENCY INDEX IS 12.69

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	350.45	112.43	0.1819E-11	12.82	0.00864
2	166.73	346.15	0.8073E-04	2.89	0.00703
3	254.11	221.30	0.2418E-01	7.05	0.00436
4	244.62	230.70	0.1333E-01	6.75	0.00414
5	94.48	402.74	0.1224E-02	1.70	0.00453
6	167.61	306.38	0.4875E-03	5.01	0.00304
7	68.96	426.93	0.1571E-02	1.83	0.00475
8	69.61	437.62	0.2187E-03	1.38	0.00534
9	69.31	438.03	0.2189E-03	1.38	0.00535
10	326.21	153.56	0.8850E-02	9.41	0.00611

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	75.4	0.0500	0.1550	1284.31	649.37	0.9653	0.9577	1.7659	0.9948	0.5739	-1089.23	-1212.38	-1082.26
2	760.00	73.0	0.1000	0.2620	1199.27	590.60	0.9635	0.9565	1.5953	1.0071	0.4600	-1111.57	-1244.80	-1108.64
3	760.00	71.0	0.1500	0.3480	1131.61	545.00	0.9621	0.9555	1.4948	1.0198	0.3824	-1130.54	-1272.59	-1131.20
4	760.00	69.0	0.2000	0.4170	1066.81	502.30	0.9608	0.9545	1.4231	1.0501	0.3039	-1149.83	-1301.11	-1154.31
5	760.00	67.3	0.2500	0.4780	1013.92	468.20	0.9596	0.9537	1.3714	1.0751	0.2435	-1166.50	-1325.94	-1174.38
6	760.00	65.9	0.3000	0.5240	971.95	441.56	0.9587	0.9530	1.3058	1.1129	0.1599	-1180.40	-1346.80	-1191.21
7	760.00	64.7	0.3500	0.5660	936.84	419.73	0.9580	0.9524	1.2532	1.1489	0.0869	-1192.46	-1364.99	-1205.87
8	760.00	63.6	0.4000	0.6050	905.57	400.50	0.9572	0.9519	1.2116	1.1865	0.0209	-1203.62	-1381.91	-1219.49
9	760.00	61.8	0.5000	0.6740	856.11	370.61	0.9561	0.9511	1.1409	1.2688	-0.1063	-1222.12	-1410.12	-1242.17
10	760.00	60.4	0.6000	0.7390	819.06	348.65	0.9552	0.9506	1.0885	1.3491	-0.2146	-1236.72	-1432.52	-1260.16
11	760.00	59.1	0.7000	0.8020	785.75	329.23	0.9543	0.9502	1.0545	1.4444	-0.3146	-1250.44	-1453.70	-1277.13
12	760.00	58.0	0.8000	0.8650	758.38	313.51	0.9536	0.9499	1.0304	1.5509	-0.4089	-1262.18	-1471.89	-1291.70
13	760.00	57.0	0.9000	0.9290	734.12	299.76	0.9530	0.9498	1.0155	1.7059	-0.5188	-1272.95	-1488.67	-1305.12

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 508.70 P = 46.60 V = 213.50 OMEGA = 0.309 OMEGAH = 0.187 DIPOLE = 2.88 ETA = 0.0  
 2 T = 516.00 P = 63.00 V = 161.30 OMEGA = 0.637 OMEGAH = 0.152 DIPOLE = 1.69 ETA = 1.10

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.70200F 01 B = 0.11610E 04 C = 0.22400F 03  
 2 A = 0.80449F 01 B = 0.15543E 04 C = 0.22265E 03

## VAPOR PRESSURE AT NBP

P = 760.3 AT T = 56.5  
 P = 762.1 AT T = 78.4

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.56865F 02 B = 0.84265E 02 C = 0.16507F 03  
 2 A = 0.53701F 02 B = -.31109E-01 C = 0.16000E-03

## COMPONENT ID CHECK

ID NUMBER = 2  
 ID NUMBER = 11

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.64133F 00 B = .17590E 01 C = 0.54037E 00  
 STANDARD DEVIATION = 0.10873E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.8990 G2INF = 1.7812  
 T1INF = 78.33 T2INF = 56.49

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.1276  
 AREA BELOW THE X-AXIS IS -0.1856  
 CROSS-OVER POINT IS X = 0.42  
 NORMALIZED AREA DIFFERENCE IS -0.1854  
 HERINGTON J-FACTOR IS 9.94  
 CONSISTENCY INDEX IS 8.60

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION
1	184.02	270.26	0.1819E-11
2	92.27	438.42	0.6135E-03
3	139.04	317.06	0.6206E-01
4	204.25	258.96	0.3392E-01
5	198.54	260.44	0.6207E-02
6	496.40	76.64	0.1061E-02
7	302.27	174.00	0.3713E-02
8	-75.63	559.99	0.9912E-04
9	-75.63	559.99	0.9906E-04
10	142.02	320.67	0.4462E-01

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
9.26	0.01107
15.09	0.01906
7.36	0.01216
5.25	0.01116
9.41	0.01097
20.76	0.00535
12.71	0.00930
1.65	0.01625
1.65	0.01625
6.88	0.01244

ACETONE(1) 2 PROPANOL(2)

SYSTEM COSA

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	777.37	55.0	0.9214	0.9629	687.37	214.61	0.9552	0.9994	1.0246	1.5507	-0.4144	-1294.80	-438.13	-654.42
2	684.21	55.0	0.8569	0.9240	687.37	214.61	0.9568	0.9982	1.0243	1.6858	-0.4982	-1294.80	-438.13	-654.42
3	644.62	55.0	0.7338	0.8729	687.37	214.61	0.9594	0.9970	1.0677	1.4262	-0.2895	-1294.80	-438.13	-654.42
4	637.84	55.0	0.7216	0.8617	687.37	214.61	0.9599	0.9967	1.0611	1.4679	-0.3246	-1294.80	-438.13	-654.42
5	672.20	55.0	0.6084	0.8098	687.37	214.61	0.9624	0.9957	1.1197	1.3538	-0.1899	-1294.80	-438.13	-654.42
6	563.06	55.0	0.5234	0.7655	687.37	214.61	0.9650	0.9951	1.1537	1.2817	0.1053	-1294.80	-438.13	-654.42
7	533.87	55.0	0.4314	0.7284	687.37	214.61	0.9671	0.9947	1.2656	1.1795	0.0705	-1294.80	-438.13	-654.42
8	517.54	55.0	0.3879	0.6995	687.37	214.61	0.9682	0.9943	1.3121	1.1749	0.1105	-1294.80	-438.13	-654.42
9	456.40	55.0	0.2687	0.6024	687.37	214.61	0.9726	0.9937	1.4454	1.1470	0.2312	-1294.80	-438.13	-654.42
10	442.90	55.0	0.2353	0.5722	687.37	214.61	0.9737	0.9936	1.5231	1.1452	0.2852	-1294.80	-438.13	-654.42
11	390.23	55.0	0.1591	0.4762	687.37	214.61	0.9776	0.9935	1.6586	1.1236	0.3895	-1294.80	-438.13	-654.42
12	331.59	55.0	0.0971	0.3625	687.37	214.61	0.9818	0.9938	1.7660	1.0828	0.4892	-1294.80	-438.13	-654.42
13	299.50	55.0	0.0642	0.2777	687.37	214.61	0.9843	0.9941	1.8531	1.0695	0.5496	-1294.80	-438.13	-654.42
14	257.97	55.0	0.0237	0.1166	687.37	214.61	0.9879	0.9946	1.8222	1.0806	0.5225	-1294.80	-438.13	-654.42

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 508.70 P = 46.60 V = 213.50 OMEGA = 0.309 OMEGAH = 0.187 DIPOLE = 2.88 ETA = 0.0  
 2 T = 508.50 P = 47.00 V = 218.50 OMEGA = 0.663 OMEGAH = 0.187 DIPOLE = 1.60 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.70200E 01 B = 0.11610E 04 C = 0.22400E 03  
 2 A = 0.66604E 01 B = 0.81305E 03 C = 0.13293E 03

MLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.56865E 02 B = 0.84265E 02 C = 0.16507E 03  
 2 A = 0.14178E 03 B = -0.49807E 00 C = 0.92870E 03

VAPOR PRESSURE AT NBP

P = 760.3 AT T = 56.5  
 P = 769.7 AT T = 82.5

COMPONENT ID ECHO CHECK

ID NUMBER = 2  
 ID NUMBER = 22

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.61299E 00 B = -0.14812E 01 C = 0.31137E 00  
 STANDARD DEVIATION = 0.41711E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.8459 G2INF = 1.7451  
 T1INF = 55.00 T2INF = 55.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.1354  
 AREA BELOW THE X-AXIS IS -0.1592  
 CROSS-OVER POINT IS X = 0.46  
 NORMALIZED AREA DIFFERENCE IS -0.0808  
 CONSISTENCY INDEX IS 8.08

## SUMMARY OF WILSON PARAMETERS

MODEL NO. PARAMETER VALUES OBJECTIVE FUNCTION

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE COMPOSITION

1	282.33	131.22	0.1819F-11	24.23	0.00464
2	1577.75	245.22	0.4501F-02	20.81	0.04253
3	332.90	143.76	0.1276E 00	16.42	0.00826
4	355.84	124.74	0.7280F-01	16.07	0.00871
5	365.73	184.71	0.1565E-01	6.96	0.01483
6	368.82	51.81	0.6991F-03	25.89	0.00413
7	304.67	215.75	0.1513F-01	9.60	0.01241
8	500.95	117.84	0.1533F-02	3.65	0.01998
9	500.93	117.83	0.1533E-02	3.65	0.01997
10	382.61	100.10	0.7263F-01	17.15	0.00830

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	56.8	0.9249	0.9614	728.86	235.54	0.9529	0.9994	1.0298	1.6526	-0.4729	-1275.34	-432.89	-645.22
2	760.00	58.8	0.7691	0.8873	776.96	260.54	0.9541	0.9970	1.0736	1.4153	-0.2763	-1254.16	-427.28	-635.28
3	750.00	61.2	0.6077	0.8081	839.82	294.37	0.9558	0.9948	1.1469	1.2527	-0.0883	-1228.46	-420.60	-623.31
4	760.00	63.8	0.4629	0.7242	911.20	334.28	0.9576	0.9929	1.2461	1.1558	0.0752	-1201.58	-413.76	-610.90
5	760.00	64.6	0.4215	0.6974	933.96	347.32	0.9583	0.9923	1.2865	1.1325	0.1275	-1193.47	-411.72	-607.17
6	760.00	65.0	0.3957	0.6866	945.78	354.16	0.9586	0.9921	1.3183	1.1104	0.1716	-1189.33	-410.69	-605.28
7	760.00	69.3	0.2486	0.5261	1076.98	432.58	0.9623	0.9896	1.4330	1.0934	0.2705	-1146.73	-400.27	-585.91
8	750.00	71.6	0.1927	0.4525	1152.61	479.81	0.9642	0.9888	1.4888	1.0591	0.3405	-1124.53	-394.99	-575.93
9	760.00	73.4	0.1468	0.3793	1213.49	518.85	0.9660	0.9881	1.5589	1.0500	0.3952	-1107.72	-391.06	-568.42
10	760.00	75.4	0.1080	0.3018	1284.68	565.57	0.9681	0.9876	1.5959	1.0359	0.4322	-1089.13	-386.79	-560.17
11	750.00	79.8	0.0359	0.1135	1450.74	678.83	0.9731	0.9871	1.6072	1.0133	0.4613	-1049.56	-377.92	-542.76

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 508.70 P = 46.60 V = 213.50 OMEGA = 0.309 OMEGAH = 0.187 DIPOLE = 2.88 ETA = 0.0  
 2 T = 508.50 P = 47.00 V = 218.50 OMEGA = 0.663 OMEGAH = 0.187 DIPOLF = 1.60 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.70200E 01 B = 0.11610E 04 C = 0.22400E 03  
 2 A = 0.66604E 01 B = 0.81305E 03 C = 0.13293E 03

## VAPOR PRESSURE AT NBP

P = 760.3 AT T = 56.5  
 P = 769.7 AT T = 82.5

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.56865E 02 B = 0.84265E 02 C = 0.16507E 03  
 2 A = 0.14178E 03 B = -.49807E 00 C = 0.92870E 03

## COMPONENT ID FCHO CHECK

ID NUMBER = 2  
 ID NUMBER = 22

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.50178E 00 B = -.75657E 00 C = -.32635E 00  
 STANDARD DEVIATION = 0.15244E 01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.6517 G2INF = 1.7881  
 T1INF = 82.19 T2INF = 56.49

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.1435  
 AREA BELOW THE X-AXIS IS -0.1288  
 CROSS-OVER POINT IS X = 0.54  
 NORMALIZED AREA DIFFERENCE IS 0.0540  
 HERINGTON J-FACTOR IS 11.69  
 CONSISTENCY INDEX IS -6.29

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	151.74	243.67	0.0	32.99	0.00445
2	480.87	103.64	0.7125E-03	15.56	0.02067
3	164.89	276.67	0.3320E-01	23.35	0.00490
4	156.71	293.28	0.2289E-01	21.86	0.00520
5	51.65	511.62	0.3796E-02	6.58	0.00949
6	39.78	418.73	0.2243E-03	25.83	0.00258
7	5.77	566.02	0.3700E-02	9.45	0.00817
8	97.76	477.49	0.3411E-03	3.37	0.01227
9	97.76	477.49	0.3413E-03	3.37	0.01227
10	215.40	216.27	0.3067E-01	24.77	0.00551



## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	421.00	50.0	0.0031	0.0086	580.40	402.25	0.9719	0.9708	1.9527	1.0096	0.6597	-1351.26	-1395.64	-1369.09
2	424.00	50.0	0.0073	0.0203	580.40	402.25	0.9717	0.9706	1.9709	1.0088	0.6697	-1351.26	-1395.64	-1369.09
3	430.00	50.0	0.0162	0.0452	580.40	402.25	0.9713	0.9702	2.0045	1.0057	0.6898	-1351.26	-1395.64	-1369.09
4	434.00	50.0	0.0221	0.0603	580.40	402.25	0.9711	0.9699	1.9779	1.0047	0.6774	-1351.26	-1395.64	-1369.09
5	442.00	50.0	0.0339	0.0910	580.40	402.25	0.9705	0.9694	1.9806	1.0013	0.6821	-1351.26	-1395.64	-1369.09
6	465.00	50.0	0.0709	0.1690	580.40	402.25	0.9689	0.9678	1.8471	0.9997	0.6140	-1351.26	-1395.64	-1369.09
7	471.00	50.0	0.0807	0.1890	580.40	402.25	0.9685	0.9674	1.8375	0.9983	0.6101	-1351.26	-1395.64	-1369.09
8	469.00	50.0	0.1210	0.2560	580.40	402.25	0.9673	0.9661	1.7210	0.9931	0.5499	-1351.26	-1395.64	-1369.09
9	499.00	50.0	0.1360	0.2660	580.40	402.25	0.9666	0.9654	1.6224	1.0164	0.4676	-1351.26	-1395.64	-1369.09
10	510.00	50.0	0.1670	0.3150	580.40	402.25	0.9659	0.9647	1.5978	1.0047	0.4639	-1351.26	-1395.64	-1369.09
11	524.00	50.0	0.2060	0.3520	580.40	402.25	0.9649	0.9637	1.4856	1.0235	0.3727	-1351.26	-1395.64	-1369.09
12	544.00	50.0	0.2570	0.3900	580.40	402.25	0.9636	0.9623	1.3677	1.0673	0.2480	-1351.26	-1395.64	-1369.09
13	542.00	50.0	0.2600	0.4000	580.40	402.25	0.9637	0.9625	1.3817	1.0503	0.2742	-1351.26	-1395.64	-1369.09
14	560.00	50.0	0.3160	0.4550	580.40	402.25	0.9625	0.9612	1.3343	1.0650	0.2254	-1351.26	-1395.64	-1369.09
15	569.00	50.0	0.3380	0.4790	580.40	402.25	0.9619	0.9606	1.3335	1.0682	0.2218	-1351.26	-1395.64	-1369.09
16	570.00	50.0	0.3570	0.4990	580.40	402.25	0.9618	0.9606	1.3174	1.0593	0.2181	-1351.26	-1395.64	-1369.09
17	590.00	50.0	0.3960	0.5330	580.40	402.25	0.9611	0.9599	1.2899	1.0688	0.1880	-1351.26	-1395.64	-1369.09
18	581.00	50.0	0.4050	0.5380	580.40	402.25	0.9611	0.9598	1.2752	1.0752	0.1706	-1351.26	-1395.64	-1369.09
19	583.00	50.0	0.4120	0.5430	580.40	402.25	0.9609	0.9597	1.2693	1.0797	0.1618	-1351.26	-1395.64	-1369.09
20	593.00	50.0	0.4520	0.5740	580.40	402.25	0.9603	0.9590	1.2431	1.0577	0.1244	-1351.26	-1395.64	-1369.09
21	602.00	50.0	0.5020	0.5700	580.40	402.25	0.9597	0.9584	1.1276	1.2369	-0.0925	-1351.26	-1395.64	-1369.09
22	613.00	50.0	0.5780	0.6580	580.40	402.25	0.9589	0.9576	1.1502	1.1812	-0.0266	-1351.26	-1395.64	-1369.09
23	621.00	50.0	0.6620	0.7000	580.40	402.25	0.9584	0.9571	1.0817	1.3098	-0.1913	-1351.26	-1395.64	-1369.09
24	615.00	50.0	0.6740	0.7280	580.40	402.25	0.9588	0.9575	1.0947	1.2199	-0.1083	-1351.26	-1395.64	-1369.09
25	623.00	50.0	0.6770	0.7110	580.40	402.25	0.9582	0.9570	1.0776	1.3244	-0.2062	-1351.26	-1395.64	-1369.09
26	624.00	50.0	0.6910	0.7180	580.40	402.25	0.9582	0.9569	1.0678	1.3530	-0.2367	-1351.26	-1395.64	-1369.09
27	623.00	50.0	0.6960	0.7230	580.40	402.25	0.9582	0.9570	1.0733	1.3244	-0.2103	-1351.26	-1395.64	-1369.09
28	624.00	50.0	0.7210	0.7460	580.40	402.25	0.9582	0.9569	1.0633	1.3497	-0.2385	-1351.26	-1395.64	-1369.09
29	621.00	50.0	0.7360	0.7540	580.40	402.25	0.9584	0.9571	1.0480	1.3751	-0.2717	-1351.26	-1395.64	-1369.09
30	625.00	50.0	0.7670	0.7820	580.40	402.25	0.9581	0.9569	1.0494	1.3892	-0.2865	-1351.26	-1395.64	-1369.09
31	624.00	50.0	0.7980	0.8160	580.40	402.25	0.9581	0.9569	1.0508	1.3505	-0.2508	-1351.26	-1395.64	-1369.09
32	626.00	50.0	0.8120	0.8100	580.40	402.25	0.9580	0.9568	1.0283	1.5029	-0.3795	-1351.26	-1395.64	-1369.09
33	625.00	50.0	0.8810	0.8710	580.40	402.25	0.9581	0.9569	1.0175	1.6096	-0.4586	-1351.26	-1395.64	-1369.09
34	623.00	50.0	0.9240	0.9170	580.40	402.25	0.9582	0.9571	1.0183	1.6167	-0.4622	-1351.26	-1395.64	-1369.09
35	619.00	50.0	0.9490	0.9410	580.40	402.25	0.9585	0.9573	1.0112	1.7021	-0.5207	-1351.26	-1395.64	-1369.09

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 508.70 P = 46.60 V = 213.50  $\Omega$ MFGA = 0.309  $\Omega$ MFGAH = 0.187 DIPOLE = 2.88 ETA = 0.0  
 2 T = 513.20 P = 78.50 V = 118.00  $\Omega$ MFGA = 0.557  $\Omega$ MFGAH = 0.105 DIPOLE = 1.66 ETA = 1.21

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.70200F 01 B = 0.11616E 04 C = 0.22400F 03  
 2 A = 0.78786F 01 B = 0.14731F 04 C = 0.23000E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.56865F 02 B = 0.84265E-02 C = 0.16507F-03  
 2 A = 0.64511F 02 B = 0.15716E 00 C = 0.38735F-03

VAPOR PRESSURE AT NBP

P = 760.3 AT T = 56.5  
 P = 758.5 AT T = 64.7

COMPONENT ID CHECK

ID NUMBER = 2  
 ID NUMBER = 23

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.69443E 00 B = -0.14579F 01 C = 0.21743E 00  
 STANDARD DEVIATION = 0.42094E-01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.0026 G2INF = 1.7264  
 T1INF = 50.00 T2INF = 50.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.1742  
 AREA BELOW THE X-AXIS IS -0.1362  
 CROSS-OVER POINT IS X = 0.52  
 NORMALIZED AREA DIFFERENCE IS 0.1222  
 CONSISTENCY INDEX IS 12.22

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION
1		-9.09 457.59	0.0
2		-224.80 662.70	0.1232E-02
3		-21.83 481.55	0.1062E-00
4		-43.17 496.24	0.6176E-01
5		-207.74 653.12	0.8152E-02
6		-245.53 655.94	0.6957E-02
7		-269.92 722.72	0.6784E-02
8		-154.50 600.12	0.9952E-03
9		-154.50 600.11	0.9954E-03
10		-22.04 473.00	0.2687E-01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

	PRESSURE	COMPOSITION
	4.59	0.00902
	2.57	0.00795
	3.47	0.00875
	3.34	0.00862
	2.30	0.00795
	2.56	0.00787
	2.74	0.00786
	2.43	0.00811
	2.43	0.00811
	3.89	0.00881

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2GL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	542.17	55.0	0.0287	0.0647	687.37	495.20	0.9660	0.9651	1.7142	1.0163	0.5228	-1294.80	-1318.35	-1299.54
2	564.61	55.0	0.0570	0.1295	687.37	495.20	0.9646	0.9636	1.7962	1.0131	0.5777	-1294.80	-1318.35	-1299.54
3	559.56	55.0	0.0644	0.1407	687.37	495.20	0.9642	0.9633	1.7418	1.0164	0.5386	-1294.80	-1318.35	-1299.54
4	531.45	55.0	0.0858	0.1848	687.37	495.20	0.9635	0.9625	1.7515	1.0066	0.5539	-1294.80	-1318.35	-1299.54
5	592.15	55.0	0.1046	0.2190	687.37	495.20	0.9628	0.9619	1.7326	1.0020	0.5476	-1294.80	-1318.35	-1299.54
6	610.13	55.0	0.1357	0.2637	687.37	495.20	0.9616	0.9607	1.6548	1.0071	0.4966	-1294.80	-1318.35	-1299.54
7	618.98	55.0	0.1452	0.2694	687.37	495.20	0.9610	0.9601	1.6019	1.0245	0.4470	-1294.80	-1318.35	-1299.54
8	628.16	55.0	0.1663	0.3055	687.37	495.20	0.9604	0.9595	1.6086	1.0127	0.4628	-1294.80	-1318.35	-1299.54
9	650.74	55.0	0.2173	0.3633	687.37	495.20	0.9590	0.9581	1.5141	1.0228	0.3923	-1294.80	-1318.35	-1299.54
10	657.70	55.0	0.2390	0.3863	687.37	495.20	0.9585	0.9577	1.4787	1.0244	0.3671	-1294.80	-1318.35	-1299.54
11	675.68	55.0	0.2787	0.4184	687.37	495.20	0.9574	0.9565	1.4092	1.0509	0.2934	-1294.80	-1318.35	-1299.54
12	699.07	55.0	0.3579	0.4779	687.37	495.20	0.9555	0.9550	1.2947	1.0947	0.1678	-1294.80	-1318.35	-1299.54
13	712.65	55.0	0.4050	0.5135	687.37	495.20	0.9550	0.9542	1.2520	1.1212	0.1104	-1294.80	-1318.35	-1299.54
14	722.76	55.0	0.4480	0.5512	687.37	495.20	0.9543	0.9536	1.2313	1.1299	0.0859	-1294.80	-1318.35	-1299.54
15	732.37	55.0	0.5052	0.5844	687.37	495.20	0.9537	0.9530	1.1722	1.1820	-0.0083	-1294.80	-1318.35	-1299.54
16	738.49	55.0	0.5432	0.6174	687.37	495.20	0.9533	0.9526	1.1609	1.1880	-0.0231	-1294.80	-1318.35	-1299.54
17	748.61	55.0	0.6332	0.6772	687.37	495.20	0.9526	0.9520	1.1065	1.2646	-0.1335	-1294.80	-1318.35	-1299.54
18	752.18	55.0	0.6538	0.6849	687.37	495.20	0.9524	0.9517	1.0887	1.3138	-0.1879	-1294.80	-1318.35	-1299.54
19	749.65	55.0	0.6605	0.6926	687.37	495.20	0.9526	0.9519	1.0863	1.3028	-0.1817	-1294.80	-1318.35	-1299.54
20	752.11	55.0	0.6945	0.7124	687.37	495.20	0.9524	0.9518	1.0659	1.3588	-0.2427	-1294.80	-1318.35	-1299.54
21	753.53	55.0	0.7327	0.7383	687.37	495.20	0.9523	0.9517	1.0450	1.4157	-0.2998	-1294.80	-1318.35	-1299.54
22	753.85	55.0	0.7525	0.7618	687.37	495.20	0.9523	0.9517	1.0543	1.3922	-0.2780	-1294.80	-1318.35	-1299.54
23	757.52	55.0	0.7752	0.7729	687.37	495.20	0.9521	0.9515	1.0431	1.4681	-0.3418	-1294.80	-1318.35	-1299.54
24	757.57	55.0	0.7922	0.7876	687.37	495.20	0.9520	0.9515	1.0407	1.4863	-0.3564	-1294.80	-1318.35	-1299.54
25	749.10	55.0	0.9080	0.8959	687.37	495.20	0.9526	0.9521	1.0214	1.6272	-0.4657	-1294.80	-1318.35	-1299.54
26	750.31	55.0	0.9088	0.8963	687.37	495.20	0.9525	0.9520	1.0225	1.6377	-0.4710	-1294.80	-1318.35	-1299.54
27	750.47	55.0	0.9197	0.8941	687.37	495.20	0.9525	0.9520	1.0081	1.8599	-0.6337	-1294.80	-1318.35	-1299.54
28	748.52	55.0	0.9448	0.9336	687.37	495.20	0.9526	0.9522	1.0222	1.7287	-0.5254	-1294.80	-1318.35	-1299.54

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 508.70 P = 46.60 V = 213.50  $\Omega$ MEGA = 0.309  $\Omega$ MEGAH = 0.187 DIPOLE = 2.88 ETA = 0.0  
 2 T = 513.20 P = 78.50 V = 118.00  $\Omega$ MEGA = 0.557  $\Omega$ MEGAH = 0.105 DIPOLE = 1.66 ETA = 1.21

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = -0.70200E-01 B = -0.11610E-04 C = 0.22400E-03  
 2 A = 0.78786E-01 B = 0.14731E-04 C = 0.23000E-03

VAPOR PRESSURE AT NBP

P = 760.3 AT T = 56.5  
 P = 758.5 AT T = 64.7

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.56865E-02 B = 0.84265E-02 C = 0.16507E-03  
 2 A = 0.64511E-02 B = -0.15716E-00 C = 0.38735E-03

COMPONENT ID ECHO CHECK

ID NUMBER = 2  
 ID NUMBER = 23

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.63354E-00 B = -0.11900E-01 C = -0.76377E-01  
 STANDARD DEVIATION = 0.35464E-01

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.1650  
 AREA BELOW THE X-AXIS IS -0.1516  
 CROSS-OVER POINT IS X = 0.52  
 NORMALIZED AREA DIFFERENCE IS 0.0412  
 CONSISTENCY INDEX IS 4.12

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1-INF = 1.8843 G2-INF = 1.8830  
 T1-INF = 55.00 T2-INF = 55.00

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION
1		-181.80	629.03
2		-214.48	687.47
3		-192.53	652.11
4		-190.53	648.36
5		-196.55	669.53
6		-208.20	675.02
7		-220.61	693.80
8		-187.53	662.45
9		-177.75	652.82
10		-190.49	648.71

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

	PRESSURE	COMPOSITION
1	5.51	0.00432
2	3.09	0.00429
3	3.76	0.00429
4	4.06	0.00429
5	2.96	0.00439
6	3.10	0.00428
7	3.15	0.00428
8	3.04	0.00447
9	3.07	0.00453
10	3.99	0.00429

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	595.00	50.0	0.0190	0.0250	580.40	568.21	0.9702	0.9602	1.3057	0.9969	0.2698	-1351.26	-1346.77	-1170.82
2	596.00	50.0	0.0400	0.0450	580.40	568.21	0.9697	0.9602	1.1177	0.9995	0.1118	-1351.26	-1346.77	-1170.82
3	599.00	50.0	0.0870	0.1010	580.40	568.21	0.9684	0.9601	1.1576	0.9941	0.1522	-1351.26	-1346.77	-1170.82
4	607.00	50.0	0.1890	0.2070	580.40	568.21	0.9660	0.9599	1.1040	1.0002	0.0987	-1351.26	-1346.77	-1170.82
5	610.00	50.0	0.2530	0.2710	580.40	568.21	0.9648	0.9600	1.0836	1.0033	0.0770	-1351.26	-1346.77	-1170.82
6	612.50	50.0	0.3130	0.3340	580.40	568.21	0.9637	0.9603	1.0827	1.0010	0.0785	-1351.26	-1346.77	-1170.82
7	614.50	50.0	0.3710	0.3870	580.40	568.21	0.9629	0.9605	1.0609	1.0099	0.0493	-1351.26	-1346.77	-1170.82
8	626.00	50.0	0.4540	0.4630	580.40	568.21	0.9611	0.9606	1.0661	1.0285	0.0359	-1351.26	-1346.77	-1170.82
9	622.50	50.0	0.4710	0.4840	580.40	568.21	0.9612	0.9610	1.0568	1.0243	0.0312	-1351.26	-1346.77	-1170.82
10	624.00	50.0	0.5540	0.5610	580.40	568.21	0.9603	0.9618	1.0430	1.0370	0.0057	-1351.26	-1346.77	-1170.82
11	620.20	50.0	0.5860	0.5910	580.40	568.21	0.9602	0.9624	1.0324	1.0351	-0.0027	-1351.26	-1346.77	-1170.82
12	621.70	50.0	0.6280	0.6360	580.40	568.21	0.9597	0.9629	1.0387	1.0283	0.0100	-1351.26	-1346.77	-1170.82
13	624.20	50.0	0.6880	0.6880	580.40	568.21	0.9592	0.9635	1.0291	1.0558	-0.0256	-1351.26	-1346.77	-1170.82
14	622.20	50.0	0.7230	0.7170	580.40	568.21	0.9591	0.9641	1.0173	1.0758	-0.0560	-1351.26	-1346.77	-1170.82
15	623.00	50.0	0.7480	0.7500	580.40	568.21	0.9588	0.9645	1.0310	1.0480	-0.0163	-1351.26	-1346.77	-1170.82
16	622.40	50.0	0.7760	0.7740	580.40	568.21	0.9588	0.9650	1.0205	1.0734	-0.0505	-1351.26	-1346.77	-1170.82
17	620.70	50.0	0.8030	0.8050	580.40	568.21	0.9588	0.9656	1.0255	1.0415	-0.0155	-1351.26	-1346.77	-1170.82
18	619.60	50.0	0.8370	0.8380	580.40	568.21	0.9587	0.9663	1.0223	1.0446	-0.0216	-1351.26	-1346.77	-1170.82
19	618.00	50.0	0.8710	0.8650	580.40	568.21	0.9587	0.9669	1.0114	1.0978	-0.0819	-1351.26	-1346.77	-1170.82
20	616.70	50.0	0.9460	0.9360	580.40	568.21	0.9587	0.9684	1.0055	1.2425	-0.2117	-1351.26	-1346.77	-1170.82
21	613.70	50.0	0.9590	0.9540	580.40	568.21	0.9588	0.9689	1.0062	1.1712	-0.1518	-1351.26	-1346.77	-1170.82
22	613.20	50.0	0.9830	0.9820	580.40	568.21	0.9589	0.9695	1.0097	1.1051	-0.0903	-1351.26	-1346.77	-1170.82
23	610.00	50.0	0.9910	0.9910	580.40	568.21	0.9591	0.9699	1.0056	1.0386	-0.0323	-1351.26	-1346.77	-1170.82

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 508.70 P = 46.60 V = 213.50 OMEGA = 0.309 OMEGAH = 0.187 DIPOLE = 2.88 ETA = 0.0  
 2 T = 506.90 P = 46.30 V = 228.00 OMEGA = 0.326 OMEGAH = 0.215 DIPOLE = 1.72 ETA = 0.62

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.70200E 01 B = 0.11610E 04 C = 0.22400E 03  
 2 A = 0.69894E 01 B = 0.11110E 04 C = 0.21351E 03

## VAPOR PRESSURE AT NBP

P = 760.3 AT T = 56.5  
 P = 784.0 AT T = 57.8

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.56865E 02 B = 0.84265E-02 C = 0.16507E-03  
 2 A = 0.13600E 03 B = -.46705E 00 C = 0.92210E-03

## COMPONENT ID CHECK

ID NUMBER = 2  
 ID NUMBER = 24

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.18601E-00 B = -.35538E-00 C = 0.61905E-01  
 STANDARD DEVIATION = 0.45233E-01

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0521  
 AREA BELOW THE X-AXIS IS -0.0232  
 CROSS-OVER POINT IS X = 0.58  
 NORMALIZED AREA DIFFERENCE IS 0.3844  
 CONSISTENCY INDEX IS 38.44

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.2044 G2INF = 1.1135  
 T1INF = 50.00 T2INF = 50.00

## SUMMARY OF WILSON PARAMETERS

MODEL NO. PARAMETER VALUES OBJECTIVE FUNCTION

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE COMPOSITION

1	411.18	-251.49	0.9095E-12	4.62	0.00587
2	241.42	458.65	0.2830E-03	1.66	0.00339
3	396.56	-237.64	0.5950E-01	4.27	0.00596
4	367.45	-222.95	0.4489E-01	4.37	0.00570
5	-260.06	487.20	0.1226E-02	1.67	0.00337
6	-261.76	465.46	0.7553E-03	3.67	0.00321
7	-290.06	548.21	0.1106E-02	1.81	0.00357
8	239.49	454.93	0.3041E-03	1.66	0.00338
9	-239.67	455.31	0.3042E-03	1.66	0.00338
10	382.10	-229.48	0.4013E-00	4.26	0.00586

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	78.5	0.0260	0.0500	1400.58	709.57	0.9635	0.9661	1.0027	1.0059	-0.0032	-1061.00	-977.98	-1014.82
2	750.00	76.6	0.0810	0.1530	1328.45	668.34	0.9627	0.9654	1.0374	1.0084	0.0283	-1078.22	-992.72	-1030.56
3	760.00	74.2	0.1530	0.2900	1241.26	618.92	0.9616	0.9645	1.1128	0.9895	0.1175	-1100.34	-1011.77	-1050.85
4	760.00	71.4	0.2450	0.4370	1144.91	564.87	0.9603	0.9635	1.1338	0.9634	0.1629	-1126.72	-1034.65	-1075.11
5	760.00	69.0	0.3730	0.5710	1066.81	521.51	0.9591	0.9625	1.0430	0.9565	0.0866	-1149.83	-1054.84	-1096.43
6	760.00	67.0	0.4500	0.6400	1004.80	487.39	0.9581	0.9618	1.0278	0.9783	0.0494	-1169.46	-1072.09	-1114.58
7	760.00	65.1	0.5100	0.6570	948.40	456.62	0.9572	0.9610	0.9854	1.1158	-0.1243	-1188.42	-1088.86	-1132.17
8	750.00	64.1	0.5440	0.7150	919.68	441.04	0.9567	0.9606	1.0362	1.0310	0.0050	-1198.53	-1097.83	-1141.55
9	750.00	62.1	0.6200	0.7750	864.21	411.13	0.9557	0.9597	1.0476	1.0468	0.0007	-1219.02	-1116.09	-1160.62
10	760.00	61.1	0.6760	0.8170	837.43	396.79	0.9552	0.9593	1.0447	1.0342	0.0100	-1229.40	-1125.39	-1170.30
11	760.00	60.3	0.7270	0.8400	816.46	385.60	0.9547	0.9590	1.0239	1.1039	-0.0752	-1237.77	-1132.91	-1178.12
12	760.00	58.9	0.8170	0.9030	780.72	366.61	0.9540	0.9584	1.0235	1.0494	-0.0250	-1252.56	-1146.25	-1191.95
13	760.00	57.9	0.8910	0.9420	755.92	353.51	0.9535	0.9579	1.0106	1.0920	-0.0775	-1263.25	-1155.92	-1201.96
14	760.00	56.9	0.9500	0.9720	731.72	340.78	0.9529	0.9575	1.0098	1.1917	-0.1656	-1274.03	-1165.71	-1212.07

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 508.70 P = 46.60 V = 213.50 OMEGA = 0.309 OMEGAH = 0.187 DIPOLE = 2.88 ETA = 0.0  
 2 T = 533.20 P = 39.50 V = 288.40 OMEGA = 0.337 OMEGAH = 0.215 DIPOLE = 2.70 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.70200E-01 B = 0.11610E-04 C = 0.22400E-03 VAPOR PRESSURE AT NBP P = 760.3 AT T = 56.5  
 2 A = 0.69742E-01 B = 0.12096E-04 C = 0.21600E-03 P = 762.4 AT T = 79.6

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.56865E-02 B = 0.84265E-02 C = 0.16507E-03 COMPONENT ID CHECK ID NUMBER = 2  
 2 A = 0.71193E-02 B = 0.96599E-02 C = 0.18100E-03 ID NUMBER = 28

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.48523E-01 B = 0.14212E-00 C = -.35864E-00

STANDARD DEVIATION = 0.66244E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.0497 G2INF = 1.1829  
 T1INF = 79.50 T2INF = 56.49

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0289

AREA BELOW THE X-AXIS IS -0.0289

CROSS-OVER POINT IS X = 0.62

NORMALIZED AREA DIFFERENCE IS 0.0006

HERINGTON J-FACTOR IS 10.47

CONSISTENCY INDEX IS -10.41

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	-237.87 470.66	0.0	9.22	0.00825
2	411.51 1027.51	0.2451E-02	7.33	0.01041
3	-221.18 464.65	0.3918E-01	7.80	0.00792
4	-234.39 487.13	0.3464E-01	7.96	0.00800
5	-206.11 443.73	0.6522E-02	7.42	0.00779
6	-11.69 166.86	0.3450E-02	10.53	0.00789
7	-221.59 468.93	0.5739E-02	7.64	0.00789
8	402.72 949.27	0.1682E-02	6.82	0.00998
9	-402.77 949.45	0.1682E-02	6.82	0.00998
10	-238.32 498.49	0.6900E-00	7.80	0.00798



SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	110.1	0.0340	0.1450	3052.57	608.55	0.9923	0.9504	1.0508	1.0459	0.0046	-808.53	-1574.56	-818.70
2	760.00	99.0	0.1240	0.4320	2369.65	436.80	0.9799	0.9481	1.0919	1.0649	0.0250	-890.48	-1741.64	-897.13
3	760.00	91.6	0.2100	0.5960	1976.50	344.49	0.9733	0.9484	1.0592	1.0652	-0.0056	-949.22	-1867.96	-956.12
4	760.00	84.1	0.3030	0.7220	1629.23	267.57	0.9681	0.9489	1.0731	1.0701	0.0028	-1011.86	-2008.62	-1021.56
5	760.00	76.7	0.4230	0.8190	1331.06	205.46	0.9637	0.9493	1.0624	1.0965	-0.0316	-1077.58	-2162.60	-1092.95
6	760.00	70.9	0.5460	0.8850	1127.64	165.45	0.9604	0.9498	1.0462	1.1000	-0.0501	-1131.69	-2294.25	-1153.80
7	760.00	65.8	0.6790	0.9330	968.30	135.61	0.9577	0.9499	1.0299	1.1059	-0.0712	-1181.60	-2419.47	-1211.56
8	760.00	61.6	0.7935	0.9670	851.91	114.71	0.9555	0.9498	1.0359	1.0008	0.0345	-1223.78	-2528.09	-1261.56
9	760.00	58.6	0.9100	0.9850	772.22	100.92	0.9538	0.9492	1.0132	1.1856	-0.1571	-1256.19	-2613.27	-1300.72

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 508.70	P = 46.60	V = 213.50	CMEGA = 0.309	OMEGAH = 0.187	DIPOLE = 2.88	ETA = 0.0
2	T = 575.10	P = 36.10	V = 338.50	CMEGA = 0.400	OMEGAH = 0.302	DIPOLE = 1.65	ETA = 0.50

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.70200E 01	B = 0.11610E 04	C = 0.22400E 03	P = 760.3 AT T = 56.5
2	A = 0.68256E 01	B = 0.12567E 04	C = 0.20240E 03	P = 760.3 AT T = 116.2

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.56855E 02	B = 0.84265E 02	C = 0.16507E 03	ID NUMBER = 2
2	A = 0.12020E 03	B = -0.82574E 01	C = 0.33673E 03	ID NUMBER = 29

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.74631E 02	B = 0.89016E 02	C = -0.13802E 00
STANDARD DEVIATION = 0.52459E 01		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.0075	G2INF = 1.1294
T1INF = 116.17	T2INF = 56.49

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.0014
AREA BELOW THE X-AXIS IS	-0.0355
CROSS-OVER POINT IS X =	0.27
NORMALIZED AREA DIFFERENCE IS	-0.9224
HERINGTON J FACTOR IS	27.16
CONSISTENCY INDEX IS	65.08

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	-67.63 301.69	0.0
2	1335.07 -753.92	0.1291E-02
3	140.92 14.45	0.4052E-01
4	145.69 2.05	0.3588E-01
5	-67.62 178.92	0.5242E-02
6	560.43 -529.85	0.1898E-03
7	-34.36 355.23	0.4806E-02
8	229.32 -48.90	0.1433E-02
9	228.43 -47.68	0.1424E-02
10	20.61 220.75	0.5568E 00

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
31.11	0.00398
28.97	0.02282
15.99	0.00853
17.00	0.00823
8.11	0.01089
37.35	0.00284
12.65	0.00922
7.66	0.01263
7.66	0.01263
15.68	0.00838

ACETONE(1) WATER(2)

SYSTEM 014

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	87.8	0.0100	0.3350	1795.05	477.48	0.9677	0.9815	13.6874	1.0488	2.5689	-980.42	-553.02	-741.73
2	760.00	93.0	0.0230	0.4620	1582.69	396.42	0.9656	0.9809	9.2883	1.0349	2.1944	-1021.27	-569.64	-768.05
3	760.00	76.5	0.0410	0.5850	1324.73	305.16	0.9628	0.9801	7.8550	1.0556	2.0075	-1079.13	-593.01	-805.33
4	760.00	66.2	0.1200	0.7560	980.75	196.71	0.9579	0.9789	4.6630	1.0480	1.4928	-1177.41	-632.24	-868.75
5	760.00	61.8	0.2640	0.8020	856.11	161.48	0.9556	0.9783	2.5698	1.2379	0.7305	-1222.12	-649.89	-897.63
6	760.00	61.1	0.3000	0.8090	837.42	156.40	0.9553	0.9782	2.3312	1.2962	0.5870	-1229.40	-652.75	-902.33
7	760.00	60.0	0.4440	0.8320	808.70	148.70	0.9547	0.9782	1.6764	1.5096	0.1048	-1240.92	-657.27	-909.78
8	760.00	59.7	0.5060	0.8370	801.00	146.65	0.9545	0.9781	1.4938	1.6715	-0.1124	-1244.09	-658.51	-911.83
9	760.00	59.5	0.5380	0.8400	795.95	145.30	0.9544	0.9781	1.4189	1.7706	-0.2215	-1246.20	-659.34	-913.20
10	760.00	58.9	0.6090	0.8470	786.72	141.31	0.9541	0.9780	1.2880	2.0569	-0.4681	-1252.56	-661.84	-917.31
11	760.00	58.5	0.6610	0.8600	770.73	138.70	0.9538	0.9780	1.2202	2.2116	-0.5947	-1256.83	-663.50	-920.07
12	760.00	57.4	0.7530	0.9000	743.75	131.74	0.9532	0.9781	1.1023	2.7239	-0.9047	-1268.63	-668.11	-927.70
13	760.00	57.1	0.8500	0.9170	736.51	129.90	0.9531	0.9781	1.0579	3.1645	-1.0957	-1271.87	-669.38	-929.80

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 509.70 P = 46.60 V = 213.50 OMEGA = 0.309 OMEGAH = 0.187 DIPOLF = 2.88 ETA = 0.0  
 2 T = 647.40 P = \*\*\*\*\* V = 55.20 OMEGA = 0.344 OMEGAH = 0.010 DIPOLF = 1.85 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.70200E 01 B = 0.11610E 04 C = 0.22400E 03  
 2 A = 0.79668E 01 B = 0.16682E 04 C = 0.22800E 03

VAPOR PRESSURE AT NBP

P = 760.3 AT T = 56.5  
 P = 760.0 AT T = 100.0

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.56865E 02 B = 0.84265E 02 C = 0.16507E 03  
 2 A = 0.22887E 02 B = -0.36416E 01 C = 0.68556E 04

COMPONENT ID ECHO CHECK

ID NUMBER = 2  
 ID NUMBER = 34

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.23798E 01 B = 0.66116E 01 C = 0.31116E 01  
 STANDARD DEVIATION = 0.11804E 00

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 10.7056 G2INF = 3.0932  
 T1INF = -100.00 T2INF = 56.49

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.4920  
 AREA BELOW THE X-AXIS IS -0.3859  
 CROSS-OVER POINT IS X = 0.46  
 NORMALIZED AREA DIFFERENCE IS 0.1159  
 HERINGTON J-FACTOR IS 19.80  
 CONSISTENCY INDEX IS -8.21

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	673.05	1085.08	0.3638E-10	100.31	0.02859
2	781.73	1445.58	0.4572E-02	33.95	0.02287
3	792.58	1223.55	0.2847E-01	58.19	0.01739
4	526.94	1440.16	0.6865E-01	26.45	0.01248
5	425.21	1567.86	0.1431E-01	10.69	0.01025
6	449.43	1493.62	0.4850E-02	18.97	0.01087
7	375.23	1593.54	0.8387E-02	8.39	0.00959
8	435.33	1569.87	0.8826E-02	10.86	0.01058
9	435.32	1569.87	0.8825E-02	10.86	0.01058
10	696.26	1313.04	0.1193E-01	45.01	0.01545

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PH11	PH12	G1	G2	LN(G1/G2)	B11	B22	B12
1	150.00	36.6	0.9800	0.9550	142.37	45.85	0.9737	1.0004	0.9993	7.3630	-1.9971	-3382.10	-763.04	-1646.52
2	150.00	36.0	0.9550	0.9100	138.78	44.37	0.9736	0.9999	1.0023	6.7601	-1.9087	-3398.37	-766.02	-1653.92
3	150.00	34.6	0.9000	0.8600	130.68	41.06	0.9733	0.9992	1.0671	5.1100	-1.5662	-3436.72	-773.02	-1671.38
4	150.00	34.1	0.7720	0.8350	127.88	39.93	0.9732	0.9989	1.2342	2.7152	-0.7885	-3450.54	-775.55	-1677.67
5	150.00	36.7	0.1680	0.7320	142.98	46.10	0.9743	0.9978	4.4516	1.0455	1.4487	-3379.39	-762.54	-1645.29
6	150.00	44.8	0.0520	0.5070	199.43	70.88	0.9775	0.9961	7.1656	1.0961	1.8775	-3168.46	-723.76	-1549.57
7	150.00	58.7	0.0030	0.0640	336.18	140.00	0.9839	0.9952	9.3620	1.0009	2.2357	-2839.60	-662.67	-1401.14

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 547.90 P = 47.70 V = 173.10 OMEGA = 0.321 OMEGAH = 0.152 DIPOLE = 3.94 ETA = 0.0

2 T = 647.40 P = \*\*\*\*\* V = 55.20 OMEGA = 0.344 OMEGAH = 0.010 DIPOLE = 1.85 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.70735E 01 B = 0.12792E 04 C = 0.22400E 03

2 A = 0.79668E 01 B = 0.16682E 04 C = 0.22800E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.40237E 02 B = 0.11816E 01 C = 0.10223E 03

2 A = 0.22887E 02 B = -0.36416E 01 C = 0.68556E 04

VAPOR PRESSURE AT NBP

P = 777.0 AT T = 81.8

P = 760.0 AT T = 100.0

COMPONENT ID ECHO CHECK

ID NUMBER = 3

ID NUMBER = 34

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.21052E 01 B = 0.29886E 01 C = 0.12052E 01

STANDARD DEVIATION = 0.12254E 00

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 8.2087 G2INF = 8.0741

T1INF = 60.08 T2INF = 37.20

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.6401

AREA BELOW THE X-AXIS IS -0.4309

CROSS-OVER POINT IS X = 0.57

NORMALIZED AREA DIFFERENCE IS 0.1953

HERINGTON J-FACTOR IS 12.69

CONSISTENCY INDEX IS 6.84

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	210.85 1487.92	0.4820E-10
2	484.46 1658.63	0.6175E-02
3	321.34 1500.48	0.7538E-00
4	324.43 1500.80	0.5927E-01
5	352.26 1663.76	0.1154E-01
6	260.79 1587.86	0.5046E-02
7	285.76 1824.30	0.1033E-01
8	383.65 1707.29	0.2504E-02
9	383.76 1707.60	0.2504E-02
10	321.66 1499.28	0.6867E-02

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
7.65	0.01640
3.32	0.02850
5.15	0.01262
5.10	0.01278
2.94	0.02128
5.30	0.01308
3.16	0.02437
2.51	0.02506
2.51	0.02508
5.16	0.01261

\*\*DIAGNOSTIC\*\*

1 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	300.00	53.2	0.9910	0.9530	275.35	107.82	0.9563	1.0007	1.0022	13.0826	-2.5691	-2965.14	-686.07	-1457.69
2	300.00	52.3	0.9870	0.9140	266.27	103.21	0.9559	0.9998	1.0037	12.4934	-2.5215	-2986.24	-690.00	-1467.20
3	300.00	51.6	0.9140	0.8350	259.38	99.74	0.9558	0.9981	1.0091	5.7585	-1.7416	-3002.75	-693.07	-1474.66
4	300.00	51.2	0.8600	0.8080	255.50	97.80	0.9557	0.9976	1.0535	4.1954	-1.3819	-3012.23	-694.83	-1478.93
5	300.00	51.1	0.7000	0.7720	254.54	97.32	0.9559	0.9969	1.2415	2.3348	-0.6316	-3014.61	-695.27	-1480.01
6	300.00	51.4	0.5200	0.7460	257.43	98.76	0.9562	0.9964	1.5973	1.6011	0.0024	-3007.49	-693.95	-1476.79
7	300.00	51.7	0.3110	0.7320	260.35	100.23	0.9564	0.9961	2.5918	1.1594	0.8044	-3000.39	-692.63	-1473.59
8	300.00	54.0	0.1180	0.6860	283.62	112.07	0.9578	0.9954	5.8850	0.9483	1.8255	-2946.52	-682.61	-1449.29
9	300.00	64.7	0.0300	0.4200	413.87	184.04	0.9647	0.9926	9.7824	0.9673	2.3139	-2708.85	-638.19	-1342.39
10	300.00	73.5	0.0080	0.1070	551.72	269.38	0.9718	0.9917	7.0623	0.9940	1.9608	-2527.74	-604.14	-1261.23

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 547.90 P = 47.70 V = 173.10 OMEGA = 0.321 OMEGAH = 0.152 DIPGLE = 3.94 ETA = 0.0  
 2 T = 647.40 P = \*\*\*\*\* V = 55.20 OMEGA = 0.344 OMEGAH = 0.010 DIPOLE = 1.85 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.70735E 01 B = 0.12792E 04 C = 0.22400E 03 VAPOR PRESSURE AT NBP P = 777.0 AT T = 81.8  
 2 A = 0.79668E 01 B = 0.16682E 04 C = 0.22800E 03 P = 760.0 AT T = 100.0

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.40237E 02 B = 0.11816E 01 C = 0.10223E 03 COMPONENT ID ECHO CHECK ID NUMBER = 3  
 2 A = 0.22887E 02 B = -0.36416E 01 C = 0.68556E 04 ID NUMBER = 34

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.21562E 01 B = -0.31579E 01 C = -0.14485E 01  
 STANDARD DEVIATION = 0.22468E 00

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 8.6382 G2INF = 11.5903  
 T1INF = 75.88 T2INF = 54.30

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.6280  
 AREA BELOW THE X-AXIS IS -0.5336  
 CROSS-OVER POINT IS X = 0.55  
 NORMALIZED AREA DIFFERENCE IS 0.0813  
 HERINGTON J-FACTOR IS 11.46  
 CONSISTENCY INDEX IS -3.33

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	177.94 1824.68	0.3638E-11
2	-41.96 1808.84	0.1575E-02
3	188.43 1987.08	0.9815E 01
4	130.49 1977.10	0.1919E 00
5	403.32 1728.36	0.2482E-01
6	350.38 1950.89	0.1265E-01
7	435.35 1771.61	0.1454E-01
8	439.38 1643.00	0.9000E-02
9	439.27 1642.76	0.9000E-02
10	193.35 1987.23	0.6306E-01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
10.93	0.02408
14.89	0.03461
12.24	0.02134
12.28	0.02230
8.19	0.02360
11.16	0.02050
9.34	0.02273
7.00	0.02512
7.00	0.02513
12.23	0.02130

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	79.2	0.9600	0.8790	657.74	340.67	0.9165	0.9982	0.9678	6.7323	-1.9397	-2416.60	-583.17	-1211.56
2	760.00	78.8	0.9500	0.8510	649.84	335.20	0.9164	0.9970	0.9581	6.7321	-1.9497	-2424.25	-584.62	-1214.97
3	760.00	77.9	0.9140	0.8350	622.33	323.16	0.9157	0.9964	1.0034	4.4928	-1.4991	-2441.54	-587.89	-1222.70
4	760.00	77.1	0.8800	0.7950	617.06	312.77	0.9153	0.9947	1.0164	4.1265	-1.4012	-2457.01	-590.81	-1229.61
5	760.00	76.3	0.7950	0.7400	602.06	302.65	0.9152	0.9925	1.0732	3.1590	-1.0796	-2472.57	-593.74	-1236.56
6	760.00	76.0	0.7260	0.7260	596.52	298.93	0.9151	0.9920	1.1636	2.5204	-0.7729	-2478.42	-594.85	-1239.18
7	760.00	76.3	0.5970	0.6930	602.06	302.65	0.9158	0.9908	1.3393	1.8941	-0.3466	-2472.57	-593.74	-1236.56
8	760.00	78.2	0.3490	0.6450	638.13	327.13	0.9182	0.9893	2.0171	1.2525	0.4765	-2435.77	-586.79	-1220.12
9	760.00	78.4	0.2790	0.6270	642.02	329.80	0.9187	0.9887	2.4392	1.1779	0.7279	-2431.92	-586.07	-1218.40
10	760.00	79.3	0.1880	0.5850	659.72	342.04	0.9202	0.9876	3.2921	1.1208	1.0775	-2414.69	-582.81	-1210.70
11	760.00	80.9	0.0990	0.5500	692.09	364.74	0.9222	0.9868	5.6149	1.0262	1.6995	-2384.33	-577.08	-1197.15
12	760.00	85.2	0.0390	0.4470	784.86	432.03	0.9277	0.9850	10.2762	0.9964	2.3334	-2304.42	-561.96	-1161.50
13	760.00	90.1	0.0150	0.3200	901.22	520.92	0.9342	0.9836	16.7742	0.9901	2.8298	-2216.22	-545.24	-1122.21
14	760.00	91.7	0.0060	0.2790	941.76	553.02	0.9363	0.9834	35.0670	0.9797	3.5778	-2188.06	-539.90	-1109.68
15	760.00	95.0	0.0020	0.1800	1029.46	624.39	0.9410	0.9830	62.4008	0.9825	4.1512	-2130.91	-529.05	-1084.26

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 547.90 P = 47.70 V = 173.10 OMEGA = 0.321 OMEGAH = 0.152 DIPOLE = 3.94 ETA = 0.0  
 2 T = 647.40 P = \*\*\*\*\* V = 55.20 OMEGA = 0.344 OMEGAH = 0.010 DIPOLE = 1.85 FTA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.70735E 01 B = 0.12792E 04 C = 0.22400E 03  
 2 A = 0.79668E 01 B = 0.16682E 04 C = 0.22800E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.40237E 02 B = 0.11816E 01 C = 0.10223E 03  
 2 A = 0.22887E 02 B = -0.36416E 01 C = 0.68556E 04

VAPOR PRESSURE AT NBP

P = 777.C AT T = 81.8  
 P = 760.0 AT T = 100.0

COMPONENT ID ECHO CHECK

ID NUMBER = 3  
 IC NUMBER = 34

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.31530E 01 B = -0.90450E 01 C = 0.42507E 01  
 STANDARD DEVIATION = 0.48639E 00

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 23.4060 G2INF = 5.1615  
 F1INF = 100.00 F2INF = 81.10

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.6325  
 AREA BELOW THE X-AXIS IS -0.5850  
 CROSS-OVER POINT IS X = 0.44  
 NORMALIZED AREA DIFFERENCE IS 0.0390  
 HERINGTON J-FACTOR IS 10.31  
 CONSISTENCY INDEX IS -6.42

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	1159.99	1287.26	0.9350E-09	22.95	0.03115
2	362.02	1454.23	0.3393E-02	41.96	0.05216
3	2677.78	655.67	0.7077E-02	88.17	0.07280
4	1383.38	1369.01	0.6488E-00	34.89	0.03079
5	1354.18	1248.46	0.7751E-01	25.85	0.03343
6	1378.60	1367.78	0.4313E-01	34.56	0.03079
7	1212.93	1295.21	0.4459E-01	24.32	0.03112
8	1279.00	1224.23	0.2516E-01	23.82	0.03483
9	1278.97	1224.24	0.2521E-01	23.82	0.03483
10	1725.17	1496.49	0.9241E-01	70.63	0.03828

ACETONITRILE(1) WATER(2)

SYSTEM 015D

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	90.3	0.0310	0.2850	506.21	524.84	0.9352	0.9832	7.1967	1.0499	1.9249	-2212.69	-544.57	-1120.64
2	760.00	84.2	0.0540	0.4580	762.52	415.53	0.9267	0.9850	7.8186	1.0316	2.0254	-2322.79	-565.43	-1169.69
3	760.00	80.9	0.1030	0.5490	652.09	364.74	0.9222	0.9867	5.3871	1.0331	1.6515	-2384.33	-577.08	-1197.15
4	760.00	80.7	0.1050	0.5540	687.99	361.84	0.9220	0.9868	5.3630	1.0322	1.6478	-2388.11	-577.79	-1198.83
5	760.00	78.0	0.1920	0.5980	634.26	324.48	0.9188	0.9878	3.4224	1.1504	1.0902	-2439.61	-587.52	-1221.84
6	760.00	77.2	0.4430	0.6090	618.96	314.05	0.9180	0.9881	1.5464	1.6775	-0.0813	-2455.07	-590.44	-1228.74
7	750.00	76.8	0.6220	0.6720	611.40	308.94	0.9166	0.9901	1.2285	2.1121	-0.5419	-2462.84	-591.91	-1232.21
8	760.00	77.7	0.6630	0.6840	618.96	314.05	0.9167	0.9905	1.1590	2.2462	-0.6617	-2455.07	-590.44	-1228.74
9	750.00	77.0	0.6850	0.6910	615.17	311.49	0.9165	0.9907	1.1399	2.3697	-0.7319	-2458.95	-591.17	-1230.47
10	760.00	76.8	0.7250	0.6970	611.40	308.94	0.9162	0.9909	1.0927	2.6842	-0.8987	-2462.84	-591.91	-1232.21
11	760.00	77.0	0.8020	0.7330	615.17	311.49	0.9159	0.9923	1.0321	3.2626	-1.1509	-2458.95	-591.17	-1230.47
12	760.00	78.1	0.9030	0.8250	626.15	325.80	0.9159	0.9959	0.9977	4.1886	-1.4347	-2437.69	-587.16	-1220.98
13	760.00	79.4	0.9640	0.9030	661.71	343.43	0.9166	0.9993	0.9842	5.9549	-1.8002	-2412.78	-582.45	-1209.85

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 547.90 P = 47.70 V = 173.10 OMEGA = 0.321 OMEGAH = 0.152 DIPGLE = 3.94 ETA = 0.0  
 2 T = 647.40 P = \*\*\*\*\* V = 55.20 OMEGA = 0.344 OMEGAH = 0.010 DIPOLE = 1.85 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.70735E 01 B = 0.12792E 04 C = 0.22400E 03  
 2 A = 0.75668E 01 B = 0.16682E 04 C = 0.22800E 03

## VAPOR PRESSURE AT NEP

P = 777.0 AT T = 81.8  
 P = 760.0 AT T = 100.0

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.40237E 02 B = 0.11816E 01 C = 0.10223E 03  
 2 A = 0.22887E 02 B = -0.36416E 01 C = 0.68556E 04

## COMPONENT ID ECHO CHECK

ID NUMBER = 3  
 ID NUMBER = 34

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.21532E 01 B = -0.51959E 01 C = 0.12847E 01

STANDARD DEVIATION = 0.10538E 00

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 8.6121 G2INF = 5.8010  
 T1INF = 100.00 T2INF = 81.10

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.4826

AREA BELOW THE X-AXIS IS -0.4991

CROSS-OVER POINT IS X = 0.47

NORMALIZED AREA DIFFERENCE IS -0.0169

HERINGTON J-FACTOR IS 9.94

CONSISTENCY INDEX IS -8.26



## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	330.05 1468.51	0.9622E-09	28.09	0.02476
2	944.75 1267.71	0.2689E-02	12.90	0.01912
3	417.57 1577.85	0.2063E-01	26.78	0.01750
4	470.20 1515.84	0.8123E-01	22.98	0.01672
5	623.34 1403.58	0.1891E-01	15.80	0.01627
6	521.04 1495.29	0.1067E-01	21.30	0.01558
7	657.57 1379.60	0.1560E-01	14.37	0.01659
8	687.75 1363.71	0.6619E-02	13.49	0.01664
9	638.87 1364.08	0.6604E-02	13.50	0.01659
10	422.82 1566.15	0.1844E-01	26.11	0.01748

ACETONITRILE(1) WATER(2)

SYSTEM 015E

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	81.1	0.0930	0.5050	696.22	367.66	0.9233	0.9857	5.4619	1.1113	1.5923	-2380.56	-576.36	-1195.46
2	760.00	80.0	0.1420	0.5590	673.75	351.83	0.9213	0.9869	4.0829	1.0951	1.3160	-2401.36	-580.30	-1204.75
3	760.00	78.6	0.2540	0.6170	645.92	332.49	0.9190	0.9884	2.6216	1.1592	0.8160	-2428.08	-585.34	-1216.68
4	760.00	77.4	0.4020	0.6550	622.76	316.63	0.9174	0.9895	1.8205	1.3694	0.2847	-2451.20	-589.71	-1227.01
5	760.00	76.7	0.5070	0.6640	609.53	307.68	0.9166	0.9898	1.4938	1.6653	-0.1087	-2464.78	-592.27	-1233.08
6	760.00	76.6	0.5270	0.6730	607.66	306.41	0.9164	0.9901	1.4607	1.6567	-0.1497	-2466.72	-592.64	-1233.95
7	760.00	76.0	0.7180	0.7280	596.52	298.93	0.9150	0.9921	1.1797	2.4312	-0.7231	-2478.42	-594.85	-1239.18
8	760.00	76.6	0.8390	0.7800	607.66	306.41	0.9150	0.9941	1.0618	3.3671	-1.1541	-2466.72	-592.64	-1233.95

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 547.90 P = 47.70 V = 173.10 OMEGA = 0.321 OMEGAH = 0.152 DIPCLE = 3.94 ETA = 0.0  
 2 T = 647.40 P = \*\*\*\*\* V = 55.20 OMEGA = 0.344 OMEGAH = 0.010 DIPCLE = 1.85 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = -0.70735E-01 B = -0.12792E-04 C = 0.22400E-03 P = 777.0 AT T = 81.8  
 2 A = 0.79668E-01 B = 0.16682E-04 C = 0.22800E-03 P = 760.0 AT T = 100.0

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.40237E-02 B = 0.11816E-01 C = 0.10223E-03 COMPONENT ID CHECK  
 2 A = 0.22887E-02 B = -0.36416E-01 C = 0.68556E-04 ID NUMBER = 3  
 ID NUMBER = -34

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.19786E-01 B = -0.47091E-01 C = 0.12152E-01

STANDARD DEVIATION = 0.41551E-01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 7.2328 G2INF = 4.5567

T1INF = 100.00 T2INF = 81.10

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.4521

AREA BELOW THE X-AXIS IS -0.4229

CROSS-OVER POINT IS X = 0.48

NORMALIZED AREA DIFFERENCE IS 0.0333

HERINGTON J-FACTOR IS 10.31

CONSISTENCY INDEX IS -6.98

SUMMARY OF WILSON PARAMETERS

MODEL NO. PARAMETER VALUES OBJECTIVE FUNCTION

1	277.52	1308.71	0.7276F-11
2	779.54	1329.58	0.5338E-02
3	609.37	1390.80	0.4263F-01
4	470.55	1457.51	0.1398E-01
5	554.80	1442.85	0.4088F-02
6	337.87	1523.86	0.4831E-03
7	489.08	1478.80	0.2909E-02
8	760.35	1364.54	0.8363F-03
9	753.89	1365.90	0.8351F-03
10	596.35	1380.34	0.3689F-02

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE COMPOSITION

56.05	0.01901
8.61	0.01667
9.08	0.01200
10.30	0.00739
7.81	0.01080
13.70	0.00453
9.90	0.00858
7.09	0.01687
7.12	0.01668
11.03	0.01127

\*\*DIAGNOSTIC\*\*

3 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
 SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

ACRYLENITRILE(1) ACETENITRILE(2)

SYSTEM 016

SUMMARY VLF DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	79.8	0.0790	0.0980	858.07	727.86	1.0000	1.0000	1.0960	1.0206	0.0713	0.0	0.0	0.0
2	750.00	79.2	0.1680	0.2060	841.73	714.06	1.0000	1.0000	1.1044	1.0137	0.0857	0.0	0.0	0.0
3	760.00	79.5	0.3170	0.3500	823.00	698.21	1.0000	1.0000	1.0171	1.0339	-0.0164	0.0	0.0	0.0
4	760.00	79.2	0.4060	0.4310	815.07	691.51	1.0000	1.0000	0.9874	1.0507	-0.0621	0.0	0.0	0.0
5	750.00	77.7	0.5570	0.5860	802.00	680.45	1.0000	1.0000	0.9945	1.0417	-0.0464	0.0	0.0	0.0
6	760.00	77.4	0.7800	0.7910	794.24	673.88	1.0000	1.0000	0.9680	1.0693	-0.0995	0.0	0.0	0.0
7	750.00	73.3	0.9170	0.9210	694.73	589.03	1.0000	1.0000	1.0968	1.2256	-0.1111	0.0	0.0	0.0

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 0.0 P = 0.0 V = 0.0 OMEGA = 0.0 OMEGAH = 0.0 DIPCLE = 3.83 ETA = 0.0  
 2 T = 547.90 P = 47.70 V = 173.10 OMEGA = 0.321 OMEGAH = 0.152 DIPCLE = 3.94 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.78510F C1 B = 0.17352E C4 C = 0.27315F 03  
 2 A = 0.70735F 01 B = 0.12792E 04 C = 0.22400F 03  
 VAPOR PRESSURE AT NBP  
 P = 793.7 AT T = 77.3  
 P = 777.0 AT T = 81.8

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.38860E 02 B = 0.92001E 01 C = 0.0  
 2 A = 0.40237F 02 B = 0.11816F 01 C = 0.10223F 03  
 COMPONENT ID CHECK  
 ID NUMBER = 40  
 ID NUMBER = 3

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.12554F 00 B = 0.49728E 00 C = 0.26509F 00  
 STANDARD DEVIATION = 0.27877E-01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.1338 G2INF = 1.1125  
 T1INF = 81.10 T2INF = 75.97

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0177  
 AREA BELOW THE X-AXIS IS -0.0524  
 CROSS-OVER POINT IS X = 0.30  
 NORMALIZED AREA DIFFERENCE IS -0.4957  
 HERINGTON J-FACTOR IS 3.38  
 CONSISTENCY INDEX IS 46.19

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	13.30 79.39	0.3211F 09
2	330.26 -137.10	0.1017F 01
3	464.55 699.43	0.2889F 01
4	-326.55 463.82	0.2557F 01
5	728.09 -318.51	0.9743F 02
6	739.21 -318.15	0.4190F 03
7	827.76 -355.45	0.7763F 02
8	837.34 -357.37	0.9333F 02
9	837.97 -357.49	0.9333F 02
10	-243.53 348.43	0.7904F 00

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
18.28	0.00716
17.49	0.00605
20.87	0.00999
20.00	0.00850
14.89	0.00472
15.31	0.00468
13.75	0.00513
13.79	0.00515
13.79	0.00515
19.42	0.00790

ALLYL ALCOHOL(1) WATER(2)

SYSTEM 017

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	99.2	0.0025	0.0309	848.87	725.47	0.9942	0.9831	10.9752	1.0000	2.3957	-350.98	-515.63	-341.22
2	760.00	98.7	0.0049	0.0554	832.92	712.72	0.9939	0.9831	10.2284	0.9945	2.3307	-351.91	-517.22	-342.32
3	760.00	97.5	0.0113	0.0994	797.50	684.37	0.9933	0.9829	8.3066	0.9938	2.1233	-354.04	-520.85	-344.86
4	760.00	96.1	0.0193	0.1446	755.76	650.73	0.9928	0.9828	7.4613	1.0005	2.0092	-356.72	-525.35	-348.02
5	760.00	95.2	0.0267	0.1780	728.22	626.49	0.9923	0.9827	6.8873	1.0030	1.9267	-358.59	-528.46	-350.21
6	760.00	94.0	0.0397	0.2260	696.63	602.88	0.9918	0.9827	6.1443	0.9978	1.8177	-360.84	-532.18	-352.84
7	760.00	93.1	0.0556	0.2634	670.41	581.57	0.9913	0.9826	5.3109	1.0009	1.6688	-362.81	-535.40	-355.13
8	760.00	92.5	0.0622	0.2793	655.30	565.25	0.9911	0.9826	5.1490	1.0075	1.6313	-363.99	-537.31	-356.50
9	760.00	90.6	0.1058	0.3456	607.79	530.38	0.9904	0.9825	4.0354	1.0297	1.3659	-367.93	-543.63	-361.03
10	760.00	90.0	0.1680	0.3658	552.94	518.19	0.9902	0.9825	2.7566	1.0578	0.9207	-369.25	-545.71	-362.53
11	760.00	89.1	0.4216	0.4336	573.78	502.41	0.9896	0.9828	1.3447	1.4549	-0.0787	-371.00	-548.47	-364.53
12	760.00	89.1	0.5517	0.4750	571.94	500.89	0.9893	0.9830	1.1290	1.7456	-0.4357	-371.17	-548.74	-364.73
13	760.00	90.0	0.6921	0.5747	594.84	519.74	0.9888	0.9838	1.0464	1.9858	-0.6407	-369.08	-545.44	-362.34
14	760.00	90.9	0.7658	0.6338	615.09	536.37	0.9886	0.9844	1.0084	2.1796	-0.7708	-367.30	-542.63	-360.31
15	760.00	92.2	0.8340	0.7058	647.59	562.96	0.9884	0.9852	0.9792	2.3557	-0.8778	-364.61	-538.30	-357.21
16	760.00	93.2	0.8813	0.7690	673.05	583.72	0.9883	0.9859	0.9713	2.4565	-0.9440	-362.61	-535.07	-354.50
17	760.00	95.0	0.9402	0.8696	722.03	623.48	0.9882	0.9872	0.9597	2.6223	-1.0052	-359.02	-529.18	-350.72
18	760.00	96.6	0.9824	0.9596	768.67	661.14	0.9883	0.9884	0.9521	2.6064	-1.0070	-355.87	-523.93	-347.02

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 545.20	P = 56.50	V = 203.10	OMEGA = 0.568	OMEGA H = 0.187	DIPOLE = 1.60	ETA = 0.0
2	T = 647.40	P = *****	V = 55.20	OMEGA = 0.344	OMEGA H = 0.010	DIPOLE = 1.85	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.91432E 01	B = 0.23112E 04	C = 0.27315E 03
2	A = 0.79668E 01	B = 0.16682E 04	C = 0.22800E 03

VAPOR PRESSURE AT NBP

P = 795.9	AT T = 97.1
P = 760.0	AT T = 100.0

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.92118E 02	B = -.22067E 00	C = 0.46800E -03
2	A = 0.22897E 02	B = -.36416E 01	C = 0.68556E 04

COMPONENT ID CHECK

ID NUMBER = 48
ID NUMBER = 34

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.21531E 01	B = -.68512E 01	C = 0.37928E 01
STANDARD DEVIATION = 0.12563E 00		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 8.6112	G2INF = 2.4726
T1INF = 100.00	T2INF = 95.91

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.3941
AREA BELOW THE X-AXIS IS	-0.4023
CROSS-OVER POINT IS X =	0.41
NORMALIZED AREA DIFFERENCE IS	-0.0103
HERINGTON J-FACTOR IS	4.53
CONSISTENCY INDEX IS	-3.50

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	571.42	1025.13	0.2638F-10	15.69	0.02097
2	632.28	1041.39	0.5319F-02	10.47	0.01542
3	705.57	1056.99	C.1802F 01	10.23	0.01186
4	630.56	1109.98	0.5390F-01	11.23	0.00910
5	607.86	1110.31	C.1154F-01	10.33	0.00931
6	547.63	1179.72	0.3586F-C2	16.14	0.00684
7	607.39	1126.03	0.1068F-01	12.03	0.00837
8	643.65	1069.53	0.5271F-02	9.10	0.01189
9	643.69	1069.53	0.5272F-02	9.10	0.01189
10	654.23	1104.23	0.7730F-02	11.66	0.00937

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	194.94	40.0	0.1282	0.1657	180.29	181.78	0.9868	0.9849	1.3778	1.0096	0.3109	-1326.70	-1517.20	-1420.40
2	200.65	40.0	0.2354	0.2766	180.29	181.78	0.9864	0.9844	1.2887	1.0269	0.2271	-1326.70	-1517.20	-1420.40
3	204.75	40.0	0.3685	0.3912	180.29	181.78	0.9861	0.9841	1.1878	1.0674	0.1069	-1326.70	-1517.20	-1420.40
4	206.12	40.0	0.4932	0.4950	180.29	181.78	0.9860	0.9840	1.1303	1.1105	0.0177	-1326.70	-1517.20	-1420.40
5	205.18	40.0	0.6143	0.5909	180.29	181.78	0.9861	0.9841	1.0784	1.1768	-0.0873	-1326.70	-1517.20	-1420.40
6	201.73	40.0	0.7428	0.6979	180.29	181.78	0.9863	0.9843	1.0359	1.2816	-0.2128	-1326.70	-1517.20	-1420.40
7	195.04	40.0	0.8656	0.8205	180.29	181.78	0.9868	0.9849	1.0110	1.4098	-0.3325	-1326.70	-1517.20	-1420.40

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 562.00	P = 49.60	V = 260.10	OMEGA = 0.211	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0
2	T = 553.20	P = 40.00	V = 311.20	OMEGA = 0.210	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0

VAPOR-PRESSURE EQUATION COEFFICIENTS

1	A = 0.69056E 01	B = 0.12110E 04	C = 0.22079E 03	P = 760.0 AT T = 80.1
2	A = 0.68450E 01	B = 0.12035E 04	C = 0.22286E 03	P = 759.1 AT T = 80.7

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.70863E 02	B = 0.14907E 01	C = 0.15880E 03	COMPONENT ID CHECK
2	A = 0.92914E 02	B = -0.24859E 01	C = 0.26157E 03	ID NUMBER = 5

ID NUMBER = 9

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.40206E 00	B = -0.71158E 00	C = -0.15536E 00
STANDARD DEVIATION = 0.73364E 02		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.4949	G2INF = 1.5918
T1INF = 39.99	T2INF = 39.99

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.1056
AREA BELOW THE X-AXIS IS	-0.1112
CROSS-OVER POINT IS X =	0.51
NORMALIZED AREA DIFFERENCE IS	-0.0255
CONSISTENCY INDEX IS	2.55

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	172.25 119.03	0.9095E-12
2	201.60 105.29	0.5464E-06
3	186.82 111.12	0.4632E-03
4	193.44 103.84	0.3431E-03
5	209.94 90.50	0.7745E-04
6	215.31 71.45	0.3243E-04
7	219.30 79.28	0.7633E-04
8	194.25 112.51	0.2337E-06
9	194.25 112.51	0.2342E-06
10	186.38 111.51	0.1588E-02

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
1.05	0.00140
0.08	0.00213
0.55	0.00131
0.53	0.00129
0.23	0.00162
0.98	0.00129
0.28	0.00161
0.03	0.00203
0.03	0.00203
0.56	0.00130

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	557.60	70.0	0.1186	0.1486	534.39	525.40	0.9724	0.9682	1.2908	1.0073	0.2480	-1042.86	-1197.74	-1118.97
2	534.90	70.0	0.2409	0.2895	534.39	525.40	0.9715	0.9673	1.2350	1.0174	0.1938	-1042.86	-1197.74	-1118.97
3	596.16	70.0	0.3759	0.3982	534.39	525.40	0.9710	0.9666	1.1444	1.0542	0.0821	-1042.86	-1197.74	-1118.97
4	600.27	70.0	0.4945	0.4975	534.39	525.40	0.9708	0.9664	1.0941	1.0940	0.0001	-1042.86	-1197.74	-1118.97
5	599.32	70.0	0.6180	0.6027	534.39	525.40	0.9708	0.9665	1.0590	1.1429	-0.0763	-1042.86	-1197.74	-1118.97
6	593.48	70.0	0.7248	0.6962	534.39	525.40	0.9711	0.9668	1.0332	1.2017	-0.1511	-1042.86	-1197.74	-1118.97
7	577.79	70.0	0.8659	0.8311	534.39	525.40	0.9718	0.9677	1.0060	1.3362	-0.2839	-1042.86	-1197.74	-1118.97

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 562.00 P = 49.60 V = 260.10 OMEGA = 0.211 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 553.20 P = 40.00 V = 311.20 OMEGA = 0.210 OMEGAH = 0.0 DIPOLF = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03  
 2 A = 0.68450E 01 B = 0.12035E 04 C = 0.22286E 03

VAPOR PRESSURE AT NBP  
 P = 760.0 AT T = 80.1  
 P = 759.1 AT T = 80.7

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.70863E 02 B = 0.14907E 01 C = 0.15880E 03  
 2 A = 0.92914E 02 B = -0.24859E 01 C = 0.26157E 03

COMPONENT ID ECHO CHECK

ID NUMBER = 5  
 ID NUMBER = 9

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.31881E 00 B = 0.53840E 00 C = 0.17386E 00  
 STANDARD DEVIATION = 0.12469E 01

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0849  
 AREA BELOW THE X-AXIS IS -0.0932  
 CROSS-OVER POINT IS X = 0.51  
 NORMALIZED AREA DIFFERENCE IS -0.0468  
 CONSISTENCY INDEX IS 4.68

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.3755 G2INF = 1.4821  
 T1INF = 69.98 T2INF = 69.98

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	120.13 148.28	0.1819F-11
2	181.57 82.72	0.4529F-06
3	137.47 132.62	0.9111F-03
4	154.82 111.10	0.6479F-03
5	211.46 47.87	0.7119F-04
6	229.35 24.19	0.6054F-04
7	225.92 32.00	0.6200E-04
8	173.72 91.38	0.3421E-06
9	173.72 91.38	0.3431F-06
10	136.94 132.96	0.5077E-02

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
1.18	0.00253
0.12	0.00203
0.43	0.00232
0.39	0.00220
0.41	0.00202
1.00	0.00196
0.58	0.00204
0.11	0.00208
0.11	0.00208
0.46	0.00232

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	533.40	70.0	0.1250	0.1670	534.74	525.73	0.9726	0.9685	1.3656	0.9851	0.3267	-1042.71	-1197.56	-1118.80
2	579.00	70.0	0.2500	0.2970	534.74	525.73	0.9718	0.9676	1.2469	0.9958	0.2249	-1042.71	-1197.56	-1118.80
3	590.50	70.0	0.3750	0.4120	534.74	525.73	0.9712	0.9670	1.1753	1.0186	0.1431	-1042.71	-1197.56	-1118.80
4	596.60	70.0	0.5000	0.5110	534.74	525.73	0.9709	0.9666	1.1042	1.0694	0.0320	-1042.71	-1197.56	-1118.80
5	596.20	70.0	0.6250	0.6110	534.74	525.73	0.9710	0.9667	1.0555	1.1335	-0.0713	-1042.71	-1197.56	-1118.80
6	519.40	70.0	0.7500	0.7160	534.74	525.73	0.9713	0.9670	1.0194	1.2277	-0.1860	-1042.71	-1197.56	-1118.80
7	570.90	70.0	0.8750	0.8340	534.74	525.73	0.9722	0.9681	0.9868	1.3918	-0.3439	-1042.71	-1197.56	-1118.80

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 562.00	P = 48.60	V = 260.10	OMEGA = 0.211	OMEGA H = 0.0	DIPOLF = 0.0	ETA = 0.0
2	T = 553.20	P = 40.00	V = 311.20	OMEGA = 0.210	OMEGA H = 0.0	DIPOLF = 0.0	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69056E 01	B = 0.12110E 04	C = 0.22079E 03	P = 760.0 AT T = 80.1
2	A = 0.68450E 01	B = 0.12035E 04	C = 0.22286E 03	P = 759.1 AT T = 80.7

MOLECULAR VOLUME EQUATION COEFFICIENTS

1	A = 0.70863E 02	B = 0.14907E 01	C = 0.15880E 03	COMPONENT ID CHECK
2	A = 0.92914E 02	B = -.24859E 01	C = 0.26157E 03	ID NUMBER = 5
				ID NUMBER = 9

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.39196E 00	B = .54337E 00	C = .32748E 00
STANDARD DEVIATION = 0.11399E 01		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.4799	G2INF = 1.6143
T1INF = 70.00	T2INF = 70.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.1153
AREA BELOW THE X-AXIS IS	-0.1041
CROSS-OVER POINT IS X =	0.54
NORMALIZED AREA DIFFERENCE IS	0.0507
CONSISTENCY INDEX IS	5.07

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	154.18	0.9095F-12
2	54.56	0.1593F-03
3	112.18	0.5450F-C2
4	92.56	0.4401E-02
5	56.56	0.1085F-02
6	66.01	0.6311F-04
7	51.65	0.1316F-02
8	75.21	0.7867F-04
9	75.22	0.7866F-04
10	107.84	0.2337F-01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
13.53	0.00301
1.82	0.00894
9.49	0.00360
8.88	0.00346
3.47	0.00657
14.33	0.00177
4.13	0.00615
1.63	0.00855
1.63	0.00855
9.44	0.00354



## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F2CL	PHI1	PHI2	G1	G2	LN(C1/G2)	B11	B22	B12
1	750.00	79.8	0.0770	0.0960	725.56	708.28	0.9665	0.9614	1.2580	1.0063	0.2233	-972.39	-1117.87	-1043.86
2	750.00	79.5	0.0960	0.1180	719.04	702.06	0.9664	0.9613	1.2514	1.0112	0.2131	-974.42	-1120.17	-1046.03
3	760.00	79.3	0.1180	0.1450	713.64	696.92	0.9663	0.9612	1.2604	1.0120	0.2195	-976.12	-1122.09	-1047.84
4	760.00	79.0	0.1450	0.1760	709.35	692.82	0.9662	0.9611	1.2524	1.0120	0.2132	-977.48	-1123.64	-1049.29
5	760.00	78.8	0.1760	0.2080	705.07	688.74	0.9662	0.9610	1.2267	1.0152	0.1893	-978.84	-1125.19	-1050.74
6	760.00	78.7	0.2080	0.2430	701.88	685.70	0.9661	0.9610	1.2181	1.0139	0.1834	-979.87	-1126.35	-1051.84
7	760.00	78.5	0.2450	0.2800	697.64	681.65	0.9660	0.9609	1.1987	1.0176	0.1639	-981.24	-1127.91	-1053.30
8	760.00	78.3	0.2800	0.3140	692.36	676.62	0.9659	0.9608	1.1851	1.0241	0.1460	-982.96	-1129.85	-1055.13
9	760.00	78.1	0.3140	0.3460	689.22	673.61	0.9659	0.9607	1.1697	1.0292	0.1280	-983.99	-1131.03	-1056.23
10	760.00	77.9	0.3460	0.3750	686.08	670.62	0.9658	0.9607	1.1557	1.0363	0.1091	-985.03	-1132.20	-1057.33
11	760.00	77.8	0.3750	0.4020	683.99	668.62	0.9658	0.9607	1.1466	1.0406	0.0970	-985.72	-1132.99	-1058.07
12	760.00	77.8	0.4020	0.4260	681.91	666.64	0.9658	0.9606	1.1368	1.0470	0.0824	-986.41	-1133.77	-1058.81
13	760.00	77.6	0.5070	0.5120	678.80	663.66	0.9657	0.9606	1.0883	1.0845	0.0035	-987.45	-1134.95	-1059.92
14	760.00	77.6	0.5120	0.5160	678.80	663.66	0.9657	0.9606	1.0861	1.0866	-0.0005	-987.45	-1134.95	-1059.92
15	760.00	77.6	0.5160	0.5190	678.80	663.66	0.9657	0.9606	1.0839	1.0888	-0.0045	-987.45	-1134.95	-1059.92
16	760.00	77.5	0.5190	0.5220	677.76	662.68	0.9657	0.9606	1.0855	1.0903	-0.0044	-987.79	-1135.34	-1060.29
17	760.00	77.5	0.5220	0.5240	677.76	662.68	0.9657	0.9606	1.0834	1.0926	-0.0084	-987.79	-1135.34	-1060.29
18	760.00	77.5	0.5240	0.5260	677.76	662.68	0.9657	0.9606	1.0834	1.0926	-0.0084	-987.79	-1135.34	-1060.29
19	760.00	77.6	0.6280	0.6120	679.82	664.66	0.9657	0.9606	1.0486	1.1410	-0.0845	-987.10	-1134.56	-1059.55
20	760.00	77.7	0.6450	0.6280	680.87	665.65	0.9657	0.9606	1.0461	1.1447	-0.0901	-986.75	-1134.16	-1059.18
21	760.00	77.8	0.6630	0.6450	681.91	666.64	0.9657	0.9606	1.0436	1.1490	-0.0962	-986.41	-1133.77	-1058.81
22	760.00	77.8	0.6850	0.6630	682.95	667.63	0.9658	0.9607	1.0367	1.1652	-0.1168	-986.06	-1133.38	-1058.44
23	760.00	77.9	0.7120	0.6850	685.03	669.62	0.9658	0.9607	1.0274	1.1878	-0.1450	-985.37	-1132.59	-1057.70
24	760.00	78.0	0.7420	0.7120	687.12	671.61	0.9658	0.9608	1.0217	1.2087	-0.1681	-984.68	-1131.81	-1056.97
25	760.00	78.0	0.7750	0.7440	688.17	672.61	0.9658	0.9608	1.0206	1.2302	-0.1868	-984.34	-1131.42	-1056.60
26	760.00	78.3	0.8060	0.7750	693.42	677.62	0.9659	0.9609	1.0146	1.2449	-0.2046	-982.61	-1129.47	-1054.76
27	760.00	78.5	0.8360	0.8060	698.70	682.66	0.9660	0.9610	1.0097	1.2604	-0.2218	-980.90	-1127.52	-1052.93
28	760.00	78.8	0.8650	0.8360	704.91	687.73	0.9661	0.9611	1.0046	1.2850	-0.2462	-979.19	-1125.58	-1051.11
29	760.00	79.0	0.8920	0.8650	709.35	692.82	0.9662	0.9612	1.0005	1.3127	-0.2716	-977.48	-1123.64	-1049.29
30	760.00	79.3	0.9160	0.8920	713.64	696.92	0.9662	0.9613	0.9987	1.3423	-0.2957	-976.12	-1122.09	-1047.84

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 562.00 P = 48.60 V = 260.10  $\Omega$ MEGA = 0.211  $\Omega$ MEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 553.20 P = 49.00 V = 311.20  $\Omega$ MEGA = 0.210  $\Omega$ MEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03  
 2 A = 0.68450E 01 B = 0.12035E 04 C = 0.22286E 03

VAPOR PRESSURE AT NBP

P = 760.0 AT T = 80.1  
 P = 759.1 AT T = 80.7

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.70863E 02 B = 0.14907E-01 C = 0.15880E-03  
 2 A = 0.92914E 02 B = 0.24859E-01 C = 0.26157E-03

COMPONENT ID CHECK

ID NUMBER = 5  
 ID NUMBER = 9

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.26743E 00 B = -0.38930E 00 C = -0.24724E 00  
 STANDARD DEVIATION = 0.75677E-02

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0748  
 AREA BELOW THE X-AXIS IS -0.0845  
 CROSS-OVER POINT IS X = 0.52  
 NORMALIZED AREA DIFFERENCE IS -0.0604  
 HERINGTON J-FACTOR IS 1.36  
 CONSISTENCY INDEX IS 4.68

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.3066 G2INF = 1.4464  
 T1INF = 80.74 T2INF = 80.10

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION
1	45.86	219.56	0.9095E-12
2	217.22	26.43	0.9335E-04
3	100.46	154.99	0.4032E-02
4	110.74	142.30	0.2924E-02
5	180.53	65.19	0.2919E-03
6	167.06	76.70	0.1863E-03
7	186.59	58.34	0.3282E-03
8	210.82	33.10	0.8256E-04
9	211.02	32.87	0.8254E-04
10	96.03	159.97	0.6308E-02

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

	PRESSURE	COMPOSITION
1	3.53	0.00242
2	0.98	0.00154
3	2.04	0.00182
4	1.93	0.00174
5	0.95	0.00133
6	1.40	0.00141
7	0.95	0.00131
8	0.97	0.00146
9	0.97	0.00147
10	2.16	0.00186

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	79.5	0.1010	0.1310	719.04	702.06	0.9664	0.9613	1.3205	1.0018	0.2762	-974.42	-1120.17	-1046.03
2	760.00	78.9	0.1710	0.2110	706.14	689.76	0.9662	0.9610	1.2789	1.0038	0.2422	-978.50	-1124.80	-1050.38
3	760.00	78.4	0.2560	0.2930	695.53	679.63	0.9660	0.9609	1.2041	1.0169	0.1689	-981.93	-1128.69	-1054.03
4	760.00	77.8	0.3430	0.3760	682.95	667.63	0.9658	0.9606	1.1742	1.0344	0.1268	-986.06	-1133.38	-1058.44
5	760.00	77.5	0.4280	0.4450	676.72	661.69	0.9657	0.9605	1.1238	1.0661	0.0527	-988.14	-1135.74	-1060.66
6	760.00	77.4	0.5250	0.5290	674.66	659.72	0.9656	0.9605	1.0924	1.0928	-0.0003	-988.84	-1136.52	-1061.40
7	760.00	77.4	0.5710	0.5640	674.66	659.72	0.9656	0.9605	1.0709	1.1200	-0.0449	-988.84	-1136.52	-1061.40
8	760.00	77.6	0.6650	0.6450	678.80	663.66	0.9657	0.9606	1.0452	1.1610	-0.1051	-987.45	-1134.95	-1059.92
9	760.00	77.9	0.7590	0.7280	685.03	669.62	0.9658	0.9607	1.0243	1.2257	-0.1795	-985.37	-1132.59	-1057.70
10	760.00	78.2	0.8100	0.7770	691.32	675.62	0.9659	0.9608	1.0152	1.2635	-0.2188	-983.30	-1130.25	-1055.50
11	760.00	78.6	0.8630	0.8340	699.76	683.67	0.9660	0.9610	1.0106	1.2892	-0.2435	-980.55	-1127.13	-1052.57
12	760.00	79.3	0.9450	0.9260	714.72	697.94	0.9662	0.9613	1.0035	1.4027	-0.3349	-975.78	-1121.71	-1047.48

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 562.00 P = 48.60 V = 260.10  $\Omega$ MEGA = 0.211  $\Omega$ MEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 553.20 P = 40.00 V = 311.20  $\Omega$ MEGA = 0.210  $\Omega$ MEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03 P = 760.0 AT T = 80.1  
 2 A = 0.68450E 01 B = 0.12035E 04 C = 0.22286E 03 P = 759.1 AT T = 80.7

MOLEAR VOLUME EQUATION COEFFICIENTS

1 A = 0.70863E 02 B = 0.14907E-01 C = 0.15880E-03 COMPONENT ID: ECHO CHECK  
 2 A = 0.92914E 02 B = 0.24859E 01 C = 0.26157E 03 ID NUMBER = 9

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.33972E 00 B = -.60393E 00 C = -.10398E 00  
 STANDARD DEVIATION = 0.90365E 02

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.4045 G2INF = 1.4451  
 T1INF = 80.74 T2INF = 80.10

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0901  
 AREA BELOW THE X-AXIS IS 0.0870  
 CROSS-OVER POINT IS X = 0.52  
 NORMALIZED AREA DIFFERENCE IS 0.0174  
 HERINGTON J-FACTOR IS 1.43  
 CONSISTENCY INDEX IS 0.32

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	211.35	50.83	0.1819F-11	1.24	0.00128
2	171.41	152.02	0.2597E-04	1.00	0.00156
3	182.76	81.47	0.1030F-02	0.99	0.00126
4	183.39	80.31	0.6713F-03	1.00	0.00126
5	164.33	100.55	0.9625E-04	0.92	0.00128
6	188.18	74.68	0.5363F-04	1.04	0.00125
7	163.69	101.61	0.8230F-04	0.91	0.00127
8	126.27	145.96	0.2960F-04	0.98	0.00149
9	126.29	145.94	0.2960E-04	0.98	0.00149
10	186.74	77.35	0.2835F-02	1.02	0.00127

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	89.50	25.0	0.1000	0.3970	94.39	58.30	0.9953	0.9907	3.7449	1.0187	1.3019	-1527.45	-2161.86	-1094.33
2	106.50	25.0	0.2000	0.5300	94.39	58.30	0.9932	0.9900	2.9679	1.0621	1.0276	-1527.45	-2161.86	-1094.33
3	115.70	25.0	0.3000	0.5940	94.39	58.30	0.9920	0.9898	2.4063	1.1389	0.7480	-1527.45	-2161.86	-1094.33
4	120.80	25.0	0.4000	0.6320	94.39	58.30	0.9914	0.9898	2.0035	1.2574	0.4658	-1527.45	-2161.86	-1094.33
5	123.50	25.0	0.5000	0.6580	94.39	58.30	0.9910	0.9900	1.7053	1.4338	0.1735	-1527.45	-2161.86	-1094.33
6	124.40	25.0	0.6000	0.6720	94.39	58.30	0.9909	0.9901	1.4617	1.7316	-0.1694	-1527.45	-2161.86	-1094.33
7	124.90	25.0	0.7000	0.6880	94.39	58.30	0.9907	0.9902	1.2877	2.2054	-0.5381	-1527.45	-2161.86	-1094.33
8	124.50	25.0	0.8000	0.7000	94.39	58.30	0.9907	0.9904	1.1426	3.1713	-1.0208	-1527.45	-2161.86	-1094.33
9	121.20	25.0	0.9000	0.7400	94.39	58.30	0.9907	0.9913	1.0453	5.3556	-1.6338	-1527.45	-2161.86	-1094.33

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 562.00	P = 48.60	V = 260.10	OMEGA = 0.211	OMEGA H = 0.0	DIPCLE = 0.0	ETA = 0.0
2	T = 516.00	P = 63.00	V = 161.30	OMEGA = 0.637	OMEGA H = 0.152	DIPCLE = 1.69	ETA = 1.10

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69056E 01	B = 0.12110E 04	C = 0.22079E 03
2	A = 0.80449E 01	B = 0.15543E 04	C = 0.22265E 03

VAPOR PRESSURE AT NBP

P = 760.0	AT T = 80.1
P = 762.1	AT T = 78.4

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.70863E 02	B = 0.14907E 01	C = 0.15880E 03
2	A = 0.53701E 02	B = -0.31109E 01	C = 0.16000E 03

COMPONENT ID ECHO CHECK

ID NUMBER = 5
ID NUMBER = 11

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.14117E 01	B = -0.14125E 01	C = -0.21034E 01
STANDARD DEVIATION = 0.57608E 01		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 4.1031	G2INF = 8.2001
T1INF = 25.00	T2INF = 25.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.4462
AREA BELOW THE X-AXIS IS	-0.4418
CROSS-OVER POINT IS X =	0.55
NORMALIZED AREA DIFFERENCE IS	0.0049
CONSISTENCY INDEX IS	0.49

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION
1		107.69	1228.11
2		194.23	1550.85
3		171.47	1638.01
4		183.50	1595.84
5		180.95	1588.74
6		187.09	1577.37
7		184.86	1571.71
8		174.27	1606.71
9		174.25	1606.78
10		167.16	1644.70

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

	PRESSURE	COMPOSITION
	7.66	0.02216
	0.26	0.00288
	0.25	0.00326
	0.20	0.00288
	0.15	0.00282
	0.18	0.00286
	0.18	0.00283
	0.15	0.00290
	0.15	0.00290
	0.20	0.00336

BENZENE(1) ETIANDL(2)

SYSTEM 015R

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	75.5	0.0300	0.1420	637.32	653.20	0.9840	0.9582	5.5357	0.9840	1.7274	-1001.84	-1210.39	-741.63
2	760.00	72.3	0.0650	0.2440	575.58	574.30	0.9794	0.9573	4.8382	1.0221	1.5547	-1025.43	-1254.45	-758.01
3	760.00	70.4	0.1140	0.3090	541.68	531.89	0.9765	0.9572	3.7012	1.0644	1.2463	-1039.67	-1281.07	-767.88
4	760.00	68.7	0.2160	0.3740	512.66	496.14	0.9738	0.9575	2.4911	1.1685	0.7570	-1052.70	-1305.46	-776.89
5	760.00	68.1	0.3170	0.4100	503.54	485.00	0.9724	0.9580	1.8918	1.2939	0.3799	-1056.98	-1313.46	-779.85
6	760.00	68.0	0.4060	0.4350	501.07	482.00	0.9715	0.9585	1.5734	1.4343	0.0926	-1058.16	-1315.65	-780.66
7	760.00	68.0	0.5440	0.4800	501.07	482.00	0.9701	0.9597	1.2939	1.7217	-0.2857	-1058.16	-1315.65	-780.66
8	760.00	68.4	0.6390	0.5150	508.50	491.05	0.9691	0.9609	1.1635	1.9937	-0.5386	-1054.65	-1309.09	-778.23
9	760.00	69.4	0.7490	0.5750	524.46	510.61	0.9678	0.9633	1.0731	2.4223	-0.8142	-1047.30	-1295.35	-773.16
10	760.00	70.6	0.8280	0.6420	545.17	536.23	0.9667	0.9661	1.0414	2.8437	-1.0045	-1038.15	-1278.24	-766.83
11	760.00	72.7	0.8960	0.7400	582.92	583.57	0.9658	0.9706	1.0364	3.1533	-1.1127	-1022.47	-1248.97	-755.96
12	760.00	74.8	0.9430	0.8370	622.64	634.26	0.9654	0.9754	1.0424	3.3349	-1.1629	-1007.20	-1220.39	-745.35
13	760.00	76.1	0.9680	0.9000	649.26	668.68	0.9654	0.9785	1.0472	3.4680	-1.1974	-997.59	-1202.45	-738.67
14	760.00	77.1	0.9840	0.9480	669.52	695.14	0.9656	0.9810	1.0525	3.4782	-1.1954	-990.58	-1189.36	-733.78

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 562.00	P = 48.60	V = 260.10	OMEGA = 0.211	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0
2	T = 516.00	P = 63.00	V = 161.30	OMEGA = 0.637	OMEGA H = 0.152	DIPOLE = 1.69	ETA = 1.10

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69056E 01	B = 0.12110E 04	C = 0.22079E 03	P = 760.0 AT T = 80.1
2	A = 0.80449E 01	B = 0.15543E 04	C = 0.22265E 03	P = 762.1 AT T = 78.4

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.70863E 02	B = 0.14907E 01	C = 0.15880E 03	COMPONENT ID CHECK
2	A = 0.53701E 02	B = -0.31109E 01	C = 0.16000E 03	ID NUMBER = 5
				ID NUMBER = 11

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.18359E 01	B = -0.51060E 01	C = 0.20507E 01
STANDARD DEVIATION = 0.40953E 01		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1 INF = 6.2707	G2 INF = 3.3850
T1 INF = 78.33	T2 INF = 80.10

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.3718
AREA BELOW THE X-AXIS IS	-0.4053
CROSS-CURVE POINT IS X =	0.44
NORMALIZED AREA DIFFERENCE IS	-0.0431
HERINGTON J-FACTOR IS	4.54
CONSISTENCY INDEX IS	-0.23

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	729.69	615.03	0.1328E-08	33.71	0.01263
2	851.57	752.74	0.5935E-02	16.66	0.01493
3	768.33	678.91	0.2090E-00	20.57	0.00890
4	758.17	673.45	0.3164E-01	19.27	0.00859
5	792.74	730.04	0.9090E-02	10.56	0.01174
6	882.98	631.92	0.2142E-02	20.31	0.00767
7	879.05	678.68	0.9197E-02	13.78	0.01003
8	669.24	836.51	0.2761E-02	8.23	0.01651
9	669.51	836.43	0.2762E-02	8.23	0.01651
10	772.24	676.76	0.6158E-02	20.63	0.00883

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	154.7	0.0299	0.2900	4173.51	615.67	0.9758	0.9766	1.7183	0.8800	0.6692	-621.08	-783.57	-928.32
2	760.00	130.0	0.1271	0.6832	2581.39	269.30	0.9770	0.9651	1.5413	0.9857	0.4470	-710.89	-915.05	-1070.10
3	760.00	121.7	0.1740	0.7789	2155.11	195.02	0.9762	0.9601	1.5362	0.9786	0.4509	-745.64	-971.61	-1125.87
4	760.00	105.7	0.3274	0.9020	1476.09	106.87	0.9734	0.9497	1.3764	0.9812	0.3384	-820.81	-1104.89	-1248.29
5	760.00	100.5	0.4675	0.9297	1293.11	86.30	0.9722	0.9462	1.1327	1.0969	0.0321	-847.93	-1156.66	-1293.09
6	760.00	94.1	0.6167	0.9599	1091.32	65.76	0.9706	0.9415	1.0487	1.1349	-0.0790	-883.41	-1227.33	-1352.20
7	760.00	90.6	0.7079	0.9690	991.34	56.45	0.9697	0.9390	1.0143	1.3377	-0.2768	-903.88	-1269.61	-1386.57
8	760.00	87.1	0.7945	0.9804	898.34	48.31	0.9687	0.9363	1.0080	1.4007	-0.3290	-925.16	-1314.74	-1422.52
9	760.00	84.0	0.8750	0.9891	821.56	41.58	0.9677	0.9339	1.0087	1.4699	-0.3766	-944.72	-1357.30	-1455.75
10	760.00	82.7	0.9248	0.9933	790.88	39.55	0.9673	0.9328	0.9951	1.5923	-0.4700	-953.14	-1375.91	-1470.11

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 562.00	P = 48.60	V = 260.10	OMEGA = 0.211	OMEGA H = 0.0	DIPOLF = 0.0	ETA = 0.0
2	T = 656.00	P = 38.40	V = 375.20	OMEGA = 0.292	OMEGA H = 0.270	DIPCLE = 2.00	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69056E 01	B = 0.12110E 04	C = 0.22079E 03
2	A = 0.87299E 01	B = 0.25378E 04	C = 0.27315E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.70863E 02	B = 0.14907E 01	C = 0.15880E 03
2	A = 0.63207E 02	B = 0.58328E 01	C = 0.29602E 04

VAPOR PRESSURE AT NBP

P = 760.0	AT T = 80.1
P = 785.6	AT T = 161.8

COMPONENT ID CHECK

ID NUMBER = 5
ID NUMBER = 15

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.68660E 00	B = -0.13805E 01	C = 0.14387E 00
STANDARD DEVIATION = 0.53570E 01		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.9869	G2INF = 1.7333
T1INF = 160.73	T2INF = 80.10

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.1772
AREA BELOW THE X-AXIS IS	-0.1328
CROSS-OVER POINT IS X =	0.53
NORMALIZED AREA DIFFERENCE IS	-0.1430
HERINGTON J-FACTOR IS	34.24
CONSISTENCY INDEX IS	-19.94

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	556.98 38.31	0.0
2	-121.01 467.07	0.1452E-01
3	393.41 95.79	0.6901E-01
4	331.05 134.42	0.5728E-01
5	321.07 165.93	0.1843E-01
6	331.72 258.21	0.7237E-03
7	413.55 116.39	0.1735E-01
8	281.55 183.91	0.1445E-01
9	270.36 154.62	0.1552E-01
10	379.53 101.21	0.7060E-01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
25.54	0.00496
34.35	0.01699
21.52	0.00756
22.28	0.00828
22.55	0.00700
34.22	0.00437
23.19	0.00543
20.11	0.00781
22.73	0.00791
21.40	0.00790



BENZENE(1) HEPTANE(2)

SYSTEM 021A

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F2CL	PH11	PH12	G1	G2	LN(G1/G2)	B11	B22	B12
1	454.62	80.0	0.0464	0.0988	729.92	412.00	0.9813	0.9640	1.2988	1.0020	0.2595	-971.04	-1744.29	-1321.53
2	476.25	80.0	0.0861	0.1729	729.92	412.00	0.9802	0.9623	1.2816	1.0033	0.2448	-971.04	-1744.29	-1321.53
3	534.38	80.0	0.2004	0.3473	729.92	412.00	0.9773	0.9579	1.2370	1.0103	0.2025	-971.04	-1744.29	-1321.53
4	569.49	80.0	0.2792	0.4412	729.92	412.00	0.9755	0.9553	1.1998	1.0195	0.1628	-971.04	-1744.29	-1321.53
5	613.53	80.0	0.3842	0.5464	729.92	412.00	0.9734	0.9520	1.1605	1.0397	0.1099	-971.04	-1744.29	-1321.53
6	650.16	80.0	0.4857	0.6304	729.92	412.00	0.9717	0.9494	1.1201	1.0717	0.0442	-971.04	-1744.29	-1321.53
7	679.74	80.0	0.5824	0.7009	729.92	412.00	0.9702	0.9474	1.0842	1.1140	-0.0271	-971.04	-1744.29	-1321.53
8	708.78	80.0	0.6904	0.7759	729.92	412.00	0.9689	0.9454	1.0541	1.1712	-0.1054	-971.04	-1744.29	-1321.53
9	729.77	80.0	0.7842	0.8384	729.92	412.00	0.9679	0.9440	1.0313	1.2456	-0.1888	-971.04	-1744.29	-1321.53
10	748.46	80.0	0.8972	0.9149	729.92	412.00	0.9670	0.9430	1.0078	1.4105	-0.3361	-971.04	-1744.29	-1321.53

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 562.00	P = 49.60	V = 260.10	OMEGA = 0.211	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0
2	T = 540.20	P = 27.60	V = 431.90	OMEGA = 0.349	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69056E 01	B = 0.12110E 04	C = 0.22079E 03	P = 760.0 AT T = 80.1
2	A = 0.69024E 01	B = 0.12681E 04	C = 0.21690E 03	P = 759.4 AT T = 98.4

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.70863E 02	B = 0.14907E -01	C = 0.15880E -03	COMPONENT ID ECHO CHECK
2	A = 0.12880E 03	B = -0.60277E -01	C = 0.41160E -03	ID NUMBER = 5
				ID NUMBER = -16

MIXTURE PROPERTIES

ACTIVITY-RATIO EQUATION COEFFICIENTS

A = 0.26534E 00	B = -0.20521E 00	C = -0.50119E 00
STANDARD DEVIATION = 0.92806E -02		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.3039	G2INF = 1.5544
T1INF = 80.00	T2INF = 80.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.0871
AREA BELOW THE X-AXIS IS	-0.0914
CROSS-OVER POINT IS X =	0.55
NORMALIZED AREA DIFFERENCE IS	-0.0242
CONSISTENCY INDEX IS	2.42

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	177.77	0.1819E -11
2	185.06	0.3364E -05
3	164.48	0.5559E -03
4	171.43	0.4153E -03
5	191.34	0.5237E -04
6	215.19	0.1612E -04
7	195.10	0.4405E -04
8	170.47	0.4099E -05
9	170.62	0.4028E -05
10	165.15	0.1934E -02

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
3.67	0.00156
0.61	0.00165
0.44	0.00144
0.53	0.00136
0.66	0.00125
2.11	0.00067
0.89	0.00113
0.33	0.00152
0.33	0.00152
0.42	0.00145

BENZENE(1) - HEPTANE(2)

SYSTEM 021B

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	130.00	51.5	0.1000	0.2450	281.85	147.92	0.9898	0.9805	1.5475	0.9996	0.4370	-1202.90	-2199.98	-1653.94
2	130.00	48.3	0.2000	0.4040	249.92	129.93	0.9892	0.9798	1.4380	1.0099	0.3534	-1235.15	-2263.81	-1700.41
3	130.00	45.9	0.3000	0.5160	227.92	117.63	0.9888	0.9793	1.3420	1.0347	0.2601	-1260.38	-2313.82	-1736.81
4	130.00	44.2	0.4000	0.6030	213.30	109.51	0.9885	0.9790	1.2565	1.0633	0.1670	-1278.82	-2350.42	-1763.43
5	130.00	42.8	0.5000	0.6720	201.82	103.16	0.9883	0.9787	1.1836	1.1187	0.0565	-1294.39	-2381.33	-1785.92
6	130.00	41.7	0.6000	0.7340	193.16	98.39	0.9881	0.9785	1.1255	1.1888	0.0547	-1306.86	-2406.11	-1803.94
7	130.00	40.9	0.7000	0.7900	187.05	95.03	0.9879	0.9784	1.0721	1.2953	-0.1892	-1316.08	-2424.43	-1817.26
8	130.00	40.4	0.8000	0.8480	183.31	92.98	0.9879	0.9783	1.0274	1.4373	-0.3358	-1321.90	-2435.59	-1825.67
9	130.00	39.8	0.9000	0.9140	178.90	90.57	0.9878	0.9783	1.0084	1.6697	-0.5042	-1328.94	-2450.00	-1835.86

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 562.00 P = 48.60 V = 260.10 OMEGA = 0.211 OMEGAH = 0.0 DIPCLE = 0.0 ETA = 0.0  
 2 T = 540.20 P = 27.00 V = 431.90 OMEGA = 0.349 OMEGAH = 0.0 DIPCLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03 P = 760.0 AT T = 80.1  
 2 A = 0.69024E 01 B = 0.12681E 04 C = 0.21690E 03 P = 759.4 AT T = 98.4

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.70863E 02 B = 0.14907E-01 C = 0.15880E-03 COMPONENT ID CHECK  
 2 A = 0.12880E 03 B = -.60277E-01 C = 0.41160E-03 ID NUMBER = 5  
 ID NUMBER = 16

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.49411E 00 B = -.57837E 00 C = -.58044E 00  
 STANDARD DEVIATION = 0.70511E-02

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.6390 G2INF = 1.9439  
 T1INF = 55.98 T2INF = 39.63

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.1521  
 AREA BELOW THE X-AXIS IS -0.1406  
 CROSS-OVER POINT IS X = 0.55  
 NORMALIZED AREA DIFFERENCE IS 0.0391  
 HERINGTON J-FACTOR IS 7.84  
 CONSISTENCY INDEX IS -3.93

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)	PRESSURE	COMPOSITION
1	362.77	52.46	0.9095E-12		0.25	0.00386
2	339.50	69.66	0.3344E-04		0.71	0.00415
3	342.79	81.47	0.3320E-02		0.28	0.00340
4	324.44	105.83	0.1904E-02		0.40	0.00317
5	328.31	103.69	0.2926E-03		0.41	0.00312
6	288.56	186.09	0.8748E-04		1.36	0.00184
7	316.53	125.88	0.1966E-03		0.59	0.00277
8	370.22	42.63	0.3759E-04		0.28	0.00400
9	370.09	42.69	0.3759E-04		0.28	0.00400
10	344.17	80.12	0.4353E-02		0.28	0.00341

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2QL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	400.00	73.9	0.1000	0.2180	605.37	336.94	0.9822	0.9663	1.4123	0.9938	0.3514	-1013.70	-1827.65	-1382.44
2	400.00	79.5	0.2000	0.3730	543.42	300.00	0.9812	0.9652	1.3447	1.0057	0.2905	-1038.91	-1877.04	-1418.50
3	400.00	89.0	0.3000	0.4900	501.07	274.52	0.9805	0.9644	1.2762	1.0193	0.2248	-1058.16	-1914.79	-1446.05
4	400.00	96.0	0.4000	0.5830	469.07	256.07	0.9800	0.9638	1.2158	1.0432	0.1531	-1074.01	-1945.92	-1468.77
5	400.00	104.4	0.5000	0.6600	444.63	241.74	0.9795	0.9633	1.1611	1.0807	0.0718	-1087.00	-1971.45	-1487.39
6	400.00	113.3	0.6000	0.7270	428.41	232.26	0.9792	0.9630	1.1058	1.1286	-0.0203	-1096.10	-1989.33	-1500.44
7	400.00	122.1	0.7000	0.7880	411.24	222.25	0.9789	0.9626	1.0699	1.2207	-0.1318	-1106.17	-2009.15	-1514.89
8	400.00	131.4	0.8000	0.8490	401.48	216.57	0.9787	0.9625	1.0330	1.3382	-0.2589	-1112.13	-2020.87	-1523.43
9	400.00	140.8	0.9000	0.9160	393.26	211.80	0.9786	0.9625	1.0112	1.5224	-0.4091	-1117.28	-2031.00	-1530.83

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 562.60	P = 48.60	V = 260.10	OMEGA = 0.211	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0
2	T = 540.20	P = 27.00	V = 431.90	OMEGA = 0.349	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69056E 01	B = 0.12110E 04	C = 0.22079E 03	P = 760.0 AT T = 80.1
2	A = 0.69024E 01	B = 0.12681E 04	C = 0.21690E 03	P = 759.4 AT T = 98.4

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.70863E 02	B = 0.14907E 01	C = 0.15880E 03	ID NUMBER = 5
2	A = 0.12880E 03	B = -0.60277E -01	C = 0.41160E -03	ID NUMBER = 16

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.37921E 00	B = -0.29841E 00	C = -0.63111E 00
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INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.4611	G2INF = 1.7338
T1INF = 77.99	T2INF = 60.61

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.1287
AREA BELOW THE X-AXIS IS	-0.1091
CROSS-OVER POINT IS X =	0.57
NORMALIZED AREA DIFFERENCE IS	0.0826
HERINGTON J-FACTOR IS	7.81
CONSISTENCY INDEX IS	0.45

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	305.00 60.59	0.9095E-12
2	217.74 190.22	0.5451E-04
3	263.40 129.23	0.4909E-02
4	236.96 170.45	0.3152E-02
5	218.24 211.43	0.3807E-03
6	179.68 311.93	0.1595E-03
7	206.15 238.99	0.2654E-03
8	260.76 136.55	0.4788E-04
9	260.76 136.55	0.4789E-04
10	263.84 128.56	0.1070E-01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
1.44	0.00554
1.45	0.00446
0.89	0.00474
0.90	0.00439
0.97	0.00384
3.20	0.00239
1.43	0.00348
0.74	0.00461
0.74	0.00461
0.89	0.00474

SUMMARY VLF DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	97.4	0.0230	0.0480	1192.24	697.49	0.9737	0.9494	1.2912	1.0026	0.2530	-864.82	-1537.71	-1170.34
2	760.00	94.0	0.1160	0.2170	1088.36	632.58	0.9722	0.9478	1.2658	1.0032	0.2325	-883.98	-1574.87	-1197.56
3	760.00	91.7	0.1920	0.3250	1022.00	591.30	0.9712	0.9467	1.2185	1.0111	0.1866	-897.36	-1600.83	-1216.57
4	760.00	92.9	0.1510	0.2690	1056.24	612.58	0.9717	0.9473	1.2415	1.0065	0.2098	-890.34	-1587.21	-1206.59
5	760.00	90.3	0.2440	0.3900	983.10	567.20	0.9706	0.9461	1.1954	1.0174	0.1612	-905.67	-1616.98	-1228.39
6	760.00	87.9	0.3420	0.5020	916.39	526.01	0.9695	0.9450	1.1764	1.0278	0.1351	-920.83	-1646.46	-1249.97
7	760.00	86.6	0.4060	0.5610	885.60	507.06	0.9691	0.9445	1.1453	1.0406	0.0959	-928.27	-1660.92	-1260.55
8	760.00	84.1	0.3320	0.4870	924.21	530.83	0.9697	0.9451	1.1658	1.0336	0.1204	-918.99	-1642.87	-1247.35
9	760.00	88.0	0.3340	0.4940	921.60	529.22	0.9696	0.9451	1.1788	1.0256	0.1392	-919.60	-1644.06	-1248.22
10	760.00	88.3	0.3230	0.4830	929.45	534.06	0.9697	0.9452	1.1819	1.0217	0.1457	-917.77	-1640.49	-1245.60
11	760.00	85.7	0.4480	0.5990	863.03	493.20	0.9687	0.9441	1.1368	1.0511	0.0784	-933.91	-1671.90	-1268.59
12	760.00	84.1	0.5490	0.6790	823.96	469.27	0.9681	0.9435	1.1007	1.0816	-0.0175	-944.08	-1691.72	-1283.08
13	760.00	83.2	0.6100	0.7230	802.58	456.20	0.9677	0.9431	1.0826	1.1099	-0.0249	-949.85	-1703.03	-1291.36
14	760.00	82.4	0.6750	0.7680	783.92	444.83	0.9674	0.9428	1.0636	1.1437	-0.0726	-955.10	-1713.20	-1298.79
15	760.00	82.1	0.6990	0.7820	777.01	440.62	0.9673	0.9427	1.0550	1.1713	-0.1046	-957.07	-1717.04	-1301.60
16	760.00	81.8	0.7290	0.8020	770.15	436.44	0.9672	0.9426	1.0465	1.1928	-0.1308	-959.05	-1720.89	-1304.41
17	760.00	81.6	0.7450	0.8130	765.60	433.67	0.9671	0.9426	1.0442	1.2047	-0.1430	-960.37	-1723.46	-1306.30
18	760.00	81.3	0.7680	0.8270	758.81	429.54	0.9670	0.9425	1.0395	1.2367	-0.1737	-962.35	-1727.34	-1309.13
19	760.00	80.9	0.8250	0.8640	749.33	424.08	0.9668	0.9424	1.0229	1.3053	-0.2438	-965.01	-1732.52	-1312.92
20	760.00	80.6	0.8810	0.9010	743.15	420.02	0.9667	0.9424	1.0077	1.4109	-0.3365	-967.02	-1736.43	-1315.78
21	760.00	80.4	0.9030	0.9220	738.72	417.34	0.9666	0.9424	1.0120	1.3725	-0.3046	-968.36	-1739.05	-1317.69
22	760.00	80.2	0.9400	0.9490	734.32	414.66	0.9666	0.9424	1.0066	1.4601	-0.3720	-969.70	-1741.67	-1319.61

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 562.00 P = 48.60 V = 260.10 OMEGA = 0.211 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 540.20 P = 27.00 V = 431.90 OMEGA = 0.349 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03 P = 760.0 AT T = 80.1  
 2 A = 0.69024E 01 B = 0.12681E 04 C = 0.21690E 03 P = 759.4 AT T = 98.4

MOLEAR VOLUME EQUATION COEFFICIENTS

1 A = 0.70863E 02 B = 0.14907E-01 C = 0.15880E-03 COMPONENT ID CHECK  
 2 A = 0.12880E 03 B = -0.60277E-01 C = 0.41160E-03 ID NUMBER = 5  
 ID NUMBER = 16

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.23865E 00 B = -0.98894E-01 C = -0.57775E 00  
 STANDARD DEVIATION = 0.15117E-01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.2695 G2INF = 1.5496  
 T1INF = 98.43 T2INF = 80.10

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0843  
 AREA BELOW THE X-AXIS IS -0.0877  
 CROSS-OVER POINT IS X = 0.56  
 NORMALIZED AREA DIFFERENCE IS -0.0197  
 HERRINGTON J-FACTOR IS 7.78  
 CONSISTENCY INDEX IS -5.82

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	165.65	169.50	0.9095E-12	6.03	0.00184
2	153.34	234.36	0.5228E-04	1.14	0.00163
3	177.42	179.86	0.4276E-02	1.83	0.00140
4	174.00	185.61	0.2509E-02	1.82	0.00136
5	145.21	242.08	0.2450E-03	1.13	0.00137
6	155.61	207.82	0.1165E-03	3.01	0.00127
7	140.15	248.81	0.2318E-03	1.33	0.00132
8	139.36	256.86	0.6074E-04	1.03	0.00152
9	139.37	256.85	0.5961E-04	1.03	0.00152
10	174.66	184.41	0.5827E-02	1.83	0.00137

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	68.7	0.0800	0.0780	512.66	719.95	0.9623	0.9532	1.3862	1.0034	0.3232	-1052.70	-1311.84	-1185.40
2	760.00	68.8	0.0820	0.0800	513.50	721.04	0.9623	0.9532	1.3849	1.0019	0.3237	-1052.32	-1311.35	-1184.97
3	760.00	68.8	0.0850	0.0820	513.50	721.04	0.9623	0.9532	1.3694	1.0030	0.3114	-1052.32	-1311.35	-1184.97
4	760.00	68.8	0.0880	0.0850	514.33	722.12	0.9623	0.9532	1.3689	1.0015	0.3125	-1051.93	-1310.87	-1184.53
5	760.00	68.8	0.0910	0.0880	514.33	722.12	0.9623	0.9532	1.3705	1.0015	0.3136	-1051.93	-1310.87	-1184.53
6	760.00	68.8	0.0950	0.0910	514.33	722.12	0.9623	0.9532	1.3575	1.0026	0.3030	-1051.93	-1310.87	-1184.53
7	760.00	68.8	0.1440	0.1370	515.17	723.21	0.9624	0.9533	1.3462	1.0049	0.2924	-1051.54	-1310.39	-1184.10
8	760.00	68.9	0.1520	0.1440	516.01	724.31	0.9624	0.9533	1.3383	1.0047	0.2868	-1051.16	-1309.90	-1183.66
9	760.00	68.9	0.1600	0.1520	516.85	725.40	0.9624	0.9533	1.3399	1.0033	0.2893	-1050.77	-1309.42	-1183.23
10	760.00	68.9	0.1700	0.1600	516.85	725.40	0.9624	0.9533	1.3275	1.0058	0.2775	-1050.77	-1309.42	-1183.23
11	760.00	69.0	0.1830	0.1700	517.69	726.50	0.9624	0.9533	1.3081	1.0081	0.2605	-1050.38	-1308.94	-1182.79
12	760.00	69.0	0.1990	0.1830	517.69	726.50	0.9625	0.9533	1.2950	1.0121	0.2464	-1050.38	-1308.94	-1182.79
13	760.00	69.0	0.2520	0.2260	517.69	726.50	0.9625	0.9533	1.2629	1.0268	0.2070	-1050.38	-1308.94	-1182.79
14	760.00	69.1	0.2810	0.2520	520.22	729.79	0.9625	0.9534	1.2568	1.0278	0.2012	-1049.23	-1307.49	-1181.49
15	760.00	69.3	0.3180	0.2810	523.61	734.19	0.9626	0.9535	1.2305	1.0354	0.1726	-1047.69	-1305.57	-1179.75
16	760.00	69.6	0.3660	0.3180	526.72	740.84	0.9627	0.9536	1.1983	1.0471	0.1349	-1045.38	-1302.70	-1177.16
17	760.00	70.0	0.4300	0.3660	535.60	749.77	0.9629	0.9538	1.1591	1.0700	0.0799	-1042.33	-1298.88	-1173.72
18	760.00	70.6	0.5120	0.4300	546.05	763.31	0.9631	0.9541	1.1221	1.1040	-0.0162	-1037.77	-1293.19	-1168.59
19	760.00	71.3	0.5830	0.4890	558.43	779.34	0.9634	0.9544	1.0961	1.1348	-0.0348	-1032.50	-1286.60	-1162.65
20	760.00	72.7	0.6900	0.5830	582.92	810.96	0.9639	0.9550	1.0583	1.1979	-0.1239	-1022.47	-1274.04	-1151.33
21	760.00	74.5	0.7970	0.6900	617.81	855.81	0.9646	0.9558	1.0239	1.2898	-0.2309	-1009.00	-1257.16	-1136.13
22	760.00	76.6	0.8810	0.7970	659.33	908.91	0.9653	0.9567	1.0033	1.3579	-0.3026	-994.07	-1238.42	-1119.28
23	760.00	78.1	0.9400	0.8810	689.22	946.96	0.9658	0.9573	0.9949	1.5163	-0.4214	-983.99	-1225.74	-1107.88
24	760.00	79.1	0.9720	0.9400	719.42	973.86	0.9662	0.9577	0.9963	1.5937	-0.4698	-977.14	-1217.11	-1100.13

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 562.00	P = 48.60	V = 260.10	OMEGA = 0.211	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0
2	T = 507.90	P = 29.90	V = 372.40	OMEGA = 0.298	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69056E 01	B = 0.12110E 04	C = 0.22079E 03	P = 760.0 AT T = 80.1
2	A = 0.68778E 01	B = 0.11715E 04	C = 0.22437E 03	P = 759.0 AT T = 68.7

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.70863E 02	B = 0.14907E 01	C = 0.15880E 03	COMPONENT ID ECHO CHECK
2	A = 0.12596E 03	B = 0.14456E 00	C = 0.54720E 03	ID NUMBER = 5
				ID NUMBER = 18

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.35723E 00	B = -0.44706E 00	C = -0.38882E 00
STANDARD DEVIATION = 0.13002E 01		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.4294	G2INF = 1.6139
T1INF = 68.74	T2INF = 80.10

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.1073
AREA BELOW THE X-AXIS IS	-0.1032
CROSS-OVER POINT IS X =	0.54
NORMALIZED AREA DIFFERENCE IS	0.0195
HERINGTON J-FACTOR IS	4.56
CONSISTENCY INDEX IS	-2.62

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	210.60	129.05	0.1819E-11	2.18	0.00132
2	277.70	43.75	6.1959E-03	1.80	0.00155
3	215.04	130.26	0.5681E-02	2.00	0.00123
4	220.14	122.23	0.3163E-02	1.97	0.00123
5	266.44	54.99	0.3940E-03	1.82	0.00143
6	225.61	109.32	0.1325E-03	2.01	0.00129
7	250.10	77.91	0.2962E-03	1.84	0.00132
8	317.00	10.25	6.1926E-03	1.82	0.00195
9	316.52	-9.67	0.1926E-03	1.82	0.00195
10	211.19	134.55	0.5587E-02	2.04	0.00124

BENZENE (1)    HEXYLENE GLYCOL (2)

SYSTEM 023

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	400.00	137.1	0.0420	0.7850	2988.57	85.67	0.9892	0.9803	2.4707	1.0250	0.8798	-683.13	-1200.41	-993.32
2	400.00	121.1	0.0690	0.8810	2126.32	41.48	0.9878	0.9768	2.7241	1.1899	0.8283	-748.26	-1407.19	-1092.28
3	400.00	77.1	0.3270	0.9900	668.50	3.53	0.9819	0.9639	1.7756	1.6187	0.0925	-990.93	-2429.06	-1482.09

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 562.00 P = 49.60 V = 260.10 OMEGA = 0.211 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 744.00 P = 54.80 V = 311.00 OMEGA = 0.148 OMEGAH = 0.338 DIPOLE = 2.10 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03  
 2 A = 0.78876E 01 B = 0.18904E 04 C = 0.18046E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.70863E 02 B = 0.14907E-01 C = 0.15880E-03  
 2 A = 0.11939E 03 B = -.75907E-01 C = 0.31550E-03

VAPOR PRESSURE AT NBP

P = 760.0 AT T = 80.1  
 P = 734.7 AT T = 196.0

COMPONENT ID ECHO CHECK

ID NUMBER = 5  
 ID NUMBER = 55

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.10017E 01 B = -.29114E 01 C = 0.39960E 00  
 STANDARD DEVIATION = 0.0

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.7230 G2INF = 4.5270  
 T1INF = 177.15 T2INF = 60.61

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.1782  
 AREA BELOW THE X-AXIS IS -0.4989  
 CROSS-OVER POINT IS X = 0.36  
 NORMALIZED AREA DIFFERENCE IS -0.4737  
 HERINGTON-J-FACTOR IS 52.39  
 CONSISTENCY INDEX IS -5.02

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	671.25 457.61	0.4547E-11
2	2517.36 599.60	0.6639E-02
3	694.35 331.57	0.3033E 00
4	736.69 273.38	0.1189E 00
5	610.06 503.80	0.5366E-02
6	1344.51 -445.67	0.2058E-07
7	609.89 505.77	0.3807E-02
8	618.24 495.43	0.4609E-02
9	618.02 495.77	0.4609E-02
10	1226.29 -219.33	0.5772E 00

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
14.13	0.01339
830.52	0.08441
17.53	0.00973
19.07	0.01049
13.05	0.00989
62.14	0.00005
12.93	0.00914
13.11	0.01029
13.11	0.01028
41.41	0.01540



SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	117.6	0.0426	0.2411	2103.88	625.74	1.0000	1.0000	2.0380	0.9601	0.7527	0.0	0.0	0.0
2	760.00	92.5	0.2724	0.7384	1091.63	261.33	1.0000	1.0000	1.8811	1.0427	0.5901	0.0	0.0	0.0
3	760.00	86.9	0.4274	0.8154	929.00	211.50	1.0000	1.0000	1.5557	1.1552	0.2976	0.0	0.0	0.0
4	750.00	82.7	0.6314	0.8756	819.87	179.68	1.0000	1.0000	1.2813	1.4234	-0.1052	0.0	0.0	0.0
5	750.00	81.6	0.6100	0.8733	793.00	172.05	1.0000	1.0000	1.3675	1.4309	-0.0453	0.0	0.0	0.0
6	760.00	80.3	0.7820	0.9082	762.15	163.40	1.0000	1.0000	1.1543	1.5529	-0.5258	0.0	0.0	0.0
7	760.00	80.2	0.9058	0.9361	759.82	162.75	1.0000	1.0000	1.0303	3.1584	-1.1202	0.0	0.0	0.0

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 562.00 P = 48.60 V = 260.10 OMEGA = 0.211 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 0.0 P = 0.0 V = 0.0 OMEGA = 0.0 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03 VAPOR PRESSURE AT NBP  
 P = 760.0 AT T = 80.1  
 2 A = 0.83298E 01 B = 0.21618E 04 C = 0.27315E 03 P = 770.1 AT T = 124.0

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.70863E 02 B = 0.14907E 01 C = 0.15880E 03 COMPONENT ID FCHO CHECK  
 ID NUMBER = 5  
 2 A = 0.67468E 02 B = 0.16858E 02 C = 0.12858E 03 ID NUMBER = 25

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.73734E 00 B = 0.99193E 01 C = .23083E 01  
 STANDARD DEVIATION = 0.55349E-01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.0904 G2INF = 4.3568  
 T1INF = 123.58 T2INF = 80.10

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2943  
 AREA BELOW THE X-AXIS IS -0.2768  
 CROSS-OVER POINT IS X = 0.59  
 NORMALIZED AREA DIFFERENCE IS 0.0307  
 HERINGTON J-FACTOR IS 18.46  
 CONSISTENCY INDEX IS -15.40

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	-103.70 1136.93	0.1819E-11
2	-53.00 1480.96	0.3257E-02
3	-128.29 1513.66	0.4628E-01
4	-114.42 1493.21	0.1651E-01
5	-145.23 1719.58	0.5398E-02
6	-115.46 1512.02	0.3347E-03
7	-110.29 1621.92	0.3344E-02
8	-150.83 1749.17	0.4973E-02
9	-150.83 1749.17	0.4973E-02
10	-157.65 1616.89	0.1491E-01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
41.41	0.00805
16.94	0.00515
18.73	0.00350
18.14	0.00342
16.45	0.00503
17.75	0.00359
16.63	0.00483
16.47	0.00520
16.47	0.00520
18.73	0.00411

BENZENE (1) 2-PROPANOL (2)

SYSTEM 025A

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	327.00	50.0	0.8450	0.7600	266.50	163.64	0.9799	0.9892	1.0798	3.0569	-1.0407	-1217.82	-453.80	-1018.93
2	336.70	50.0	0.7000	0.6800	266.50	163.64	0.9750	0.9896	1.1997	2.1691	-0.5922	-1217.82	-453.80	-1018.93
3	330.20	50.0	0.5000	0.6090	266.50	163.64	0.9751	0.9904	1.4754	1.5608	-0.0562	-1217.82	-453.80	-1018.93
4	306.70	50.0	0.3000	0.5230	266.50	163.64	0.9802	0.9916	1.9638	1.2649	0.4399	-1217.82	-453.80	-1018.93
5	266.30	50.0	0.1550	0.4210	266.50	163.64	0.9823	0.9932	2.6628	1.1063	0.8783	-1217.82	-453.80	-1018.93

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 562.00	P = 48.60	V = 260.10	OMEGA = 0.211	OMEGA <sub>H</sub> = 0.0	DIPCLE = 0.0	ETA = 0.0
2	T = 508.50	P = 47.00	V = 218.50	OMEGA = 0.663	OMEGA <sub>H</sub> = 0.187	DIPOLF = 1.60	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69056E 01	B = 0.12110E 04	C = 0.22079E 03	P = 760.0 AT T = 80.1
2	A = 0.66604E 01	B = 0.81305E 03	C = 0.13293E 03	P = 769.7 AT T = 82.5

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.70863E 02	B = 0.14907E 01	C = 0.15880E 03	COMPONENT ID CHECK
2	A = 0.14178E 03	B = -0.49807E 00	C = 0.92870E 03	ID NUMBER = 5
				ID NUMBER = 22

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.12610E 01	B = -0.25694E 01	C = -0.16121E 00
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STANDARD DEVIATION = 0.35705E-01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 3.5291 G2INF = 4.3474

T1INF = 50.00 T2INF = 50.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.3034

AREA BELOW THE X-AXIS IS -0.3808

CROSS-OVER POINT IS X = 0.48

NORMALIZED AREA DIFFERENCE IS -0.1131

CONSISTENCY INDEX IS 11.31

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	293.62 753.80	0.4093F-10
2	668.60 847.89	0.1415F-03
3	366.99 905.48	0.1117F 00
4	504.70 749.99	0.3380F-01
5	447.44 850.28	0.9378F-02
6	594.54 514.78	0.2057F-02
7	462.84 776.72	0.7283F-02
8	316.86 1129.04	0.1017F-03
9	316.74 1128.97	0.1017F-03
10	339.53 925.00	0.2077F-01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
23.47	0.01894
8.97	0.03299
8.23	0.02204
9.03	0.01816
6.27	0.02184
21.13	0.01195
9.53	0.01891
1.22	0.03167
1.22	0.03166
9.22	0.02247

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	500.00	69.5	0.0390	0.1480	526.16	436.13	0.9702	0.9905	3.4911	1.0049	1.2454	-1046.53	-399.85	-883.24
2	500.00	67.1	0.0390	0.2620	486.47	390.67	0.9708	0.9899	2.9309	1.0244	1.0511	-1065.24	-405.54	-898.21
3	500.00	65.4	0.1420	0.3500	459.75	360.76	0.9712	0.9894	2.5974	1.0368	0.9183	-1078.85	-409.72	-909.08
4	500.00	63.9	0.1970	0.4240	437.20	335.89	0.9715	0.9888	2.3859	1.0538	0.8172	-1091.12	-413.50	-918.86
5	500.00	62.9	0.2550	0.4690	422.63	320.07	0.9715	0.9883	2.1093	1.0984	0.6525	-1099.44	-416.08	-925.48
6	500.00	61.8	0.3350	0.5250	407.04	303.34	0.9717	0.9878	1.8663	1.1668	0.4749	-1108.72	-418.97	-932.86
7	500.00	61.0	0.4140	0.5630	395.98	291.62	0.9717	0.9874	1.6648	1.2601	0.2785	-1115.55	-421.11	-938.29
8	500.00	60.9	0.4950	0.6000	394.62	290.18	0.9719	0.9870	1.4893	1.3445	-0.1023	-1116.41	-421.38	-938.97
9	500.00	60.3	0.5660	0.6260	386.51	281.65	0.9719	0.9867	1.3874	1.5065	-0.0824	-1121.60	-423.00	-943.09
10	500.00	60.2	0.6400	0.6470	385.17	280.25	0.9720	0.9864	1.2727	1.7224	-0.3026	-1122.47	-423.28	-943.77
11	500.00	60.1	0.7160	0.6740	383.83	278.85	0.9721	0.9861	1.1894	2.0258	-0.5326	-1123.34	-423.55	-944.46
12	500.00	60.3	0.7970	0.7070	386.51	281.65	0.9723	0.9858	1.1133	2.5210	-0.8174	-1121.60	-423.00	-943.09
13	500.00	63.0	0.9420	0.8280	424.06	321.62	0.9736	0.9846	1.0067	4.5309	-1.5042	-1098.60	-415.82	-924.81
14	500.00	64.7	0.9760	0.8960	449.14	348.98	0.9742	0.9840	0.9934	6.0975	-1.8145	-1084.55	-411.47	-913.62

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 562.00	P = 48.60	V = 260.10	OMEGA = 0.211	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0
2	T = 508.50	P = 47.00	V = 218.50	OMEGA = 0.663	OMEGA H = 0.187	DIPOLE = 1.60	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69056E 01	B = 0.12110E 04	C = 0.22079E 03	VAPOR PRESSURE AT NBP
2	A = 0.66604E 01	B = 0.81305E 03	C = 0.13293E 03	P = 760.0 AT T = 80.1
				P = 769.7 AT T = 82.5

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.70863E 02	B = 0.14907E 01	C = 0.15880E 03	COMPONENT ID CHECK
2	A = 0.14178E 03	B = -0.49807E 00	C = 0.92870E 03	ID NUMBER = 5
				ID NUMBER = 22

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.11800E 01	B = -0.13725E 01	C = -0.15918E 01
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STANDARD DEVIATION = 0.80966E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 3.2545	G2INF = 5.9548
T1INF = 72.31	T2INF = 67.09

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.3537
AREA BELOW THE X-AXIS IS	-0.3905
CROSS-OVER POINT IS X =	0.53
NORMALIZED AREA DIFFERENCE IS	-0.0494
HERINGTON J-FACTOR IS	5.50
CONSISTENCY INDEX IS	-0.56

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION
1	177.67	1083.03	C.1819E-11
2	260.13	1078.26	0.5317E-03
3	218.16	1171.72	0.1722E-00
4	226.64	1137.16	0.1792E-01
5	244.00	1067.45	0.2324E-02
6	245.29	1033.14	0.1463E-02
7	247.85	1042.10	0.1736E-02
8	235.10	1055.75	0.6672E-03
9	234.73	1056.49	0.6672E-03
10	223.41	1163.76	0.6726E-02

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
8.89	0.00880
3.40	0.00692
3.95	0.00867
3.27	0.00780
2.97	0.00643
4.11	0.00602
3.52	0.00613
2.78	0.00675
2.77	0.00676
4.02	0.00859

BFNENE(1) 2-PROPANOL(2)

SYSTEM 025C

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1Q1	F2Q1	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	73.0	0.8450	0.7280	589.40	510.76	0.9633	0.9805	1.0665	2.5529	-0.8728	-1019.90	-391.85	-861.86
2	760.00	71.9	0.7000	0.6480	567.59	484.72	0.9623	0.9815	1.1888	1.8005	-0.4151	-1028.69	-394.48	-868.93
3	760.00	71.9	0.5000	0.5720	569.03	486.44	0.9617	0.9825	1.4645	1.3103	0.1112	-1028.10	-394.30	-868.45
4	760.00	73.4	0.3000	0.4720	595.75	518.39	0.9612	0.9839	1.9228	1.0849	0.5723	-1017.41	-391.11	-859.86
5	760.00	76.2	0.1550	0.3300	649.86	584.39	0.9606	0.9854	2.3837	1.0133	0.8555	-997.38	-385.18	-843.72

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 562.00	P = 48.60	V = 260.10	OMEGA = 0.211	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0
2	T = 508.50	P = 47.00	V = 218.50	OMEGA = 0.663	OMEGA H = 0.187	DIPOLE = 1.60	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69056E 01	B = 0.12110E 04	C = 0.22079E 03
2	A = 0.66604E 01	B = 0.81305E 03	C = 0.13293E 03

VAPOR PRESSURE AT NBP

P = 760.0	AT T = 80.1
P = 769.7	AT T = 82.5

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.70863E 02	B = 0.14907E 01	C = 0.15880E 03
2	A = 0.14178E 03	B = -.49807E 00	C = 0.92870E 03

COMPONENT ID CHECK

ID NUMBER = 5
ID NUMBER = 22

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.11042E 01	B = .14561E 01	C = .10392E 01
STANDARD DEVIATION = 0.82882E 02		

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.3295
AREA BELOW THE X-AXIS IS	-0.2997
CROSS-OVER POINT IS X =	0.55
NORMALIZED AREA DIFFERENCE IS	0.0472
HERINGTON J-FACTOR IS	4.49
CONSISTENCY INDEX IS	0.23

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 3.0168	G2INF = 4.0195
T1INF = 82.19	T2INF = 80.10

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	218.50 825.20	0.2274E-10
2	126.74 1120.47	0.3888E-04
3	210.25 935.97	0.5984E-02
4	173.08 1009.70	0.1783E-02
5	156.38 1056.98	0.3249E-03
6	156.24 1051.27	0.2670E-03
7	145.89 1081.77	0.2665E-03
8	157.16 1057.67	0.5597E-04
9	157.16 1057.66	0.5597E-04
10	209.33 938.12	0.1952E-02

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
17.89	0.01013
2.36	0.00492
5.77	0.00631
3.37	0.00486
2.52	0.00403
2.68	0.00406
2.38	0.00410
2.46	0.00402
2.46	0.00402
5.67	0.00627

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2DL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	108.7	0.0520	0.1100	1589.77	690.37	0.9754	0.9611	0.9832	0.9896	-0.0064	-805.81	-1217.82	-991.63
2	760.00	107.2	0.0830	0.1720	1532.18	661.93	0.9749	0.9606	0.9989	0.9921	0.0068	-813.25	-1229.78	-1001.06
3	760.00	105.9	0.1190	0.2380	1483.48	638.01	0.9745	0.9602	0.9953	0.9855	0.0098	-819.80	-1240.31	-1009.36
4	760.00	105.1	0.1410	0.2740	1454.08	623.63	0.9742	0.9599	0.9863	0.9850	0.0014	-823.87	-1246.86	-1014.52
5	760.00	103.9	0.1730	0.3220	1410.76	602.51	0.9738	0.9595	0.9733	0.9885	-0.0154	-830.04	-1256.80	-1022.34
6	760.00	102.8	0.1940	0.3600	1371.88	583.64	0.9735	0.9591	0.9576	0.9880	0.0097	-835.76	-1266.04	-1029.61
7	760.00	101.5	0.2240	0.4020	1326.94	561.93	0.9731	0.9587	0.9970	0.9954	0.0017	-842.60	-1277.10	-1038.30
8	760.00	100.6	0.2530	0.4340	1296.47	547.26	0.9729	0.9584	0.9752	1.0046	-0.0298	-847.40	-1284.85	-1044.39
9	760.00	99.0	0.2990	0.5010	1243.55	521.93	0.9723	0.9578	0.9925	0.9891	0.0035	-856.03	-1298.84	-1055.38
10	760.00	98.3	0.3140	0.5230	1220.91	511.12	0.9721	0.9576	1.0047	0.9863	0.0185	-859.86	-1305.05	-1060.24
11	760.00	96.6	0.3660	0.5810	1167.17	485.62	0.9716	0.9570	1.0011	0.9860	0.0151	-869.26	-1320.32	-1072.22
12	760.00	94.7	0.4330	0.6430	1109.19	458.29	0.9710	0.9563	0.9848	0.9947	-0.0100	-879.98	-1337.77	-1085.88
13	760.00	92.7	0.5020	0.7060	1050.48	430.83	0.9704	0.9556	0.9842	0.9914	-0.0073	-891.50	-1356.57	-1100.58
14	760.00	90.7	0.5710	0.7610	994.10	404.67	0.9698	0.9549	0.9850	0.9952	-0.0104	-903.28	-1375.83	-1115.63
15	760.00	89.1	0.6210	0.8010	950.64	384.64	0.9693	0.9543	0.9963	0.9862	0.0102	-912.89	-1391.59	-1127.93
16	760.00	87.1	0.7050	0.8530	898.34	360.71	0.9687	0.9535	0.9884	0.9972	-0.0089	-925.16	-1411.73	-1143.63
17	760.00	85.3	0.7690	0.8890	853.13	340.19	0.9682	0.9528	0.9938	1.0189	-0.0249	-936.43	-1430.31	-1158.08
18	760.00	84.2	0.8200	0.9190	826.36	328.11	0.9678	0.9524	0.9943	0.9888	0.0055	-943.44	-1441.87	-1167.07
19	760.00	83.1	0.8790	0.9460	800.23	316.37	0.9675	0.9519	0.9856	1.0166	-0.0309	-950.54	-1453.60	-1176.19
20	760.00	81.4	0.9310	0.9680	770.15	302.92	0.9671	0.9514	0.9890	1.1027	-0.1088	-959.05	-1467.68	-1187.12
21	760.00	81.3	0.9610	0.9830	758.81	297.87	0.9669	0.9512	0.9873	1.0538	-0.0651	-962.35	-1473.16	-1191.37

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 562.00 P = 48.60 V = 260.10 OMEGA = 0.211 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 594.00 P = 40.00 V = 331.10 OMEGA = 0.241 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03 P = 760.0 AT T = 80.1  
 2 A = 0.69533E 01 B = 0.13439E 04 C = 0.21938E 03 P = 759.4 AT T = 110.6

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.70863E 02 B = 0.14907E 01 C = 0.15880E 03 COMPONENT ID ECHO CHECK  
 2 A = 0.98864E 02 B = -.55774E 01 C = 0.27703E 03 ID NUMBER = 5  
 ID NUMBER = 33

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = -.16544E 01 B = 0.13703E 00 C = -.19557E 00  
 STANDARD DEVIATION = 0.20328E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 0.9836 G2INF = 1.0780  
 T1INF = 110.63 T2INF = 80.10

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

EQUATION SOLVED FOR X-INTERCEPT  
 ROOTS ARE: X = 0.15504E 00 AND X = 0.54563E 00  
 BOTH ROOTS ARE IN THE RANGE 0 TO 1  
 THERMODYNAMIC CONSISTENCY TEST IS ABERTED

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	-365.94	632.80	0.2956E-11	8.29	0.00271
2	-314.13	458.00	0.5735E-03	3.93	0.00441
3	-382.44	680.49	0.1144E-01	9.00	0.00275
4	-377.68	666.15	0.1091E-01	8.76	0.00274
5	-88.20	97.90	0.1451E-02	3.91	0.00335
6	36.02	-28.35	0.2870E-03	7.88	0.00198
7	-67.80	73.67	0.1623E-02	4.13	0.00317
8	-96.57	99.94	0.7118E-03	3.74	0.00393
9	-97.54	101.25	0.7115E-03	3.74	0.00393
10	-316.44	508.44	0.1720E 01	6.90	0.00265

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	129.0	0.0860	0.2850	2527.22	564.88	0.9809	0.9542	0.9745	1.0000	-0.0258	-714.94	-1525.27	-1043.40
2	760.00	125.0	0.1240	0.3820	2318.30	505.47	0.9796	0.9528	0.9863	1.0064	-0.0202	-731.51	-1565.90	-1069.26
3	760.00	124.7	0.1310	0.3960	2303.13	501.22	0.9795	0.9527	0.9740	0.9998	-0.0262	-732.78	-1569.02	-1071.24
4	760.00	120.2	0.1790	0.4970	2083.64	440.67	0.9781	0.9512	0.9874	1.0008	-0.0134	-752.21	-1617.09	-1101.70
5	760.00	115.1	0.2380	0.6020	1852.98	379.10	0.9766	0.9495	1.0100	0.9900	0.0200	-775.25	-1674.63	-1137.97
6	760.00	111.8	0.2870	0.6690	1713.68	343.00	0.9757	0.9484	0.9919	0.9977	-0.0058	-790.77	-1713.74	-1162.50
7	760.00	105.0	0.4020	0.7700	1450.43	277.13	0.9738	0.9459	0.9742	0.9933	-0.0194	-824.38	-1799.41	-1215.93
8	760.00	101.1	0.4660	0.8160	1313.34	244.15	0.9727	0.9443	0.9825	1.0084	-0.0260	-844.73	-1851.92	-1248.48
9	760.00	93.8	0.5960	0.8880	1082.47	190.86	0.9707	0.9410	1.0121	1.0341	-0.0215	-885.13	-1957.66	-1313.52
10	760.00	89.4	0.7180	0.9340	958.68	163.55	0.9694	0.9389	0.9964	1.0166	-0.0200	-911.08	-2026.58	-1355.59
11	760.00	86.4	0.8020	0.9600	880.55	146.81	0.9685	0.9374	0.9973	0.9760	0.0216	-929.51	-2076.06	-1385.64
12	760.00	83.6	0.8860	0.9790	812.03	132.46	0.9676	0.9358	0.9974	0.9846	0.0129	-947.30	-2124.18	-1414.74

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 562.00	P = 48.60	V = 260.10	CMFGA = 0.211	CMFGAH = 0.0	DIPOLE = 0.0	ETA = 0.0
2	T = 616.30	P = 34.60	V = 369.40	DMFGA = 0.324	DMFGAH = 0.0	DIPOLE = 0.0	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69056E 01	B = 0.12110E 04	C = 0.22079E 03
2	A = 0.69905E 01	B = 0.14534E 04	C = 0.21531E 03

MOLEAR VOLUME EQUATION COEFFICIENTS

1	A = 0.70863E 02	B = 0.14907E 01	C = 0.15880E 03
2	A = 0.12940E 03	B = 0.14187E 00	C = 0.41800E 03

VAPOR PRESSURE AT NBP

P = 760.0 AT T = 80.1  
P = 760.0 AT T = 138.3

COMPONENT ID CHECK

ID NUMBER = 5  
ID NUMBER = 36

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = -0.10245E-01 B = -0.47812E-01 C = 0.81051E-01  
STANDARD DEVIATION = 0.17315E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 0.9898 G2INF = 0.9773  
T1INF = 138.35 T2INF = 80.10

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS -0.0097  
AREA BELOW THE X-AXIS IS 0.0026  
CROSS-OVER POINT IS X = 0.76  
NORMALIZED AREA DIFFERENCE IS -0.5763  
HERINGTON J-FACTOR IS 24.73  
CONSISTENCY INDEX IS 33.10



## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	394.84	-391.12	0.2061F-12	4.58	0.00242
2	142.87	267.20	0.7676F-03	5.57	0.00276
3	65.42	-58.11	0.4133F-02	4.49	0.00216
4	64.98	-58.21	0.4047F-02	4.50	0.00213
5	33.90	-20.57	0.1016F-02	4.53	0.00203
6	38.90	-26.98	0.1893F-03	4.53	0.00204
7	85.10	-66.69	0.8323E-03	4.56	0.00202
8	66.05	62.01	0.8265E-03	4.52	0.00203
9	65.88	-61.80	0.8265F-03	4.52	0.00203
10	68.93	-61.98	0.1551F 01	4.52	0.00219

\*\*DIAGNOSTIC\*\*

1 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	80.2	0.9540	0.9660	733.44	162.87	0.9665	0.9609	1.0108	3.3028	-1.1840	-969.97	-1396.27	-1042.58
2	760.00	80.2	0.9480	0.9630	734.53	163.25	0.9666	0.9608	1.0125	3.1720	-1.1419	-969.63	-1395.58	-1042.21
3	760.00	80.3	0.9420	0.9600	736.07	163.78	0.9666	0.9608	1.0137	3.0644	-1.1062	-969.16	-1394.63	-1041.70
4	760.00	80.4	0.9280	0.9520	738.50	164.61	0.9666	0.9607	1.0171	2.9469	-1.0638	-968.42	-1393.13	-1040.89
5	760.00	80.9	0.8480	0.9200	749.16	168.30	0.9668	0.9603	1.0606	2.2747	-0.7630	-965.21	-1386.62	-1037.37
6	760.00	81.4	0.7900	0.9040	760.17	172.14	0.9670	0.9603	1.1027	1.9315	-0.5606	-961.96	-1380.02	-1033.79
7	760.00	82.0	0.7140	0.8850	774.26	177.09	0.9672	0.9602	1.1729	1.6513	-0.3421	-957.86	-1371.73	-1029.30
8	760.00	83.2	0.6310	0.8670	802.34	187.10	0.9677	0.9604	1.2553	1.4014	-0.1101	-949.95	-1355.74	-1020.63
9	760.00	84.5	0.5600	0.8470	834.56	198.81	0.9681	0.9607	1.3291	1.2727	0.0433	-941.27	-1338.22	-1011.10
10	760.00	86.4	0.4750	0.8190	880.30	215.82	0.9688	0.9611	1.4374	1.1628	0.2119	-929.58	-1314.73	-998.29
11	760.00	88.3	0.3970	0.7870	928.93	234.42	0.9694	0.9614	1.5671	1.0573	0.3564	-917.89	-1291.32	-985.48
12	760.00	89.7	0.3690	0.7790	966.50	249.12	0.9698	0.9619	1.6047	1.0243	0.4489	-909.33	-1274.24	-976.10
13	760.00	92.3	0.3080	0.7240	1037.58	277.74	0.9707	0.9623	1.6660	1.0468	0.4647	-894.13	-1244.05	-959.46
14	760.00	95.6	0.2340	0.6600	1136.38	319.16	0.9719	0.9631	1.8273	1.0145	0.5885	-874.88	-1206.06	-938.40
15	760.00	98.7	0.1800	0.5900	1233.81	361.81	0.9729	0.9638	1.9581	1.0088	0.6632	-857.67	-1172.38	-919.58
16	760.00	100.2	0.1610	0.5600	1283.75	384.34	0.9734	0.9641	1.9981	0.9965	0.6957	-849.44	-1156.36	-910.58
17	760.00	102.2	0.1340	0.5100	1351.70	415.68	0.9742	0.9646	2.0775	0.9946	0.7368	-838.80	-1135.76	-898.96
18	760.00	107.1	0.0850	0.3800	1528.39	500.79	0.9759	0.9659	2.1625	0.9899	0.7814	-813.76	-1087.71	-871.61
19	760.00	112.0	0.0400	0.2170	1721.91	599.65	0.9778	0.9672	2.3338	0.9966	0.8510	-789.81	-1042.42	-845.49
20	760.00	116.9	0.0040	0.0250	1932.23	713.31	0.9798	0.9688	2.4011	1.0071	0.8689	-766.99	-999.91	-820.61

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 562.00 P = 48.60 V = 260.10 OMEGA = 0.211 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 562.90 P = 43.60 V = 223.30 OMEGA = 0.667 OMEGAH = 0.252 DIPOLE = 1.65 ETA = 0.45

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03  
 2 A = 0.73637E 01 B = 0.13052E 04 C = 0.17343E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.70863E 02 B = 0.14907E-01 C = 0.15880E-03  
 2 A = 0.87376E 02 B = -.73723E-01 C = 0.30337E-03

## COMPONENT ID ECHO CHECK

ID NUMBER = 5  
 ID NUMBER = 43

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.83966E 00 B = -.53807E 00 C = -.16192E 01  
 STANDARD DEVIATION = 0.28827E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.3156 G2INF = 3.7344  
 T1INF = 117.73 T2INF = 80.10

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2913  
 AREA BELOW THE X-AXIS IS -0.2604  
 CROSS-OVER POINT IS X = 0.57  
 NORMALIZED AREA DIFFERENCE IS 0.0560  
 HERINGTON J-FACTOR IS 15.98  
 CONSISTENCY INDEX IS -10.38

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	188.24	754.62	C.9186F-10	11.67	0.00794
2	6.14	1201.08	0.1315F-02	9.39	0.00896
3	200.87	792.03	C.4471F-01	7.94	0.00565
4	174.88	830.25	0.2536F-01	7.00	0.00592
5	109.94	1008.75	0.2413F-02	3.85	0.00516
6	125.82	1044.10	C.9611F-03	8.38	0.00394
7	100.94	1046.39	0.1696F-02	4.19	0.00493
8	96.73	1022.28	C.8177F-03	3.75	0.00554
9	96.91	1022.90	0.8178F-03	3.75	0.00554
10	205.98	788.68	0.2749F-02	8.24	0.00549

\*\*DIAGNOSTIC\*\*

1 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

1-PTANOL(1) TOLUENE(2)

SYSTEM 625

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	116.0	0.0280	0.0750	692.47	843.31	0.9720	0.9636	2.8482	0.8234	1.2410	-1007.09	-1161.96	-1018.54
2	750.00	112.9	0.0960	0.2210	619.38	774.93	0.9701	0.9628	2.7312	0.8106	1.2147	-1034.41	-1185.36	-1038.82
3	760.00	110.5	0.1650	0.3210	567.88	725.71	0.9687	0.9622	2.5137	0.8164	1.1247	-1055.98	-1203.73	-1054.72
4	760.00	109.0	0.2270	0.3990	537.45	696.17	0.9677	0.9620	2.3972	0.8135	1.0808	-1069.81	-1215.46	-1064.86
5	750.00	107.6	0.3180	0.4870	510.24	669.42	0.9667	0.9619	2.1978	0.8184	0.9879	-1082.95	-1226.57	-1074.47
6	760.00	106.4	0.4150	0.5540	487.80	647.13	0.9659	0.9619	2.0023	0.8580	0.8474	-1094.41	-1236.24	-1082.83
7	750.00	106.0	0.4870	0.5950	480.45	639.83	0.9656	0.9620	1.8598	0.8987	0.7272	-1098.27	-1239.49	-1085.64
8	760.00	105.8	0.5320	0.6170	476.87	636.20	0.9654	0.9621	1.7785	0.9370	0.6408	-1100.21	-1241.12	-1087.05
9	760.00	105.7	0.5580	0.6270	475.07	634.39	0.9653	0.9622	1.7295	0.9690	0.5793	-1101.18	-1241.94	-1087.75
10	750.00	105.6	0.6140	0.6530	473.27	632.59	0.9652	0.9623	1.6429	1.0354	0.4617	-1102.16	-1242.76	-1088.46
11	750.00	105.5	0.6680	0.6750	471.48	630.79	0.9651	0.9624	1.5667	1.1308	0.3260	-1103.13	-1243.58	-1089.16
12	750.00	105.5	0.6750	0.6760	471.48	630.79	0.9651	0.9624	1.5528	1.1516	0.2988	-1103.13	-1243.58	-1089.16
13	750.00	105.5	0.7010	0.6870	471.48	630.79	0.9650	0.9625	1.5194	1.2094	0.2282	-1103.13	-1243.58	-1089.16
14	750.00	105.6	0.7660	0.7200	473.27	632.59	0.9649	0.9628	1.4517	1.3789	0.0514	-1102.16	-1242.76	-1088.46
15	750.00	106.3	0.8590	0.7840	485.56	645.30	0.9651	0.9635	1.3729	1.7318	-0.2322	-1095.38	-1237.05	-1083.53
16	760.00	106.5	0.8710	0.7940	489.63	648.97	0.9651	0.9637	1.3611	1.7954	-0.2769	-1093.45	-1235.43	-1082.13
17	750.00	108.1	0.9480	0.8940	519.83	678.88	0.9656	0.9650	1.3269	2.1538	-0.5028	-1078.23	-1222.58	-1071.02

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 562.90 P = 43.60 V = 223.30 OMEGA = 0.667 OMEGAH = 0.252 DIPOLE = 1.65 ETA = 0.45  
 2 T = 594.00 P = 40.00 V = 331.10 OMEGA = 0.241 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.73637E 01 B = 0.13052E 04 C = 0.17343E 03  
 2 A = 0.69533E 01 B = 0.13439E 04 C = 0.21938E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.87376E 02 B = -0.73723E-01 C = 0.30337E-03  
 2 A = 0.98864E 02 B = -0.55774E-01 C = 0.27703E-03

VAPOR PRESSURE AT NBP

P = 767.4 AT T = 118.0  
 P = 759.4 AT T = 110.6

COMPONENT ID CHECK

ID NUMBER = 43  
 ID NUMBER = 33

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.12379E 01 B = -0.23628E 00 C = -0.17048E 01  
 STANDARD DEVIATION = 0.13144E-01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 3.4484 G2INF = 2.0203  
 T1INF = -110.63 T2INF = 117.73

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.6241  
 AREA BELOW THE X-AXIS IS -0.0726  
 CROSS-OVER POINT IS X = 0.79  
 NORMALIZED AREA DIFFERENCE IS 0.7916  
 HERINGTON J-FACTOR IS 4.18  
 CONSISTENCY INDEX IS 74.98

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)	
				PRESSURE	COMPOSITION
1	1044.71	-100.63	0.2638F-10	90.83	0.12864
2	102.85	10270.91	0.1642F 00	35.57	0.09412
3	589.05	310.85	0.5837F 01	72.74	0.12533
4	-182.04	1417.12	0.2198F 01	84.43	0.10128
5	-146.28	8669.14	0.3966F 00	41.45	0.09254
6	-264.09	19836.96	0.3035F 00	62.05	0.08854
7	-143.72	10743.21	0.4472E 00	41.05	0.09263
8	86.63	3609.93	0.7368F 01	33.80	0.09604
9	-97.07	10256.89	0.7418F-01	35.08	0.09434
10	-39.30	849.54	0.6284F 00	92.73	0.10775

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	185.00	40.0	0.0994	0.1244	211.45	180.36	0.9873	0.9874	1.0797	0.9839	0.0929	-1344.05	-1326.58	-1335.35
2	189.00	40.0	0.1858	0.2233	211.45	180.36	0.9870	0.9872	1.0589	0.9859	0.0714	-1344.05	-1326.58	-1335.35
3	195.00	40.0	0.3401	0.3824	211.45	180.36	0.9866	0.9868	1.0217	0.9976	0.0239	-1344.05	-1326.58	-1335.35
4	198.00	40.0	0.4393	0.4815	211.45	180.36	0.9864	0.9865	1.0110	1.0006	0.0104	-1344.05	-1326.58	-1335.35
5	201.00	40.0	0.5324	0.5681	211.45	180.36	0.9862	0.9863	0.9989	1.0143	-0.0153	-1344.05	-1326.58	-1335.35
6	203.00	40.0	0.6063	0.6363	211.45	180.36	0.9860	0.9862	0.9921	1.0245	-0.0321	-1344.05	-1326.58	-1335.35
7	205.00	40.0	0.6815	0.7043	211.45	180.36	0.9859	0.9861	0.9864	1.0396	-0.0525	-1344.05	-1326.58	-1335.35
8	207.00	40.0	0.7812	0.7964	211.45	180.36	0.9858	0.9859	0.9824	1.0519	-0.0684	-1344.05	-1326.58	-1335.35
9	209.00	40.0	0.8926	0.8990	211.45	180.36	0.9856	0.9858	0.9798	1.0732	-0.0911	-1344.05	-1326.58	-1335.35
10	210.00	40.0	0.9529	0.9555	211.45	180.36	0.9855	0.9857	0.9801	1.0833	-0.1001	-1344.05	-1326.58	-1335.35
11	210.00	40.0	0.9632	0.9653	211.45	180.36	0.9855	0.9857	0.9795	1.0812	-0.0987	-1344.05	-1326.58	-1335.35

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 556.40 P = 45.00 V = 279.60 OMEGA = 0.193 OMEGAH = 0.0 DIPCLE = 0.0 ETA = 0.0  
 2 T = 562.00 P = 48.60 V = 260.10 OMEGA = 0.211 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69339E 01 B = 0.12424E 04 C = 0.23000E 03 P = 766.0 AT T = 76.8  
 2 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03 P = 760.0 AT T = 80.1

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.61938E 02 B = -0.29977E 00 C = 0.16761E 02 COMPONENT ID CHECK  
 2 A = 0.70863E 02 B = 0.14907E 01 C = 0.15880E 03 ID NUMBER = 6  
 ID NUMBR = 5

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.12252E 00 B = -0.29725E 00 C = 0.67341E 01  
 STANDARD DEVIATION = 0.33261E 02

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.1303 G2INF = 1.1134  
 T1INF = 40.00 T2INF = 40.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0271  
 AREA BELOW THE X-AXIS IS -0.0308  
 CROSS-OVER POINT IS X = 0.46  
 NORMALIZED AREA DIFFERENCE IS -0.0632  
 CONSISTENCY INDEX IS 6.32

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	-112.53	190.26	0.0	4.35	0.00072
2	141.36	-49.87	0.7939E-03	1.40	0.00671
3	-157.67	210.81	0.4702E-02	3.26	0.00227
4	-153.88	206.82	0.4750E-02	3.23	0.00231
5	115.92	-22.59	0.1777E-02	1.57	0.00528
6	-14.70	111.44	0.1426E-04	4.36	0.00065
7	75.36	6.40	0.2262E-02	1.80	0.00485
8	200.44	-82.40	0.3494E-03	1.41	0.00670
9	197.36	-80.81	0.8494E-03	1.41	0.00670
10	-7.13	86.51	0.3203E-00	3.22	0.00223

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	190.18	40.0	0.1398	0.1703	211.45	180.36	0.9869	0.9871	1.0799	1.0030	0.0739	-1344.05	-1326.58	-1335.35
2	194.70	40.0	0.2378	0.2774	211.45	180.36	0.9866	0.9868	1.0583	1.0090	0.0478	-1344.05	-1326.58	-1335.35
3	200.07	40.0	0.3735	0.4159	211.45	180.36	0.9862	0.9864	1.0377	1.0192	0.0180	-1344.05	-1326.58	-1335.35
4	204.02	40.0	0.4919	0.5295	211.45	180.36	0.9860	0.9861	1.0226	1.0320	-0.0091	-1344.05	-1326.58	-1335.35
5	204.20	40.0	0.4986	0.5359	211.45	180.36	0.9859	0.9861	1.0220	1.0324	-0.0102	-1344.05	-1326.58	-1335.35
6	207.44	40.0	0.6201	0.6475	211.45	180.36	0.9857	0.9859	1.0084	1.0511	-0.0416	-1344.05	-1326.58	-1335.35
7	210.37	40.0	0.7585	0.7739	211.45	180.36	0.9855	0.9857	0.9990	1.0753	-0.0737	-1344.05	-1326.58	-1335.35
8	211.97	40.0	0.8718	0.8783	211.45	180.36	0.9854	0.9856	0.9938	1.0985	-0.1002	-1344.05	-1326.58	-1335.35

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 556.40 P = 45.00 V = 279.60 CMEGA = 0.193 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 562.00 P = 48.60 V = 260.10 CMEGA = 0.211 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69339E-01 B = 0.12424E-04 C = 0.23000E-03 P = 766.0 AT T = 76.8  
 2 A = 0.69056E-01 B = 0.12110E-04 C = 0.22079E-03 P = 760.0 AT T = 80.1

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.61938E-02 B = -0.29977E-00 C = 0.16761E-02 COMPONENT ID CHECK  
 2 A = 0.70863E-02 B = 0.14907E-01 C = 0.15880E-03 ID NUMBER = 5

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.10526E-00 B = -0.23196E-00 C = -0.46077E-02

STANDARD DEVIATION = 0.13914E-02

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.1110 G2INF = 1.1403  
 T1INF = 40.00 T2INF = 40.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0237  
 AREA BELOW THE X-AXIS IS -0.0360  
 CROSS-OVER POINT IS X = 0.45  
 NORMALIZED AREA DIFFERENCE IS -0.2052  
 CONSISTENCY INDEX IS 20.52

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	-320.61 408.82	0.9095E-12
2	41.59 64.25	0.1655E-04
3	-107.14 184.24	0.6738E-03
4	-90.49 169.83	0.6097E-03
5	38.62 67.27	0.7048E-04
6	43.58 69.34	0.4042E-04
7	66.98 48.56	0.8199E-04
8	33.37 69.65	0.1957E-04
9	33.45 69.60	0.1957E-04
10	-88.92 166.61	0.4351E-01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
0.70	0.00304
0.25	0.00131
0.46	0.00196
0.45	0.00189
0.24	0.00129
0.58	0.00130
0.26	0.00140
0.25	0.00132
0.25	0.00132
0.31	0.00187



SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	568.89	70.0	0.1428	0.1666	598.26	534.74	0.9717	0.9723	1.0735	1.0031	0.0678	-1064.38	-1042.71	-1053.56
2	579.13	70.0	0.2394	0.2702	598.26	534.74	0.9712	0.9718	1.0566	1.0072	0.0478	-1064.38	-1042.71	-1053.56
3	591.62	70.0	0.3791	0.4105	598.26	534.74	0.9706	0.9712	1.0348	1.0175	0.0165	-1064.38	-1042.71	-1053.56
4	600.77	70.0	0.4930	0.5204	598.26	534.74	0.9701	0.9707	1.0238	1.0289	-0.0050	-1064.38	-1042.71	-1053.56
5	599.67	70.0	0.4939	0.5215	598.26	534.74	0.9702	0.9708	1.0223	1.0266	-0.0041	-1064.38	-1042.71	-1053.56
6	637.22	70.0	0.6224	0.6411	598.26	534.74	0.9698	0.9704	1.0094	1.0446	-0.0342	-1064.38	-1042.71	-1053.56
7	613.08	70.0	0.7624	0.7719	598.26	534.74	0.9695	0.9701	1.0014	1.0649	-0.0615	-1064.38	-1042.71	-1053.56
8	616.02	70.0	0.8750	0.8780	598.26	534.74	0.9694	0.9700	0.9971	1.0876	-0.0870	-1064.38	-1042.71	-1053.56

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 556.40 P = 45.00 V = 279.60 OMEGA = 0.193 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 562.00 P = 48.60 V = 260.10 OMEGA = 0.211 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69339E 01 B = 0.12424E 04 C = 0.23000E 03 VAPOR PRESSURE AT NBP P = 766.0 AT T = 76.8  
 2 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03 P = 760.0 AT T = 80.1

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.61938E 02 B = -.29977E 00 C = 0.16761E-02 COMPONENT-ID CHECK ID NUMBER = 6  
 2 A = 0.70863E 02 B = 0.14907E-01 C = 0.15880E-03 ID NUMBER = 5

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.97204E-01 B = -.20607E 00 C = -.44724E-02  
 STANDARD DEVIATION = 0.12941E-02

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.1021 G2INF = 1.1200  
 T1INF = 70.00 T2INF = 70.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0228  
 AREA BELOW THE X-AXIS IS -0.0301  
 CROSS-OVER POINT IS X = 0.47  
 NORMALIZED AREA DIFFERENCE IS -0.1385  
 CONSISTENCY INDEX IS 13.85

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION
1	-404.99	485.23	0.0
2	-106.95	200.91	0.6305E-05
3	-246.78	319.98	0.2415E-03
4	-234.29	308.59	0.2189E-03
5	-120.33	211.77	0.2463E-04
6	-125.34	218.94	0.1421E-04
7	-101.60	197.88	0.2803E-04
8	-108.80	202.17	0.7363E-05
9	-109.15	202.46	0.7363E-05
10	-236.29	309.47	0.1867E-01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
1.20	0.00182
0.43	0.00082
0.80	0.00118
0.79	0.00113
0.50	0.00081
0.95	0.00083
0.54	0.00083
0.41	0.00082
0.42	0.00082
0.67	0.00113

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	750.00	79.3	0.1364	0.1582	790.13	714.72	0.9655	0.9662	1.0710	0.9982	0.0704	-997.84	-975.78	-986.82
2	750.00	78.8	0.2157	0.2415	778.77	704.01	0.9653	0.9661	1.0488	1.0053	0.0424	-1001.23	-979.19	-990.22
3	750.00	78.6	0.2573	0.2880	774.26	699.76	0.9652	0.9660	1.0545	1.0025	0.0506	-1002.59	-980.55	-991.58
4	750.00	78.5	0.2944	0.3215	772.01	697.64	0.9652	0.9660	1.0318	1.0086	0.0228	-1003.27	-981.24	-992.27
5	750.00	78.2	0.3634	0.3915	765.30	691.32	0.9651	0.9659	1.0267	1.0116	0.0148	-1005.33	-983.30	-994.32
6	750.00	78.0	0.4057	0.4350	760.85	687.12	0.9650	0.9658	1.0277	1.0122	0.0152	-1006.70	-984.68	-995.70
7	750.00	77.6	0.5269	0.5480	752.00	678.80	0.9649	0.9657	1.0085	1.0296	-0.0207	-1009.46	-987.45	-998.46
8	750.00	77.4	0.6202	0.6390	747.61	674.66	0.9648	0.9656	1.0033	1.0333	-0.0295	-1010.84	-988.84	-999.85
9	750.00	77.1	0.7223	0.7330	741.06	668.50	0.9647	0.9655	0.9984	1.0519	-0.0522	-1012.92	-990.93	-1001.93

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 556.40	P = 45.00	V = 279.60	OMEGA = 0.193	OMEGA H = 0.0	DIPCLE = 0.0	ETA = 0.0
2	T = 562.00	P = 48.60	V = 260.10	OMEGA = 0.211	OMEGA H = 0.0	DIPCLE = 0.0	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69339E 01	H = 0.12424E 04	C = 0.23000E 03	P = 766.0 AT T = 76.8
2	A = 0.69056E 01	B = 0.12110E 04	C = 0.22079E 03	P = 760.0 AT T = 80.1

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.61938E 02	B = -.29977E 00	C = 0.16761E 02	COMPONENT ID ECHO CHECK
2	A = 0.70863E 02	B = 0.14907E 01	C = 0.15880E 03	ID NUMBER = 6
				ID NUMBER = 5

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.10197E 00	B = -.25753E 00	C = 0.63737E 01
STANDARD DEVIATION = 0.75516E 02		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1 INF = 1.1074	G2 INF = 1.0962
T1 INF = 80.10	T2 INF = 76.54

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.0218
AREA BELOW THE X-AXIS IS	-0.0273
CROSS-OVER POINT IS X =	0.44
NORMALIZED AREA DIFFERENCE IS	-0.1130
HERINGTON J-FACTOR IS	1.53
CONSISTENCY INDEX IS	9.78

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION
1		235.82	314.68
2		-52.78	154.83
3		-65.00	170.91
4		-65.66	171.18
5		-86.88	181.38
6		-45.08	164.53
7		-94.62	186.94
8		-22.50	134.93
9		-22.42	134.88
10		-135.57	222.13

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
4.18	0.00156
0.70	0.00198
2.15	0.00138
2.10	0.00139
0.92	0.00170
4.21	0.00122
0.94	0.00169
0.68	0.00202
0.68	0.00202
2.17	0.00152

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	80.3	0.0450	0.0680	814.15	719.56	0.9659	0.9616	1.3548	0.9872	0.3165	-950.84	-1113.74	-1051.04
2	760.00	79.6	0.1240	0.1550	797.00	704.13	0.9657	0.9613	1.1445	0.9968	0.1381	-995.81	-1119.40	-1056.34
3	760.00	79.7	0.1340	0.1630	798.38	705.38	0.9657	0.9613	1.1118	0.9971	0.1090	-995.40	-1118.94	-1055.91
4	760.00	79.2	0.2010	0.2300	787.16	695.28	0.9655	0.9611	1.0606	1.0084	0.0505	-998.72	-1122.71	-1059.45
5	760.00	78.9	0.2560	0.2730	780.58	689.36	0.9654	0.9610	0.9967	1.0311	-0.0340	-1000.69	-1124.96	-1061.55
6	760.00	79.1	0.2010	0.2200	785.57	693.65	0.9655	0.9611	1.0166	1.0236	-0.0069	-999.19	-1123.25	-1059.95
7	760.00	76.7	0.7910	0.8050	733.25	646.81	0.9646	0.9603	1.0118	1.0485	-0.0356	-1015.42	-1141.75	-1077.29
8	760.00	77.1	0.6750	0.6930	740.19	653.05	0.9647	0.9604	1.0112	1.0515	-0.0390	-1013.19	-1139.21	-1074.91
9	760.00	77.1	0.6850	0.6960	740.40	653.24	0.9647	0.9604	1.0005	1.0740	-0.0709	-1013.13	-1139.13	-1074.84
10	760.00	77.4	0.5790	0.6000	747.61	659.72	0.9649	0.9605	1.0107	1.0471	-0.0354	-1010.84	-1136.52	-1072.39
11	760.00	77.5	0.5400	0.5690	750.46	662.28	0.9649	0.9605	1.0238	1.0286	-0.0047	-1009.94	-1135.50	-1071.44
12	760.00	77.6	0.5190	0.5450	752.66	664.26	0.9649	0.9606	1.0174	1.0354	-0.0176	-1009.25	-1134.71	-1070.70
13	760.00	78.1	0.4120	0.4360	762.18	672.81	0.9651	0.9607	1.0126	1.0367	-0.0235	-1006.29	-1131.34	-1067.54
14	760.00	78.5	0.3140	0.3450	771.11	680.84	0.9652	0.9609	1.0393	1.0200	0.0188	-1003.55	-1128.22	-1064.61
15	760.00	78.8	0.2600	0.2850	778.77	687.73	0.9654	0.9610	1.0268	1.0220	0.0047	-1001.23	-1125.58	-1062.13
16	760.00	79.3	0.1980	0.2300	788.99	696.92	0.9655	0.9612	1.0742	1.0023	0.0693	-998.17	-1122.09	-1058.87
17	760.00	79.5	0.1460	0.1710	795.62	702.89	0.9656	0.9613	1.0742	1.0049	0.0667	-996.21	-1119.86	-1056.78
18	760.00	79.7	0.1130	0.1350	800.00	706.82	0.9657	0.9614	1.0898	1.0040	0.0820	-994.93	-1118.40	-1055.41
19	760.00	78.1	0.4040	0.4270	762.40	673.01	0.9651	0.9607	1.0111	1.0388	-0.0271	-1006.22	-1131.26	-1067.46

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 556.40 P = 45.00 V = 279.60 OMEGA = 0.193 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 553.20 P = 40.00 V = 311.20 OMEGA = 0.210 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69339E 01 B = 0.12424E 04 C = 0.23000E 03 VAPOR PRESSURE AT NBP  
 2 A = 0.68450E 01 B = 0.12035E 04 C = 0.22286E 03 P = 766.0 AT T = 76.8  
 P = 759.1 AT T = 80.7

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.61938E 02 B = .29977E 00 C = 0.16761E 02 COMPONENT ID ECHO CHECK  
 2 A = 0.92914E 02 B = -.24859E 01 C = 0.26157E 03 ID NUMBER = 6  
 ID NUMBER = 9

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.24478E 00 B = .11106E 01 C = 0.10112E 01  
 STANDARD DEVIATION = 0.47434E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.2773 G2INF = 0.8647  
 T1INF = 80.74 T2INF = 76.54

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

EQUATION SOLVED FOR X-INTERCEPT  
 ROOTS ARE: X = 0.79307E 00 AND X = 0.30524E 00  
 BOTH ROOTS ARE IN THE RANGE 0 TO 1  
 THERMODYNAMIC CONSISTENCY TEST IS ABORTED

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	1178.33	-473.34	0.1421E-11	27.68	0.01878
2	28.10	124.17	0.5003E-04	6.96	0.00569
3	901.23	-312.10	0.1910E-01	8.60	0.00594
4	844.45	-298.45	0.1645E-01	7.74	0.00562
5	381.91	-134.90	0.1437E-02	2.46	0.00433
6	547.91	-208.34	0.1021E-02	3.98	0.00420
7	395.55	-140.88	0.1407E-02	2.56	0.00433
8	32.87	126.71	0.3730E-04	0.83	0.00566
9	-32.87	126.71	0.3732E-04	0.83	0.00566
10	655.41	-241.45	0.2668E-00	5.40	0.00462

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	579.60	70.C	0.0860	0.2550	598.26	446.09	0.9665	0.9887	2.7647	1.0448	0.9731	-1064.38	-398.70	-891.64
2	659.00	70.0	0.1660	0.3920	598.26	446.09	0.9637	0.9862	2.4946	1.0595	0.8563	-1064.38	-398.70	-891.64
3	707.80	70.0	0.2380	0.4690	598.26	446.09	0.9619	0.9845	2.2309	1.0857	0.7202	-1064.38	-398.70	-891.64
4	766.30	70.C	0.3840	0.5610	598.26	446.09	0.9597	0.9822	1.7859	1.1990	0.3984	-1064.38	-398.70	-891.64
5	798.20	70.0	0.5590	0.6340	598.26	446.09	0.9587	0.9804	1.4423	1.4516	-0.0064	-1064.38	-398.70	-891.64
6	804.30	70.C	0.7110	0.6860	598.26	446.09	0.9588	0.9795	1.2364	1.9129	-0.4364	-1064.38	-398.70	-891.64
7	793.80	70.0	0.8150	0.7330	598.26	446.09	0.9597	0.9789	1.1386	2.5066	-0.7891	-1064.38	-398.70	-891.64
8	723.50	70.0	0.9450	0.8460	598.26	446.09	0.9637	0.9789	1.0379	4.4332	-1.4519	-1064.38	-398.70	-891.64
9	675.10	70.0	0.9750	0.9160	598.26	446.09	0.9663	0.9790	1.0194	4.9656	-1.5833	-1064.38	-398.70	-891.64

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 556.40	P = 45.00	V = 279.60	OMEGA = 0.193	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0
2	T = 508.50	P = 47.00	V = 218.50	OMEGA = 0.663	OMEGA H = 0.187	DIPOLE = 1.60	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69339E 01	B = 0.12424E 04	C = 0.23000E 03
2	A = 0.66604E 01	B = 0.81305E 03	C = 0.13293E 03

VAPOR PRESSURE AT NBP

P = 766.0 AT T = 76.8
P = 769.7 AT T = 82.5

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.61938E 02	B = -0.29977E 00	C = 0.16761E 02
2	A = 0.14178E 03	B = -0.49807E 00	C = 0.92870E 03

COMPONENT ID ECHO CHECK

ID NUMBER = 6
ID NUMBER = 22

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.10151E 01	B = -0.67564E 00	C = -0.20081E 01
STANDARD DEVIATION = 0.51657E 01		

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.3450
AREA BELOW THE X-AXIS IS	-0.3371
CROSS-OVER POINT IS X =	0.56
NORMALIZED AREA DIFFERENCE IS	0.0116
CONSISTENCY INDEX IS	1.16

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.7598	G2INF = 5.3049
T1INF = 70.00	T2INF = 70.00

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	-284.70 1442.26	0.1182E-10
2	-116.39 1661.94	0.1055E-02
3	-136.97 1416.68	0.6277E-01
4	-140.47 1431.11	0.1435E-01
5	-152.59 1558.33	0.3941E-02
6	-209.51 1494.71	0.2982E-03
7	-188.03 1617.46	0.4037E-02
8	-127.39 1590.15	0.1396E-03
9	-127.42 1590.08	0.1398E-03
10	-146.38 1428.65	0.4487E-02

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
44.05	0.01194
8.87	0.02084
19.34	0.00599
18.44	0.00599
7.98	0.01105
24.82	0.00342
9.79	0.00982
2.29	0.01582
2.29	0.01581
19.78	0.00551

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	79.9	0.0340	0.1140	803.92	682.16	0.9580	0.9868	3.0193	1.0055	1.0995	-993.79	-377.68	-834.39
2	760.00	78.5	0.0620	0.1850	772.01	644.01	0.9586	0.9865	2.7998	1.0086	1.0210	-1003.27	-380.45	-842.10
3	760.00	76.8	0.0920	0.2520	734.55	599.89	0.9589	0.9860	2.7023	1.0261	0.9683	-1015.00	-383.89	-851.64
4	760.00	74.0	0.1730	0.3760	675.86	532.31	0.9595	0.9848	2.3320	1.0579	0.7904	-1034.84	-389.79	-867.74
5	760.00	72.8	0.2240	0.4420	651.81	505.20	0.9599	0.9841	2.1961	1.0615	0.7270	-1043.55	-392.40	-874.79
6	760.00	70.6	0.3420	0.5340	605.44	458.28	0.9600	0.9828	1.8589	1.1509	0.4794	-1059.86	-397.32	-887.99
7	760.00	69.7	0.4120	0.5750	592.72	440.09	0.9601	0.9821	1.7085	1.2224	0.3348	-1066.66	-399.39	-893.48
8	760.00	69.1	0.4860	0.6040	581.77	428.28	0.9601	0.9816	1.5501	1.3382	0.1470	-1071.23	-400.79	-897.18
9	760.00	69.0	0.5780	0.6400	579.96	426.33	0.9603	0.9811	1.3857	1.4878	-0.0710	-1072.00	-401.02	-897.79
10	760.00	68.8	0.6470	0.6650	576.36	422.46	0.9605	0.9807	1.2545	1.6695	-0.2544	-1073.53	-401.49	-899.03
11	760.00	68.9	0.7300	0.6920	578.16	424.40	0.9607	0.9803	1.1905	1.9969	-0.5172	-1072.76	-401.25	-898.41
12	760.00	69.1	0.8040	0.7190	581.77	426.28	0.9606	0.9799	1.1164	2.4859	-0.8005	-1071.23	-400.79	-897.18
13	760.00	70.2	0.8800	0.7600	601.97	450.13	0.9616	0.9794	1.0427	3.2979	-1.1515	-1062.87	-398.24	-890.42
14	760.00	72.2	0.9430	0.8210	640.04	492.06	0.9626	0.9787	0.9896	4.7336	-1.5651	-1047.96	-393.72	-878.36
15	760.00	74.1	0.9700	0.8930	677.89	534.62	0.9636	0.9777	0.9890	4.9433	-1.6091	-1034.12	-389.57	-867.15

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 556.40 P = 45.00 V = 279.60 OMEGA = 0.193 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 508.50 P = 47.00 V = 218.50 OMEGA = 0.663 OMEGAH = 0.187 DIPOLE = 1.60 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69339E 01 B = 0.12424E 04 C = 0.23000E 03 VAPOR PRESSURE AT NBP  
 2 A = 0.66604E 01 B = 0.81305E 03 C = 0.13253E 03 P = 766.0 AT T = 76.8  
 P = 769.7 AT T = 82.5

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.61938E 02 B = -.29977E 00 C = 0.16761E -02 COMPONENT ID ECHO CHECK  
 2 A = 0.14178E 03 B = -.49807E 00 C = 0.92870E -03 ID NUMBER = 6  
 ID NUMBER = 22

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.10612E 01 B = -.89781E 00 C = -.18817E 01

STANDARD DEVIATION = 0.61008E -01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.8899 G2INF = 5.5750

T1INF = 82.19 T2INF = 76.54

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.3435

AREA BELOW THE X-AXIS IS -0.3584

CROSS-OVER POINT IS X = 0.55

NORMALIZED AREA DIFFERENCE IS -0.0213

HERINGTON J-FACTOR IS 5.87

CONSISTENCY INDEX IS -3.75

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	-288.63	1506.89	C.9095E-11	27.07	0.01088
2	-99.54	1467.24	C.8692E-03	8.12	0.01063
3	-203.90	1532.65	0.1984E 00	9.92	0.00438
4	-203.32	1539.07	0.1763E-01	9.45	0.00453
5	-186.60	1550.99	0.3272E-02	6.73	0.00559
6	-221.61	1553.10	0.8760E-03	11.33	0.00439
7	-201.28	1576.55	C.2403E-02	7.16	0.00536
8	-157.42	1520.41	0.1507E-02	6.54	0.00708
9	-157.47	1520.47	C.1507E-02	6.54	0.00708
10	-216.35	1545.50	0.5632E-02	10.98	0.00435

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	94.0	0.9050	0.2230	163.22	1561.53	1.0000	1.0000	1.1433	3.9614	-1.2426	0.0	0.0	0.0
2	760.00	91.4	0.8930	0.2000	146.02	1457.25	1.0000	1.0000	1.1616	3.8803	-1.2062	0.0	0.0	0.0
3	760.00	82.1	0.8220	0.1250	96.49	1126.82	1.0000	1.0000	1.1935	3.2992	-1.0168	0.0	0.0	0.0
4	760.00	76.1	0.7170	0.0880	72.81	946.27	1.0000	1.0000	1.2765	2.5754	-0.7019	0.0	0.0	0.0
5	760.00	72.5	0.5580	0.0670	61.15	849.18	1.0000	1.0000	1.4870	1.8798	-0.2344	0.0	0.0	0.0
6	760.00	71.7	0.4690	0.0630	58.79	828.69	1.0000	1.0000	1.7304	1.6103	0.0719	0.0	0.0	0.0
7	760.00	71.4	0.4470	0.0610	57.92	821.11	1.0000	1.0000	1.7841	1.5638	0.1318	0.0	0.0	0.0
8	760.00	70.2	0.2960	0.0520	54.57	791.31	1.0000	1.0000	2.4379	1.2869	0.6389	0.0	0.0	0.0
9	760.00	69.9	0.2870	0.0500	53.76	783.99	1.0000	1.0000	2.4541	1.2852	0.6469	0.0	0.0	0.0
10	760.00	69.7	0.1330	0.0350	53.22	779.15	1.0000	1.0000	3.7444	1.0803	1.2430	0.0	0.0	0.0

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 0.0	P = 0.0	V = 0.0	OMEGA = 0.0	OMEGA H = 0.0	DIPOLE = 1.63	ETA = 0.0
2	T = 507.90	P = 29.90	V = 372.40	OMEGA = 0.298	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.78844E 01	B = 0.17430E 04	C = 0.21333E 03
2	A = 0.68778E 01	B = 0.11715E 04	C = 0.22437E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.98518E 02	B = -0.11172E 00	C = 0.36111E-03
2	A = 0.12596E 03	B = -0.14456E 00	C = 0.54720E-03

VAPOR PRESSURE AT NBP

P = 759.7 AT T = 135.0  
P = 759.0 AT T = 68.7

COMPONENT ID ECHO CHECK

ID NUMBER = 7  
ID NUMBER = -18

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.17367E 01	B = -0.38992E 01	C = 0.67515E 00
STANDARD DEVIATION = 0.13546E-01		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 5.6785	G2INF = 4.4254
T1INF = 68.74	T2INF = 135.01

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.4094  
AREA BELOW THE X-AXIS IS -0.3972  
CROSS-OVER POINT IS X = 0.49  
NORMALIZED AREA DIFFERENCE IS 0.0150  
HERINGTON J-FACTOR IS 10.63  
CONSISTENCY INDEX IS -9.13

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	963.02 469.33	0.1081F-08
2	1000.94 1685.33	0.3229F-02
3	1154.93 559.26	0.2676F 00
4	1238.53 559.28	0.8785E-01
5	1722.38 391.00	0.3764E-02
6	1120.24 405.06	0.3517F-04
7	1716.19 369.44	0.2326F-02
8	1719.93 400.99	0.4756F-03
9	1719.94 400.99	0.4756F-03
10	1090.28 606.04	0.1487F-01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
86.71	0.00219
115.59	0.02524
38.86	0.00613
30.49	0.00758
4.95	0.00980
72.34	0.00123
8.81	0.00912
4.53	0.01005
4.53	0.01005
42.59	0.00669



## SUMMARY VLF DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	110.5	0.9500	0.4350	317.28	2703.99	1.0000	1.0000	1.0931	3.1612	-1.0620	0.0	0.0	0.0
2	760.00	94.7	0.8950	0.2370	168.13	1843.12	1.0000	1.0000	1.1928	2.9824	-0.9164	0.0	0.0	0.0
3	760.00	73.9	0.6720	0.0820	65.48	1043.17	1.0000	1.0000	1.4112	2.0294	-0.3633	0.0	0.0	0.0
4	760.00	71.2	0.5730	0.0650	57.35	963.04	1.0000	1.0000	1.4978	1.7199	-0.1382	0.0	0.0	0.0
5	760.00	68.5	0.4230	0.0490	50.10	887.72	1.0000	1.0000	1.7508	1.4043	0.2205	0.0	0.0	0.0
6	760.00	66.2	0.2270	0.0300	44.56	827.22	1.0000	1.0000	2.2456	1.1474	0.6715	0.0	0.0	0.0
7	760.00	65.1	0.1240	0.0180	42.11	799.44	1.0000	1.0000	2.6105	1.0606	0.9007	0.0	0.0	0.0

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 0.0 P = 0.0 V = 0.0 OMEGA = 0.0 OMEGAH = 0.0 DIPOLE = 1.63 ETA = 0.0  
 2 T = 504.00 P = 32.10 V = 350.70 OMEGA = 0.285 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.78844E 01 B = 0.17430E 04 C = 0.21333E 03  
 2 A = 0.68657E 01 B = 0.11530E 04 C = 0.22600E 03  
 VAPOR PRESSURE AT NBP  
 P = 759.7 AT T = 135.0  
 P = 763.6 AT T = 63.5

## MCLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.98518E 02 B = .11172E 00 C = 0.36111E 03  
 2 A = 0.20978E 03 B = -.71344E 00 C = 0.14350E 02  
 COMPONENT ID ECHO CHECK  
 ID NUMBER = 7  
 ID NUMBER = 38

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.11720E 01 B = .21665E 01 C = .19057E 00  
 STANDARD DEVIATION = 0.52556E 02

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 3.2286 G2INF = 3.2709  
 T1INF = 63.33 T2INF = 135.01

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.3076  
 AREA BELOW THE X-AXIS IS -0.2824  
 CROSS-OVER POINT IS X = 0.52  
 NORMALIZED AREA DIFFERENCE IS 0.0428  
 HERINGTON J-FACTOR IS 20.13  
 CONSISTENCY INDEX IS -15.85

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	550.83 453.98	0.4547E-11
2	555.97 2932.14	0.3683E-03
3	674.52 474.31	0.3548E 00
4	699.46 489.24	0.1323E 00
5	1359.25 190.52	0.6188E-02
6	550.14 439.66	0.8549E-05
7	1354.43 166.52	0.3708E-02
8	1325.93 224.92	0.4466E-03
9	1325.98 224.90	0.4466E-03
10	615.21 532.12	0.5166E-01

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
87.13	0.00122
234.10	0.05694
56.47	0.00861
49.93	0.01072
6.25	0.01519
89.76	0.00069
11.15	0.01350
4.83	0.01665
4.83	0.01665
58.97	0.00895

## \*\*DIAGNOSTIC\*\*

1 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
 SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PH1	PH2	G1	G2	LN(G1/G2)	B11	B22	B12
1	276.20	50.0	0.0340	0.0550	499.37	266.50	0.9880	0.9833	0.8830	0.9957	-0.1201	-1009.80	-1217.82	-1039.88
2	278.80	50.0	0.0550	0.0770	499.37	266.50	0.9878	0.9832	0.7712	1.0033	-0.2631	-1009.80	-1217.82	-1039.88
3	288.60	50.0	0.1210	0.1820	499.37	266.50	0.9870	0.9826	0.8569	0.9889	-0.1433	-1009.80	-1217.82	-1039.88
4	294.70	50.0	0.1490	0.2180	499.37	266.50	0.9866	0.9823	0.8508	0.9968	-0.1584	-1009.80	-1217.82	-1039.88
5	302.30	50.0	0.1840	0.2710	499.37	266.50	0.9860	0.9819	0.8780	0.9937	-0.1237	-1009.80	-1217.82	-1039.88
6	317.60	50.0	0.2760	0.3950	499.37	266.50	0.9849	0.9812	0.8953	0.9757	-0.0859	-1009.80	-1217.82	-1039.88
7	329.40	50.0	0.3140	0.4380	499.37	266.50	0.9843	0.9806	0.9044	0.9914	-0.0918	-1009.80	-1217.82	-1039.88
8	348.40	50.0	0.4060	0.5540	499.37	266.50	0.9831	0.9797	0.9345	0.9601	-0.0270	-1009.80	-1217.82	-1039.88
9	353.00	50.0	0.4340	0.5810	499.37	266.50	0.9828	0.9795	0.9287	0.9589	-0.0321	-1009.80	-1217.82	-1039.88
10	353.60	50.0	0.4790	0.6360	499.37	266.50	0.9821	0.9791	0.9481	0.9317	0.0174	-1009.80	-1217.82	-1039.88
11	334.00	50.0	0.5470	0.7020	499.37	266.50	0.9810	0.9782	0.9666	0.9256	0.0434	-1009.80	-1217.82	-1039.88
12	338.40	50.0	0.5640	0.7150	499.37	266.50	0.9808	0.9780	0.9655	0.9300	0.0374	-1009.80	-1217.82	-1039.88
13	410.80	50.0	0.6470	0.7910	499.37	266.50	0.9795	0.9771	0.9835	0.8900	0.0999	-1009.80	-1217.82	-1039.88
14	424.00	50.0	0.6930	0.8240	499.37	266.50	0.9788	0.9765	0.9865	0.8889	0.1042	-1009.80	-1217.82	-1039.88
15	437.60	50.0	0.7460	0.8630	499.37	266.50	0.9781	0.9759	0.9898	0.8626	0.1375	-1009.80	-1217.82	-1039.88
16	467.70	50.0	0.8330	0.9220	499.37	266.50	0.9766	0.9747	1.0104	0.7572	0.2370	-1009.80	-1217.82	-1039.88
17	478.20	50.0	0.8680	0.9420	499.37	266.50	0.9760	0.9742	1.0124	0.7664	0.2783	-1009.80	-1217.82	-1039.88
18	499.80	50.0	0.9460	0.9800	499.37	266.50	0.9750	0.9733	1.0088	0.6745	0.4025	-1009.80	-1217.82	-1039.88
19	501.60	50.0	0.9510	0.9830	499.37	266.50	0.9749	0.9732	1.0101	0.6341	0.4656	-1009.80	-1217.82	-1039.88

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 536.60 P = 54.60 V = 276.00 OMEGA = 0.214 OMEGAH = 0.187 DIPOLE = 1.02 ETA = 0.28  
 2 T = 562.00 P = 48.60 V = 260.10 OMEGA = 0.211 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69033E 01 B = 0.11630E 04 C = 0.22740F 03  
 2 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.61065E 02 B = 0.30264E 01 C = 0.11910E 03  
 2 A = 0.70863E 02 B = 0.14907E 01 C = 0.15880E 03

VAPOR PRESSURE AT NBP

P = 749.5 AT T = 61.3  
 P = 760.0 AT T = 80.1

COMPONENT ID ECHO CHECK

ID NUMBER = 8  
 IC NUMBER = 5

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.17112E 00 B = 0.62351E 01 C = 0.56118E 00  
 STANDARD DEVIATION = 0.39978E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 0.8427 G2INF = 0.6361  
 T1INF = 50.00 T2INF = 50.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0544  
 AREA BELOW THE X-AXIS IS 0.1015  
 CROSS-OVER POINT IS X = 0.50  
 NORMALIZED AREA DIFFERENCE IS -0.3024  
 CONSISTENCY INDEX IS 30.24

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES			OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)	
					PRESSURE	COMPOSITION
1	-437.53	437.63	C.4103E-02	6.93	0.00708	
2	-544.00	830.90	0.2715E-03	1.71	0.00423	
3	-420.98	421.50	0.3648E-01	5.72	0.00657	
4	-437.83	437.99	0.5565E-01	6.95	0.00709	
5	-598.15	1071.23	0.8351E-03	1.04	0.00329	
6	-613.04	1160.73	0.5577E-03	1.30	0.00330	
7	-608.60	1128.91	C.7400E-03	1.11	0.00329	
8	-587.37	1020.76	0.2415E-03	1.10	0.00340	
9	-586.90	1018.85	0.2414E-03	1.10	0.00341	
10	-395.61	395.23	0.1585E-00	4.14	0.00587	

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	79.2	0.0600	0.0890	1223.06	712.57	0.9753	0.9662	0.8962	0.9955	-0.1050	-778.90	-976.46	-840.01
2	760.00	79.0	0.0680	0.1000	1216.35	708.28	0.9752	0.9662	0.8933	0.9978	-0.1106	-780.18	-977.82	-841.15
3	760.00	78.4	0.1160	0.1670	1196.36	695.53	0.9747	0.9660	0.8887	0.9914	-0.1093	-784.05	-981.93	-844.58
4	760.00	77.9	0.1330	0.1900	1179.89	685.03	0.9745	0.9659	0.8940	0.9978	-0.1099	-787.30	-985.37	-847.45
5	760.00	76.9	0.1930	0.2700	1147.45	664.41	0.9739	0.9656	0.8997	0.9959	-0.1016	-793.86	-992.32	-853.26
6	760.00	76.2	0.2290	0.3160	1125.15	650.26	0.9735	0.9655	0.9046	0.9978	-0.0980	-798.51	-997.24	-857.36
7	760.00	75.7	0.2660	0.3610	1109.41	640.29	0.9732	0.9654	0.9020	0.9943	-0.0973	-801.86	-1000.78	-860.31
8	760.00	74.7	0.3180	0.4290	1078.44	620.71	0.9726	0.9652	0.9219	0.9862	-0.0674	-808.62	-1007.92	-866.26
9	760.00	74.4	0.3330	0.4430	1069.27	614.92	0.9725	0.9652	0.9168	0.9928	-0.0797	-810.67	-1010.08	-868.06
10	760.00	73.3	0.3880	0.5080	1036.16	594.06	0.9720	0.9650	0.9306	0.9891	-0.0610	-818.25	-1018.07	-874.72
11	760.00	72.2	0.4430	0.5700	1003.91	573.76	0.9714	0.9648	0.9435	0.9833	-0.0413	-825.95	-1026.17	-881.47
12	760.00	71.6	0.4670	0.6010	986.49	562.90	0.9712	0.9647	0.9600	0.9718	-0.0122	-830.20	-1030.63	-885.18
13	760.00	70.8	0.5170	0.6520	963.75	548.68	0.9708	0.9647	0.9625	0.9595	0.0031	-835.92	-1036.64	-890.18
14	760.00	69.7	0.5700	0.7020	933.13	529.58	0.9703	0.9645	0.9703	0.9560	0.0148	-843.88	-1045.00	-897.13
15	760.00	69.3	0.6370	0.7620	895.22	506.01	0.9697	0.9643	0.9818	0.9464	0.0367	-854.20	-1055.82	-906.12
16	760.00	67.0	0.7000	0.8140	861.06	484.86	0.9692	0.9642	0.9917	0.9339	0.0601	-863.97	-1066.03	-914.60
17	760.00	65.4	0.7830	0.8750	820.39	459.79	0.9685	0.9640	0.9996	0.9148	0.0886	-876.23	-1078.85	-925.24
18	760.00	64.1	0.8530	0.9220	788.43	440.16	0.9680	0.9639	1.0055	0.8801	0.1331	-886.46	-1089.47	-934.04
19	760.00	62.6	0.9340	0.9680	752.73	418.33	0.9674	0.9638	1.0092	0.8461	0.1763	-898.37	-1101.96	-944.38

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 536.60	P = 54.60	V = 276.00	OMEGA = 0.214	OMEGA H = 0.187	DIPOLE = 1.02	ETA = 0.28
2	T = 562.00	P = 48.60	V = 260.10	OMEGA = 0.211	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69033F 01	B = 0.11630E 04	C = 0.22740F 03
2	A = 0.69056F 01	B = 0.12110E 04	C = 0.22079E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.61065E 02	B = 0.30264E 01	C = 0.11910F 03
2	A = 0.70863E 02	B = 0.14907E 01	C = 0.15880E 03

VAPOR PRESSURE AT NBP

P = 749.5 AT T = 61.3  
P = 760.0 AT T = 80.1

COMPONENT ID ECHO CHECK

ID NUMBER = 8  
ID NUMBER = 5

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.12237E 06 B = 0.78978E 01 C = 0.25909E 00  
STANDARD DEVIATION = 0.93353E 02

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1 INF = 0.8948 G2 INF = 0.8060  
T1 INF = 80.10 T2 INF = 61.73

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS -0.0410  
AREA BELOW THE X-AXIS IS 0.0445  
CROSS-OVER POINT IS X = 0.55  
NORMALIZED AREA DIFFERENCE IS -0.0408  
HERINGTON J-FACTOR IS 8.23  
CONSISTENCY INDEX IS -4.15

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)	
				PRESSURE	COMPOSITION
1	-344.67	363.73	0.7555E-04	4.00	0.00170
2	-598.22	1104.06	0.1030E-03	2.28	0.00429
3	-224.22	166.73	0.2023E-02	3.67	0.00173
4	-230.64	175.85	0.2266E-02	3.70	0.00172
5	-29.27	-75.51	0.7210E-03	2.67	0.00208
6	-258.20	203.33	0.1296E-03	4.76	0.00152
7	-47.70	-57.28	0.6568E-03	2.84	0.00199
8	344.88	387.02	0.2307E-03	2.28	0.00400
9	349.98	-390.37	0.2308E-03	2.28	0.00401
10	-241.36	193.14	0.2365E-01	3.75	0.00177

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	77.5	0.0710	0.0640	1166.84	740.94	0.9764	0.9551	0.5716	0.9834	-0.5426	-789.91	-1292.89	-981.07
2	760.00	77.6	0.1100	0.1020	1170.08	743.30	0.9761	0.9551	0.5862	0.9818	-0.5158	-789.26	-1291.61	-980.17
3	760.00	77.7	0.1400	0.1340	1173.35	745.66	0.9759	0.9552	0.6032	0.9768	-0.4820	-788.60	-1290.34	-979.28
4	760.00	77.8	0.1740	0.1710	1176.62	748.03	0.9757	0.9553	0.6175	0.9706	-0.4522	-787.95	-1289.07	-978.38
5	760.00	77.8	0.2230	0.2270	1176.62	748.03	0.9753	0.9554	0.6393	0.9622	-0.4088	-787.95	-1289.07	-978.38
6	760.00	77.5	0.2590	0.2700	1166.84	740.94	0.9749	0.9554	0.6600	0.9618	-0.3767	-789.91	-1292.89	-981.07
7	760.00	77.3	0.3010	0.3230	1160.35	736.24	0.9745	0.9554	0.6829	0.9517	-0.3319	-791.23	-1295.45	-982.88
8	760.00	76.8	0.3650	0.4080	1144.25	724.59	0.9739	0.9554	0.7209	0.9308	-0.2556	-794.52	-1301.88	-987.40
9	760.00	76.0	0.4480	0.5220	1118.84	706.25	0.9731	0.9554	0.7679	0.8870	-0.1442	-799.85	-1312.26	-994.71
10	760.00	75.1	0.5040	0.5960	1090.74	686.03	0.9725	0.9552	0.7989	0.8588	-0.0722	-805.91	-1324.08	-1003.03
11	760.00	74.7	0.5280	0.6280	1078.44	677.20	0.9723	0.9552	0.8125	0.8417	-0.0353	-808.62	-1329.38	-1006.76
12	760.00	73.5	0.5810	0.7000	1042.12	651.21	0.9717	0.9549	0.8512	0.7950	0.0683	-816.86	-1345.46	-1018.09
13	760.00	71.8	0.6500	0.7800	992.25	615.70	0.9709	0.9545	0.8897	0.7378	0.1872	-828.78	-1368.71	-1034.46
14	760.00	70.4	0.7040	0.8390	952.53	587.61	0.9704	0.9541	0.9199	0.6687	0.3189	-838.80	-1388.28	-1048.25
15	760.00	68.9	0.7510	0.8790	911.32	558.62	0.9698	0.9535	0.9437	0.6281	0.4072	-849.76	-1409.67	-1063.33
16	760.00	67.7	0.7900	0.9100	879.33	536.23	0.9693	0.9530	0.9621	0.5767	0.5117	-858.69	-1427.12	-1075.62
17	760.00	65.6	0.8560	0.9500	825.39	498.74	0.9685	0.9521	0.9867	0.5019	0.6760	-874.68	-1458.38	-1097.66
18	760.00	63.7	0.9220	0.9790	778.79	466.61	0.9678	0.9512	0.9988	0.4353	0.8304	-889.57	-1487.48	-1118.18

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 536.60	P = 54.00	V = 276.00	OMEGA = 0.214	OMEGA H = 0.187	DIPOLE = 1.02	ETA = 0.28
2	T = 523.30	P = 37.80	V = 286.00	OMEGA = 0.373	OMEGA H = 0.278	DIPOLE = 1.78	ETA = 0.50

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69033E 01	B = 0.11630E 04	C = 0.22740E 03
2	A = 0.70941E 01	B = 0.12387E 04	C = 0.21700E 03

MCLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.61065E 02	B = 0.30264E -01	C = 0.11910E -03
2	A = 0.13612E 03	B = -0.37001E 00	C = 0.80775E -03

VAPOR PRESSURE AT NBP

P = 749.5	AT T = 61.3
P = 769.5	AT T = 77.1

COMPONENT ID ECHO CHECK

ID NUMBER = 8
ID NUMBER = 12

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = -0.56087E 00	B = 0.35987E 00	C = 0.12507E 01
STANDARD DEVIATION = 0.98208E -02		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 0.5707	G2INF = 0.3500
T1INF = 76.72	T2INF = 61.73

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	-0.1848
AREA BELOW THE X-AXIS IS	0.2207
CROSS-OVER POINT IS X =	0.54
NORMALIZED AREA DIFFERENCE IS	-0.0887
HERINGTON J-FACTOR IS	7.20
CONSISTENCY INDEX IS	1.68

SUMMARY OF WILSON PARAMETERS

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	-449.25	95.03	0.3197E-13	5.66	0.00529
2	-266.55	266.67	0.4378E-03	3.12	0.00361
3	-354.31	-98.96	0.5372E-02	6.18	0.00289
4	-391.66	-50.97	0.1099E-01	7.81	0.00372
5	-281.45	-186.31	0.9912E-03	3.25	0.00322
6	-330.01	-124.21	0.3450E-03	4.73	0.00263
7	-276.20	-192.07	0.1256E-02	3.12	0.00333
8	-229.65	-251.11	0.3665E-03	2.80	0.00452
9	-229.63	-251.15	0.3664E-03	2.80	0.00452
10	-355.53	-98.23	0.4453E-02	6.30	0.00292

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2OL	PH11	PH12	G1	G2	LN(G1/G2)	B11	B22	B12
1	420.00	50.0	0.0060	0.0151	499.37	402.25	0.9755	0.9709	2.0697	1.0036	0.7238	-1009.80	-1395.64	-1190.19
2	424.00	50.0	0.0122	0.0312	499.37	402.25	0.9793	0.9706	2.1227	1.0026	0.7501	-1009.80	-1395.64	-1190.19
3	428.00	50.0	0.0180	0.0438	499.37	402.25	0.9751	0.9704	2.0383	1.0044	0.7077	-1009.80	-1395.64	-1190.19
4	442.00	50.0	0.0341	0.0855	499.37	402.25	0.9783	0.9694	2.1673	1.0076	0.7659	-1009.80	-1395.64	-1190.19
5	479.00	50.0	0.0800	0.1990	499.37	402.25	0.9764	0.9668	2.3251	1.0014	0.8424	-1009.80	-1395.64	-1190.19
6	495.00	50.0	0.1090	0.2490	499.37	402.25	0.9756	0.9657	2.3162	1.0025	0.8374	-1009.80	-1395.64	-1190.19
7	496.00	50.0	0.1020	0.2430	499.37	402.25	0.9755	0.9657	2.3036	1.0027	0.8318	-1009.80	-1395.64	-1190.19
8	527.00	50.0	0.1430	0.3090	499.37	402.25	0.9739	0.9636	2.2161	1.0168	0.7791	-1009.80	-1395.64	-1190.19
9	526.00	50.0	0.1450	0.3160	499.37	402.25	0.9740	0.9636	2.2309	1.0070	0.7955	-1009.80	-1395.64	-1190.19
10	548.00	50.0	0.1780	0.3520	499.37	402.25	0.9728	0.9621	2.1064	1.0321	0.7134	-1009.80	-1395.64	-1190.19
11	549.00	50.0	0.1790	0.3590	499.37	402.25	0.9728	0.9621	2.1401	1.0240	0.7371	-1009.80	-1395.64	-1190.19
12	543.00	50.0	0.2340	0.4340	499.37	402.25	0.9710	0.9598	2.0575	1.0266	0.7145	-1009.80	-1395.64	-1190.19
13	598.00	50.0	0.2620	0.4680	499.37	402.25	0.9703	0.9587	2.0703	1.0262	0.7019	-1009.80	-1395.64	-1190.19
14	656.00	50.0	0.4270	0.5930	499.37	402.25	0.9673	0.9549	1.7599	1.1046	0.4658	-1009.80	-1395.64	-1190.19
15	654.00	50.0	0.5360	0.6130	499.37	402.25	0.9669	0.9543	1.4663	1.3121	0.1111	-1009.80	-1395.64	-1190.19
16	652.00	50.0	0.5540	0.6170	499.37	402.25	0.9669	0.9545	1.4237	1.3471	0.0553	-1009.80	-1395.64	-1190.19
17	666.00	50.0	0.6530	0.6630	499.37	402.25	0.9667	0.9542	1.3054	1.5323	-0.1602	-1009.80	-1395.64	-1190.19
18	669.00	50.0	0.7040	0.6700	499.37	402.25	0.9666	0.9540	1.2290	1.7665	-0.3628	-1009.80	-1395.64	-1190.19
19	666.00	50.0	0.7850	0.6950	499.37	402.25	0.9667	0.9543	1.1383	2.2383	-0.6762	-1009.80	-1395.64	-1190.19
20	658.00	50.0	0.8520	0.7270	499.37	402.25	0.9671	0.9549	1.0844	2.8773	-0.9758	-1009.80	-1395.64	-1190.19
21	624.00	50.0	0.9350	0.7890	499.37	402.25	0.9688	0.9573	1.0189	4.8144	-1.5529	-1009.80	-1395.64	-1190.19
22	606.00	50.0	0.9570	0.8340	499.37	402.25	0.9696	0.9586	1.0229	5.5680	-1.6944	-1009.80	-1395.64	-1190.19
23	583.00	50.0	0.9770	0.8710	499.37	402.25	0.9708	0.9602	1.0080	7.7960	-2.0457	-1009.80	-1395.64	-1190.19

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 536.60 P = 54.00 V = 276.00 OMEGA = 0.214 OMEGAH = 0.187 DIPOLE = 1.02 ETA = 0.28  
 2 T = 513.20 P = 78.50 V = 118.00 OMEGA = 0.557 OMEGAH = 0.105 DIPOLE = 1.66 ETA = 1.21

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69033E 01 B = 0.11630E 04 C = 0.22740E 03  
 2 A = 0.78786E 01 B = 0.14731E 04 C = 0.23000E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.61065E 02 B = -0.30264E 01 C = 0.11910E 03  
 2 A = 0.64511E 02 B = -0.19716E 00 C = 0.38735E 03

VAPOR PRESSURE AT ABP

P = 749.5 AT T = 61.3  
 P = 758.5 AT T = 64.7

COMPONENT ID CHECK

ID NUMBER = 8  
 ID NUMBER = 23

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.72329E 00 B = 0.97934E 00 C = -0.36841E 01  
 STANDARD DEVIATION = 0.74741E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.0612 G2INF = 7.2535  
 T1INF = 50.00 T2INF = 50.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.3450  
 AREA BELOW THE X-AXIS IS -0.3601  
 CROSS-OVER POINT IS X = 0.60  
 NORMALIZED AREA DIFFERENCE IS -0.0214  
 CONSISTENCY INDEX IS 2.14



## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)	
				PRFSSURE	COMPOSITION
1	-554.70	1835.90	0.2808E-06	30.21	0.02727
2	-410.14	1969.90	0.3224E-03	3.12	0.00822
3	-478.36	2071.55	0.7458E 00	8.57	0.01224
4	-481.58	2082.57	0.1466E 00	8.80	0.01249
5	-403.48	1940.78	0.5716E-02	3.25	0.00827
6	-395.87	1904.93	0.4520E-02	3.46	0.00833
7	-392.92	1904.97	0.4507E-02	3.45	0.00840
8	-411.52	1977.34	0.1074E-02	3.10	0.00823
9	-412.61	1984.88	0.1079E-02	3.11	0.00830
10	-491.51	2101.66	0.2664E-01	9.87	0.01343

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	750.00	63.0	0.0400	0.1020	762.13	679.59	0.9685	0.9563	2.4553	0.9589	0.8994	-895.15	-1204.46	-1033.90
2	750.00	62.0	0.0650	0.1540	738.81	653.91	0.9680	0.9557	2.3520	1.0035	0.8518	-903.23	-1218.07	-1044.97
3	750.00	60.9	0.0950	0.2150	713.79	626.56	0.9675	0.9550	2.3241	1.0033	0.8400	-912.25	-1233.25	-1057.32
4	750.00	59.3	0.1460	0.3040	678.55	588.44	0.9666	0.9540	2.2473	1.0027	0.8071	-925.62	-1255.71	-1075.61
5	750.00	57.8	0.1960	0.3780	646.74	554.43	0.9659	0.9531	2.1822	1.0092	0.7712	-938.44	-1277.17	-1093.12
6	750.00	57.0	0.2300	0.4200	630.25	536.55	0.9655	0.9526	2.1194	1.0140	0.7372	-945.39	-1288.79	-1102.60
7	750.00	55.9	0.2870	0.4720	608.11	513.65	0.9649	0.9519	1.9772	1.0414	0.6411	-955.08	-1304.96	-1115.82
8	750.00	55.3	0.3320	0.5070	596.28	501.28	0.9646	0.9515	1.8717	1.0630	0.5657	-960.43	-1313.87	-1123.11
9	750.00	54.7	0.3830	0.5400	584.64	489.17	0.9643	0.9511	1.7619	1.1000	0.4711	-965.83	-1322.85	-1130.46
10	750.00	54.3	0.4250	0.5640	576.97	481.22	0.9641	0.9509	1.6801	1.1369	0.3905	-969.46	-1328.88	-1135.40
11	750.00	54.0	0.4590	0.5800	571.27	475.34	0.9640	0.9507	1.6154	1.1782	0.3156	-972.19	-1333.42	-1139.11
12	750.00	53.8	0.5200	0.6070	567.50	471.44	0.9639	0.9506	1.5021	1.2527	0.1815	-974.02	-1336.46	-1141.60
13	750.00	53.7	0.5570	0.6190	565.62	465.50	0.9638	0.9505	1.4347	1.3212	0.0824	-974.93	-1337.98	-1142.85
14	750.00	53.5	0.6280	0.6430	561.87	465.65	0.9637	0.9504	1.3305	1.4863	-0.1108	-976.77	-1341.03	-1145.35
15	750.00	53.5	0.6360	0.6460	561.87	465.65	0.9637	0.9504	1.3159	1.5062	-0.1321	-976.77	-1341.03	-1145.35
16	750.00	53.5	0.6670	0.6550	561.87	465.65	0.9637	0.9504	1.2760	1.6046	-0.2291	-976.77	-1341.03	-1145.35
17	750.00	53.7	0.7530	0.6840	565.62	469.50	0.9637	0.9506	1.1726	1.9656	-0.5165	-974.93	-1337.98	-1142.85
18	750.00	53.9	0.7570	0.7610	565.38	473.38	0.9638	0.9508	1.1280	2.2448	-0.6882	-973.10	-1334.94	-1140.36
19	750.00	54.4	0.8550	0.7300	578.88	483.20	0.9640	0.9512	1.0773	2.7814	-0.9485	-968.55	-1327.37	-1134.16
20	750.00	55.2	0.9040	0.7680	594.33	499.25	0.9644	0.9518	1.0444	3.4962	-1.2082	-961.33	-1315.36	-1124.33
21	750.00	56.3	0.9370	0.8120	616.09	522.02	0.9648	0.9527	1.0282	4.1325	-1.3911	-951.54	-1296.05	-1110.99
22	750.00	57.9	0.9700	0.8750	648.83	556.64	0.9655	0.9539	1.0170	5.4182	-1.6729	-937.57	-1275.73	-1091.94

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 536.60 P = 54.00 V = 276.00 OMEGA = 0.214 OMEGAH = 0.187 DIPOLE = 1.02 ETA = 0.28  
 2 T = 513.20 P = 78.50 V = 118.00 OMEGA = 0.557 OMEGAH = 0.105 DIPOLE = 1.66 ETA = 1.21

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69033E 01 B = 0.11630E 04 C = 0.22740E 03  
 2 A = 0.78786E 01 B = 0.14731E 04 C = 0.23000E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.61065E 02 B = 0.30264E 01 C = 0.11910E 03  
 2 A = 0.64511E 02 B = -0.19716E 00 C = 0.38735E 03

VAPOR PRESSURE AT NBP

P = 749.5 AT T = 61.3  
 P = 758.5 AT T = 64.7

COMPONENT ID ECHO CHECK

ID NUMBER = 8  
 ID NUMBER = 23

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.84834E 00 B = 0.13930E 00 C = -0.26920E 01  
 STANDARD DEVIATION = 0.42469E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.3358 G2INF = 5.4979  
 T1INF = 64.75 T2INF = 61.73

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.3405  
 AREA BELOW THE X-AXIS IS -0.3198  
 CROSS-OVER POINT IS X = 0.59  
 NORMALIZED AREA DIFFERENCE IS 0.0313  
 HERINGTON J-FACTOR IS 5.17  
 CONSISTENCY INDEX IS -2.04

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	-443.45 1578.07	0.2638F-10	32.92	0.01885
2	-409.05 1504.05	0.3702F-03	4.77	0.00808
3	-368.27 1676.05	0.9713F-01	8.06	0.00730
4	-371.13 1701.03	0.2368F-01	6.83	0.00715
5	-369.39 1762.70	0.3849F-02	3.59	0.00692
6	-367.37 1753.89	0.3103F-02	3.63	0.00693
7	-371.95 1793.79	0.3078F-02	3.42	0.00696
8	-373.09 1775.47	0.7362F-03	3.63	0.00691
9	-373.10 1775.48	0.7359F-03	3.63	0.00691
10	-373.79 1689.54	0.5813E-02	8.09	0.00729

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PH11	PH12	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	113.4	0.0450	0.0944	2824.81	668.71	0.9879	0.9518	0.5560	1.0213	-0.6082	-602.53	-1529.04	-944.24
2	760.00	112.3	0.0670	0.1385	2755.71	647.57	0.9871	0.9513	0.5611	1.0264	-0.6038	-607.23	-1544.46	-952.83
3	760.00	109.3	0.1091	0.2254	2578.84	594.18	0.9855	0.9499	0.5983	1.0517	-0.5640	-619.56	-1586.25	-976.13
4	760.00	107.9	0.1470	0.2935	2499.29	570.51	0.9844	0.9494	0.5960	1.0429	-0.5595	-626.06	-1606.24	-987.28
5	760.00	102.2	0.2437	0.4736	2193.00	481.47	0.9815	0.9472	0.6551	1.0360	-0.4523	-652.02	-1691.45	-1034.80
6	760.00	97.4	0.3225	0.6002	1955.41	414.84	0.9794	0.9454	0.7064	1.0175	-0.3650	-675.53	-1768.60	-1077.84
7	760.00	92.1	0.4055	0.7158	1715.96	350.05	0.9774	0.9435	0.7619	0.9748	-0.2464	-703.14	-1859.25	-1128.43
8	760.00	85.5	0.5069	0.8245	1447.83	280.60	0.9752	0.9406	0.8302	0.9026	-0.0837	-740.38	-1981.66	-1196.73
9	760.00	78.1	0.6411	0.9097	1187.11	216.59	0.9728	0.9368	0.8811	0.8233	0.0679	-785.87	-2131.26	-1280.20
10	760.00	73.3	0.7325	0.9481	1035.26	181.13	0.9712	0.9338	0.9201	0.7566	0.1956	-818.46	-2238.61	-1340.08
11	760.00	66.4	0.8516	0.9860	844.87	138.82	0.9688	0.9287	1.0060	0.4774	0.7453	-868.76	-2404.51	-1432.58
12	760.00	61.8	0.9774	0.9990	735.36	115.70	0.9671	0.9248	1.0184	0.2675	1.3369	-904.45	-2522.42	-1498.28

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 536.60 P = 54.00 V = 276.00 OMEGA = 0.214 OMEGAH = 0.187 DIPOLE = 1.02 ETA = 0.28  
 2 T = 575.10 P = 36.10 V = 338.50 OMEGA = 0.400 OMEGAH = 0.302 DIPOLE = 1.65 ETA = 0.50

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69033E 01 B = 0.11630E 04 C = 0.22740E 03  
 2 A = 0.68256E 01 B = 0.12567E 04 C = 0.20240E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.61065E 02 B = 0.30264E 01 C = 0.11910E 03  
 2 A = 0.12020E 03 B = 0.82574E 01 C = 0.33673E 03

VAPOR PRESSURE AT NBP

P = 749.5 AT T = 61.3  
 P = 760.3 AT T = 116.2

COMPONENT ID ECHO CHECK

ID NUMBER = 8  
 ID NUMBER = 29

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = -0.55394E 00 B = -0.32082E 00 C = 0.21919E 01  
 STANDARD DEVIATION = 0.91570E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 0.5747 G2INF = 0.2679  
 T1INF = 116.17 T2INF = 61.73

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS -0.2327  
 AREA BELOW THE X-AXIS IS 0.2490  
 CROSS-OVER POINT IS X = 0.58  
 NORMALIZED AREA DIFFERENCE IS -0.0338  
 HERINGTON J-FACTOR IS 24.38  
 CONSISTENCY INDEX IS -21.01

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	-408.85	65.59	0.2416E-12	27.24	0.00735
2	-562.84	829.38	0.1397E-02	14.99	0.02100
3	-451.83	178.98	0.4219E-01	24.55	0.00876
4	-486.55	213.73	0.6460E-01	30.55	0.00713
5	-160.09	-256.32	0.9237E-02	11.12	0.01255
6	-336.91	-153.86	0.2659E-03	39.94	0.00241
7	-150.77	-291.68	0.9419E-02	14.89	0.01089
8	-204.31	-151.10	0.1958E-02	7.67	0.01544
9	-203.61	-152.19	0.1958E-02	7.68	0.01543
10	-468.85	219.37	0.4414E-01	24.48	0.00892

\*\*DIAGNOSTIC\*\*

1 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
SEE INTRODUCTION FOR DETAILS CONCERNING DATA-BASE UPDATE

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	82.9	0.0281	0.0321	775.37	727.73	0.9625	0.9630	1.0734	0.9976	0.0733	-1094.38	-1080.60	-1087.36
2	760.00	82.8	0.0276	0.0312	773.81	726.24	0.9625	0.9630	1.0644	1.0000	0.0624	-1094.90	-1081.11	-1087.88
3	760.00	82.6	0.0627	0.0758	769.16	721.81	0.9624	0.9629	1.1451	0.9957	0.1398	-1096.45	-1082.65	-1089.43
4	760.00	82.8	0.0997	0.1139	772.92	725.40	0.9625	0.9630	1.0769	0.9890	0.0851	-1095.19	-1081.40	-1088.18
5	760.00	82.6	0.1742	0.1902	767.83	720.54	0.9624	0.9629	1.0359	0.9919	0.0434	-1096.90	-1083.09	-1089.87
6	760.00	82.4	0.2211	0.2428	764.97	717.81	0.9624	0.9628	1.0457	0.9870	0.0578	-1097.86	-1084.05	-1090.83
7	760.00	82.1	0.2939	0.3128	758.39	711.53	0.9623	0.9627	1.0222	0.9968	0.0252	-1100.10	-1086.26	-1093.05
8	760.00	82.2	0.3149	0.3438	758.92	711.95	0.9623	0.9627	1.0480	0.9804	0.0667	-1099.95	-1086.11	-1092.91
9	760.00	82.0	0.3770	0.4020	755.11	708.41	0.9622	0.9627	1.0285	0.9874	0.0408	-1101.22	-1087.37	-1094.17
10	760.00	81.9	0.4291	0.4610	753.59	706.96	0.9622	0.9626	1.0383	0.9731	0.0648	-1101.74	-1087.88	-1094.69
11	760.00	81.9	0.4538	0.4798	752.06	705.51	0.9621	0.9626	1.0239	0.9837	0.0401	-1102.26	-1088.40	-1095.21
12	760.00	81.3	0.4886	0.5085	750.76	704.26	0.9621	0.9626	1.0096	0.9944	0.0152	-1102.71	-1088.85	-1095.66
13	760.00	81.7	0.5395	0.5546	747.94	701.58	0.9621	0.9626	1.0009	1.0045	-0.0035	-1103.69	-1089.81	-1096.63
14	760.00	81.5	0.5776	0.5868	744.70	698.49	0.9620	0.9625	0.9934	1.0203	-0.0267	-1104.81	-1090.93	-1097.75
15	760.00	81.5	0.5998	0.6100	743.40	697.26	0.9620	0.9625	0.9962	1.0182	-0.0219	-1105.26	-1091.37	-1098.19
16	760.00	81.3	0.6547	0.6677	741.04	695.00	0.9620	0.9624	1.0021	1.0088	-0.0066	-1106.09	-1092.19	-1099.02
17	760.00	81.1	0.7070	0.7140	736.11	690.30	0.9619	0.9624	0.9989	1.0301	-0.0307	-1107.83	-1093.91	-1100.74

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 553.20 P = 40.00 V = 311.20  $\Omega$ MFGA = 0.210  $\Omega$ MFGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 559.20 P = 41.80 V = 285.20  $\Omega$ MFGA = 0.205  $\Omega$ MFGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.68450F 01 B = 0.12035F 04 C = 0.22286F 03

2 A = 0.68862F 01 B = 0.12300F 04 C = 0.22410F 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.92914F 02 B = -.24859E-01 C = 0.26157E-03

2 A = 0.92914F 02 B = -.24859F-01 C = 0.26157F-03

## VAPOR PRESSURE AT NBP

P = 759.1 AT T = 80.7

P = 760.0 AT T = 83.0

## COMPONENT ID ECHO CHECK

ID NUMBER = 9

ID NUMBER = 51

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.88495E-01 B = -.76385F-01 C = -.13671E 00

STANDARD DEVIATION = 0.24594F-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.0925 G2INF = 1.1350

T1INF = 82.98 T2INF = 80.74

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0293

AREA BELOW THE X-AXIS IS -0.0255

CROSS-OVER POINT IS X = 0.57

NORMALIZED AREA DIFFERENCE IS 0.0681

HERINGTON J-FACTOR IS 0.95

CONSISTENCY INDEX IS 5.86

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	-166.61	277.04	0.3065E-09	12.99	0.00305
2	401.45	585.12	0.5699E-04	1.10	0.00663
3	193.01	-128.76	0.1426E-01	8.33	0.00392
4	151.75	-92.05	0.1295E-01	8.10	0.00388
5	-308.34	426.53	0.1682E-02	2.57	0.00551
6	245.98	405.63	0.4839E-03	14.40	0.00299
7	-324.03	453.96	0.1689E-02	2.56	0.00554
8	343.16	472.51	0.6672E-04	1.10	0.00638
9	-343.16	472.51	0.6676E-04	1.10	0.00638
10	442.12	766.99	0.1094E-01	9.75	0.00458

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	83.2	0.0065	0.0209	782.50	741.87	0.9514	0.9860	2.9594	0.9926	1.0924	-1092.02	-408.24	-930.13
2	750.00	82.8	0.0113	0.0426	772.70	732.04	0.9517	0.9860	3.5148	0.9883	1.2687	-1095.27	-409.48	-932.92
3	760.00	82.3	0.0206	0.0661	760.57	719.90	0.9520	0.9859	3.0401	0.9895	1.1224	-1059.35	-411.05	-936.43
4	760.00	81.7	0.0321	0.0891	748.38	707.70	0.9522	0.9857	2.6733	0.9933	0.9900	-1103.54	-412.66	-940.02
5	750.00	81.5	0.0326	0.0878	745.35	704.67	0.9521	0.9857	2.6042	0.9995	0.9576	-1104.59	-413.07	-940.93
6	760.00	80.9	0.0537	0.1279	732.48	691.83	0.9527	0.9855	2.3448	0.9949	0.8574	-1109.11	-414.82	-944.81
7	750.00	79.9	0.1165	0.2357	689.76	649.29	0.9538	0.9847	2.1177	0.9942	0.7561	-1124.80	-420.94	-958.29
8	760.00	77.5	0.1804	0.2869	661.65	621.43	0.9541	0.9842	1.7358	1.0442	0.5082	-1135.74	-425.25	-967.69
9	750.00	76.5	0.2582	0.3712	641.59	601.54	0.9551	0.9833	1.6199	1.0500	0.4336	-1143.90	-428.50	-974.71
10	760.00	75.7	0.3533	0.4478	626.37	586.99	0.9559	0.9824	1.4629	1.0829	0.3008	-1150.07	-430.96	-980.01
11	750.00	75.1	0.5631	0.5489	615.21	575.48	0.9569	0.9809	1.1476	1.3336	-0.1502	-1155.07	-432.58	-984.32
12	760.00	75.4	0.6979	0.6170	621.58	581.77	0.9578	0.9799	1.0311	1.6182	-0.4507	-1152.32	-431.87	-981.95
13	750.00	75.7	0.7473	0.6560	626.87	586.99	0.9583	0.9793	1.0157	1.7211	-0.5274	-1150.07	-430.96	-980.01
14	760.00	76.4	0.8103	0.7158	636.86	599.82	0.9590	0.9784	1.0022	1.8518	-0.6140	-1144.62	-428.79	-975.33
15	750.00	76.9	0.8395	0.7579	647.01	606.90	0.9595	0.9777	1.0134	1.8414	-0.5972	-1141.67	-427.61	-972.79
16	750.00	77.6	0.8826	0.8015	663.66	623.39	0.9600	0.9770	0.9943	2.0080	-0.7028	-1134.95	-424.94	-967.01
17	750.00	78.7	0.9280	0.8598	685.70	645.25	0.9607	0.9760	0.9826	2.2319	-0.8204	-1126.35	-421.55	-959.62
18	760.00	79.3	0.9521	0.9007	698.36	657.83	0.9611	0.9752	0.9855	2.3288	-0.8600	-1121.56	-419.67	-955.50
19	760.00	80.3	0.9545	0.9024	718.72	678.11	0.9614	0.9754	0.9573	2.3381	-0.8930	-1114.05	-416.74	-949.05
20	760.00	80.8	0.9731	0.9365	729.29	688.64	0.9617	0.9747	0.9610	2.5160	-0.9624	-1110.25	-415.26	-945.79
21	760.00	80.0	0.9754	0.9424	712.44	671.85	0.9614	0.9744	0.9869	2.5733	-0.9584	-1116.33	-417.63	-951.02

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 553.20 P = 40.00 V = 311.20 OMEGA = 0.210 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 579.20 P = 64.50 V = 191.40 OMEGA = 0.235 OMEGAH = 0.193 DIPOLE = 1.35 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.68450E 01 B = 0.12035E 04 C = 0.22286E 03 P = 759.1 AT T = 80.7  
 2 A = 0.69522E 01 B = 0.12478E 04 C = 0.22300E 03 P = 759.8 AT T = 83.5

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.92914E 02 B = -.24859E-01 C = 0.26157E-03 COMPONENT ID ECHO CHECK  
 2 A = 0.52000E 02 B = 0.92001E-01 C = 0.0 ID NUMBER = 9  
 ID NUMBER = 52

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.10967E 01 B = -.25867E 01 C = 0.55176E 00  
 STANDARD DEVIATION = 0.76993E-01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.9943 G2INF = 2.5553  
 T1INF = 83.48 T2INF = 80.74

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2489  
 AREA BELOW THE X-AXIS IS -0.2615  
 CROSS-OVER POINT IS X = 0.47  
 NORMALIZED AREA DIFFERENCE IS -0.0249  
 HERINGTON J-FACTOR IS 3.62  
 CONSISTENCY INDEX IS -1.13



SUMMARY OF WILSON PARAMETERS

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES			OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)	
	PARAMETER	VALUES			PRESSURE	COMPOSITION
1	317.12	508.26		0.9095E-12	20.15	0.00618
2	271.43	381.07		0.2697E-02	6.29	0.01507
3	359.66	471.90		0.6488E 00	19.61	0.00671
4	327.79	478.62		0.1045E 00	17.17	0.00633
5	273.91	443.23		0.8502E-02	6.89	0.00973
6	263.47	524.17		0.2668E-02	16.35	0.00596
7	277.24	451.15		0.9897E-02	8.18	0.00885
8	299.45	352.27		0.1548E-02	4.39	0.01290
9	290.45	392.27		0.1947E-02	4.39	0.01290
10	349.43	482.44		0.2980E-01	20.03	0.00658

\*\*DIAGNOSTIC\*\*

3 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
 SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	147.9	0.0100	0.4171	3454.59	495.43	0.9736	0.9739	8.9002	0.8773	2.3170	-742.66	-815.13	-1030.19
2	750.00	99.2	0.1116	0.8936	1204.69	81.73	0.9675	0.9454	4.8684	1.0499	1.5341	-934.23	-1170.36	-1391.70
3	760.00	91.7	0.2001	0.9265	989.64	59.25	0.9654	0.9398	3.4191	1.1045	1.1300	-1032.56	-1256.03	-1466.69
4	760.00	85.9	0.3790	0.9489	841.41	45.56	0.9635	0.9350	2.1702	1.2796	0.5283	-1073.43	-1332.29	-1530.83
5	760.00	84.8	0.4536	0.9466	818.02	43.54	0.9631	0.9344	1.8599	1.5893	0.1572	-1080.63	-1346.08	-1542.19
6	750.00	84.1	0.4822	0.9543	801.94	42.17	0.9629	0.9336	1.7988	1.4805	0.1947	-1085.71	-1355.89	-1550.24
7	750.00	84.6	0.6022	0.9471	813.40	43.15	0.9621	0.9343	1.4095	2.1820	-0.4370	-1082.08	-1348.86	-1544.48
8	760.00	83.0	0.8435	0.9626	777.15	40.10	0.9625	0.9325	1.0659	4.2110	-1.3701	-1093.79	-1371.57	-1563.03
9	760.00	82.8	0.8897	0.9625	772.7C	39.73	0.9625	0.9324	1.0200	6.0453	-1.7795	-1095.27	-1374.46	-1565.37
10	750.00	81.8	0.9521	0.9756	750.76	37.94	0.9621	0.9311	0.9940	9.4725	-2.2544	-1102.71	-1389.08	-1577.20

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 553.20	P = 40.00	V = 311.20	OMEGA = 0.210	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0
2	T = 656.00	P = 38.40	V = 375.20	OMEGA = 0.292	OMEGA H = 0.270	DIPOLE = 2.00	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.63450E 01	B = 0.12035E 04	C = 0.22286E 03
2	A = 0.87299E 01	B = 0.25378E 04	C = 0.27315E 03

MOLEAR VOLUME EQUATION COEFFICIENTS

1	A = 0.92914E 02	B = -.24859E -01	C = 0.26157E -03
2	A = 0.63207E 02	B = -0.58328E -01	C = 0.29602E -04

VAPOR PRESSURE AT NBP

P = 755.1 AT T = 80.7  
P = 785.6 AT T = 161.8

COMPONENT ID ECHO CHECK

ID NUMBER = 9  
ID NUMBER = -15

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.21490E 01 B = -.41505E 01 C = -.30298E 00  
STANDARD DEVIATION = 0.16204E 00

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 8.5761 G2INF = 10.0197  
T1INF = 160.73 T2INF = 80.74

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.5430  
AREA BELOW THE X-AXIS IS -0.5703  
CROSS-OVER POINT IS X = 0.50  
NORMALIZED AREA DIFFERENCE IS -0.0245  
HERINGTON J-FACTOR IS 33.90  
CONSISTENCY INDEX IS -31.45

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	985.19 1250.34	0.7649E-09
2	812.43 1438.37	0.1987E-01
3	937.81 1580.54	0.6307E 00
4	890.28 1558.63	0.6515E-01
5	879.05 1405.31	0.1249E-01
6	1126.81 1368.57	0.5556E-03
7	876.69 1409.80	0.1393E-01
8	791.21 1475.52	0.2261E-02
9	791.21 1475.53	0.2260E-02
10	938.97 1577.80	0.6733E-02

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
21.31	0.00816
10.63	0.01025
31.67	0.00691
24.24	0.00804
14.56	0.00912
34.77	0.00414
14.48	0.00914
10.31	0.01046
10.31	0.01046
31.53	0.00690

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	580.00	70.0	0.1250	0.1790	748.65	525.73	0.9646	0.9675	1.0661	0.9984	0.0656	-1299.36	-1197.56	-1253.25
2	612.10	70.0	0.2500	0.3360	748.65	525.73	0.9627	0.9657	1.0536	0.9922	0.0601	-1299.36	-1197.56	-1253.25
3	642.60	70.0	0.3750	0.4650	748.65	525.73	0.9609	0.9640	1.0184	1.0051	0.0131	-1299.36	-1197.56	-1253.25
4	675.30	70.0	0.5000	0.5900	748.65	525.73	0.9589	0.9621	1.0161	1.0097	0.0064	-1299.36	-1197.56	-1253.25
5	715.20	70.0	0.6250	0.7080	748.65	525.73	0.9571	0.9604	1.0166	0.9993	0.0172	-1299.36	-1197.56	-1253.25
6	734.80	70.0	0.7420	0.8060	748.65	525.73	0.9553	0.9586	1.0136	1.0035	0.0100	-1299.36	-1197.56	-1253.25

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1	T = 507.90	P = 29.90	V = 372.40	OMEGA = 0.298	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0
2	T = 553.20	P = 40.60	V = 311.20	OMEGA = 0.210	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.68778E 01	B = 0.11715E 04	C = 0.22437E 03	P = 759.0 AT T = 68.7
2	A = 0.68450E 01	B = 0.12035E 04	C = 0.22286E 03	P = 759.1 AT T = 80.7

## MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.12596E 03	B = -.14456E 00	C = 0.54720E -03	COMPONENT ID ECHO CHECK
2	A = 0.92914E 02	B = .24859E 01	C = 0.26157E 03	ID NUMBER = 18
				ID NUMBER = 9

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.10759E 00	B = -.32019E 00	C = 0.25871E 00
STANDARD DEVIATION = 0.13356E 01		

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.1136	G2INF = 0.9549
T1INF = 70.00	T2INF = 70.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

SQUARE ROOT OF NEGATIVE ARGUMENT REQUIRED  
TO OBTAIN X-INTERCEPT

VALUE OF REQUIRED ARGUMENT IS -.88118E-02  
THERMODYNAMIC CONSISTENCY TEST IS ABCRTEO

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	706.70	-378.57
2	-289.24	345.81
3	-383.22	493.69
4	-400.47	520.08
5	-402.76	519.33
6	-458.60	632.60
7	-465.96	630.38
8	-242.78	292.20
9	-244.30	294.04
10	-266.79	289.54

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
10.02	0.00910
1.27	0.00400
1.71	0.00392
1.60	0.00395
1.25	0.00395
3.26	0.00406
1.74	0.00407
0.97	0.00401
0.97	0.00401
6.24	0.00506

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	750.00	70.0	0.1230	0.0960	526.56	749.77	0.9572	0.9538	1.0739	0.9917	0.0797	-1197.13	-1298.88	-1252.80
2	760.00	70.4	0.1600	0.1230	532.39	757.65	0.9574	0.9540	1.0463	0.9941	0.0512	-1194.12	-1295.56	-1249.61
3	760.00	70.8	0.2030	0.1600	539.96	767.87	0.9576	0.9542	1.0580	0.9904	0.0660	-1190.27	-1291.30	-1245.55
4	760.00	71.4	0.2600	0.2030	549.33	780.50	0.9578	0.9545	1.0304	0.9960	0.0340	-1185.59	-1286.13	-1240.60
5	760.00	72.0	0.3290	0.2600	560.55	795.62	0.9581	0.9548	1.0224	1.0008	0.0214	-1180.10	-1280.07	-1234.80
6	760.00	72.9	0.4090	0.3290	575.49	815.72	0.9585	0.9551	1.0141	1.0053	0.0087	-1172.98	-1272.20	-1227.28
7	760.00	73.7	0.4770	0.3930	589.84	834.99	0.9589	0.9555	1.0267	0.9961	0.0303	-1166.36	-1264.87	-1220.28
8	760.00	74.7	0.5620	0.4770	609.14	859.53	0.9593	0.9559	1.0134	1.0042	0.0091	-1158.16	-1255.80	-1211.61
9	760.00	75.4	0.6160	0.5320	621.21	877.03	0.9596	0.9562	1.0098	1.0049	0.0049	-1152.48	-1249.52	-1205.61
10	760.00	75.7	0.6470	0.5620	626.87	884.61	0.9597	0.9563	1.0066	1.0144	-0.0077	-1150.07	-1246.84	-1203.05
11	760.00	76.4	0.7000	0.6160	640.24	902.47	0.9600	0.9566	0.9988	1.0260	-0.0269	-1144.46	-1240.62	-1197.12
12	760.00	76.8	0.7390	0.6470	647.91	911.50	0.9602	0.9567	0.9956	1.0378	-0.0415	-1141.67	-1237.53	-1194.17
13	760.00	77.3	0.7740	0.7000	658.73	927.14	0.9604	0.9570	0.9981	1.0362	-0.0374	-1136.92	-1232.27	-1189.14
14	760.00	78.2	0.8330	0.7740	675.62	949.63	0.9608	0.9573	1.0002	1.0317	-0.0310	-1130.25	-1224.87	-1182.08
15	760.00	79.0	0.8790	0.8330	691.80	971.15	0.9611	0.9576	0.9965	1.0292	-0.0323	-1124.03	-1217.97	-1175.50
16	760.00	79.5	0.9180	0.8790	702.06	984.78	0.9613	0.9578	0.9924	1.0854	-0.0896	-1120.17	-1213.69	-1171.41

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 553.20 P = 40.00 V = 311.20  $\omega$ MEGA = 0.210  $\omega$ MFGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 507.90 P = 29.90 V = 372.40  $\omega$ MEGA = 0.298  $\omega$ MEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.68450E 01 B = 0.12035E 04 C = 0.22286E 03  
 2 A = 0.68778E 01 B = 0.11715E 04 C = 0.22437E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.92914E 02 B = -.24859E-01 C = 0.26157E-03  
 2 A = 0.12596E 03 B = -.14456E 00 C = 0.54720E-03

## COMPONENT ID ECHO CHECK

ID NUMBER = 9  
 ID NUMBER = 18

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.79037E-01 B = -.11292E 00 C = -.44310E-01  
 STANDARD DEVIATION = 0.15950E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.0822 G2INF = 1.0813  
 T1INF = 68.74 T2INF = 80.74

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0240  
 AREA BELOW THE X-AXIS IS -0.0162  
 CROSS-OVER POINT IS X = 0.57  
 NORMALIZED AREA DIFFERENCE IS 0.1945  
 HERINGTON J-FACTOR IS 4.13  
 CONSISTENCY INDEX IS 15.32

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	148.51	-93.50	0.9095E-12	7.38	0.00257
2	4.69	35.56	6.4149E-04	1.28	0.00330
3	-15.71	85.67	0.4284E-02	4.89	0.00236
4	-21.04	91.83	6.3982E-02	4.72	0.00237
5	-102.61	190.86	0.4847E-03	1.62	0.00283
6	-116.41	239.90	0.2022E-03	6.20	0.00221
7	-111.97	205.79	0.5716E-03	1.71	0.00281
8	-115.36	203.02	0.6000E-04	1.24	0.00327
9	-115.40	203.07	0.5997E-04	1.24	0.00327
10	-25.11	98.00	0.3217E-00	4.85	0.00236

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	105.1	0.0560	0.4849	1485.74	411.05	1.0000	1.0000	4.4121	1.0061	1.4783	0.0	0.0	0.0
2	760.00	97.0	0.0840	0.6105	1201.24	308.31	1.0000	1.0000	4.5802	1.0452	1.4775	0.0	0.0	0.0
3	760.00	78.1	0.5726	0.7934	698.94	149.61	1.0000	1.0000	1.5006	2.4483	-0.4896	0.0	0.0	0.0
4	760.00	77.5	0.8327	0.8365	686.25	146.03	1.0000	1.0000	1.1080	5.0713	-1.5210	0.0	0.0	0.0
5	760.00	78.5	0.9556	0.8843	707.50	152.05	1.0000	1.0000	0.9900	12.9875	-2.5740	0.0	0.0	0.0

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1	T = 553.20	P = 40.00	V = 311.20	OMEGA = 0.210	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0
2	T = 0.0	P = 0.0	V = 0.0	OMEGA = 0.0	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.68450E 01	B = 0.12035E 04	C = 0.22286E 03
2	A = 0.83298E 01	B = 0.21618E 04	C = 0.27315E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.92914E 02	B = -.24859E-01	C = 0.26157E-03
2	A = 0.67468E 02	B = 0.16858E-02	C = 0.12858E-03

## VAPOR PRESSURE AT NBP

P = 759.1 AT T = 80.7  
P = 770.1 AT T = 124.0

## COMPONENT ID ECHO CHECK

ID NUMBER = 9  
ID NUMBER = 25

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.16495E 01	B = -.24398E 01	C = -.19409E 01
STANDARD DEVIATION = 0.18679E 00		

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 5.2042	G2INF = 15.3526
T1INF = 123.58	T2INF = 80.74

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.4392  
AREA BELOW THE X-AXIS IS -0.6567  
CROSS-OVER POINT IS X = 0.49  
NORMALIZED AREA DIFFERENCE IS -0.1984  
HERINGTON J-FACTOR IS 19.71  
CONSISTENCY INDEX IS 0.13

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)	
	1	2		PRESSURE	COMPOSITION
1	363.95	1750.21	0.1902E-06	27.97	0.03046
2	950.63	2080.36	0.4828E-02	118.36	0.05964
3	377.07	2544.62	0.2001E 01	17.41	0.02771
4	399.49	2397.26	0.1629E 00	15.27	0.02887
5	367.01	2204.11	0.1462E-01	16.50	0.02674
6	389.81	2024.14	0.1141E-01	17.87	0.02755
7	423.71	1748.96	0.9704E-02	25.91	0.02938
8	358.09	2277.59	0.3052E-02	16.08	0.02649
9	358.09	2277.59	0.3052E-02	16.08	0.02649
10	319.38	2675.46	0.1822E-01	17.37	0.02571

## \*\*DIAGNOSTIC\*\*

2 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

CYCLOHEXANE(1) 2-PROPANOL(2)

SYSTEM 044A

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	500.00	67.3	0.0290	0.1320	482.42	394.31	0.9660	0.9903	4.5451	1.1205	1.4003	-1221.27	-405.06	-965.85
2	500.00	67.0	0.0680	0.2530	477.78	388.85	0.9673	0.9900	3.7560	1.0184	1.3052	-1223.95	-405.79	-967.88
3	500.00	63.1	0.1380	0.3940	420.56	323.18	0.9673	0.9850	3.2744	1.0736	1.1151	-1259.81	-415.56	-994.96
4	500.00	61.2	0.2130	0.4760	354.69	254.51	0.9673	0.9882	2.7310	1.1150	0.8959	-1277.96	-420.57	-1008.62
5	500.00	60.1	0.2660	0.5170	380.28	278.85	0.9672	0.9878	2.4650	1.1633	0.7509	-1288.67	-423.55	-1016.69
6	500.00	59.1	0.3130	0.5380	367.54	265.20	0.9670	0.9875	2.2550	1.2497	0.5903	-1298.56	-426.30	-1024.11
7	500.00	58.3	0.4080	0.5780	357.59	254.65	0.9670	0.9871	1.9103	1.3789	0.3260	-1306.56	-428.55	-1030.12
8	500.00	58.0	0.4750	0.5980	353.91	250.79	0.9670	0.9869	1.7153	1.5037	0.1316	-1309.58	-429.39	-1032.39
9	500.00	57.3	0.5560	0.6190	351.48	248.23	0.9671	0.9866	1.5274	1.7021	-0.1083	-1311.60	-429.56	-1033.90
10	500.00	57.8	0.6370	0.6320	351.48	248.23	0.9672	0.9865	1.3613	2.0106	-0.3900	-1311.60	-429.96	-1033.90
11	500.00	57.9	0.7340	0.6640	352.70	249.51	0.9674	0.9862	1.2372	2.4916	-0.7001	-1310.59	-429.68	-1033.15
12	500.00	58.5	0.8180	0.6870	360.06	257.26	0.9677	0.9860	1.1255	3.2896	-1.0725	-1304.55	-427.58	-1028.61
13	500.00	59.1	0.8840	0.7130	367.54	265.20	0.9680	0.9858	1.0592	4.5899	-1.4663	-1298.56	-426.30	-1024.11
14	500.00	61.9	0.9630	0.8160	404.07	304.83	0.9693	0.9850	1.0136	8.0194	-2.0684	-1271.22	-418.71	-1003.55

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 553.20 P = 40.00 V = 311.20 OMEGA = 0.210 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 508.50 P = 47.00 V = 218.50 OMEGA = 0.663 OMEGAH = 0.187 DIPOLE = 1.60 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.68450E 01 B = 0.12035E 04 C = 0.22286E 03 VAPOR PRESSURE AT NBP  
 2 A = 0.66604E 01 B = 0.81305E 03 C = 0.13293E 03 P = 759.1 AT T = 80.7  
 P = 769.7 AT T = 82.5

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.92914E 02 B = -.24859E-01 C = 0.26157E-03 COMPONENT ID ECHO CHECK  
 2 A = 0.14178E 03 B = -.49807E 00 C = 0.92870E-03 ID NUMBER = 9  
 ID NUMBER = 22

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.13901E 01 B = -.17712E 01 C = -.16976E 01

STANDARD DEVIATION = 0.88270E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 4.0154 G2INF = 7.9939  
 T1INF = 72.31 T2INF = 67.42

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.4039  
 AREA BELOW THE X-AXIS IS -0.4652  
 CROSS-OVER POINT IS X = 0.52  
 NORMALIZED AREA DIFFERENCE IS -0.0706  
 HERRINGTON J-FACTOR IS 6.58  
 CONSISTENCY INDEX IS 0.48

## SUMMARY OF WILSON PARAMETERS

MODEL NO. PARAMETER VALUES OBJECTIVE FUNCTION

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE COMPOSITION

1	158.31	1348.20	C.2C83E-C9	33.97	0.01630
2	493.74	1417.35	0.1077E-01	13.00	0.02347
3	242.96	1562.80	0.1977E 00	11.95	0.01371
4	266.16	1525.57	0.5533E-01	11.46	0.01354
5	309.02	1502.41	0.1885E-01	9.12	0.01458
6	266.98	1365.27	0.4449E-02	20.02	0.01168
7	294.68	1472.99	0.1632E-01	11.40	0.01356
8	323.46	1561.65	0.9130E-02	8.31	0.01824
9	323.43	1561.36	0.9130E-02	8.30	0.01823
10	236.62	1566.65	0.3841E-02	12.41	0.01363



## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PH11	PH12	G1	G2	LN(G1/G2)	B11	B22	B12
1	750.00	69.3	0.4730	0.5550	515.04	433.17	0.9551	0.9826	1.6470	1.4516	0.1263	-1203.20	-400.20	-952.16
2	750.00	69.4	0.4420	0.5500	515.37	433.56	0.9551	0.9826	1.7454	1.3852	-0.2312	-1203.02	-400.16	-952.03
3	750.00	69.0	0.5380	0.5820	509.51	426.53	0.9552	0.9822	1.5350	1.5789	-0.0282	-1206.16	-401.00	-954.41
4	750.00	69.1	0.7080	0.6270	510.97	428.28	0.9556	0.9817	1.2536	2.2189	-0.5710	-1205.38	-400.79	-953.81
5	750.00	69.4	0.7840	0.6600	516.67	435.14	0.9560	0.9813	1.1790	2.6900	-0.8249	-1202.33	-399.97	-951.50
6	750.00	69.2	0.5160	0.5700	512.66	430.23	0.9552	0.9824	1.5580	1.5374	0.0133	-1204.50	-400.55	-953.15
7	750.00	68.8	0.5280	0.5830	506.13	422.46	0.9551	0.9822	1.5771	1.5566	0.0131	-1208.00	-401.49	-955.80
8	750.00	69.2	0.6310	0.6050	512.76	430.43	0.9555	0.9820	1.3523	1.8507	-0.3138	-1204.42	-400.53	-953.08
9	750.00	69.4	0.7420	0.6490	516.18	434.55	0.9559	0.9814	1.2260	2.3285	-0.6415	-1202.59	-400.04	-951.70
10	750.00	69.7	0.8070	0.6730	520.12	439.30	0.9562	0.9811	1.1604	2.8677	-0.9047	-1200.51	-399.48	-950.12
11	750.00	70.1	0.8620	0.6970	527.55	448.31	0.9565	0.9808	1.1097	3.6405	-1.1881	-1196.62	-398.44	-947.17
12	750.00	71.5	0.9210	0.7730	551.04	477.05	0.9576	0.9799	1.1039	4.4730	-1.3992	-1184.74	-395.28	-938.15
13	750.00	74.0	0.9900	0.8380	595.46	532.54	0.9589	0.9793	1.0317	22.5767	-3.0857	-1163.81	-389.77	-922.24
14	750.00	76.7	0.9950	0.8930	646.62	598.13	0.9601	0.9789	1.0087	26.5411	-3.2701	-1141.83	-384.04	-905.49
15	750.00	75.0	0.1160	0.2830	612.97	554.79	0.9546	0.9857	2.8757	1.0921	0.9682	-1156.05	-387.74	-916.33
16	750.00	74.8	0.1200	0.2760	609.99	550.99	0.9544	0.9857	2.7239	1.1154	0.8928	-1157.35	-388.07	-917.32
17	750.00	70.2	0.3060	0.4890	528.89	449.93	0.9549	0.9834	2.1838	1.2197	0.5825	-1195.93	-398.26	-946.64
18	750.00	69.1	0.5180	0.5680	511.14	426.47	0.9551	0.9824	1.5509	1.5573	0.0041	-1205.29	-400.76	-953.74
19	750.00	69.1	0.5160	0.5720	511.62	426.06	0.9552	0.9824	1.5664	1.5344	0.0207	-1205.03	-400.69	-953.55
20	750.00	69.0	0.4850	0.5480	509.68	426.72	0.9549	0.9826	1.6023	1.5316	0.0451	-1206.08	-400.97	-954.34
21	750.00	69.1	0.5710	0.5820	510.65	427.89	0.9552	0.9822	1.4431	1.6950	-0.1609	-1205.55	-400.83	-953.94
22	750.00	69.1	0.6400	0.5950	510.32	427.50	0.9553	0.9821	1.3173	1.9585	-0.3966	-1205.73	-400.88	-954.07
23	750.00	74.7	0.9780	0.8500	608.88	549.57	0.9592	0.9792	1.0363	9.2069	-2.1843	-1157.84	-388.20	-917.69
24	750.00	70.3	0.8730	0.7090	530.88	452.36	0.9567	0.9807	1.1078	3.7646	-1.2233	-1194.90	-397.98	-945.86
25	750.00	78.7	0.0270	0.1120	685.90	649.63	0.9538	0.9867	4.3661	1.0506	1.4245	-1126.27	-380.03	-893.62
26	750.00	76.9	0.0700	0.2180	650.12	602.68	0.9545	0.9862	3.4611	1.0428	1.1997	-1140.40	-383.67	-904.40

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 553.20 P = 40.00 V = 311.20 OMEGA = 0.210 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 508.50 P = 47.00 V = 218.50 OMEGA = 0.663 OMEGAH = 0.187 DIPOLE = 1.60 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.68450E 01 B = 0.12035E 04 C = 0.22286E 03  
 2 A = 0.66604E 01 B = 0.81305E 03 C = 0.13293E 03

VAPOR PRESSURE AT NBP

P = 759.1 AT T = 80.7  
 P = 769.7 AT T = 82.5

MOLEAR VOLUME EQUATION COEFFICIENTS

1 A = 0.92914E 02 B = -.24859E-01 C = 0.26157E-03  
 2 A = 0.14178E 03 B = -.49807E 00 C = 0.92870E 03

COMPONENT ID CHECK

ID NUMBER = 9  
 ID NUMBER = 22

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.10919E 01 B = -.66512E-01 C = -.34976E 01  
 STANDARD DEVIATION = 0.32068E 00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.3965  
 AREA BELOW THE X-AXIS IS -0.5037  
 CROSS-OVER POINT IS X = 0.55  
 NORMALIZED AREA DIFFERENCE IS -0.1191  
 HERINGTON J-FACTOR IS 5.87  
 CONSISTENCY INDEX IS 6.03

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.9800 G2INF = 11.8480  
 T1INF = 82.19 T2INF = 80.74

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION
1	-114.47	1865.40	0.3647E-09
2	311.09	1593.69	0.11118E-01
3	-312.42	2854.03	0.2715E 02
4	42.25	2063.37	0.6952E 00
5	157.78	1761.25	0.7696E-01
6	161.76	1401.27	0.4673E-01
7	213.80	1521.45	0.4995E-01
8	107.39	2036.71	0.1636E-01
9	107.87	2034.59	0.1637E-01
10	33.39	2391.65	0.6609E 01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

	PRESSURE	COMPOSITION
1	54.92	0.03410
2	17.51	0.02956
3	65.67	0.04884
4	17.47	0.03165
5	11.88	0.02848
6	37.60	0.02071
7	18.50	0.02450
8	12.80	0.03206
9	12.79	0.03204
10	14.93	0.03446

\*\*DIAGNOSTIC\*\*

1 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
 SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	82.9	0.9935	0.9852	727.30	734.26	0.9630	0.9742	0.9939	2.2892	-0.8344	-1080.74	-409.20	-923.72
2	760.00	82.7	0.9854	0.9672	723.50	730.27	0.9629	0.9746	0.9888	2.2720	-0.8319	-1082.06	-409.71	-924.85
3	760.00	82.5	0.9735	0.9514	718.86	725.40	0.9628	0.9749	0.9908	1.8678	-0.6340	-1083.68	-410.34	-926.24
4	760.00	82.1	0.9385	0.9010	710.49	716.61	0.9626	0.9759	0.9846	1.6613	-0.5232	-1086.63	-411.48	-928.78
5	750.00	81.6	0.9276	0.8835	700.14	705.75	0.9624	0.9762	0.9910	1.6867	-0.5318	-1090.33	-412.92	-931.97
6	750.00	81.2	0.8775	0.8270	691.93	697.16	0.9620	0.9773	0.9918	1.5003	-0.4138	-1093.31	-414.09	-934.53
7	750.00	80.8	0.8428	0.7918	683.80	688.64	0.9617	0.9780	1.0002	1.4253	-0.3542	-1096.31	-415.26	-937.11
8	750.00	80.5	0.8124	0.7598	677.35	681.89	0.9614	0.9785	1.0048	1.3923	-0.3262	-1098.71	-416.20	-939.18
9	760.00	80.2	0.7808	0.7251	672.14	676.44	0.9611	0.9791	1.0051	1.3756	-0.3138	-1100.67	-416.97	-940.87
10	760.00	79.9	0.7318	0.6743	665.77	669.77	0.9606	0.9799	1.0063	1.3464	-0.2911	-1103.09	-417.93	-942.95
11	760.00	79.8	0.7047	0.6547	662.80	666.67	0.9604	0.9802	1.0190	1.3029	-0.2458	-1104.23	-418.38	-943.93
12	760.00	79.4	0.6349	0.5944	656.90	660.50	0.9597	0.9811	1.0353	1.2505	-0.1888	-1106.51	-419.28	-945.90
13	750.00	79.1	0.5144	0.5040	650.05	653.34	0.9586	0.9823	1.0936	1.1637	-0.0622	-1109.19	-420.33	-948.20
14	760.00	79.2	0.5056	0.5059	651.61	654.97	0.9586	0.9823	1.1142	1.1358	-0.0192	-1108.57	-420.09	-947.68
15	750.00	79.4	0.4512	0.4629	655.52	659.06	0.9581	0.9829	1.1351	1.1060	0.0260	-1107.05	-419.49	-946.36
16	760.00	79.5	0.3564	0.4042	658.86	662.55	0.9574	0.9835	1.2475	1.0414	0.1806	-1105.75	-418.98	-945.25
17	760.00	79.5	0.3387	0.4079	658.86	662.55	0.9575	0.9835	1.3247	1.0071	0.2741	-1105.75	-418.98	-945.25
18	750.00	79.7	0.2578	0.3752	662.21	666.05	0.9571	0.9838	1.3783	0.9959	0.3249	-1104.46	-418.47	-944.13
19	760.00	80.2	0.2401	0.3382	671.74	676.02	0.9567	0.9842	1.5185	0.9608	0.4577	-1100.82	-417.03	-941.00
20	760.00	80.8	0.1671	0.2560	684.21	689.06	0.9556	0.9849	1.6196	0.9675	0.5152	-1096.16	-415.20	-936.98
21	760.00	81.5	0.1215	0.1886	698.08	703.60	0.9546	0.9854	1.6068	0.9802	0.4943	-1091.07	-413.21	-932.61
22	760.00	81.8	0.0969	0.1590	704.26	710.08	0.9542	0.9855	1.6829	0.9794	0.5413	-1088.85	-412.35	-930.69
23	750.00	82.2	0.0719	0.1214	712.58	718.81	0.9536	0.9857	1.7105	0.9838	0.5531	-1085.89	-411.19	-928.15
24	750.00	82.8	0.0367	0.0673	725.19	732.04	0.9528	0.9859	1.8238	0.9882	0.6128	-1081.48	-409.48	-924.35
25	760.00	83.3	0.0200	0.0398	735.39	742.76	0.9524	0.9860	1.9509	0.9857	0.6827	-1077.97	-408.13	-921.33
26	750.00	83.6	0.0040	0.0078	743.34	751.11	0.9519	0.9861	1.8902	0.9911	0.6457	-1075.28	-407.09	-919.02
27	750.00	83.6	0.0038	0.0069	743.34	751.11	0.9519	0.9861	1.7601	0.9918	0.5736	-1075.28	-407.09	-919.02

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 559.20 P = 41.8C V = 285.2C OMEGA = 0.205 OMEGAH = 0.0 DIPOLF = 0.0 ETA = 0.0  
 2 T = 579.20 P = 64.50 V = 191.40 OMEGA = 0.235 OMEGAH = 0.193 DIPOLE = 1.35 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.68862E 01 B = 0.12300E 04 C = 0.22410E 03  
 2 A = 0.69522E 01 B = 0.12478E 04 C = 0.22300E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.92914E 02 B = -.24859E -01 C = 0.26157E -03  
 2 A = 0.52000E 02 B = 0.92001E -01 C = 0.0

VAPOR PRESSURE AT NBP

P = 760.0 AT T = 83.0  
 P = 759.8 AT T = 83.5

COMPONENT ID CHECK

ID NUMBER = 51  
 ID NUMBER = 52

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.64622E 00 B = -.10648E 01 C = -.28364E 00  
 STANDARD DEVIATION = 0.71157E -01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.9083 G2INF = 2.0181  
 T1INF = 83.48 T2INF = 82.98

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.1789  
 AREA BELOW THE X-AXIS IS -0.1596  
 CROSS-OVER POINT IS X = 0.53  
 NORMALIZED AREA DIFFERENCE IS 0.0570  
 HERTINGTON J-FACTOR IS 1.94  
 CONSISTENCY INDEX IS 3.76

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)	
				PRESSURE	COMPOSITION
1	-32.21	554.26	0.0	26.13	0.00748
2	-101.02	428.87	0.8641E-03	3.41	0.01575
3	-102.50	618.53	0.4364E 00	23.80	0.00822
4	50.10	532.08	0.1591E 00	20.26	0.00746
5	18.94	372.15	0.1406E-01	7.13	0.01049
6	80.79	427.35	0.4584E-02	24.09	0.00636
7	-16.72	415.41	0.1530E-01	8.52	0.00598
8	9.10	338.86	0.3064E-03	1.90	0.01397
9	9.09	338.86	0.3062E-03	1.90	0.01397
10	95.70	611.34	0.7466E-01	23.94	0.00812

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	386.10	100.0	0.0100	0.0200	70.85	381.01	0.9532	0.9808	10.3509	0.9822	2.3551	-3711.96	-1158.66	-1983.35
2	385.00	100.0	0.0250	0.0400	70.85	381.01	0.9527	0.9809	8.2533	0.9742	2.1367	-3711.96	-1158.66	-1983.35
3	384.30	100.0	0.0330	0.0390	70.85	381.01	0.9528	0.9809	6.0859	0.9816	1.8246	-3711.96	-1158.66	-1983.35
4	385.00	100.0	0.0450	0.0450	70.85	381.01	0.9526	0.9809	5.1576	0.9895	1.6511	-3711.96	-1158.66	-1983.35
5	384.70	100.0	0.0480	0.0470	70.85	381.01	0.9526	0.9809	5.0461	0.9897	1.6289	-3711.96	-1158.66	-1983.35
6	380.70	100.0	0.0960	0.0620	70.85	381.01	0.9526	0.9811	3.2540	1.0155	1.1768	-3711.96	-1158.66	-1983.35
7	380.00	100.0	0.1270	0.0820	70.85	381.01	0.9522	0.9812	3.2856	1.0273	1.1626	-3711.96	-1158.66	-1983.35
8	376.50	100.0	0.1530	0.0930	70.85	381.01	0.9523	0.9814	3.0651	1.0368	1.0840	-3711.96	-1158.66	-1983.35
9	371.70	100.0	0.2150	0.1060	70.85	381.01	0.9526	0.9817	2.4552	1.0889	0.8131	-3711.96	-1158.66	-1983.35
10	364.00	100.0	0.2840	0.1220	70.85	381.01	0.9532	0.9821	2.0964	1.1487	0.6016	-3711.96	-1158.66	-1983.35
11	359.80	100.0	0.3120	0.1420	70.85	381.01	0.9532	0.9824	2.1956	1.1551	0.6423	-3711.96	-1158.66	-1983.35
12	354.00	100.0	0.3750	0.1490	70.85	381.01	0.9540	0.9827	1.7736	1.2543	0.3464	-3711.96	-1158.66	-1983.35
13	350.70	100.0	0.3980	0.1560	70.85	381.01	0.9541	0.9829	1.8449	1.2664	0.3762	-3711.96	-1158.66	-1983.35
14	334.30	100.0	0.5630	0.1630	70.85	381.01	0.9560	0.9837	1.3019	1.6507	-0.2374	-3711.96	-1158.66	-1983.35
15	319.50	100.0	0.6500	0.1900	70.85	381.01	0.9574	0.9846	1.2582	1.9080	-0.4164	-3711.96	-1158.66	-1983.35
16	315.10	100.0	0.6800	0.2250	70.85	381.01	0.9573	0.9850	1.4046	1.9701	-0.3383	-3711.96	-1158.66	-1983.35
17	292.80	100.0	0.7800	0.2120	70.85	381.01	0.9606	0.9859	1.0759	2.7104	-0.9239	-3711.96	-1158.66	-1983.35
18	273.40	100.0	0.8450	0.2200	70.85	381.01	0.9630	0.9869	0.9650	3.5595	-1.3052	-3711.96	-1158.66	-1983.35
19	278.10	100.0	0.8700	0.2320	70.85	381.01	0.9622	0.9868	1.0045	4.2497	-1.4424	-3711.96	-1158.66	-1983.35

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 617.70 P = 20.70 V = 620.00 OMEGA = 0.490 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 562.90 P = 43.60 V = 223.30 OMEGA = 0.667 OMEGAH = 0.252 DIPOLE = 1.65 ETA = 0.45

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69537E 01 B = 0.15013E 04 C = 0.19448E 03  
 2 A = 0.73637E 01 B = 0.13052E 04 C = 0.17343E 03

## VAPOR PRESSURE AT NBP

P = 760.0 AT T = 174.1  
 P = 767.4 AT T = 118.0

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.17018E 03 B = .67181E 02 C = 0.36985E 03  
 2 A = 0.87376E 02 B = -.73723E 01 C = 0.30337E 03

## COMPONENT ID ECHO CHECK

ID NUMBER = 44  
 ID NUMBER = 43

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.19428E 01 B = .46513E 01 C = 0.11652E 01  
 STANDARD DEVIATION = 0.22223E 00

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 6.9785 G2INF = 4.6797  
 T1INF = 100.00 T2INF = 100.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.4397  
 AREA BELOW THE X-AXIS IS -0.4342  
 CROSS-OVER POINT IS X = 0.47  
 NORMALIZED AREA DIFFERENCE IS 0.0064  
 CONSISTENCY INDEX IS 0.64

## SUMMARY OF WILSON PARAMFTERS

MODEL NO. PARAMETER VALUFS

OBJECTIVE FUNCTION

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE

COMPOSITION

1	469.02	1152.73	0.2289E-07	12.27	0.01350
2	73.28	1529.06	0.1359E-01	5.20	0.01230
3	1060.44	736.70	0.9745E-01	22.59	0.02410
4	493.34	1188.36	0.4406E-00	13.18	0.01324
5	-12.61	1921.01	0.1030E-01	2.69	0.01238
6	130.33	1777.32	0.6554E-02	7.31	0.01084
7	6.78	1932.55	0.1018E-01	3.13	0.01224
8	-42.59	1981.64	0.2567E-02	2.75	0.01277
9	-42.45	1981.17	0.2567E-02	2.75	0.01277
10	551.32	1386.21	0.7898E-01	18.13	0.01331

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	50.8	0.0710	0.1980	576.49	596.59	0.9630	0.9502	3.5223	1.0420	1.2180	-1308.01	-1342.05	-1073.93
2	760.00	47.5	0.1730	0.3370	517.76	531.96	0.9577	0.9497	2.7243	1.0846	0.9210	-1341.77	-1380.53	-1101.03
3	760.00	46.0	0.2570	0.4070	492.62	504.43	0.9552	0.9499	2.0091	1.2037	0.5123	-1357.61	-1398.44	-1113.74
4	760.00	45.8	0.3220	0.4150	489.34	500.84	0.9549	0.9499	1.9016	1.2401	0.4275	-1359.74	-1400.85	-1115.46
5	760.00	45.7	0.3970	0.4560	487.70	499.05	0.9540	0.9506	1.6987	1.3022	0.2658	-1360.81	-1402.06	-1116.31
6	760.00	45.6	0.4960	0.4940	486.37	497.27	0.9531	0.9513	1.4766	1.4554	0.0145	-1361.88	-1403.27	-1117.18
7	760.00	45.6	0.5360	0.5110	486.07	497.27	0.9527	0.9516	1.4129	1.5283	-0.0785	-1361.88	-1403.27	-1117.18
8	760.00	46.0	0.6690	0.5570	492.62	504.43	0.9521	0.9528	1.2166	1.9157	-0.4540	-1357.61	-1398.44	-1113.74
9	760.00	46.6	0.7490	0.5950	502.56	515.30	0.9517	0.9540	1.1375	2.2637	-0.6882	-1351.24	-1391.25	-1108.63
10	760.00	50.6	0.9100	0.7480	572.80	592.51	0.9519	0.9600	1.0328	3.4378	-1.2026	-1310.02	-1344.34	-1075.54
11	760.00	55.2	0.9750	0.9040	662.44	691.94	0.9532	0.9666	1.0088	4.0652	-1.3937	-1265.17	-1292.60	-1039.50

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 500.30 P = 31.00 V = 358.00 CMEGA = 0.247 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 508.70 P = 46.60 V = 213.50 OMEGA = 0.309 OMEGAH = 0.187 DIPOLE = 2.88 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 6.69098E 01 B = 0.11272E 04 C = 0.22890E 03 VAPOR PRESSURE AT NBP  
 2 A = 0.70200E 01 B = 0.11610E 04 C = -0.22400E 03 P = 760.3 AT T = 56.0

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.11157E 03 B = -0.51980E 01 C = 0.39444E 03 P = 760.3 AT T = 56.5  
 2 A = 0.56865E 02 B = 0.84265E 02 C = 0.16507E 03

## COMPONENT ID ECHO CHECK

ID NUMBER = 35  
 ID NUMBER = 2

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.13760E 01 B = -0.27145E 01 C = -0.10968E 00  
 STANDARD DEVIATION = 0.38797E 01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 3.9590 G2INF = 4.2554  
 T1INF = 56.49 T2INF = 57.99

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.3441  
 AREA BELOW THE X-AXIS IS -0.3619  
 CROSS-OVER POINT IS X = 0.50  
 NORMALIZED AREA DIFFERENCE IS -0.0252  
 HERRINGTON J-FACTOR IS 5.12  
 CONSISTENCY INDEX IS -2.60

SUMMARY OF WILSON PARAMETERS

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	134.62	973.59	0.3464E-08	30.54	0.00690
2	370.29	958.58	0.7292E-03	5.50	0.01548
3	226.54	963.13	0.3191E-01	16.53	0.00529
4	246.12	959.13	0.1236E-01	14.13	0.00641
5	288.79	966.97	0.3719E-02	5.85	0.01031
6	212.43	927.61	0.7284E-03	24.69	0.00441
7	294.09	951.58	0.3837E-02	7.59	0.00954
8	310.27	981.35	0.4265E-04	1.27	0.01297
9	310.34	981.41	0.4273E-04	1.27	0.01298
10	222.07	966.00	0.2017E-02	16.80	0.00517



SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	59.2	0.0870	0.1300	749.58	676.35	0.9585	0.9661	1.4467	1.0312	0.3386	-1228.21	-926.47	-1014.47
2	760.00	59.1	0.1760	0.2300	724.11	653.01	0.9573	0.9658	1.3063	1.0471	0.2212	-1238.20	-935.85	-1022.68
3	760.00	57.0	0.2750	0.3260	700.24	630.25	0.9561	0.9656	1.2240	1.0791	0.1259	-1248.31	-945.39	-1031.00
4	760.00	56.5	0.3670	0.4060	689.58	620.11	0.9554	0.9657	1.1590	1.1072	0.0457	-1252.96	-949.77	-1034.82
5	750.00	56.0	0.5090	0.5250	679.05	610.10	0.9545	0.9661	1.0963	1.1606	-0.0570	-1257.63	-954.19	-1038.66
6	760.00	56.0	0.5880	0.5880	679.05	616.10	0.9543	0.9664	1.0626	1.2001	-0.1217	-1257.63	-954.19	-1038.66
7	760.00	56.1	0.5880	0.6710	681.14	612.09	0.9540	0.9670	1.0329	1.2622	-0.2005	-1256.70	-953.31	-1037.89
8	760.00	56.5	0.7850	0.7600	689.58	620.11	0.9539	0.9678	1.0127	1.3199	-0.2649	-1252.96	-949.77	-1034.82
9	760.00	57.0	0.8940	0.8720	700.24	630.25	0.9540	0.9689	1.0048	1.4065	-0.3363	-1248.31	-945.39	-1031.00

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 500.30	P = 31.00	V = 358.00	OMEGA = 0.247	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0
2	T = 536.60	P = 54.00	V = 276.00	OMEGA = 0.214	OMEGA H = 0.187	DIPOLE = 1.02	ETA = 0.28

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.68098E 01	B = 0.11272E 04	C = 0.22890E 03	VAPOR PRESSURE AT NBP
2	A = 0.69033E 01	B = 0.11630E 04	C = 0.22740E 03	P = 760.3 AT T = 58.0
				P = 749.5 AT T = 61.3

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.11157E 03	B = -0.51980E 01	C = 0.35444E 03	COMPONENT ID CHECK
2	A = 0.61065E 02	B = 0.30264E 01	C = 0.11910E 03	ID NUMBER = 35
				ID NUMBER = 8

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.41800E 00	B = -0.11064E 01	C = 0.30008E 00
STANDARD DEVIATION = 0.10666E-01		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.5185	G2INF = 1.4745
T1INF = 61.73	T2INF = 57.99

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.0854
AREA BELOW THE X-AXIS IS	-0.1206
CROSS-OVER POINT IS X =	0.43
NORMALIZED AREA DIFFERENCE IS	-0.1708
HERINGTON J-FACTOR IS	2.61
CONSISTENCY INDEX IS	14.47

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	-124.87	0.0
2	345.00	0.1134E-03
3	-11.07	0.1127E-01
4	34.10	0.7952E-02
5	256.07	0.1302E-02
6	237.68	0.5271E-03
7	336.29	0.1343E-02
8	251.94	0.6737E-04
9	251.83	0.6737E-04
10	-13.93	0.2741E-01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
12.56	0.00798
2.05	0.00731
8.47	0.00708
8.41	0.00664
3.55	0.00572
13.46	0.00479
4.24	0.00588
1.54	0.00663
1.54	0.00663
8.72	0.00710

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	60.4	0.0090	0.1390	775.96	614.44	0.9802	0.9553	14.7520	1.0250	2.6667	-1217.47	-1240.22	-778.51
2	760.00	55.3	0.0240	0.2970	664.50	501.28	0.9709	0.9544	13.6712	1.0406	2.5755	-1264.23	-1313.87	-806.61
3	760.00	51.4	0.0450	0.4200	587.69	426.71	0.9640	0.9551	11.5754	1.0316	2.4178	-1302.03	-1373.51	-829.28
4	760.00	46.6	0.0960	0.5360	502.56	347.61	0.9574	0.9565	8.0419	1.0718	2.0154	-1351.24	-1451.10	-856.71
5	760.00	45.4	0.1490	0.5630	482.83	329.85	0.9558	0.9571	5.6557	1.1306	1.6099	-1364.03	-1471.25	-866.34
6	760.00	44.6	0.2160	0.5790	470.00	318.42	0.9549	0.9574	4.1177	1.2251	1.2123	-1372.68	-1484.86	-871.50
7	760.00	44.5	0.2960	0.5940	468.42	317.02	0.9543	0.9581	3.0912	1.3225	0.8490	-1373.76	-1486.57	-872.15
8	760.00	44.6	0.4080	0.6040	470.00	318.42	0.9540	0.9586	2.2720	1.5281	0.3966	-1372.68	-1484.86	-871.50
9	760.00	44.5	0.5070	0.6080	468.42	317.02	0.9538	0.9588	1.8463	1.8247	0.0117	-1373.76	-1486.57	-872.15
10	760.00	44.5	0.5320	0.6060	468.42	317.02	0.9539	0.9587	1.7539	1.9318	-0.0966	-1373.76	-1486.57	-872.15
11	760.00	44.5	0.5850	0.6080	468.42	317.02	0.9538	0.9588	1.6001	2.1677	-0.3036	-1373.76	-1486.57	-872.15
12	760.00	44.5	0.6190	0.6070	468.42	317.02	0.9539	0.9587	1.5321	2.3124	-0.4117	-1373.76	-1486.57	-872.15
13	760.00	44.6	0.7260	0.6090	470.00	318.42	0.9535	0.9589	1.2872	3.2608	-0.9295	-1372.68	-1484.86	-871.50
14	760.00	44.6	0.8470	0.6150	470.00	318.42	0.9537	0.9592	1.1139	5.7519	-1.6416	-1372.68	-1484.86	-871.50
15	760.00	45.8	0.9490	0.6580	489.34	335.68	0.9529	0.9622	1.0209	14.5855	-2.6594	-1359.74	-1464.50	-863.78
16	760.00	48.9	0.9830	0.7340	542.09	383.85	0.9526	0.9680	0.9921	29.9425	-3.4072	-1327.27	-1413.32	-844.38
17	760.00	51.3	0.9910	0.8100	585.81	424.92	0.9524	0.9736	1.0048	36.7053	-3.5982	-1303.03	-1375.08	-829.87

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 500.30 P = 31.00 V = 358.00 OMEGA = 0.247 CMEGAH = 0.0 DIPCLE = 0.0 ETA = 0.0  
 2 T = 513.20 P = 73.50 V = 118.00 OMEGA = 0.557 CMEGAH = 0.105 DIPOLE = 1.66 ETA = 1.21

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.68098E 01 B = 0.11272E 04 C = 0.22800E 03  
 2 A = 0.78786E 01 B = 0.14731E 04 C = 0.23000E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.11157E 03 B = -.51980E 01 C = 0.39444E 03  
 2 A = 0.64511E 02 B = -.19716E 00 C = 0.38735E 03

## VAPOR PRESSURE AT NBP

P = 760.3 AT T = 58.0

P = 758.5 AT T = 64.7

## COMPONENT ID CHECK

ID NUMBER = 35

ID NUMBER = 23

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.24533E 01 B = -.37896E 01 C = -.18978E 01

STANDARD DEVIATION = 0.28651E 00

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 11.6266 G2INF = 25.3830

T1INF = 64.75 T2INF = 57.99

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.6745

AREA BELOW THE X-AXIS IS -0.7486

CROSS-OVER POINT IS X = 0.51

NORMALIZED AREA DIFFERENCE IS -0.0521

HERINGTON J-FACTOR IS 9.56

CONSISTENCY INDEX IS -4.36

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	236.49	2394.98	0.26C3F-C6	53.87	0.03235
2	1005.34	2192.30	0.1550F-O2	32.23	0.03597
3	464.65	2767.24	0.1673F-O1	11.01	0.00897
4	484.99	2758.61	0.2785E-O1	10.02	0.00876
5	541.22	2726.51	0.6191F-O2	7.20	0.00934
6	492.47	2744.18	0.3116F-O2	9.54	0.00872
7	539.54	2708.20	0.5345F-O2	7.34	0.00942
8	574.73	2702.84	0.1821F-O2	6.91	0.01020
9	574.92	2702.36	0.1815F-O2	6.92	0.01021
10	463.82	2767.92	0.2541F-O2	11.05	0.00898

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	400.00	60.0	0.9530	0.9310	378.74	382.50	0.9677	0.9787	0.9954	1.4999	-0.4100	-1679.60	-1124.21	-1392.67
2	400.00	59.2	0.8700	0.8300	368.63	371.98	0.9674	0.9785	0.9985	1.3734	-0.3189	-1690.24	-1131.21	-1401.44
3	400.00	58.5	0.7990	0.7430	359.95	362.95	0.9671	0.9782	0.9964	1.3760	-0.3227	-1699.64	-1137.41	-1409.19
4	400.00	57.8	0.6910	0.6450	351.42	354.10	0.9669	0.9780	1.0242	1.2670	-0.2127	-1709.13	-1143.67	-1417.01
5	400.00	57.5	0.6270	0.5830	347.32	350.36	0.9668	0.9779	1.0396	1.2310	-0.1690	-1713.22	-1146.37	-1420.39
6	400.00	57.5	0.5480	0.5210	347.82	350.36	0.9669	0.9779	1.0535	1.1810	-0.1138	-1713.22	-1146.37	-1420.39
7	400.00	57.4	0.5190	0.5020	346.63	349.12	0.9668	0.9778	1.0759	1.1578	-0.0734	-1714.59	-1147.27	-1421.52
8	400.00	57.4	0.4610	0.4610	346.63	349.12	0.9668	0.9778	1.1123	1.1183	-0.0053	-1714.59	-1147.27	-1421.52
9	400.00	57.1	0.4590	0.4590	342.07	345.42	0.9667	0.9778	1.1238	1.1302	-0.0057	-1718.70	-1149.99	-1424.91
10	400.00	57.4	0.4070	0.4150	346.63	349.12	0.9669	0.9778	1.1342	1.1032	0.0277	-1714.59	-1147.27	-1421.52
11	400.00	57.7	0.3890	0.4040	350.22	352.85	0.9670	0.9779	1.1435	1.0794	0.0578	-1710.49	-1144.57	-1418.13
12	400.00	57.5	0.3310	0.3610	347.82	350.36	0.9669	0.9778	1.2091	1.0644	0.1275	-1713.22	-1146.37	-1420.39
13	400.00	58.1	0.2190	0.2710	355.06	357.87	0.9672	0.9779	1.3443	1.0184	0.2776	-1705.05	-1140.98	-1413.65
14	400.00	58.8	0.1340	0.1920	363.65	366.80	0.9675	0.9781	1.5203	0.9934	0.4255	-1695.60	-1134.75	-1405.86
15	400.00	59.4	0.0630	0.1080	371.13	374.59	0.9678	0.9782	1.7827	0.9926	0.5855	-1687.57	-1129.46	-1399.24
16	400.00	60.0	0.0370	0.0700	378.74	382.50	0.9680	0.9784	1.9284	0.9863	0.6705	-1679.60	-1124.21	-1392.67

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 520.30 P = 27.40 V = 420.00 OMEGA = 0.306 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 562.00 P = 48.60 V = 260.10 OMEGA = 0.211 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69262E 01 B = 0.11920E 04 C = 0.22163E 03 P = 760.0 AT T = 80.5  
 2 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03 P = 760.0 AT T = 80.1

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.74588E 02 B = 0.32866E 00 C = -0.25601E 03 COMPONENT ID CHECK  
 2 A = 0.70863E 02 B = 0.14907E 01 C = 0.15880E 03 ID NUMBER = 50  
 ID NUMBER = 5

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.69958E 00 B = -0.19633E 01 C = 0.87586E 00

STANDARD DEVIATION = 0.24707E 01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.0129 G2INF = 1.4738

T1INF = 60.61 T2INF = 60.56

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.1427

AREA BELOW THE X-AXIS IS -0.1328

CROSS-OVER POINT IS X = 0.44

NORMALIZED AREA DIFFERENCE IS 0.0359

HERINGTON J-FACTOR IS 1.59

CONSISTENCY INDEX IS 2.00

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	294.99	187.52	0.4547E-11	5.52	0.00335
2	5.18	332.74	0.3170E-03	1.24	0.00758
3	343.46	168.04	0.1872E-01	6.22	0.00385
4	317.58	176.92	0.1220E-01	5.66	0.00361
5	164.02	231.05	0.1725E-02	1.88	0.00502
6	217.75	244.54	0.2209E-03	7.46	0.00223
7	148.50	242.13	0.1762E-02	1.96	0.00486
8	40.35	301.95	0.2782E-03	1.22	0.00676
9	41.17	301.38	0.2782E-03	1.22	0.00674
10	291.10	195.39	0.2003E-01	6.32	0.00302

2,4-DIMETHYL PENTANE(1) - HEXYLENE GLYCOL(2) SYSTEM 051

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	400.00	147.7	0.0200	0.6750	3313.67	133.14	0.9852	0.9815	4.0036	0.9758	1.4117	-940.85	-1090.86	-1151.98
2	400.00	127.0	0.0480	0.8370	2235.78	54.68	0.9829	0.9764	3.0582	1.2202	0.9188	-1062.93	-1324.24	-1300.75
3	400.00	69.5	0.2100	0.9900	515.87	2.11	0.9708	0.9559	3.5381	2.2859	0.4368	-1561.38	-2720.88	-1956.17
4	400.00	66.6	0.2760	0.9960	470.55	1.72	0.9659	0.9545	2.9664	1.2220	0.8868	-1595.97	-2846.06	-2004.82

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 520.30	P = 27.40	V = 420.00	OMEGA = 0.306	OMEGA H = 0.0	DIPOLF = 0.0	ETA = 0.0
2	T = 744.00	P = 54.80	V = 311.00	OMEGA = 0.148	OMEGA H = 0.338	DIPOLF = 2.10	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.68262E 01	B = 0.11920E 04	C = 0.22163E 03	VAPOR PRESSURE AT NBP
2	A = 0.78876E 01	B = 0.18904E 04	C = 0.18046E 03	P = 760.0 AT T = 80.5
				P = 734.7 AT T = 196.0

MOLEAR VOLUME EQUATION COEFFICIENTS

1	A = 0.74588E 02	B = 0.32866E 00	C = -0.25601E 03	COMPONENT ID ECHO CHECK
2	A = 0.11939E 03	B = -0.75907E 01	C = 0.31550E 03	ID NUMBER = 50
				ID NUMBER = 55

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.16662E 01	B = -0.16451E 02	C = 0.49628E 02
STANDARD DEVIATION = 0.99579E 01		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 5.2918	G2INF = 0.0000
T1INF = 177.19	T2INF = 60.56

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

SQUARE ROOT OF NEGATIVE ARGUMENT REQUIRED TO OBTAIN X-INTERCEPT

VALUE OF REQUIRED ARGUMENT IS -.60125E 02  
THERMODYNAMIC CONSISTENCY TEST IS ABORTED

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	23951.23 2803.31	0.1686E 02
2	5895.01 9362.32	0.1958E 00
3	220.43 2980.35	0.2671E 01
4	229.66 2506.57	0.4378E 00
5	217.19 3253.81	0.8885E 01
6	2398.64 -476.18	0.1514E 03
7	203.08 3251.66	0.9669E 01
8	218.43 3250.34	0.8393E 01
9	218.46 3252.08	0.8394E 01
10	562.31 973.67	0.9305E 00

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
348.26	0.38000
706.53	0.11624
51.59	0.01653
52.78	0.01704
51.22	0.01634
155.10	0.00333
51.85	0.01666
51.14	0.01630
51.14	0.01630
67.10	0.01483

**\*\*DIAGNOSTIC\*\***

RESTART CALCULATIONS IN TRANSFORMED PARAMETER SPACE

2,4-DIMETHYLPENTANE (1) - HEXYLENE GLYCOL (2) SYSTEM 051

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1C1	F2C1	PH11	PH12	G1	G2	LN(G1/G2)	B11	B22	B12
1	400.00	147.7	0.0200	0.6750	3313.67	133.14	0.9852	0.9815	4.0036	0.9758	1.4117	-940.85	-1090.86	-1151.98
2	400.00	127.0	0.0480	0.8370	2235.78	54.68	0.9829	0.9764	3.0582	1.2202	0.9188	-1062.93	-1324.24	-1300.75
3	400.00	69.5	0.2100	0.9900	515.87	2.11	0.9708	0.9559	3.5381	2.2859	0.4368	-1561.38	-2720.88	-1956.17
4	400.00	66.6	0.2760	0.9960	470.55	1.72	0.9699	0.9545	2.9664	1.2220	0.8868	-1595.97	-2846.06	-2004.82

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 520.30 P = 27.40 V = 420.00 CMEGA = 0.306 CMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 744.00 P = 54.80 V = 311.00 CMEGA = 0.148 CMEGAH = 0.338 DIPOLE = 2.10 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.68262E 01 B = 0.11920E 04 C = 0.22163E 03  
 2 A = 0.78876E 01 B = 0.18904E 04 C = 0.18046E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.74588E 02 B = 0.32866E 00 C = -0.25601E -03  
 2 A = 0.11939E 03 B = -0.75907E -01 C = 0.31550E -03

VAPOR PRESSURE AT NBP

P = 760.0 AT T = 80.5  
 P = 734.7 AT T = 196.0

COMPONENT ID ECHO CHECK

ID NUMBFR = 50  
 ID NUMBFR = 55

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.16662E 01 B = -0.16451E 02 C = 0.49628E 02  
 STANDARD DEVIATION = 0.99579E -01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 5.2918 G2INF = 0.0000  
 T1INF = 177.19 T2INF = 60.56

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

SQUARE ROOT OF NEGATIVE ARGUMENT REQUIRED  
 TO OBTAIN X-INTERCEPT

VALUE OF REQUIRED ARGUMENT IS -0.60125E 02  
 THERMODYNAMIC CONSISTENCY TEST IS ABGRTEO

CALCULATIONS PERFORMED IN TRANSFORMED PARAMETER SPACE

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	22955.66 -2764.54	0.1226E-02
2	5830.41 9316.68	0.1958E 00
3	220.35 2983.08	0.2671E 01
4	229.91 2504.69	0.4378E 00
5	216.75 3258.59	0.8885E -01
6	170.52 10254.54	0.4758E -02
7	208.05 3247.18	0.9669E -01
8	218.60 3245.92	0.8393E -01
9	218.55 3247.93	0.8394E -01
10	561.68 974.15	0.9305E 00

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
347.75	0.38023
706.47	0.11619
51.59	0.01653
52.77	0.01703
51.24	0.01635
53.29	0.01714
51.86	0.01667
51.14	0.01630
51.14	0.01630
67.04	0.01485



## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2CL	PH11	PH12	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	78.2	0.0079	0.0116	348.38	724.39	0.9853	0.9592	3.1464	1.0004	1.1458	-1190.04	-1175.53	-795.36
2	760.00	78.2	0.0268	0.0284	348.01	723.56	0.9844	0.9592	2.2709	1.0037	0.8165	-1190.32	-1175.92	-795.53
3	760.00	78.1	0.0509	0.0509	347.25	721.89	0.9832	0.9592	2.1448	1.0077	0.7554	-1190.88	-1176.69	-795.86
4	760.00	78.2	0.0725	0.0648	347.77	723.00	0.9825	0.9593	1.9130	1.0145	0.6342	-1190.51	-1176.18	-795.64
5	760.00	78.2	0.0955	0.0833	348.50	724.67	0.9815	0.9594	1.8612	1.0175	0.6038	-1189.95	-1175.41	-795.31
6	760.00	78.3	0.1285	0.1048	349.95	728.01	0.9805	0.9596	1.7311	1.0268	0.5223	-1188.84	-1173.87	-794.64
7	760.00	78.4	0.1975	0.1464	350.07	728.29	0.9785	0.9599	1.5656	1.0631	0.3896	-1188.74	-1173.74	-794.59
8	760.00	79.1	0.2747	0.1867	359.16	749.18	0.9767	0.9606	1.4002	1.0904	0.2501	-1181.92	-1164.31	-790.53
9	760.00	79.9	0.3804	0.2373	368.81	771.42	0.9747	0.9616	1.2490	1.1636	0.0708	-1174.88	-1154.59	-786.34
10	760.00	80.1	0.4045	0.2482	372.38	779.65	0.9743	0.9619	1.2163	1.1812	0.0293	-1172.35	-1151.08	-784.82
11	760.00	80.2	0.4243	0.2561	372.76	780.53	0.9740	0.9620	1.1948	1.2078	-0.0108	-1172.07	-1150.70	-784.66
12	760.00	80.9	0.4894	0.2854	382.45	802.92	0.9730	0.9628	1.1240	1.2727	-0.1242	-1165.32	-1141.36	-780.63
13	760.00	81.3	0.5116	0.3005	387.56	814.76	0.9725	0.9632	1.1167	1.2840	-0.1397	-1161.84	-1136.54	-778.55
14	760.00	81.4	0.5321	0.3039	388.62	817.21	0.9724	0.9633	1.0827	1.3299	-0.2056	-1161.13	-1135.56	-778.12
15	760.00	82.3	0.5857	0.3291	401.07	846.09	0.9718	0.9642	1.0314	1.3994	-0.3051	-1152.90	-1124.17	-773.20
16	760.00	84.4	0.6752	0.4045	430.22	913.96	0.9699	0.9665	1.0232	1.4703	-0.3625	-1134.78	-1099.06	-762.32
17	760.00	85.4	0.7447	0.4427	444.91	948.29	0.9691	0.9677	0.9810	1.6893	-0.5435	-1126.20	-1087.16	-757.16
18	760.00	87.2	0.7686	0.4916	471.14	1009.82	0.9684	0.9695	0.9960	1.5996	-0.4738	-1111.67	-1067.03	-748.40
19	760.00	89.1	0.8280	0.5555	501.35	1080.99	0.9675	0.9717	0.9809	1.7618	-0.5856	-1096.10	-1045.43	-738.98
20	760.00	92.0	0.8793	0.6496	550.85	1198.23	0.9668	0.9752	0.9824	1.7918	-0.6010	-1072.85	-1013.19	-724.86
21	760.00	93.0	0.8912	0.6766	568.19	1239.45	0.9667	0.9762	0.9787	1.7755	-0.5956	-1065.29	-1002.71	-720.25
22	760.00	94.9	0.9316	0.7477	602.84	1322.11	0.9665	0.9788	0.9749	2.0710	-0.7535	-1050.96	-982.86	-711.50
23	760.00	99.0	0.9773	0.9051	685.01	1519.25	0.9667	0.9848	0.9903	2.0552	-0.7301	-1020.54	-940.79	-692.84

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 585.20 P = 50.70 V = 244.70 OMEGA = 0.288 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 516.00 P = 63.00 V = 161.30 OMEGA = 0.637 OMEGAH = 0.152 DIPOLE = 1.69 ETA = 1.10

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.74315E 01 B = 0.15547E 04 C = 0.24034E 03  
 2 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.71966E 02 B = -0.41898E 02 C = 0.16875E 03  
 2 A = 0.53701E 02 B = -0.31109E 01 C = 0.16000E 03

## VAPOR PRESSURE AT NBP

P = 755.4 AT T = 101.1  
 P = 762.1 AT T = 78.4

## COMPONENT ID CHECK

ID NUMBER = 10  
 ID NUMBER = 11

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.91476E 00 B = -0.26386E 01 C = 0.10012E 01  
 STANDARD DEVIATION = 0.72314E 01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.4962 G2INF = 2.0599  
 T1INF = 78.33 T2INF = 101.30

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.1763  
 AREA BELOW THE X-AXIS IS -0.2471  
 CROSS-OVER POINT IS X = 0.41  
 NORMALIZED AREA DIFFERENCE IS -0.1672  
 HERRINGTON J-FACTOR IS 8.93  
 CONSISTENCY INDEX IS 7.79

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	200.89	463.95	0.0	5.94	0.01411
2	507.77	190.40	0.5190E-03	10.84	0.01520
3	322.05	365.58	0.7283E-00	5.33	0.01374
4	285.46	369.65	0.1666E-00	4.08	0.01461
5	377.26	333.90	0.1332E-01	6.56	0.01333
6	574.71	290.10	0.7697E-02	19.60	0.01041
7	447.08	311.60	0.9928E-02	10.16	0.01236
8	272.77	385.09	0.1363E-02	4.16	0.01445
9	272.79	385.09	0.1365E-02	4.16	0.01445
10	274.79	414.99	0.7690E-01	7.06	0.01348

\*\*DIAGNOSTIC\*\*

1 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	84.9	0.8900	0.565C	437.15	1140.97	0.9614	0.9601	1.0578	2.5166	-0.8667	-1130.68	-1168.93	-1153.71
2	760.00	79.2	0.7830	0.4290	360.40	976.59	0.9590	0.9579	1.1046	1.9518	-0.5693	-1181.00	-1216.25	-1202.17
3	760.00	76.5	0.7130	0.3700	328.06	905.05	0.9578	0.9567	1.1479	1.7548	-0.4245	-1206.21	-1239.74	-1226.33
4	760.00	75.3	0.6760	0.3480	314.46	874.51	0.9573	0.9562	1.1873	1.6640	-0.3376	-1217.72	-1250.41	-1237.33
5	760.00	74.3	0.6270	0.3250	303.48	849.65	0.9568	0.9558	1.2381	1.5394	-0.2179	-1227.47	-1259.42	-1246.63
6	760.00	71.7	0.4570	0.2600	276.37	787.45	0.9556	0.9546	1.4902	1.2493	0.1763	-1253.44	-1283.32	-1271.35
7	760.00	70.8	0.3630	0.2170	267.47	766.73	0.9551	0.9542	1.6172	1.1568	0.3350	-1262.66	-1291.77	-1280.10
8	760.00	69.6	0.2300	0.1630	255.95	739.73	0.9545	0.9536	2.0021	1.0597	0.6362	-1275.15	-1303.18	-1291.93
9	760.00	68.9	0.1380	0.1140	249.43	724.31	0.9541	0.9533	2.3939	1.0230	0.8502	-1282.53	-1309.90	-1298.92
10	760.00	68.8	0.1130	0.1000	248.51	722.12	0.9541	0.9532	2.5738	1.0129	0.9326	-1283.59	-1310.87	-1299.92

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1	T = 585.20	P = 50.70	V = 244.70	CMEGA = 0.288	CMEGAH = 0.0	DIPOLE = 0.0	ETA = 0.0
2	T = 507.90	P = 29.90	V = 372.40	CMEGA = 0.298	CMEGAH = 0.0	DIPOLE = 0.0	ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.74315E 01	B = 0.15547E 04	C = 0.24034E 03	P = 755.4 AT T = 101.1
2	A = 0.68778E 01	B = 0.11715E 04	C = 0.22437E 03	P = 759.0 AT T = 68.7

## MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.71966E 02	B = -.41898E-02	C = 0.16875E-03	COMPONENT ID CHECK
2	A = 0.12596E 03	B = -.14456E 00	C = 0.54720E-03	ID NUMBER = 10
				ID NUMBER = 18

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.11429E 01	B = -.20699E 01	C = -.18363E 00
STANDARD DEVIATION = 0.22373E-01		

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 3.1358	G2INF = 3.0363
T1INF = 68.74	T2INF = 101.30

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.3059
AREA BELOW THE X-AXIS IS	-0.2592
CROSS-OVER POINT IS X =	0.53
NORMALIZED AREA DIFFERENCE IS	0.0827
HERINGTON J-FACTOR IS	7.06
CONSISTENCY INDEX IS	1.21

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	731.68 181.85	0.1819E-11	12.33	0.00715
2	579.54 520.00	0.3986E-03	8.19	0.00805
3	736.97 240.22	0.2370E-01	3.42	0.00787
4	676.98 314.98	0.9745E-02	3.24	0.00704
5	659.94 327.68	0.1830E-02	4.62	0.00663
6	597.98 329.69	0.5410E-03	17.12	0.00408
7	655.32 317.38	0.1424E-02	6.42	0.00618
8	683.94 313.61	0.2710E-03	3.05	0.00733
9	684.77 312.83	0.2708E-03	3.04	0.00735
10	736.13 237.64	0.4228E-02	3.60	0.00780

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

1,4-DIOXANE(1) 1-HEXENE(2)

SYSTEM 054

SUMMARY VLF DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	87.6	0.9020	0.6100	477.81	1422.49	0.9626	0.9652	1.0322	2.0426	-0.6825	-1108.13	-1030.22	-1068.87
2	750.00	85.2	0.8750	0.5500	441.53	1337.63	0.9616	0.9644	1.0372	1.9633	-0.6381	-1128.14	-1047.07	-1087.03
3	750.00	83.1	0.8450	0.4980	411.62	1266.35	0.9608	0.9637	1.0422	1.8643	-0.5815	-1146.17	-1062.17	-1103.35
4	760.00	79.3	0.7900	0.4240	361.65	1144.32	0.9592	0.9623	1.0785	1.7447	-0.4811	-1180.08	-1090.39	-1133.92
5	760.00	76.9	0.7230	0.3630	332.69	1071.75	0.9582	0.9614	1.0955	1.5604	-0.3537	-1202.42	-1108.82	-1153.97
6	760.00	72.9	0.6240	0.2900	288.63	958.28	0.9563	0.9598	1.1666	1.4306	-0.2040	-1241.34	-1140.66	-1188.72
7	760.00	71.6	0.5300	0.2450	275.37	923.37	0.9557	0.9593	1.2154	1.2623	-0.0379	-1254.46	-1151.33	-1200.40
8	760.00	69.0	0.3930	0.1900	250.35	856.36	0.9545	0.9582	1.3963	1.1294	0.2122	-1281.47	-1173.14	-1224.35
9	760.00	67.4	0.2650	0.1350	235.90	816.94	0.9537	0.9575	1.5602	1.0433	0.4024	-1298.60	-1186.90	-1239.50
10	760.00	65.2	0.1280	0.0700	217.14	764.96	0.9526	0.9565	1.8173	1.0087	0.5887	-1322.83	-1206.26	-1260.85
11	760.00	64.8	0.0680	0.0400	213.87	755.77	0.9524	0.9563	1.9843	0.9859	0.6995	-1327.33	-1209.83	-1264.81

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 585.20 P = 50.70 V = 244.70 GMEGA = 0.288 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 504.00 P = 32.10 V = 350.70 GMEGA = 0.285 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.74315E 01 B = 0.15547E 04 C = 0.24034E 03 P = 755.4 AT T = 101.1  
 2 A = 0.68657E 01 B = 0.11530E 04 C = 0.22600E 03 P = 763.6 AT T = 63.5

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.71966E 02 B = -0.41898E 02 C = 0.16875E 03 COMPONENT ID ECHO CHECK  
 2 A = 0.20978E 03 B = -0.71344E 02 C = 0.14350E 02 ID NUMBER = 10  
 ID NUMBER = 38

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.78996E 00 B = -0.14193E 01 C = -0.24035E 00  
 STANDARD DEVIATION = 0.11083E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.2033 G2INF = 2.3862  
 T1INF = 63.33 T2INF = 101.30

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2077  
 AREA BELOW THE X-AXIS IS -0.2075  
 CROSS-OVER POINT IS X = 0.51  
 NORMALIZED AREA DIFFERENCE IS 0.0005  
 HERINGTON J-FACTOR IS 10.12  
 CONSISTENCY INDEX IS -10.07

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	452.00	206.83	0.1819E-11	16.73	0.00286
2	245.38	623.05	0.5938E-03	14.96	0.01174
3	408.69	252.30	0.1735E-01	11.74	0.00365
4	418.53	281.67	0.8327E-02	11.36	0.00349
5	490.33	223.43	0.2533E-02	7.43	0.00470
6	528.49	141.08	0.6288E-04	13.53	0.00138
7	510.48	197.31	0.1864E-02	8.40	0.00423
8	466.38	266.01	0.1685E-02	7.52	0.00614
9	466.56	265.56	0.1680E-02	7.50	0.00612
10	397.51	304.01	0.5380E-02	12.25	0.00381

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	208.40	40.0	0.0200	0.1450	132.30	180.36	0.9901	0.9861	11.3002	0.9931	2.4317	-1810.36	-1326.58	-962.44
2	239.80	40.0	0.0950	0.2800	132.30	180.36	0.9855	0.9849	5.2607	1.0406	1.6205	-1810.36	-1326.58	-962.44
3	249.10	40.0	0.2040	0.3320	132.30	180.36	0.9838	0.9848	3.0122	1.1401	0.9716	-1810.36	-1326.58	-962.44
4	252.30	40.0	0.3780	0.3620	132.30	180.36	0.9830	0.9849	1.7938	1.4115	0.2397	-1810.36	-1326.58	-962.44
5	248.80	40.0	0.4900	0.3840	132.30	180.36	0.9828	0.9854	1.4473	1.6399	-0.1250	-1810.36	-1326.58	-962.44
6	245.70	40.0	0.5920	0.4050	132.30	180.36	0.9826	0.9858	1.2475	1.9562	-0.4499	-1810.36	-1326.58	-962.44
7	237.30	40.0	0.7020	0.4400	132.30	180.36	0.9826	0.9867	1.1039	2.4370	-0.7919	-1810.36	-1326.58	-962.44
8	219.40	40.0	0.8020	0.5070	132.30	180.36	0.9830	0.9886	1.0298	2.9913	-1.0663	-1810.36	-1326.58	-962.44
9	196.30	40.0	0.8800	0.6050	132.30	180.36	0.9837	0.9911	1.0028	3.5476	-1.2634	-1810.36	-1326.58	-962.44
10	169.50	40.0	0.9430	0.7470	132.30	180.36	0.9850	0.9944	0.9991	4.1446	-1.4227	-1810.36	-1326.58	-962.44
11	145.60	40.0	0.9870	0.9120	132.30	180.36	0.9866	0.9977	1.0028	5.4482	-1.6925	-1810.36	-1326.58	-962.44

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 516.00 P = 63.00 V = 161.30  $\Omega$ MFGA = 0.637  $\Omega$ MEGAH = 0.152 DIPOLE = 1.69 ETA = 1.10  
 2 T = 562.00 P = 48.60 V = 260.10  $\Omega$ MFGA = 0.211  $\Omega$ MEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265E 03 P = 762.1 AT T = 78.4  
 2 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03 P = 760.0 AT T = 80.1

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.53701E 02 B = 0.31109E 01 C = 0.16000E 03 ID NUMBER = 11  
 2 A = 0.70863E 02 B = 0.14907E 01 C = 0.15880E 03 ID NUMBER = 5

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.23145E 01 B = 0.61346E 01 C = 0.22752E 01  
 STANDARD DEVIATION = 0.14375E 00

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 10.1194 G2INF = 4.6880  
 T1INF = 40.00 T2INF = 40.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.4895  
 AREA BELOW THE X-AXIS IS -0.4840  
 CRESS-COVER POINT IS X = 0.45  
 NORMALIZED AREA DIFFERENCE IS 0.0057  
 CONSISTENCY INDEX IS 0.57

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	1387.70	177.80	0.1783E-09	4.73	0.01573
2	1649.35	128.35	0.3868E-03	1.58	0.00975
3	1613.28	223.96	0.3008E 00	3.60	0.00476
4	1613.76	206.68	0.1588E-01	2.68	0.00428
5	1612.77	178.16	0.1459E-02	1.12	0.00527
6	1641.72	200.03	0.5734E-03	2.92	0.00397
7	1614.84	184.31	0.1082E-02	1.48	0.00493
8	1597.35	168.92	0.3218E-03	0.68	0.00662
9	1596.83	169.09	0.3219E-03	0.68	0.00662
10	1608.57	228.96	0.5888E-02	3.77	0.00503

ETHANOL(1) BENZENE(2)

SYSTEM 055H

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F101	F201	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	314.70	50.0	0.0250	0.1650	216.87	266.50	0.9863	0.9814	9.4371	0.9911	2.2536	-1612.44	-1217.82	-889.60
2	358.70	50.0	0.0890	0.3000	216.87	266.50	0.9805	0.9800	5.4606	1.0119	1.6858	-1612.44	-1217.82	-889.60
3	378.30	50.0	0.2060	0.3600	216.87	266.50	0.9778	0.9797	2.9774	1.1190	0.9786	-1612.44	-1217.82	-889.60
4	394.60	50.0	0.3850	0.3920	216.87	266.50	0.9766	0.9798	1.7615	1.3955	0.2329	-1612.44	-1217.82	-889.60
5	393.20	50.0	0.4860	0.4110	216.87	266.50	0.9763	0.9802	1.4572	1.6123	-0.1011	-1612.44	-1217.82	-889.60
6	378.10	50.0	0.5860	0.4340	216.87	266.50	0.9761	0.9809	1.2589	1.8992	-0.4112	-1612.44	-1217.82	-889.60
7	356.90	50.0	0.6940	0.4700	216.87	266.50	0.9760	0.9821	1.1171	2.3378	-0.7385	-1612.44	-1217.82	-889.60
8	344.40	50.0	0.7900	0.5260	216.87	266.50	0.9765	0.9842	1.0314	2.8662	-1.0220	-1612.44	-1217.82	-889.60
9	316.80	50.0	0.8660	0.6100	216.87	266.50	0.9772	0.9870	1.0045	3.4099	-1.2221	-1612.44	-1217.82	-889.60
10	276.80	50.0	0.9360	0.7450	216.87	266.50	0.9788	0.9913	0.9935	4.0572	-1.4168	-1612.44	-1217.82	-889.60
11	239.60	50.0	0.9840	0.9090	216.87	266.50	0.9809	0.9959	1.0004	5.0870	-1.6262	-1612.44	-1217.82	-889.60

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 516.00 P = 63.00 V = 161.30 OMEGA = 0.637 OMEGAH = 0.152 DIPOLE = 1.69 ETA = 1.10  
 2 T = 562.00 P = 48.60 V = 260.10 OMEGA = 0.211 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPEUR PRESSURE EQUATION COEFFICIENTS

1 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265E 03  
 2 A = -0.69056E 01 B = 0.12110E 04 C = -0.22079E 03

## VAPEUR PRESSURE AT NEP

P = 762.1 AT T = 78.4  
 P = 760.0 AT T = 80.1

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = -0.53701E 02 B = -0.31109E 01 C = 0.16000E 03  
 2 A = 0.70863E 02 B = 0.14907E 01 C = 0.15880E 03

## COMPONENT ID CHECK

ID NUMBER = 11  
 ID NUMBER = 5

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.22407E 01 B = -0.58039E 01 C = 0.20232E 01  
 STANDARD DEVIATION = 0.10213E 00

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 9.3996 G2INF = 4.6647  
 T1INF = 50.00 T2INF = 50.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.4823  
 AREA BELOW THE X-AXIS IS -0.4692  
 CROSS-OVER POINT IS X = 0.46  
 NORMALIZED AREA DIFFERENCE IS 0.0138  
 CONSISTENCY INDEX IS 1.38



## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	1382.57	188.76	0.3365E-10	5.27	0.01596
2	1496.43	158.72	0.7564E-03	3.15	0.01292
3	1559.53	230.92	0.6295E-01	5.65	0.00328
4	1563.43	219.08	C.HC84E-02	4.84	0.00372
5	1556.56	191.99	0.1813E-02	2.38	0.00660
6	1593.68	230.75	0.2321E-03	6.89	0.00271
7	1554.49	202.32	C.1688E-02	3.15	0.00552
8	1531.98	177.51	0.1732E-03	0.62	0.00926
9	1531.76	177.58	C.1732E-03	0.62	0.00926
10	1558.00	231.50	0.1533E-02	5.64	0.00333

ETHANOL(1) BENZENE(2)

SYSTEM 055C

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	452.70	60.0	0.0260	0.1610	342.58	382.50	0.9826	0.9760	8.0301	0.9930	2.0902	-1439.00	-1124.21	-826.03
2	518.20	60.0	0.0800	0.3100	342.58	382.50	0.9749	0.9741	5.7059	0.9875	1.7541	-1439.00	-1124.21	-826.03
3	553.70	60.0	0.1850	0.3750	342.58	382.50	0.9711	0.9734	3.1765	1.0779	1.0807	-1439.00	-1124.21	-826.03
4	565.00	60.0	0.3220	0.4080	342.58	382.50	0.9695	0.9735	2.0228	1.2525	0.4794	-1439.00	-1124.21	-826.03
5	558.00	60.0	0.3980	0.4200	342.58	382.50	0.9690	0.9737	1.6927	1.3895	0.1974	-1439.00	-1124.21	-826.03
6	566.60	60.0	0.4840	0.4360	342.58	382.50	0.9687	0.9741	1.4408	1.5731	-0.0878	-1439.00	-1124.21	-826.03
7	552.60	60.0	0.5680	0.4550	342.58	382.50	0.9684	0.9747	1.2718	1.8040	-0.3496	-1439.00	-1124.21	-826.03
8	548.70	60.0	0.6800	0.4900	342.58	382.50	0.9683	0.9761	1.1157	2.2261	-0.6907	-1439.00	-1124.21	-826.03
9	524.20	60.0	0.7710	0.5370	342.58	382.50	0.9686	0.9783	1.0307	2.7043	-0.9646	-1439.00	-1124.21	-826.03
10	435.00	60.0	0.8590	0.6250	342.58	382.50	0.9694	0.9821	0.9971	3.3047	-1.1982	-1439.00	-1124.21	-826.03
11	431.60	60.0	0.9290	0.7470	342.58	382.50	0.9713	0.9873	0.9827	3.9620	-1.3941	-1439.00	-1124.21	-826.03
12	377.40	60.0	0.9810	0.9040	342.58	382.50	0.9740	0.9933	0.9877	4.9433	-1.6104	-1439.00	-1124.21	-826.03

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 516.00 P = 63.00 V = 161.30  $\Omega$ MFGA = 0.637  $\Omega$ MFGAH = 0.152 DIPOLE = 1.69 ETA = 1.10  
 2 T = 562.00 P = 48.60 V = 260.10  $\Omega$ MFGA = 0.211  $\Omega$ MFGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265E 03  
 2 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03

## MOLEAR VOLUME EQUATION COEFFICIENTS

1 A = 0.53701E 02 B = -0.31109E 01 C = 0.16000E 03  
 2 A = 0.70863E 02 B = -0.14907E 01 C = 0.15880E 03

## VAPOR PRESSURE AT NBP

P = 762.1 AT T = 78.4  
 P = 760.0 AT T = 80.1

## COMPONENT ID CHECK

ID NUMBER = 11  
 ID NUMBER = 5

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.21498E 01 B = -0.55181E 01 C = 0.18254E 01  
 STANDARD DEVIATION = 0.75830E 01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 8.5833 G2INF = 4.6780  
 T1INF = 60.00 T2INF = 60.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.4643  
 AREA BELOW THE X-AXIS IS -0.4651  
 CROSS-OVER POINT IS X = 0.46  
 NORMALIZED AREA DIFFERENCE IS -0.0008  
 CONSISTENCY INDEX IS 0.08

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	1358.69	208.07	0.1137E-09	3.16	0.01569
2	1435.87	134.04	0.1429E-02	6.09	0.01853
3	1470.42	255.38	0.1625E-00	11.39	0.00598
4	1488.70	233.14	0.1819E-01	9.80	0.00652
5	1503.66	187.66	0.4640E-02	4.99	0.00987
6	1547.89	256.96	0.8161E-03	16.46	0.00462
7	1501.07	203.21	0.4521E-02	6.81	0.00848
8	1491.93	154.70	0.5498E-04	0.85	0.01380
9	1491.74	154.77	0.5512E-04	0.85	0.01380
10	1470.77	253.14	0.2728E-02	11.14	0.00604

## SUMMARY VLF DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	130.00	33.6	0.1000	0.2770	94.41	138.15	0.9882	0.9877	5.2160	1.0330	1.6193	-1951.65	-1405.97	-1014.96
2	130.00	32.8	0.2000	0.3140	90.40	133.49	0.9874	0.9879	3.0851	1.1413	0.9944	-1970.18	-1416.51	-1021.89
3	130.00	32.5	0.3000	0.3310	88.93	131.77	0.9870	0.9880	2.2030	1.2887	0.5362	-1977.18	-1420.50	-1024.51
4	130.00	32.5	0.3380	0.3380	88.93	131.77	0.9869	0.9880	1.9965	1.3485	0.3924	-1977.18	-1420.50	-1024.51
5	130.00	32.6	0.4000	0.3490	89.42	132.34	0.9867	0.9882	1.7322	1.4570	0.1730	-1974.85	-1419.17	-1023.64
6	130.00	32.9	0.5000	0.3700	90.89	134.06	0.9865	0.9884	1.4449	1.6707	0.1452	-1967.85	-1415.18	-1021.02
7	130.00	33.3	0.6000	0.3990	92.89	136.39	0.9861	0.9887	1.2701	1.9589	-0.4334	-1958.58	-1405.91	-1017.55
8	130.00	34.0	0.7000	0.4340	96.47	140.53	0.9857	0.9892	1.1397	2.3884	-0.7399	-1942.45	-1400.75	-1011.52
9	130.00	35.5	0.8000	0.5000	104.55	149.74	0.9852	0.9901	1.0596	2.9729	-1.0317	-1908.42	-1381.50	-998.83
10	130.00	39.3	0.9000	0.6520	127.62	175.29	0.9845	0.9925	1.0054	3.5437	-1.2597	-1825.24	-1334.86	-967.94

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1	T = 516.00	P = 63.00	V = 161.30	OMEGA = 0.637	OMEGA H = 0.152	DIPOLE = 1.69	ETA = 1.10
2	T = 562.00	P = 48.60	V = 260.10	OMEGA = 0.211	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.80449E 01	B = 0.15543E 04	C = 0.22265E 03
2	A = 0.69056E 01	B = 0.12110E 04	C = 0.22079E 03

## VAPOR PRESSURE AT NBP

P = 762.1 AT T = 78.4
P = 760.0 AT T = 80.1

## MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.53701E 02	B = -0.31109E -01	C = 0.16000E -03
2	A = 0.70863E 02	B = 0.14907E -01	C = 0.15880E -03

## COMPONENT ID ECHO CHECK

ID NUMBER = 11
ID NUMBER = 5

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.20697E 01	B = -0.55364E 01	C = 0.20895E 01
STANDARD DEVIATION = 0.58757E -01		

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 7.9223	G2INF = 3.9640
T1INF = 39.63	T2INF = 45.81

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.4343
AREA BELOW THE X-AXIS IS	-0.4363
CROSS-CUR POINT IS X =	0.45
NORMALIZED AREA DIFFERENCE IS	-0.0023
HERINGTON J-FACTOR IS	3.50
CONSISTENCY INDEX IS	-3.26

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	1274.55	0.9641E-10
2	1553.97	0.4362E-03
3	1654.96	0.3032E-01
4	1578.46	0.4186E-02
5	1576.46	0.1173E-02
6	1545.39	0.3763E-03
7	1555.62	0.7222E-03
8	1631.57	0.6997E-03
9	1631.59	0.6997E-03
10	1669.11	0.1723E-02

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
10.54	0.01843
1.12	0.00313
1.22	0.00571
1.15	0.00401
1.16	0.00409
1.16	0.00338
1.17	0.00369
1.20	0.00532
1.20	0.00532
1.24	0.00616

ETHANCL(1) BENZENE(2)

SYSTEM 055F

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	400.00	52.8	0.1000	0.3010	247.37	295.71	0.9750	0.9784	4.7593	1.0260	1.5344	-1561.56	-1190.23	-870.95
2	400.00	51.6	0.2000	0.3530	233.98	282.90	0.9772	0.9788	2.9463	1.1172	0.9697	-1583.14	-1201.91	-878.86
3	400.00	51.3	0.3000	0.3770	230.61	275.76	0.9765	0.9791	2.1260	1.2436	0.5362	-1588.59	-1204.87	-880.86
4	400.00	51.2	0.3990	0.3990	229.53	278.73	0.9759	0.9794	1.6987	1.4030	0.1913	-1590.41	-1205.85	-881.52
5	400.00	51.2	0.4000	0.3990	229.53	278.73	0.9759	0.9794	1.6945	1.4053	0.1871	-1590.41	-1205.85	-881.52
6	400.00	51.3	0.5000	0.4240	230.61	279.76	0.9754	0.9798	1.4329	1.6110	-0.1171	-1588.59	-1204.87	-880.86
7	400.00	51.6	0.6000	0.4530	233.98	282.90	0.9748	0.9804	1.2572	1.8923	-0.4089	-1583.14	-1201.91	-878.86
8	400.00	52.2	0.7000	0.4910	240.54	284.25	0.9742	0.9813	1.1350	2.2982	-0.7055	-1572.31	-1196.05	-874.89
9	400.00	54.1	0.8000	0.5540	262.65	310.10	0.9737	0.9829	1.0255	2.8221	-1.0123	-1538.57	-1177.80	-862.53
10	400.00	56.3	0.9000	0.6800	290.44	335.71	0.9727	0.9862	1.0110	3.7533	-1.3117	-1500.54	-1157.29	-848.59

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1	T = 516.00	P = 63.00	V = 161.30	OMEGA = 0.637	OMEGA <sub>H</sub> = 0.152	DIPOLE = 1.69	ETA = 1.10
2	T = 562.00	P = 48.60	V = 260.10	OMEGA = 0.211	OMEGA <sub>H</sub> = 0.0	DIPOLE = 0.0	ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.80449E-01	B = 0.15543E-04	C = 0.22265E-03	P = 762.1 AT T = 78.4
2	A = 0.69056E-01	B = 0.12110E-04	C = 0.22079E-03	P = 760.0 AT T = 80.1

## MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.53701E-02	B = -0.31109E-01	C = 0.16000E-03	COMPONENT ID ECHO CHECK
2	A = 0.70863E-02	B = 0.14907E-01	C = 0.15880E-03	ID NUMBER = 11
				ID NUMBER = 5

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.19342E-01	B = -0.48981E-01	C = 0.15010E-01
STANDARD DEVIATION = -0.56896E-01		

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 6.9185	G2INF = 4.3184
T1INF = 60.61	T2INF = 62.92

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.4202
AREA BELOW THE X-AXIS IS	-0.4347
CROSS-OVER POINT IS X =	0.46
NORMALIZED AREA DIFFERENCE IS	-0.0170
HERINGTON J-FACTOR IS	4.35
CONSISTENCY INDEX IS	-2.66

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	1228.33 187.55	0.2956E-09
2	1440.16 176.66	0.5640E-03
3	1445.54 230.18	0.1541E-01
4	1440.15 218.57	0.3440E-02
5	1419.65 213.43	0.1095E-02
6	1470.32 233.69	0.1204E-03
7	1418.78 217.38	0.7772E-03
8	1418.29 201.30	0.4753E-03
9	1418.37 201.33	0.4754E-03
10	1436.97 234.85	0.9343E-03

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
12.40	0.01417
2.26	0.00623
4.52	0.00253
3.39	0.00295
2.17	0.00375
5.98	0.00226
2.36	0.00360
1.79	0.00433
1.79	0.00433
4.49	0.00258

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	206.00	40.0	0.0757	0.1226	132.30	186.02	0.9799	0.9796	2.4696	1.0287	0.8757	-1810.36	-1927.30	-1927.69
2	212.00	40.0	0.1285	0.1874	132.30	186.02	0.9795	0.9790	2.2875	1.0392	0.7890	-1810.36	-1927.30	-1927.69
3	213.50	40.0	0.2256	0.2745	132.30	186.02	0.9795	0.9788	1.9221	1.0513	0.6033	-1810.36	-1927.30	-1927.69
4	216.00	40.0	0.2316	0.2614	132.30	186.02	0.9793	0.9786	1.8033	1.0910	0.5025	-1810.36	-1927.30	-1927.69
5	216.00	40.0	0.3441	0.3414	132.30	186.02	0.9794	0.9785	1.5854	1.1396	0.3301	-1810.36	-1927.30	-1927.69
6	215.50	40.0	0.3554	0.3307	132.30	186.02	0.9794	0.9786	1.4835	1.1758	0.2324	-1810.36	-1927.30	-1927.69
7	216.00	40.0	0.4389	0.4022	132.30	186.02	0.9795	0.9785	1.4645	1.2091	0.1916	-1810.36	-1927.30	-1927.69
8	211.00	40.0	0.5410	0.4317	132.30	186.02	0.9800	0.9789	1.2464	1.3733	-0.0970	-1810.36	-1927.30	-1927.69
9	204.50	40.0	0.6359	0.4910	132.30	186.02	0.9807	0.9795	1.1697	1.5038	-0.2512	-1810.36	-1927.30	-1927.69
10	200.50	40.0	0.7166	0.5315	132.30	186.02	0.9811	0.9799	1.1021	1.7441	-0.4590	-1810.36	-1927.30	-1927.69
11	191.50	40.0	0.7576	0.5760	132.30	186.02	0.9820	0.9807	1.0801	1.7642	-0.4907	-1810.36	-1927.30	-1927.69
12	191.50	40.0	0.7715	0.5830	132.30	186.02	0.9820	0.9807	1.0735	1.8406	-0.5392	-1810.36	-1927.30	-1927.69
13	134.00	40.0	0.8260	0.6442	132.30	186.02	0.9828	0.9814	1.0654	1.9831	-0.6213	-1810.36	-1927.30	-1927.69
14	176.00	40.0	0.8638	0.6921	132.30	186.02	0.9836	0.9821	1.0478	2.0987	-0.6946	-1810.36	-1927.30	-1927.69
15	165.00	40.0	0.9009	0.7544	132.30	186.02	0.9846	0.9831	1.0278	2.1594	-0.7424	-1810.36	-1927.30	-1927.69
16	158.00	40.0	0.9312	0.8164	132.30	186.02	0.9853	0.9838	1.0311	2.2280	-0.7705	-1810.36	-1927.30	-1927.69
17	151.50	40.0	0.9636	0.8868	132.30	186.02	0.9859	0.9843	1.0385	2.4911	-0.8749	-1810.36	-1927.30	-1927.69
18	146.00	40.0	0.9776	0.9192	132.30	186.02	0.9865	0.9848	1.0231	2.7861	-1.0018	-1810.36	-1927.30	-1927.69

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1	T = 516.00	P = 63.00	V = 161.30	OMEGA = 0.637	OMEGA <sub>H</sub> = 0.152	DIPOLF = 1.69	ETA = 1.10
2	T = 523.30	P = 37.80	V = 286.00	OMEGA = 0.373	OMEGA <sub>H</sub> = 0.278	DIPCLE = 1.78	ETA = 0.50

## VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.80449E 01	B = 0.15543E 04	C = 0.22265E 03
2	A = 0.70981E 01	B = 0.12387E 04	C = 0.21700E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.53701E 02	B = -.31109E-01	C = 0.16000E-03
2	A = 0.13612E 03	B = .37001E 00	C = 0.80775E-03

## VAPOR PRESSURE AT NBP

P = 762.1	AT T = 78.4
P = 769.5	AT T = 77.1

## COMPONENT ID CHECK

ID NUMBER = 11
ID NUMBER = 12

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.10407E 01	B = -.21443E 01	C = 0.14654E 00
STANDARD DEVIATION = 0.42571E-01		

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1 INF = 2.8311	G2 INF = 2.6041
T1 INF = 40.00	T2 INF = 40.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.2584
AREA BELOW THE X-AXIS IS	-0.2410
CROSS-OVER POINT IS X =	0.50
NORMALIZED AREA DIFFERENCE IS	-0.0348
CONSISTENCY INDEX IS	3.48

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	731.82 -24.77	0.3647E-09	4.78	0.00603
2	701.47 -115.68	0.2484E-02	2.05	0.01332
3	765.61 -12.90	0.1096E 00	2.66	0.00773
4	768.72 -15.52	0.3106E-01	2.66	0.00774
5	768.09 6.79	0.6743E-02	1.72	0.00905
6	711.36 0.27	0.2336E-02	4.44	0.00646
7	749.24 11.05	0.6495E-02	2.21	0.00824
8	777.12 22.98	0.1792E-02	1.46	0.01110
9	777.12 22.98	0.1792E-02	1.46	0.01110
10	764.67 -9.42	0.1124E-01	2.51	0.00789

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	136.60	40.0	0.0060	0.0220	186.02	132.30	0.9857	0.9873	2.6522	1.0026	0.9728	-1927.30	-1810.36	-1927.69
2	150.90	40.0	0.0440	0.1440	186.02	132.30	0.9844	0.9860	2.6115	1.0065	0.9535	-1927.30	-1810.36	-1927.69
3	163.10	40.0	0.0840	0.2270	186.02	132.30	0.9833	0.9848	2.3279	1.0240	0.8212	-1927.30	-1810.36	-1927.69
4	183.00	40.0	0.1870	0.3700	186.02	132.30	0.9815	0.9829	1.9087	1.0529	0.5949	-1927.30	-1810.36	-1927.69
5	191.90	40.0	0.2420	0.4280	186.02	132.30	0.9807	0.9820	1.7875	1.0742	0.5092	-1927.30	-1810.36	-1927.69
6	199.70	40.0	0.3200	0.4840	186.02	132.30	0.9800	0.9812	1.5896	1.1232	0.3473	-1927.30	-1810.36	-1927.69
7	208.30	40.0	0.4540	0.5600	186.02	132.30	0.9792	0.9803	1.3510	1.2430	0.0834	-1927.30	-1810.36	-1927.69
8	210.20	40.0	0.4950	0.5740	186.02	132.30	0.9790	0.9801	1.2814	1.3127	-0.0241	-1927.30	-1810.36	-1927.69
9	211.80	40.0	0.5520	0.6070	186.02	132.30	0.9789	0.9799	1.2243	1.3752	-0.1163	-1927.30	-1810.36	-1927.69
10	213.20	40.0	0.6630	0.6640	186.02	132.30	0.9788	0.9797	1.1223	1.5730	-0.3376	-1927.30	-1810.36	-1927.69
11	212.10	40.0	0.7490	0.7160	186.02	132.30	0.9790	0.9797	1.0659	1.7759	-0.5105	-1927.30	-1810.36	-1927.69
12	204.60	40.0	0.8850	0.8290	186.02	132.30	0.9790	0.9802	1.0084	2.2525	-0.8037	-1927.30	-1810.36	-1927.69
13	200.60	40.0	0.9200	0.8710	186.02	132.30	0.9802	0.9805	0.9997	2.3957	-0.8740	-1927.30	-1810.36	-1927.69
14	195.30	40.0	0.9600	0.9280	186.02	132.30	0.9807	0.9809	0.9943	2.6047	-0.9630	-1927.30	-1810.36	-1927.69

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 523.30 P = 37.80 V = 286.00 OMFGA = 0.373 OMEGAH = 0.278 DIPCLE = 1.78 ETA = 0.50  
 2 T = 516.00 P = 63.00 V = 161.30 OMFGA = 0.637 OMEGAH = 0.152 DIPOLE = 1.69 ETA = 1.10

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = -0.70981E-01 B = -0.12387E-04 C = 0.21700E-03  
 2 A = 0.80449E-01 B = 0.15543E-04 C = 0.22265E-03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.13612E-03 B = -0.37001E-00 C = 0.80775E-03  
 2 A = -0.53701E-02 B = -0.31109E-01 C = 0.16000E-03

## VAPOR PRESSURE AT NBP

P = 769.5 AT T = 77.1  
 P = 762.1 AT T = 78.4

## COMPONENT ID CHECK

ID NUMBER = 12  
 ID NUMBER = 11

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.10003E-01 B = -0.20315E-01 C = -0.50440E-02

## INFINITE DILUTION ACTIVITY COEFFICIENTS

STANDARD DEVIATION = 0.17947E-01  
 G1INF = -2.7192 G2INF = -2.8186  
 T1INF = 40.00 T2INF = 40.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2461  
 AREA BELOW THE X-AXIS IS -0.2632  
 CROSS-OVER POINT IS X = 0.49  
 NORMALIZED AREA DIFFERENCE IS -0.0336  
 CONSISTENCY INDEX IS 3.36



## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	16.80	703.97	0.8328E-08	1.46	0.00373
2	156.69	606.75	0.1436E-03	0.59	0.00458
3	23.29	712.56	0.2074E-01	0.98	0.00367
4	31.74	704.93	0.5263E-02	0.90	0.00354
5	86.40	657.49	0.5983E-03	0.59	0.00291
6	73.03	655.51	0.3639E-03	1.04	0.00290
7	88.40	653.00	0.6082E-03	0.65	0.00288
8	105.94	645.00	0.1129E-03	0.42	0.00317
9	105.79	645.11	0.1129E-03	0.42	0.00316
10	24.02	712.12	0.2393E-02	0.97	0.00366

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	284.30	55.0	0.0055	0.0185	339.59	273.77	0.9761	0.9788	2.7447	1.0024	1.0073	-1631.39	-1522.88	-1625.05
2	392.50	55.0	0.0370	0.1040	339.59	273.77	0.9747	0.9775	2.4369	1.0040	0.8867	-1631.39	-1522.88	-1625.05
3	325.20	55.0	0.0830	0.2010	339.59	273.77	0.9731	0.9757	2.2531	1.0089	0.8034	-1631.39	-1522.88	-1625.05
4	349.70	55.0	0.1510	0.2970	339.59	273.77	0.9713	0.9738	1.9639	1.0289	0.6464	-1631.39	-1522.88	-1625.05
5	360.30	55.0	0.1960	0.3480	339.59	273.77	0.9706	0.9730	1.8251	1.0373	0.5650	-1631.39	-1522.88	-1625.05
6	371.60	55.0	0.2430	0.3890	339.59	273.77	0.9697	0.9721	1.6955	1.0638	0.4662	-1631.39	-1522.88	-1625.05
7	336.40	55.0	0.3400	0.4530	339.59	273.77	0.9686	0.9709	1.4657	1.1344	0.2562	-1631.39	-1522.88	-1625.05
8	397.50	55.0	0.4640	0.5210	339.59	273.77	0.9679	0.9699	1.2696	1.2570	0.0100	-1631.39	-1522.88	-1625.05
9	402.00	55.0	0.5920	0.6010	339.59	273.77	0.9676	0.9694	1.1606	1.3904	-0.1807	-1631.39	-1522.88	-1625.05
10	400.90	55.0	0.6820	0.6520	339.59	273.77	0.9678	0.9694	1.0901	1.5516	-0.3530	-1631.39	-1522.88	-1625.05
11	399.50	55.0	0.7150	0.6740	339.59	273.77	0.9679	0.9694	1.0713	1.6162	-0.4112	-1631.39	-1522.88	-1625.05
12	385.20	55.0	0.8530	0.7860	339.59	273.77	0.9692	0.9702	1.0111	1.9850	-0.6746	-1631.39	-1522.88	-1625.05
13	376.50	55.0	0.8980	0.8390	339.59	273.77	0.9699	0.9707	1.0028	2.1049	-0.7414	-1631.39	-1522.88	-1625.05
14	365.00	55.0	0.9440	0.9020	339.59	273.77	0.9709	0.9714	0.9953	2.2641	-0.8219	-1631.39	-1522.88	-1625.05

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 523.30 P = 37.80 V = 286.00 OMEGA = 0.373 OMEGAH = 0.278 DIPOLE = 1.78 ETA = 0.50  
 2 T = 516.00 P = 63.00 V = 161.30 OMEGA = 0.637 OMEGAH = 0.152 DIPOLE = 1.69 ETA = 1.10

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.70981E 01 B = 0.12387E 04 C = 0.21700E 03  
 2 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.13612E 03 B = -.37001E 00 C = 0.80775E-03  
 2 A = 0.53701E 02 B = -.31109E-01 C = 0.16000E-03

## VAPOR PRESSURE AT NBP

P = 769.5 AT T = 77.1  
 P = 762.1 AT T = 78.4

## COMPONENT ID CHECK

ID NUMBER = 12  
 ID NUMBER = 11

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.98514E 00 B = -.22035E 01 C = 0.31714E 00  
 STANDARD DEVIATION = 0.18902E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.6782 G2INF = 2.4625  
 T1INF = 55.00 T2INF = 55.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2307  
 AREA BELOW THE X-AXIS IS -0.2416  
 CROSS-OVER POINT IS X = 0.48  
 NORMALIZED AREA DIFFERENCE IS -0.0230  
 CONSISTENCY INDEX IS 2.30

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	77.81	617.37	C.5912F-10	0.77	0.00257
2	107.15	595.65	0.1025F-03	0.61	0.00252
3	85.54	621.91	0.1097F-01	0.95	0.00236
4	86.29	619.56	0.2758F-02	0.81	0.00233
5	104.61	597.50	0.3450F-03	0.59	0.00251
6	110.16	595.73	0.2726E-03	0.69	0.00248
7	116.09	587.88	0.3472E-03	0.70	0.00259
8	98.35	601.63	0.6477F-04	0.58	0.00250
9	98.33	601.68	0.6477F-04	0.58	0.00250
10	83.22	625.48	0.1369F-02	1.09	0.00238

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PH11	PH12	G1	G2	LN(G1/G2)	B11	B22	B12
1	444.00	60.0	0.0505	0.1107	342.58	408.70	0.9677	0.9669	2.7458	0.9817	1.0286	-1439.00	-1546.48	-1537.33
2	444.50	60.0	0.0595	0.1100	342.58	408.70	0.9677	0.9669	2.3183	0.9929	0.8479	-1439.00	-1546.48	-1537.33
3	464.00	60.0	0.1319	0.2023	342.58	408.70	0.9666	0.9654	2.0052	1.0048	0.6909	-1439.00	-1546.48	-1537.33
4	478.00	60.0	0.2286	0.2801	342.58	408.70	0.9658	0.9642	1.6485	1.0500	0.4513	-1439.00	-1546.48	-1537.33
5	478.50	60.0	0.2286	0.2889	342.58	408.70	0.9658	0.9642	1.7025	1.0382	0.4946	-1439.00	-1546.48	-1537.33
6	484.50	60.0	0.3279	0.3257	342.58	408.70	0.9655	0.9637	1.3544	1.1434	0.1693	-1439.00	-1546.48	-1537.33
7	485.00	60.0	0.4437	0.4244	342.58	408.70	0.9657	0.9635	1.3059	1.1802	0.1011	-1439.00	-1546.48	-1537.33
8	481.00	60.0	0.5011	0.4578	342.58	408.70	0.9661	0.9637	1.2375	1.2298	0.0062	-1439.00	-1546.48	-1537.33
9	479.50	60.0	0.5229	0.4625	342.58	408.70	0.9662	0.9639	1.1945	1.2710	-0.0621	-1439.00	-1546.48	-1537.33
10	474.00	60.0	0.5860	0.4865	342.58	408.70	0.9666	0.9642	1.1088	1.3838	-0.2216	-1439.00	-1546.48	-1537.33
11	473.00	60.0	0.6200	0.5294	342.58	408.70	0.9668	0.9642	1.1382	1.3787	-0.1917	-1439.00	-1546.48	-1537.33
12	466.00	60.0	0.6870	0.5880	342.58	408.70	0.9674	0.9646	1.1247	1.4444	-0.2502	-1439.00	-1546.48	-1537.33
13	454.00	60.0	0.7541	0.6285	342.58	408.70	0.9683	0.9654	1.0681	1.6166	-0.4145	-1439.00	-1546.48	-1537.33
14	444.50	60.0	0.8064	0.6800	342.58	408.70	0.9690	0.9660	1.0588	1.7328	-0.4926	-1439.00	-1546.48	-1537.33
15	421.50	60.0	0.8559	0.7260	342.58	408.70	0.9707	0.9677	1.0118	1.8937	-0.5268	-1439.00	-1546.48	-1537.33
16	411.00	60.0	0.8940	0.7730	342.58	408.70	0.9714	0.9683	1.0065	2.0812	-0.7265	-1439.00	-1546.48	-1537.33
17	389.00	60.0	0.9247	0.8491	342.58	408.70	0.9730	0.9698	1.0134	1.8463	-0.5999	-1439.00	-1546.48	-1537.33
18	375.00	60.0	0.9565	0.8849	342.58	408.70	0.9740	0.9708	0.9853	2.3526	-0.8703	-1439.00	-1546.48	-1537.33
19	361.50	60.0	0.9760	0.9393	342.58	408.70	0.9750	0.9717	0.9891	2.1700	-0.7857	-1439.00	-1546.48	-1537.33

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 516.00 P = 63.00 V = 161.30 CMEGA = 0.637 OMEGAH = 0.152 DIPOLF = 1.69 ETA = 1.10  
 2 T = 523.30 P = 37.80 V = 286.00 CMEGA = 0.373 OMEGAH = 0.278 DIPOLF = 1.78 ETA = 0.50

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265E 03  
 2 A = 0.70981E 01 B = 0.12387E 04 C = 0.21700E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.53701E 02 B = 0.31109E 01 C = 0.16000E 03  
 2 A = 0.13612E 03 B = -0.37001E 00 C = 0.80775E 03

## VAPOR PRESSURE AT NBP

P = 762.1 AT T = 78.4  
 P = 769.5 AT T = 77.1

## COMPONENT ID ECHO CHECK

ID NUMBER = -11  
 ID NUMBER = 12

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.10110E 01 B = -0.23130E 01 C = 0.49205E 00  
 STANDARD DEVIATION = 0.74425E 01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.7483 G2INF = 2.2479  
 T1INF = 60.00 T2INF = 60.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2370  
 AREA BELOW THE X-AXIS IS -0.2185  
 CROSS-OVER POINT IS X = 0.49  
 NORMALIZED AREA DIFFERENCE IS 0.0406  
 CONSISTENCY INDEX IS 4.06

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	854.45 -162.81	0.3365E-10	4.75	0.00964
2	607.44 -36.18	0.1112E-02	2.48	0.00960
3	905.66 -180.99	0.2306E-00	6.34	0.01030
4	865.34 -168.52	0.6139E-01	4.97	0.00975
5	728.98 -80.22	0.5797E-02	2.59	0.00913
6	771.42 -113.57	0.4678E-02	3.13	0.00919
7	719.22 -72.73	0.5303E-02	2.46	0.00914
8	668.86 -25.53	0.8993E-03	2.13	0.00914
9	669.61 -26.25	0.8993E-03	2.14	0.00914
10	907.23 -182.03	0.3161E-01	6.36	0.01032

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	548.60	70.0	0.0065	0.0175	579.77	523.30	0.9624	0.9670	2.4451	1.0009	0.8932	-1393.94	-1286.76	-1378.80
2	559.40	70.0	0.0186	0.0460	579.77	523.30	0.9617	0.9663	2.3649	1.0019	0.8588	-1393.94	-1286.76	-1378.80
3	633.60	70.0	0.1310	0.2370	579.77	523.30	0.9574	0.9618	1.8870	1.0206	0.6147	-1393.94	-1286.76	-1378.80
4	664.60	70.0	0.2100	0.3210	579.77	523.30	0.9556	0.9598	1.6690	1.0457	0.4676	-1393.94	-1286.76	-1378.80
5	680.40	70.0	0.2630	0.3670	579.77	523.30	0.9547	0.9587	1.5582	1.0686	0.3772	-1393.94	-1286.76	-1378.80
6	703.80	70.0	0.3870	0.4540	579.77	523.30	0.9534	0.9571	1.3530	1.1443	0.1676	-1393.94	-1286.76	-1378.80
7	710.00	70.0	0.4520	0.4930	579.77	523.30	0.9531	0.9567	1.2686	1.1584	0.0569	-1393.94	-1286.76	-1378.80
8	712.20	70.0	0.4880	0.5170	579.77	523.30	0.9530	0.9565	1.2359	1.2255	0.0085	-1393.94	-1286.76	-1378.80
9	711.20	70.0	0.6250	0.5970	579.77	523.30	0.9532	0.9563	1.1131	1.3939	-0.2250	-1393.94	-1286.76	-1378.80
10	706.40	70.0	0.6910	0.6410	579.77	523.30	0.9536	0.9565	1.0741	1.4970	-0.3319	-1393.94	-1286.76	-1378.80
11	697.80	70.0	0.7550	0.6810	579.77	523.30	0.9543	0.9569	1.0324	1.6580	-0.4737	-1393.94	-1286.76	-1378.80
12	679.20	70.0	0.8220	0.7470	579.77	523.30	0.9556	0.9578	1.0140	1.7634	-0.5534	-1393.94	-1286.76	-1378.80
13	651.60	70.0	0.9030	0.8390	579.77	523.30	0.9575	0.9591	0.9967	1.9786	-0.6857	-1393.94	-1286.76	-1378.80
14	635.40	70.0	0.9320	0.8880	579.77	523.30	0.9586	0.9600	0.9978	1.9163	-0.6526	-1393.94	-1286.76	-1378.80
15	615.60	70.0	0.9750	0.9480	579.77	523.30	0.9599	0.9610	0.9880	2.3472	-0.8653	-1393.94	-1286.76	-1378.80

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 523.30 P = 37.80 V = 286.00 OMEGA = 0.373 OMEGAH = 0.278 DIPOLE = 1.78 ETA = 0.50  
 2 T = 516.00 P = 63.00 V = 161.30 OMEGA = 0.637 OMEGAH = 0.152 DIPOLE = 1.69 ETA = 1.10

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.70981E 01 B = 0.12387E 04 C = 0.21700E 03  
 2 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265E 03

## VAPOR PRESSURE AT NBP

P = 769.5 AT T = 77.1  
 P = 762.1 AT T = 78.4

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.13612E 03 B = -0.37001E 00 C = 0.80775E 03  
 2 A = 0.53701E 02 B = -0.31109E 01 C = 0.16000E 03

## COMPONENT ID ECHO CHECK

ID NUMBER = 12  
 ID NUMBER = 11

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.88342E 00 B = -0.19230E 01 C = 0.20711E 00  
 STANDARD DEVIATION = 0.33710E 01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.4192 G2INF = 2.2991  
 F1INF = 70.00 F2INF = 70.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2102  
 AREA BELOW THE X-AXIS IS -0.2192  
 CROSS-OVER POINT IS X = 0.48  
 NORMALIZED AREA DIFFERENCE IS -0.0211  
 CONSISTENCY INDEX IS 2.11

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	16.27	636.79	0.1819E-11	3.11	0.00296
2	112.64	540.33	0.1941E-03	1.80	0.00370
3	29.04	631.24	0.4720E-01	3.90	0.00284
4	38.14	617.49	0.1178E-01	3.01	0.00275
5	63.69	584.98	0.6776E-03	1.55	0.00279
6	50.08	608.05	0.3948E-03	3.09	0.00268
7	64.16	586.15	0.6818E-03	1.66	0.00277
8	100.23	551.35	0.1801E-03	1.72	0.00344
9	100.23	551.35	0.1800E-03	1.72	0.00344
10	28.15	632.23	0.9070E-02	3.93	0.00285

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	75.5	0.0505	0.1036	653.20	656.08	0.9557	0.9539	2.2762	0.9796	0.8431	-1210.39	-1318.15	-1299.58
2	760.00	73.8	0.1260	0.2146	610.18	658.06	0.9551	0.9527	2.0216	0.9851	0.7189	-1233.61	-1341.15	-1323.65
3	760.00	73.8	0.1343	0.2146	609.21	657.20	0.9550	0.9527	1.8997	0.9959	0.6458	-1234.15	-1341.69	-1324.21
4	760.00	73.0	0.2271	0.2960	591.55	641.45	0.9549	0.9522	1.5955	1.0238	0.4437	-1244.25	-1351.70	-1334.68
5	760.00	72.5	0.3128	0.3634	578.92	630.14	0.9548	0.9517	1.4530	1.0594	0.3159	-1251.68	-1359.07	-1342.39
6	760.00	72.3	0.3358	0.3643	573.84	625.57	0.9546	0.9516	1.3686	1.1024	0.2164	-1254.73	-1362.09	-1345.54
7	760.00	72.2	0.5052	0.4803	571.54	623.51	0.9549	0.9512	1.2046	1.2133	-0.0072	-1256.11	-1363.46	-1346.98
8	760.00	72.3	0.5441	0.5074	575.45	627.02	0.9551	0.9513	1.1738	1.2412	-0.0559	-1253.76	-1361.13	-1344.54
9	760.00	72.7	0.6442	0.5618	583.57	634.31	0.9555	0.9513	1.0828	1.3987	-0.2560	-1248.92	-1356.33	-1339.53
10	760.00	72.9	0.6828	0.6092	588.25	638.50	0.9557	0.9513	1.0992	1.3500	-0.2347	-1246.17	-1353.60	-1336.67
11	760.00	74.1	0.7860	0.6819	617.96	664.97	0.9566	0.9519	1.0184	1.6112	-0.4587	-1229.27	-1336.85	-1319.15
12	760.00	75.5	0.8774	0.7908	651.92	654.56	0.9575	0.9523	1.0039	1.7706	-0.5674	-1211.05	-1318.81	-1300.27
13	760.00	76.7	0.9482	0.8924	683.13	722.28	0.9583	0.9527	1.0012	2.0746	-0.7285	-1195.23	-1303.17	-1283.89

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 516.00 P = 63.00 V = 161.30 CMEGA = 0.637 CMEGAH = 0.152 DIPOLE = 1.69 ETA = 1.10  
 2 T = 523.30 P = 37.80 V = 286.00 OMEGA = 0.373 OMEGAH = 0.278 DIPOLE = 1.78 ETA = 0.50

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265F 03  
 2 A = 0.70981E 01 B = 0.12387E 04 C = 0.21700F 03

## VAPOR PRESSURE AT NBP

P = 762.1 AT T = 78.4  
 P = 769.5 AT T = 77.1

## MCLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.53701E 02 B = .31109E 01 C = 0.16000F 03  
 2 A = 0.13612E 03 B = -.37001E 00 C = 0.80775F 03

## COMPONENT ID Echo CHECK

ID NUMBER = 11  
 ID NUMBER = 12

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.92597E 00 B = .20433E 01 C = 0.36186F 00  
 STANDARD DEVIATION = 0.39281E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.5243 G2INF = 2.1286  
 T1INF = 76.72 T2INF = 78.33

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2227  
 AREA BELOW THE X-AXIS IS -0.1977  
 CROSS-OVER POINT IS X = 0.50  
 NORMALIZED AREA DIFFERENCE IS 0.0593  
 HERINGTON J-FACTOR IS 1.97  
 CONSISTENCY INDEX IS 3.96



## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRFSSURE	COMPOSITION
1	854.69 -190.69	0.9095E-12	14.18	0.00696
2	597.83 -30.84	0.4793E-03	3.70	0.00954
3	849.00 -186.09	0.4354E-01	14.17	0.00692
4	817.71 -172.11	0.1979E-01	11.91	0.00682
5	698.50 -107.28	0.3059E-02	4.09	0.00817
6	740.73 -95.20	0.1715E-02	13.32	0.00643
7	666.47 -74.24	0.3206E-02	4.27	0.00799
8	657.81 -85.27	0.2662E-03	3.11	0.00900
9	658.92 -86.42	0.2663E-03	3.11	0.00901
10	827.31 -171.41	0.1480E-01	13.56	0.00678

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	103.60	30.0	0.0684	0.4556	77.48	57.86	0.9917	0.9872	8.8300	1.0320	2.1466	-2036.65	-2700.54	-1483.71
2	112.50	30.0	0.1236	0.4986	77.48	57.86	0.9905	0.9865	5.8000	1.0964	1.6659	-2036.65	-2700.54	-1483.71
3	117.70	30.0	0.2803	0.5344	77.48	57.86	0.9897	0.9863	2.8655	1.2967	0.7929	-2036.65	-2700.54	-1483.71
4	118.00	30.0	0.3342	0.5381	77.48	57.86	0.9896	0.9863	2.4260	1.3941	0.5540	-2036.65	-2700.54	-1483.71
5	119.90	30.0	0.5151	0.5496	77.48	57.86	0.9894	0.9863	1.6330	1.8964	-0.1495	-2036.65	-2700.54	-1483.71
6	119.90	30.0	0.5934	0.5675	77.48	57.86	0.9892	0.9865	1.4645	2.1702	-0.3933	-2036.65	-2700.54	-1483.71
7	119.60	30.0	0.7174	0.5828	77.48	57.86	0.9891	0.9867	1.2399	3.0080	-0.8863	-2036.65	-2700.54	-1483.71
8	118.90	30.0	0.7687	0.5971	77.48	57.86	0.9890	0.9870	1.1785	3.5293	-1.0969	-2036.65	-2700.54	-1483.71
9	117.00	30.0	0.8154	0.6282	77.48	57.86	0.9889	0.9876	1.1501	4.0182	-1.2510	-2036.65	-2700.54	-1483.71
10	114.50	30.0	0.8550	0.6454	77.48	57.86	0.9880	0.9881	1.1029	4.7772	-1.4659	-2036.65	-2700.54	-1483.71
11	111.30	30.0	0.8902	0.7116	77.48	57.86	0.9889	0.9894	1.1352	4.9941	-1.4815	-2036.65	-2700.54	-1483.71
12	82.50	30.0	0.9913	0.9430	77.48	57.86	0.9911	0.9951	1.0037	9.2891	-2.2251	-2036.65	-2700.54	-1483.71

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 516.00 P = 63.00 V = 161.30 OMEGA = 0.637 OMEGAH = 0.152 DIPOLE = 1.69 ETA = 1.10  
 2 T = 540.20 P = 27.60 V = 431.90 OMEGA = 0.349 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265E 03  
 2 A = 0.69024E 01 B = 0.12681E 04 C = 0.21690E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.53701E 02 B = -.31109E-01 C = 0.16000E-03  
 2 A = 0.12880E 03 B = -.60277E 01 C = 0.41160E-03

## VAPOR PRESSURE AT NBP

P = 762.1 AT T = 78.4  
 P = 759.4 AT T = 98.4

## COMPONENT ID ECHO CHECK

ID NUMBER = 11  
 ID NUMBER = 16

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.23183E 01 B = -.51217E 01 C = 0.78387E 00  
 STANDARD DEVIATION = 0.13705E 00

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 10.1589 G2INF = 7.5344  
 T1INF = 30.00 T2INF = 30.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.5519  
 AREA BELOW THE X-AXIS IS -0.5331  
 CROSS-OVER POINT IS X = 0.49  
 NORMALIZED AREA DIFFERENCE IS 0.0173  
 CONSISTENCY INDEX IS 1.73

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	1528.03	178.35	C.3569E-07	10.71	0.02490
2	1840.93	629.99	0.2275E-02	2.00	0.02133
3	2001.63	273.11	0.2350E-00	3.02	0.00591
4	2017.27	282.46	0.2929E-01	2.77	0.00683
5	1938.08	387.48	0.8269E-02	1.36	0.01023
6	1969.48	225.34	0.2224E-02	4.37	0.00735
7	1929.52	373.55	0.7917E-02	1.63	0.00906
8	1987.56	477.19	0.4669E-03	0.51	0.01406
9	1887.50	477.19	0.4666E-03	0.51	0.01406
10	2000.64	273.62	0.2080E-02	3.01	0.00589

\*\*DIAGNOSTIC\*\*

3 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	1897.85	263.58	0.3320E-09	27.82	0.01472
2	2049.37	368.73	0.9831E-04	5.47	0.00580
3	1929.45	445.99	0.1526E-01	7.17	0.00670
4	1941.02	432.10	0.1889E-01	6.33	0.00613
5	1994.33	397.25	0.2605E-02	4.38	0.00477
6	1980.95	398.90	0.1437E-02	4.62	0.00482
7	2005.21	382.18	0.1525E-02	4.31	0.00483
8	2004.43	392.27	0.1075E-02	4.57	0.00483
9	2004.43	392.27	0.1070E-02	4.57	0.00483
10	1930.35	442.63	0.4753E-02	6.98	0.00662

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	750.00	92.1	0.0100	0.1669	1200.31	597.81	0.9845	0.9474	10.3816	1.0081	2.3320	-1012.65	-1596.61	-921.60
2	750.00	85.0	0.0250	0.3371	934.92	483.22	0.9756	0.9461	10.6712	1.0062	2.3614	-1091.74	-1680.03	-965.74
3	750.00	78.8	0.0500	0.4667	740.94	396.43	0.9686	0.9459	9.2536	1.0125	2.2126	-1168.00	-1760.06	-1007.81
4	750.00	76.3	0.0750	0.5110	672.60	365.08	0.9660	0.9460	7.4211	1.0354	1.9696	-1200.48	-1794.09	-1025.61
5	750.00	75.0	0.1000	0.5396	639.52	349.74	0.9645	0.9464	6.1716	1.0462	1.7748	-1217.58	-1812.00	-1034.96
6	750.00	72.6	0.2000	0.5853	581.71	322.64	0.9620	0.9469	3.6700	1.1498	1.1606	-1250.03	-1845.99	-1052.67
7	750.00	71.8	0.3000	0.6029	563.79	314.16	0.9610	0.9472	2.5978	1.2927	0.6979	-1260.83	-1857.31	-1058.56
8	750.00	71.5	0.4000	0.6140	555.90	310.42	0.9605	0.9475	2.0114	1.4842	0.3039	-1265.72	-1862.43	-1061.22
9	750.00	71.3	0.5000	0.6250	551.21	308.18	0.9601	0.9479	1.6511	1.7435	-0.0544	-1268.66	-1865.51	-1062.82
10	750.00	71.2	0.6000	0.6302	549.37	307.55	0.9599	0.9481	1.3905	2.1541	-0.4377	-1269.50	-1866.39	-1063.28
11	750.00	71.3	0.7000	0.6495	550.54	307.87	0.9595	0.9490	1.2263	2.7219	-0.7974	-1269.08	-1865.95	-1063.05
12	750.00	71.6	0.8000	0.6834	557.70	311.27	0.9588	0.9508	1.1138	3.6544	-1.1882	-1264.60	-1861.26	-1060.61
13	750.00	72.6	0.9000	0.7449	582.41	322.97	0.9582	0.9543	1.0326	5.6969	-1.7078	-1249.61	-1845.55	-1052.45
14	750.00	74.3	0.9500	0.8214	622.12	341.63	0.9580	0.9590	1.0097	7.5786	-2.0157	-1226.98	-1821.85	-1040.10
15	750.00	75.8	0.9750	0.8869	659.10	358.84	0.9582	0.9632	1.0029	9.1780	-2.2139	-1207.34	-1801.27	-1029.36

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 516.00 P = 63.00 V = 161.30 OMEGA = 0.637 OMEGAH = 0.152 DIPOLE = 1.69 ETA = 1.10  
 2 T = 540.20 P = 27.00 V = 431.90 OMEGA = 0.349 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265E 03  
 2 A = 0.69024E 01 B = 0.12681E 04 C = 0.21650E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.53701E 02 B = -.31109E-01 C = 0.16000E-03  
 2 A = 0.12880E 03 B = -.60277E-01 C = 0.41160E-03

## VAPOR PRESSURE AT NBP

P = 762.1 AT T = 78.4  
 P = 759.4 AT T = 98.4

## COMPONENT ID ECHO CHECK

ID NUMBER = 11  
 ID NUMBER = 16

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.23622E 01 B = -.52439E 01 C = 0.74190E 00  
 STANDARD DEVIATION = 0.12636E 00

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 10.6142 G2INF = 8.4977  
 T1INF = 98.43 T2INF = 78.33

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.5571  
 AREA BELOW THE X-AXIS IS -0.5696  
 CROSS-OVER POINT IS X = 0.48  
 NORMALIZED AREA DIFFERENCE IS -0.0111  
 HERINGTON J-FACTOR IS 11.85  
 CONSISTENCY INDEX IS -10.75

ETHANOL(2) HEXANE(1)

SYSTEM 05EA

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	145.20	25.0	0.1000	0.6200	148.78	58.30	0.9870	0.9877	5.9660	1.0381	1.7487	-1886.85	-2161.86	-1257.43
2	172.10	25.0	0.2000	0.6940	148.78	58.30	0.9839	0.9868	3.9443	1.1136	1.2647	-1886.85	-2161.86	-1257.43
3	182.80	25.0	0.3000	0.7210	148.78	58.30	0.9826	0.9866	2.8978	1.2322	0.8552	-1886.85	-2161.86	-1257.43
4	187.50	25.0	0.4000	0.7340	148.78	58.30	0.9821	0.9865	2.2681	1.4057	0.4784	-1886.85	-2161.86	-1257.43
5	139.10	25.0	0.5000	0.7390	148.78	58.30	0.9819	0.9865	1.8420	1.6693	0.0985	-1886.85	-2161.86	-1257.43
6	199.40	25.0	0.7000	0.7490	148.78	58.30	0.9817	0.9867	1.3424	2.6943	-0.6967	-1886.85	-2161.86	-1257.43
7	190.40	25.0	0.8000	0.7580	148.78	58.30	0.9816	0.9869	1.1886	3.8974	-1.1875	-1886.85	-2161.86	-1257.43
8	189.40	25.0	0.9000	0.7760	148.78	58.30	0.9816	0.9874	1.0760	7.1808	-1.8982	-1886.85	-2161.86	-1257.43

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 507.90 P = 29.90 V = 372.40  $\Omega$ MEGA = 0.298  $\Omega$ MEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 516.00 P = 63.00 V = 161.30  $\Omega$ MEGA = -0.637  $\Omega$ MEGAH = 0.152 DIPOLE = 1.69 ETA = 1.10

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = -0.68778E-01 B = 0.11715E-04 C = 0.22437E-03 P = 759.0 AT T = 68.7  
 2 A = 0.80449E-01 B = 0.15543E-04 C = 0.22265E-03 P = 762.1 AT T = 78.4

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.12596E-03 B = -.14456E-04 C = 0.54720E-03 COMPONENT ID ECHO CHECK  
 2 A = -0.53701E-02 B = -.31109E-01 C = 0.16000E-03 ID NUMBER = 18  
 ID NUMBER = -11

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.20075E-01 B = -.33074E-01 C = -.10032E-01

STANDARD DEVIATION = 0.98099E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 7.4444 G2INF = 10.0052  
 T1INF = 25.00 T2INF = 25.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.5497

AREA BELOW THE X-AXIS IS -0.5304

CROSS-OVER POINT IS X = 0.52

NORMALIZED AREA DIFFERENCE IS 0.0179

CONSISTENCY INDEX IS 1.79

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	237.93 1427.32	0.1022E-08
2	408.23 2120.03	0.4750E-04
3	397.11 2034.51	0.3035E-02
4	395.89 2065.63	0.5299E-03
5	388.25 2119.58	0.1059E-03
6	384.36 2039.64	0.2730E-04
7	385.17 2122.53	0.1055E-03
8	388.05 2134.35	0.1347E-04
9	388.06 2134.22	0.1347E-04
10	396.68 2036.90	0.7212E-04

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
19.64	0.02881
0.50	0.00255
1.08	0.00139
0.67	0.00158
0.24	0.00182
1.42	0.00122
0.30	0.00174
0.21	0.00204
0.21	0.00203
1.06	0.00139

\*\*DIAGNOSTIC\*\*

1 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
 SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	528.60	55.0	0.0978	0.5110	465.17	273.77	0.9686	0.9675	5.7306	1.0109	1.7350	-1456.26	-1522.88	-984.75
2	615.40	55.0	0.1983	0.6150	465.17	273.77	0.9607	0.9657	3.9254	1.0406	1.3277	-1456.26	-1522.88	-984.75
3	650.40	55.0	0.2995	0.6550	465.17	273.77	0.9575	0.9654	2.9151	1.1274	0.9500	-1456.26	-1522.88	-984.75
4	664.90	55.0	0.3984	0.6620	465.17	273.77	0.9564	0.9649	2.2614	1.3140	0.5429	-1456.26	-1522.88	-984.75
5	667.70	55.0	0.4980	0.6660	465.17	273.77	0.9561	0.9649	1.8272	1.5627	0.1564	-1456.26	-1522.88	-984.75
6	669.20	55.0	0.5995	0.6710	465.17	273.77	0.9559	0.9651	1.5323	1.9340	-0.2328	-1456.26	-1522.88	-984.75
7	669.50	55.0	0.6990	0.6750	465.17	273.77	0.9558	0.9652	1.3225	2.5436	-0.6541	-1456.26	-1522.88	-984.75
8	668.00	55.0	0.8030	0.6790	465.17	273.77	0.9558	0.9655	1.1555	3.8311	-1.1987	-1456.26	-1522.88	-984.75
9	652.50	55.0	0.9012	0.6930	465.17	273.77	0.9566	0.9669	1.0273	7.1471	-1.9398	-1456.26	-1522.88	-984.75

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1	T = 507.90	P = 29.90	V = 372.40	OMEGA = 0.298	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0
2	T = 516.00	P = 63.00	V = 161.30	OMEGA = 0.637	OMEGA H = 0.152	DIPOLE = 1.69	ETA = 1.10

## VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.68778E 01	B = 0.11715E 04	C = 0.22437E 03
2	A = 0.80449E 01	B = 0.15543E 04	C = 0.22265E 03

## VAPOR PRESSURE AT NBP

P = 759.0	AT T = 68.7
P = 762.1	AT T = 78.4

## MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.12596E 03	B = -0.14456E 00	C = 0.54720E 03
2	A = 0.53701E 02	B = -0.31109E 01	C = 0.16000E 03

## COMPONENT ID ECHO CHECK

ID NUMBER = 18
ID NUMBER = 11

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.19533E 01	B = -0.27206E 01	C = -0.16366E 01
STANDARD DEVIATION = 0.83884E 01		

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.5722
AREA BELOW THE X-AXIS IS	-0.5247
CRGSS-CVFR POINT IS X =	0.54
NORMALIZED AREA DIFFERENCE IS	0.0433
CONSISTENCY INDEX IS	4.33

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 7.0520	G2INF = 11.0661
T1INF = 55.00	T2INF = 55.00

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION
1	204.94	1658.59	0.8185E-11
2	201.33	2190.91	0.9991E-03
3	342.70	2327.07	0.4182E-01
4	259.85	2398.59	0.1604E-01
5	337.78	2210.09	0.4059E-02
6	348.52	3077.13	0.7229E-03
7	349.86	2256.30	0.3538E-02
8	376.49	2041.58	0.4789E-04
9	376.35	2043.87	0.5791E-04
10	345.48	2324.79	0.9384E-03

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
48.74	0.03514
13.29	0.01837
10.68	0.00862
9.40	0.00921
5.09	0.01120
31.01	0.00566
8.39	0.00985
1.34	0.01459
1.35	0.01453
10.91	0.00858

## SUMMARY VLF DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	66.7	0.0060	0.0650	456.62	677.41	0.9753	0.9523	17.6195	1.0000	2.8690	-1334.84	-1331.42	-904.72
2	760.00	69.2	0.0450	0.2550	345.60	552.08	0.9666	0.9511	12.0186	1.0162	2.4704	-1435.76	-1398.48	-947.77
3	760.00	59.1	0.1020	0.2900	329.96	533.61	0.9644	0.9512	6.3011	1.0657	1.7771	-1452.88	-1409.84	-955.05
4	760.00	58.4	0.2350	0.3250	315.87	521.56	0.9623	0.9516	3.1550	1.2173	0.9523	-1464.42	-1417.50	-959.95
5	760.00	59.3	0.2750	0.3300	317.03	518.15	0.9620	0.9516	2.7611	1.2834	0.7661	-1467.73	-1419.70	-961.36
6	760.00	58.0	0.3300	0.3400	313.51	513.92	0.9614	0.9517	2.3957	1.3794	0.5520	-1471.89	-1422.45	-963.13
7	760.00	58.1	0.4120	0.3500	314.91	515.61	0.9609	0.9520	1.9657	1.5434	0.2419	-1470.23	-1421.35	-962.42
8	760.00	58.3	0.5480	0.3600	318.44	519.85	0.9606	0.9524	1.5027	1.9615	-0.2664	-1466.08	-1418.60	-960.66
9	760.00	58.7	0.6670	0.3700	323.44	525.84	0.9603	0.9528	1.2489	2.5922	-0.7302	-1460.28	-1414.75	-958.20
10	760.00	59.4	0.7550	0.3950	333.63	537.96	0.9596	0.9538	1.1411	3.3107	-1.0652	-1448.78	-1407.12	-953.31
11	760.00	61.8	0.8480	0.4680	370.61	581.15	0.9581	0.9570	1.0819	4.3584	-1.3933	-1410.12	-1381.47	-936.86
12	760.00	65.5	0.9200	0.5800	441.56	660.92	0.9571	0.9623	1.0362	5.7804	-1.7189	-1346.80	-1335.39	-909.84
13	760.00	67.4	0.9400	0.6350	470.15	692.07	0.9566	0.9648	1.0423	6.4133	-1.8169	-1324.47	-1324.51	-900.28
14	760.00	73.2	0.9800	0.8070	595.33	822.91	0.9573	0.9733	1.0042	8.6315	-2.1513	-1242.06	-1269.44	-864.81
15	760.00	76.0	0.9900	0.9050	664.75	892.23	0.9582	0.9782	0.9992	7.8768	-2.0647	-1204.43	-1244.17	-848.50

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 516.00 P = 63.00 V = 161.30 CMFGA = 0.637 CMFGAH = 0.152 DIPOLE = 1.69 ETA = 1.10  
 2 T = 507.90 P = 29.90 V = 372.40 CMFGA = 0.298 CMFGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265E 03 P = 762.1 AT T = 78.4  
 2 A = 0.68778E 01 B = 0.11715E 04 C = 0.22437E 03 P = 759.0 AT T = 66.7

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.53701E 02 B = -0.31109E 01 C = 0.16000E 03 COMPONENT ID CHECK  
 2 A = 0.12596E 03 B = -0.14456E 00 C = 0.54720E 03 ID NUMBER = 11  
 ID NUMBER = 18

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.26330E 01 B = -0.66343E 01 C = 0.20160E 01  
 STANDARD DEVIATION = 0.18076E 00

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 13.9161 G2INF = 7.2803  
 T1INF = 68.74 T2INF = 78.33

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.5747  
 AREA BELOW THE X-AXIS IS -0.5868  
 CROSS-OVER POINT IS X = 0.46  
 NORMALIZED AREA DIFFERENCE IS -0.0104  
 HERINGTON J-FACTOR IS 8.15  
 CONSISTENCY INDEX IS -7.11



SUMMARY OF WILSON PARAMETERS

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)	
				PRESSURE	COMPOSITION
1	1384.24	218.99	C.3565F-09	36.06	0.01724
2	2035.82	427.13	C.9186F-03	7.35	0.01120
3	2079.09	340.19	C.2154E 01	7.10	0.00692
4	2094.66	330.23	C.2532F-01	7.63	0.00673
5	2156.88	334.99	0.3126F-02	5.95	0.00732
6	2157.49	306.45	0.1572F-02	8.26	0.00644
7	2169.70	325.72	C.2081F-02	6.31	0.00712
8	2139.68	355.46	0.1060F-02	5.52	0.00782
9	2139.14	355.69	C.1056F-02	5.52	0.00783
10	2080.51	336.31	C.7468F-02	7.45	0.00682

\*\*DIAGNOSTIC\*\*

1 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
 SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	66.3	0.0150	0.1500	449.04	614.28	0.9738	0.9582	16.4447	1.0187	2.7815	-1340.81	-1182.01	-840.86
2	750.00	63.7	0.0300	0.2220	402.22	566.21	0.9692	0.9579	13.5219	1.0269	2.5778	-1380.36	-1204.76	-856.24
3	760.00	61.3	0.0850	0.2950	361.85	523.58	0.9647	0.9581	7.0161	1.0669	1.8834	-1418.87	-1226.89	-871.18
4	760.00	60.3	0.2160	0.3320	347.12	507.73	0.9625	0.9585	3.2318	1.2172	0.9765	-1434.14	-1235.66	-877.09
5	750.00	60.0	0.3480	0.3500	343.33	503.62	0.9616	0.9588	2.1360	1.4362	0.3969	-1438.19	-1237.99	-878.66
6	750.00	60.1	0.4670	0.3610	344.08	504.44	0.9611	0.9591	1.6374	1.7249	-0.0521	-1437.38	-1237.52	-878.34
7	760.00	60.3	0.5800	0.3820	347.12	507.73	0.9603	0.9597	1.3817	2.1046	-0.4208	-1434.14	-1235.66	-877.09
8	750.00	61.2	0.7130	0.4130	361.06	522.74	0.9596	0.9609	1.1674	2.8449	-0.8908	-1419.67	-1227.35	-871.49
9	760.00	62.8	0.8000	0.4600	386.98	550.25	0.9587	0.9628	1.0803	3.5749	-1.1967	-1394.36	-1212.81	-861.68
10	760.00	64.6	0.8570	0.5190	417.94	582.51	0.9579	0.9652	1.0525	4.2175	-1.3881	-1366.52	-1196.80	-850.86
11	760.00	67.0	0.8980	0.5930	462.38	627.74	0.9573	0.9684	1.0367	4.6580	-1.5025	-1330.38	-1176.00	-836.80
12	760.00	72.5	0.9650	0.8150	606.08	766.46	0.9575	0.9784	1.0118	5.1030	-1.6181	-1235.92	-1121.48	-799.80
13	760.00	76.1	0.9850	0.9080	667.38	823.67	0.9582	0.9829	1.0037	5.5386	-1.7080	-1203.11	-1102.46	-786.85

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 516.00 P = 63.00 V = 161.30  $\Omega$ MEGA = 0.637  $\Omega$ MEGAH = 0.152 DIPOLE = 1.69 ETA = 1.10  
 2 T = 532.80 P = 37.40 V = 319.00  $\Omega$ MEGA = 0.231  $\Omega$ MEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265E 03  
 2 A = 0.68628E 01 B = 0.11861E 04 C = 0.22604E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.53701E 02 B = .31109E 01 C = 0.16000E 03  
 2 A = 0.10427E 03 B = -.86757E 01 C = 0.39000E 03

## VAPOR PRESSURE AT NBP

P = 762.1 AT T = 78.4  
 P = 759.7 AT T = 71.8

## COMPONENT ID ECHO CHECK

ID NUMBER = 11  
 ID NUMBER = 27

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.26791E 01 B = .73338E 01 C = 0.30156E 01  
 STANDARD DEVIATION = 0.14902E 00

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 14.5715 G2INF = 5.1505  
 T1INF = -71.81 T2INF = -78.33

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.5546  
 AREA BELOW THE X-AXIS IS -0.5373  
 CROSS-OVER POINT IS X = 0.45  
 NORMALIZED AREA DIFFERENCE IS 0.0159  
 HERINGTON J-FACTOR IS 7.23  
 CONSISTENCY INDEX IS -5.63

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	1927.56	66.07	0.1546E-10	50.88	0.02349
2	2372.61	282.16	0.3956E-03	11.66	0.01526
3	2160.42	166.03	0.7957E 00	20.55	0.00723
4	2167.99	178.16	0.3675E-C1	18.65	0.00687
5	2178.04	250.22	0.5892E-02	9.51	0.00846
6	2140.74	204.41	0.1871E-02	16.95	0.00640
7	2181.36	252.51	0.3828E-C2	9.05	0.00866
8	2214.55	269.06	0.2110E-02	7.39	0.01030
9	2214.18	269.11	0.2107E-C2	7.39	0.01029
10	2169.37	156.17	0.7618E-02	21.31	0.00758

ETHANOL (1) 1-PROPANOL (2)

SYSTEM 060

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	93.8	0.1260	0.2400	1276.11	644.62	0.9660	0.9676	1.0935	0.9893	0.1002	-993.72	-571.96	-1007.80
2	750.00	92.7	0.1880	0.3180	1225.02	615.71	0.9657	0.9671	1.0112	0.9999	0.0113	-1006.33	-983.02	-1019.99
3	760.00	91.6	0.2100	0.3390	1180.88	590.85	0.9652	0.9666	1.0007	1.0375	-0.0361	-1017.72	-593.02	-1031.02
4	760.00	88.3	0.3580	0.5500	1052.21	519.05	0.9641	0.9649	1.0675	0.9876	0.0778	-1053.96	-1024.83	-1066.09
5	750.00	86.3	0.4610	0.6500	976.91	477.54	0.9632	0.9637	1.0543	0.9933	0.0596	-1077.62	-1045.63	-1089.00
6	760.00	85.0	0.5460	0.7110	932.87	453.44	0.9626	0.9630	1.0151	1.0246	-0.0055	-1092.45	-1058.67	-1103.36
7	750.00	84.1	0.6000	0.7600	904.25	437.88	0.9623	0.9625	1.0222	0.9996	0.0224	-1102.50	-1067.52	-1113.10
8	760.00	83.1	0.6630	0.7990	869.32	418.91	0.9617	0.9618	1.0111	1.0379	-0.0262	-1115.32	-1078.80	-1125.52
9	750.00	80.6	0.8440	0.9140	792.71	377.71	0.9605	0.9602	0.9951	1.0622	-0.0652	-1145.59	-1105.46	-1154.84

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 516.00 P = 63.00 V = 161.30 OMEGA = 0.637 OMEGAH = 0.152 DIPOLE = 1.69 ETA = 1.10  
 2 T = 540.70 P = 51.00 V = 220.00 OMEGA = 0.612 OMEGAH = 0.201 DIPOLE = 1.68 ETA = 0.57

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265E 03  
 2 A = 0.79973E 01 B = 0.15657E 04 C = 0.20950E 03  
 P = 762.1 AT T = 78.4  
 P = 757.4 AT T = 97.2

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.53701E 02 B = -.31109E-01 C = 0.16000E-03  
 2 A = 0.77979E 02 B = -.91570E-01 C = 0.27520E-03  
 COMPONENT ID ECHO CHECK  
 ID NUMBER = 11  
 ID NUMBER = 37

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.20309E-01 B = 0.17191E 00 C = -.32565E 00  
 STANDARD DEVIATION = 0.48936E-01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.0205 G2INF = 1.1427  
 T1INF = 97.29 T2INF = 78.33

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0198  
 AREA BELOW THE X-AXIS IS -0.0221  
 CROSS-OVER POINT IS X = 0.63  
 NORMALIZED AREA DIFFERENCE IS -0.0547  
 HERINGTON J-FACTOR IS 8.09  
 CONSISTENCY INDEX IS -2.63

SUMMARY OF WILSON PARAMETERS

MODFL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	246.50 492.93	0.9095E-12
2	249.48 -193.74	0.4813E-03
3	-179.44 383.00	0.9377E-02
4	-188.98 399.03	0.8681E-02
5	-169.08 363.68	0.1893E-02
6	-257.10 540.89	0.1304E-02
7	-153.09 337.91	0.1755E-02
8	-5.58 103.50	0.4601E-03
9	-6.94 105.36	0.4599E-03
10	-179.08 381.10	0.7271E 00

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
6.35	0.00723
4.84	0.00770
5.25	0.00712
5.31	0.00713
5.15	0.00713
6.14	0.00706
5.04	0.00713
4.27	0.00731
4.27	0.00731
5.23	0.00713

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	81.5	0.1810	0.1935	820.27	727.84	0.9597	0.9871	0.9538	1.0108	-0.0581	-1134.32	-374.59	-790.23
2	760.00	81.1	0.3020	0.3235	809.58	717.65	0.9599	0.9869	0.9631	1.0101	-0.0476	-1138.64	-375.26	-792.92
3	760.00	80.9	0.3655	0.4140	801.41	709.87	0.9599	0.9867	1.0289	0.9729	0.0560	-1141.98	-375.78	-795.00
4	760.00	80.7	0.4010	0.4275	795.40	704.15	0.9599	0.9867	0.9757	1.0149	-0.0395	-1144.47	-376.17	-796.55
5	760.00	80.3	0.5140	0.5600	783.19	692.53	0.9599	0.9863	1.0127	0.9772	0.0356	-1149.58	-376.96	-799.74
6	760.00	80.1	0.5410	0.5725	778.17	687.75	0.9599	0.9863	0.9859	1.0122	-0.0223	-1151.70	-377.29	-801.07
7	760.00	79.9	0.6290	0.6620	772.30	682.16	0.9599	0.9860	0.9920	0.9980	-0.0060	-1154.21	-377.68	-802.63
8	760.00	79.6	0.7182	0.7536	762.70	673.02	0.9598	0.9857	1.0014	0.9705	0.0313	-1158.36	-378.33	-805.22
9	760.00	79.0	0.7916	0.8250	747.19	658.26	0.9596	0.9854	1.0150	0.9526	0.0634	-1165.20	-379.35	-809.48
10	760.00	78.9	0.8606	0.8705	744.91	656.09	0.9596	0.9852	0.9881	1.0572	-0.0675	-1166.21	-379.55	-810.12

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1	T = 516.00	P = 63.00	V = 161.30	CMEGA = 0.637	CMEGAH = 0.152	DIPOLE = 1.69	ETA = 1.10
2	T = 508.50	P = 47.00	V = 218.50	CMEGA = 0.663	CMEGAH = 0.187	DIPOLE = 1.60	ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.80449E 01	B = 0.15543E 04	C = 0.22265E 03	VAPOR PRESSURE AT NBP
2	A = 0.66604E 01	B = 0.81305E 03	C = 0.13293E 03	P = 762.1 AT T = 78.4
				P = 769.7 AT T = 82.5

## MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.53701E 02	B = -.31109E-01	C = 0.16000E-03	COMPONENT ID CHECK
2	A = 0.14178E 03	B = -.49807E-00	C = 0.52870E-03	ID NUMBER = 11
				ID NUMBER = 22

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = -.15106E 00	B = 0.57115E 00	C = -.48339E 00
STANDARD DEVIATION = 0.47621E-01		

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 0.8598	G2INF = 1.0654
T1INF = 82.19	T2INF = 78.33

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

EQUATION SOLVED FOR X-INTERCEPT  
 ROOTS ARE: X = 0.39971E 00 AND X = 0.78183E 00  
 BOTH ROOTS ARE IN THE RANGE 0 TO 1  
 THERMODYNAMIC CONSISTENCY TEST IS ABORTED

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	-494.92 1008.88	0.2061E-11
2	-10.49 29.93	0.8490E-04
3	-317.96 606.47	0.1129E-01
4	-318.83 602.55	0.1112E-01
5	-179.58 292.45	0.1459E-02
6	-229.66 370.35	0.1320E-02
7	-165.65 266.57	0.1529E-02
8	-29.84 56.98	0.8248E-04
9	-16.50 38.71	0.8246E-04
10	-313.64 588.40	0.1597E 01

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
18.10	0.01062
1.88	0.00780
2.80	0.00778
3.06	0.00769
2.12	0.00773
3.81	0.00734
2.10	0.00772
1.88	0.00781
1.87	0.00781
3.01	0.00769

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2CL	PH11	PH12	G1	G2	LN(G1/G2)	B11	B22	B12
1	43.80	30.0	0.0050	0.1380	77.48	36.48	0.9982	0.9947	15.5735	1.0343	2.7118	-2036.65	-2328.46	-1324.81
2	48.85	30.0	0.0100	0.2300	77.48	36.48	0.9974	0.9942	14.4613	1.0351	2.6369	-2036.65	-2328.46	-1324.81
3	53.20	30.0	0.0150	0.2950	77.48	36.48	0.9967	0.9939	13.4570	1.0370	2.5632	-2036.65	-2328.46	-1324.81
4	56.90	30.0	0.0200	0.3430	77.48	36.48	0.9961	0.9936	12.5438	1.0386	2.4914	-2036.65	-2328.46	-1324.81
5	66.95	30.0	0.0400	0.4490	77.48	36.48	0.9946	0.9930	9.6457	1.0455	2.2220	-2036.65	-2328.46	-1324.81
6	73.30	30.0	0.0600	0.5020	77.48	36.48	0.9938	0.9926	7.8643	1.0562	2.0077	-2036.65	-2328.46	-1324.81
7	77.20	30.0	0.0800	0.5310	77.48	36.48	0.9932	0.9925	6.5674	1.0702	1.8143	-2036.65	-2328.46	-1324.81
8	79.50	30.0	0.1000	0.5470	77.48	36.48	0.9929	0.9924	5.5717	1.0880	1.6334	-2036.65	-2328.46	-1324.81
9	83.05	30.0	0.1500	0.5720	77.48	36.48	0.9924	0.9922	4.0556	1.1368	1.2719	-2036.65	-2328.46	-1324.81
10	85.40	30.0	0.2000	0.5880	77.48	36.48	0.9921	0.9922	3.2142	1.1955	0.9890	-2036.65	-2328.46	-1324.81
11	88.30	30.0	0.3000	0.6110	77.48	36.48	0.9917	0.9921	2.3013	1.3338	0.5455	-2036.65	-2328.46	-1324.81
12	90.00	30.0	0.4000	0.6280	77.48	36.48	0.9914	0.9921	1.8076	1.5167	0.1755	-2036.65	-2328.46	-1324.81
13	91.30	30.0	0.5000	0.6450	77.48	36.48	0.9912	0.9922	1.5064	1.7621	-0.1568	-2036.65	-2328.46	-1324.81
14	92.10	30.0	0.6000	0.6650	77.48	36.48	0.9910	0.9924	1.3053	2.0970	-0.4741	-2036.65	-2328.46	-1324.81
15	92.40	30.0	0.7000	0.6910	77.48	36.48	0.9908	0.9926	1.1662	2.5881	-0.7972	-2036.65	-2328.46	-1324.81
16	91.55	30.0	0.8000	0.7350	77.48	36.48	0.9907	0.9932	1.0752	3.3007	-1.1216	-2036.65	-2328.46	-1324.81
17	90.30	30.0	0.8500	0.7700	77.48	36.48	0.9907	0.9937	1.0457	3.7696	-1.2823	-2036.65	-2328.46	-1324.81
18	89.10	30.0	0.9000	0.8180	77.48	36.48	0.9908	0.9945	1.0237	4.3687	-1.4511	-2036.65	-2328.46	-1324.81
19	84.45	30.0	0.9500	0.8890	77.48	36.48	0.9910	0.9957	1.0106	5.1142	-1.6215	-2036.65	-2328.46	-1324.81

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 516.00 P = 63.00 V = 161.30  $\Omega$ MFGA = 0.637  $\Omega$ MEGAH = 0.152 DIPOLE = 1.69 ETA = 1.10  
 2 T = 594.00 P = 40.00 V = 331.10  $\Omega$ MFGA = 0.241  $\Omega$ MEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265E 03  
 2 A = 0.69533E 01 B = 0.13439E 04 C = 0.21938E 03

## VAPOR PRESSURE AT NBP

P = 762.1 AT T = 78.4  
 P = 759.4 AT T = 110.6

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.53701E 02 B = 0.31109E 01 C = 0.16000E 03  
 2 A = 0.98864E 02 B = 0.55774E 01 C = 0.27703E 03

## COMPONENT ID CHECK

ID NUMBER = 11  
 ID NUMBER = 33

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.25206E 01 B = 0.71981E 01 C = 0.31819E 01  
 STANDARD DEVIATION = 0.16336E 00

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 12.4358 G2INF = 4.4619  
 T1INF = 30.00 T2INF = 30.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.5027  
 AREA BELOW THE X-AXIS IS -0.5206  
 CROSS-OVER POINT IS X = 0.43  
 NORMALIZED AREA DIFFERENCE IS -0.0174  
 CONSISTENCY INDEX IS 1.74

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	1600.13	14.41	0.4916E-06	5.81	0.02677
2	2329.25	129.33	0.3206E-07	4.51	0.04682
3	1704.96	195.82	0.9763E-01	0.82	0.00688
4	1703.80	199.50	0.1758E-01	0.78	0.00704
5	1725.70	192.80	0.5932E-02	0.67	0.00819
6	1702.80	148.32	0.1091E-02	1.80	0.00425
7	1714.20	180.77	0.5172E-02	1.00	0.00668
8	1753.70	168.37	0.1013E-02	0.49	0.01097
9	1753.76	198.27	0.1013E-02	0.49	0.01097
10	1700.10	207.66	0.7554E-03	0.70	0.00733

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	85.20	45.0	0.0050	0.1190	170.21	73.53	0.9973	0.9915	11.8778	1.0167	2.4581	-1708.12	-1999.08	-1162.57
2	94.00	45.0	0.0100	0.2040	170.21	73.53	0.9961	0.9908	11.2185	1.0179	2.3998	-1708.12	-1999.08	-1162.57
3	101.80	45.0	0.0150	0.2680	170.21	73.53	0.9950	0.9903	10.6294	1.0182	2.3455	-1708.12	-1999.08	-1162.57
4	108.80	45.0	0.0200	0.3180	170.21	73.53	0.9942	0.9898	10.1007	1.0186	2.2942	-1708.12	-1999.08	-1162.57
5	130.10	45.0	0.0400	0.4380	170.21	73.53	0.9917	0.9886	8.2965	1.0233	2.0928	-1708.12	-1999.08	-1162.57
6	143.00	45.0	0.0600	0.4970	170.21	73.53	0.9901	0.9880	6.9309	1.0338	1.9028	-1708.12	-1999.08	-1162.57
7	153.15	45.0	0.0800	0.5320	170.21	73.53	0.9892	0.9876	5.9158	1.0455	1.7332	-1708.12	-1999.08	-1162.57
8	159.40	45.0	0.1000	0.5550	170.21	73.53	0.9885	0.9873	5.1415	1.0587	1.5803	-1708.12	-1999.08	-1162.57
9	169.55	45.0	0.1500	0.5880	170.21	73.53	0.9874	0.9870	3.8536	1.1021	1.2518	-1708.12	-1999.08	-1162.57
10	175.70	45.0	0.2000	0.6080	170.21	73.53	0.9868	0.9868	3.0948	1.1543	0.9862	-1708.12	-1999.08	-1162.57
11	183.10	45.0	0.3000	0.6340	170.21	73.53	0.9859	0.9867	2.2402	1.2833	0.5571	-1708.12	-1999.08	-1162.57
12	187.80	45.0	0.4000	0.6530	170.21	73.53	0.9854	0.9867	1.7739	1.4559	0.1976	-1708.12	-1999.08	-1162.57
13	191.30	45.0	0.5000	0.6720	170.21	73.53	0.9850	0.9867	1.4869	1.6823	-0.1234	-1708.12	-1999.08	-1162.57
14	193.65	45.0	0.6000	0.6930	170.21	73.53	0.9846	0.9870	1.2931	1.9928	-0.4325	-1708.12	-1999.08	-1162.57
15	194.90	45.0	0.7000	0.7190	170.21	73.53	0.9843	0.9874	1.1570	2.4487	-0.7498	-1708.12	-1999.08	-1162.57
16	194.30	45.0	0.8000	0.7610	170.21	73.53	0.9840	0.9883	1.0679	3.1173	-1.0713	-1708.12	-1999.08	-1162.57
17	192.55	45.0	0.8500	0.7940	170.21	73.53	0.9840	0.9891	1.0392	3.5531	-1.2294	-1708.12	-1999.08	-1162.57
18	189.10	45.0	0.9000	0.8380	170.21	73.53	0.9841	0.9902	1.0174	4.1211	-1.3989	-1708.12	-1999.08	-1162.57
19	183.00	45.0	0.9500	0.9020	170.21	73.53	0.9844	0.9920	1.0043	4.8338	-1.5713	-1708.12	-1999.08	-1162.57

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 516.00 P = 63.00 V = 161.30 OMEGA = 0.637 OMEGAH = 0.152 DIPCLF = 1.69 ETA = 1.10  
 2 T = 594.00 P = 40.00 V = 331.10 OMEGA = 0.241 OMEGAH = 0.0 DIPCLF = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265E 03  
 2 A = 0.69533E 01 B = 0.13439E 04 C = 0.21938E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.53701E 02 B = .31109E 01 C = 0.16000E 03  
 2 A = 0.98864E 02 B = -.55774E -01 C = 0.27703E -03

## VAPOR PRESSURE AT NBP

P = 762.1 AT T = 78.4  
 P = 759.4 AT T = 110.6

## COMPONENT ID ECHO CHECK

ID NUMBER = 11  
 ID NUMBER = 33

## MIXTURE PROPERTIES

## ACTIVITY RATIO COEFFICIENTS

A = 0.23331E 01 B = .63733E 01 C = 0.25425E 01  
 STANDARD DEVIATION = 0.12329E 00

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 10.3103 G2INF = 4.4710  
 T1INF = 45.00 T2INF = 45.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.4819  
 AREA BELOW THE X-AXIS IS -0.4879  
 CROSS-OVER POINT IS X = 0.45  
 NORMALIZED AREA DIFFERENCE IS -0.0062  
 CONSISTENCY INDEX IS 0.62



## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	1549.84	35.34	0.9095E-12	8.27	0.02072
2	1803.89	137.86	0.9869E-03	2.90	0.01663
3	1610.33	190.84	0.3987E-01	0.73	0.00334
4	1612.63	187.23	0.4648E-02	0.74	0.00332
5	1633.04	171.09	0.1485E-02	0.75	0.00412
6	1615.11	160.18	0.3629E-03	1.44	0.00247
7	1626.93	166.54	0.1354E-02	0.97	0.00339
8	1653.01	167.55	0.3721E-03	0.61	0.00553
9	1653.09	167.52	0.3721E-03	0.61	0.00554
10	1608.42	195.58	0.1880E-03	0.72	0.00347

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	155.40	60.0	0.0050	0.1030	342.58	137.22	0.9960	0.9870	9.3030	1.0069	2.2235	-1439.00	-1745.90	-1033.14
2	159.55	60.0	0.0100	0.1810	342.58	137.22	0.9944	0.9861	8.9036	1.0070	2.1795	-1439.00	-1745.90	-1033.14
3	182.55	60.0	0.0150	0.2420	342.58	137.22	0.9930	0.9852	8.5325	1.0077	2.1362	-1439.00	-1745.90	-1033.14
4	194.40	60.0	0.0200	0.2910	342.58	137.22	0.9918	0.9846	8.1843	1.0081	2.0942	-1439.00	-1745.90	-1033.14
5	232.60	60.0	0.0400	0.4160	342.58	137.22	0.9882	0.9826	6.9730	1.0120	1.9301	-1439.00	-1745.90	-1033.14
6	269.40	60.0	0.0600	0.4850	342.58	137.22	0.9857	0.9814	6.0518	1.0189	1.7816	-1439.00	-1745.90	-1033.14
7	281.20	60.0	0.0800	0.5290	342.58	137.22	0.9839	0.9806	5.3359	1.0272	1.6476	-1439.00	-1745.90	-1033.14
8	296.45	60.0	0.1000	0.5570	342.58	137.22	0.9826	0.9800	4.7320	1.0405	1.5146	-1439.00	-1745.90	-1033.14
9	319.70	60.0	0.1500	0.5970	342.58	137.22	0.9807	0.9793	3.6389	1.0799	1.2149	-1439.00	-1745.90	-1033.14
10	333.50	60.0	0.2000	0.6200	342.58	137.22	0.9795	0.9789	2.9531	1.1280	0.9624	-1439.00	-1745.90	-1033.14
11	351.65	60.0	0.3000	0.6520	342.58	137.22	0.9779	0.9785	2.1794	1.2443	0.5605	-1439.00	-1745.90	-1033.14
12	363.70	60.0	0.4000	0.6750	342.58	137.22	0.9769	0.9784	1.7483	1.4015	0.2208	-1439.00	-1745.90	-1033.14
13	371.60	60.0	0.5000	0.6950	342.58	137.22	0.9761	0.9784	1.4702	1.6131	-0.0928	-1439.00	-1745.90	-1033.14
14	377.70	60.0	0.6000	0.7170	342.58	137.22	0.9755	0.9787	1.2838	1.9021	-0.3932	-1439.00	-1745.90	-1033.14
15	381.70	60.0	0.7000	0.7430	342.58	137.22	0.9749	0.9793	1.1517	2.3288	-0.7041	-1439.00	-1745.90	-1033.14
16	382.65	60.0	0.8000	0.7850	342.58	137.22	0.9744	0.9806	1.0668	2.9334	-1.0115	-1439.00	-1745.90	-1033.14
17	380.70	60.0	0.8500	0.8140	342.58	137.22	0.9743	0.9816	1.0358	3.3701	-1.1798	-1439.00	-1745.90	-1033.14
18	375.90	60.0	0.9000	0.8560	342.58	137.22	0.9744	0.9833	1.0158	3.8710	-1.3379	-1439.00	-1745.90	-1033.14
19	366.80	60.0	0.9500	0.9140	342.58	137.22	0.9747	0.9857	1.0030	4.5232	-1.5062	-1439.00	-1745.90	-1033.14

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 516.00 P = 63.00 V = 161.30  $\Omega$ MEGA = 0.637  $\Omega$ MEGAH = 0.152 DIPOLE = 1.69 ETA = 1.10  
 2 T = 594.00 P = 40.00 V = 331.10  $\Omega$ MEGA = 0.241  $\Omega$ MEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265E 03  
 2 A = 0.69533E 01 B = 0.13439E 04 C = 0.21938E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.53701E 02 B = 0.31109E 01 C = 0.16000E 03  
 2 A = 0.98864E 02 B = -0.55774E 01 C = 0.27703E 03

## VAPOR PRESSURE AT NBP

P = 762.1 AT T = 78.4  
 P = 759.4 AT T = 110.6

## COMPONENT ID CHECK

ID NUMBER = 11  
 IC NUMBER = 33

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.21439E 01 B = -0.55964E 01 C = 0.19714E 01  
 STANDARD DEVIATION = 0.91102E 01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 8.5324 G2INF = 4.3978  
 T1INF = 60.00 T2INF = 60.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.4581  
 AREA BELOW THE X-AXIS IS -0.4553  
 CROSS-OVER POINT IS X = 0.46  
 NORMALIZED AREA DIFFERENCE IS 0.0031  
 CONSISTENCY INDEX IS 0.31

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)	
				PRESSURE	COMPOSITION
1	1490.75	49.61	0.1077E-08	11.19	0.01587
2	1575.91	149.34	0.1925E-03	1.35	0.00465
3	1521.79	180.51	0.1356E-01	1.08	0.00146
4	1524.26	176.15	0.1446E-02	0.93	0.00148
5	1538.92	161.49	0.4307E-03	0.85	0.00207
6	1525.95	167.16	0.1605E-03	1.04	0.00159
7	1536.25	161.03	0.4111E-03	0.95	0.00190
8	1549.69	155.72	0.1618E-03	0.76	0.00266
9	1549.72	155.65	0.1618E-03	0.76	0.00266
10	1521.40	181.19	0.7826E-04	1.10	0.00146

ETHANOL(1) WATER(2)

SYSTEM 063A

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	56.30	40.0	0.0250	0.1800	132.30	55.11	0.9942	0.9975	3.5864	1.0092	1.2679	-1810.36	-746.44	-1207.61
2	79.60	40.0	0.0580	0.3160	132.30	55.11	0.9929	0.9970	3.2539	1.0456	1.1352	-1810.36	-746.44	-1207.61
3	91.90	40.0	0.0990	0.4240	132.30	55.11	0.9917	0.9966	2.9494	1.0624	1.0211	-1810.36	-746.44	-1207.61
4	99.60	40.0	0.1300	0.4730	132.30	55.11	0.9910	0.9964	2.7135	1.0907	0.9114	-1810.36	-746.44	-1207.61
5	115.20	40.0	0.2930	0.5360	132.30	55.11	0.9895	0.9958	1.5756	1.3661	0.1427	-1810.36	-746.44	-1207.61
6	121.00	40.0	0.3980	0.5950	132.30	55.11	0.9889	0.9957	1.3516	1.4707	-0.0844	-1810.36	-746.44	-1207.61
7	127.40	40.0	0.5600	0.6860	132.30	55.11	0.9883	0.9956	1.1653	1.6423	-0.3431	-1810.36	-746.44	-1207.61
8	130.50	40.0	0.6760	0.7440	132.30	55.11	0.9880	0.9956	1.0721	1.8626	-0.5523	-1810.36	-746.44	-1207.61
9	132.90	40.0	0.7790	0.8090	132.30	55.11	0.9877	0.9956	1.0287	2.0857	-0.7068	-1810.36	-746.44	-1207.61
10	134.00	40.0	0.8600	0.8690	132.30	55.11	0.9876	0.9956	1.0103	2.2651	-0.8074	-1810.36	-746.44	-1207.61

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1	T = 516.00	P = 63.00	V = 161.30	OMEGA = 0.637	OMEGA H = 0.152	DIPOLE = 1.69	ETA = 1.10
2	T = 647.40	P = *****	V = 55.20	OMEGA = 0.344	OMEGA H = 0.010	DIPOLE = 1.85	ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.80449E 01	B = 0.15543E 04	C = 0.22265E 03	P = 762.1 AT T = 78.4
2	A = 0.79668E 01	B = 0.16682E 04	C = 0.22800E 03	P = 760.0 AT T = 100.0

## MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.53701E 02	B = -0.31109E-01	C = 0.16000E-03	COMPONENT ID CHECK
2	A = 0.22887E 02	B = -0.36416E-01	C = 0.68556E-04	ID NUMBER = 11
				ID NUMBER = 34

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.14054E 01	B = -0.46114E 01	C = 0.24305E 01
STANDARD DEVIATION = 0.68374E-01		

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 4.0770	G2INF = 2.1718
T1INF = 40.00	T2INF = 40.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.2456
AREA BELOW THE X-AXIS IS	-0.3357
CROSS-OVER POINT IS X =	0.38
NORMALIZED AREA DIFFERENCE IS	-0.1551
CONSISTENCY INDEX IS	15.51

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	119.11 755.67	0.2046E-09
2	706.77 813.18	0.2038E-02
3	-75.16 1006.69	0.2482E 00
4	20.96 925.60	0.9206E-01
5	116.88 880.71	0.1920E-01
6	295.35 710.78	0.9864E-02
7	217.38 861.93	0.1356E-01
8	51.40 958.66	0.1705E-02
9	51.42 958.64	0.1705E-02
10	-54.41 1001.62	0.3930E-01

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
5.57	0.02340
5.38	0.04484
1.70	0.02062
1.72	0.02020
1.62	0.02207
5.17	0.02139
2.94	0.02100
1.06	0.02506
1.06	0.02506
1.55	0.02170

ETHANOL(1) WATER(2)

SYSTEM 0638

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	75.14	40.0	0.0620	0.3740	132.30	55.11	0.9933	0.9972	3.4020	0.9074	1.3216	-1810.36	-746.44	-1207.61
2	89.00	40.0	0.0770	0.4060	132.30	55.11	0.9920	0.9967	3.5176	1.0359	1.2225	-1810.36	-746.44	-1207.61
3	94.60	40.0	0.0980	0.4500	132.30	55.11	0.9914	0.9965	3.2542	1.0430	1.1378	-1810.36	-746.44	-1207.61
4	101.50	40.0	0.1280	0.4880	132.30	55.11	0.9908	0.9963	2.8970	1.0774	0.9892	-1810.36	-746.44	-1207.61
5	119.00	40.0	0.1810	0.5430	132.30	55.11	0.9901	0.9961	2.4462	1.0993	0.7999	-1810.36	-746.44	-1207.61
6	116.90	40.0	0.3190	0.5980	132.30	55.11	0.9893	0.9958	1.6381	1.2469	0.2729	-1810.36	-746.44	-1207.61
7	121.05	40.0	0.3990	0.6280	132.30	55.11	0.9889	0.9957	1.4236	1.3537	0.0503	-1810.36	-746.44	-1207.61
8	125.50	40.0	0.5110	0.6760	132.30	55.11	0.9885	0.9956	1.2399	1.5022	-0.1919	-1810.36	-746.44	-1207.61
9	130.40	40.0	0.6830	0.7460	132.30	55.11	0.9880	0.9956	1.0632	1.8874	-0.5740	-1810.36	-746.44	-1207.61
10	132.50	40.0	0.7740	0.8090	132.30	55.11	0.9878	0.9956	1.0335	2.0228	-0.6715	-1810.36	-746.44	-1207.61
11	132.80	40.0	0.8100	0.8290	132.30	55.11	0.9877	0.9956	1.0143	2.1591	-0.7555	-1810.36	-746.44	-1207.61
12	133.50	40.0	0.8750	0.8790	132.30	55.11	0.9876	0.9957	1.0007	2.3346	-0.8471	-1810.36	-746.44	-1207.61
13	133.80	40.0	0.9570	0.9560	132.30	55.11	0.9876	0.9958	0.9973	2.4737	-0.9084	-1810.36	-746.44	-1207.61

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 516.00 P = 63.00 V = 161.30 OMEGA = 0.637 OMEGAH = 0.152 DIPCLE = 1.69 ETA = 1.10  
 2 T = 647.40 P = \*\*\*\*\* V = 55.20 OMEGA = 0.344 OMEGAH = 0.010 DIPCLE = 1.85 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265E 03  
 2 A = 0.79668E 01 B = 0.16682E 04 C = 0.22800E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.53701E 02 B = .31109E 01 C = 0.16000E 03  
 2 A = 0.22887E 02 B = -.36416E 01 C = 0.68556E 04

VAPOR PRESSURE AT NBP  
 P = 762.1 AT T = 78.4  
 P = 760.0 AT T = 100.0  
 COMPONENT ID CHECK  
 ID NUMBER = 11  
 ID NUMBER = 34

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.15607E 01 B = .45668E 01 C = 0.20989E 01  
 STANDARD DEVIATION = 0.28722E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 4.7619 G2INF = 2.4774  
 T1INF = 40.00 T2INF = 40.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.3045  
 AREA BELOW THE X-AXIS IS -0.3277  
 CROSS-OVER POINT IS X = 0.42  
 NORMALIZED AREA DIFFERENCE IS -0.0365  
 CONSISTENCY INDEX IS 3.65

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	146.95	830.75	0.3638E-11	3.83	0.01542
2	273.22	875.79	0.1449E-01	1.66	0.00639
3	179.89	910.20	0.1913E-00	2.14	0.00686
4	178.06	892.85	0.4064E-01	2.04	0.00572
5	127.09	927.45	0.1658E-01	2.10	0.00614
6	245.55	865.63	0.1003E-02	1.86	0.00500
7	183.44	896.15	0.9964E-02	1.95	0.00524
8	68.52	961.99	0.1441E-01	2.41	0.00798
9	68.38	962.12	0.1441E-01	2.41	0.00798
10	171.70	890.96	0.1261E-01	2.12	0.00630

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20I	PHI1	PHI2	G1	G2	LN(G1/G2)	R11	B22	B12
1	115.70	50.0	0.0290	0.2080	216.87	92.18	0.9912	0.9960	3.7915	1.0196	1.3133	-1612.44	-700.14	-1095.15
2	161.00	50.0	0.1100	0.4390	216.87	92.18	0.9874	0.9946	2.9242	1.0949	0.9824	-1612.44	-700.14	-1095.15
3	187.90	50.0	0.2460	0.5210	216.87	92.18	0.9852	0.9938	1.9069	1.2867	0.3395	-1612.44	-700.14	-1095.15
4	204.40	50.0	0.4510	0.6230	216.87	92.18	0.9838	0.9934	1.2826	1.5154	-0.1668	-1612.44	-700.14	-1095.15
5	213.40	50.0	0.5810	0.6850	216.87	92.18	0.9831	0.9932	1.1398	1.7284	-0.4163	-1612.44	-700.14	-1095.15
6	218.10	50.0	0.6820	0.7400	216.87	92.18	0.9826	0.9932	1.0716	1.9210	-0.5837	-1612.44	-700.14	-1095.15
7	222.80	50.0	0.8620	0.8700	216.87	92.18	0.9822	0.9933	1.0178	2.2613	-0.7984	-1612.44	-700.14	-1095.15
8	222.90	50.0	0.8850	0.8910	216.87	92.18	0.9822	0.9934	1.0157	2.2764	-0.8070	-1612.44	-700.14	-1095.15
9	223.00	50.0	0.9260	0.9290	216.87	92.18	0.9822	0.9935	1.0125	2.3056	-0.8229	-1612.44	-700.14	-1095.15
10	223.10	50.0	0.9470	0.9450	216.87	92.18	0.9822	0.9935	1.0076	2.4949	-0.9067	-1612.44	-700.14	-1095.15

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1	T = 516.00	P = 63.00	V = 161.30	OMEGA = 0.637	OMEGA <sub>H</sub> = 0.152	DIPOLE = 1.69	ETA = 1.10
2	T = 647.40	P = *****	V = 55.20	OMEGA = 0.344	OMEGA <sub>H</sub> = 0.010	DIPOLE = 1.85	ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.80449E 01	B = 0.15543E 04	C = 0.22265E 03
2	A = 0.79668E 01	B = 0.16682E 04	C = 0.22800E 03

## VAPOR PRESSURE AT NBP

P = 762.1 AT T = 78.4  
P = 760.0 AT T = 100.0

## MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.53701E 02	B = -.31109E-01	C = 0.16000E-03
2	A = 0.22887E 02	B = -.36416E-01	C = 0.68556E-04

## COMPONENT ID CHECK

ID NUMBER = 11  
ID NUMBER = 34

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.14174E 01 B = -.45141E 01 C = 0.22421E 01  
STANDARD DEVIATION = 0.51940E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 4.1265 G2INF = 2.3506  
T1INF = 50.00 T2INF = 50.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2538  
AREA BELOW THE X-AXIS IS -0.3461  
CROSS-OVER POINT IS X = 0.35  
NORMALIZED AREA DIFFERENCE IS -0.1538  
CONSISTENCY INDEX IS 15.38

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION
1	66.00	845.25	0.8267E-09
2	999.19	819.13	0.6977E-03
3	45.73	945.17	0.1963E 00
4	104.40	920.30	0.6570E-01
5	166.89	915.64	0.1304E-01
6	317.98	753.89	0.6275E-02
7	256.79	844.73	0.9216E-02
8	105.69	988.01	0.9311E-03
9	105.66	988.04	0.9312E-03
10	50.74	943.02	0.2076E-01

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
7.52	0.01819
5.70	0.03037
3.24	0.01545
3.14	0.01572
2.36	0.01736
7.75	0.01624
4.34	0.01604
1.27	0.02152
1.27	0.02153
3.22	0.01547

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PH11	PH12	G1	G2	LN(G1/G2)	B11	B22	B12
1	173.35	55.0	0.0510	0.3360	273.77	117.58	0.9875	0.9944	4.1176	1.0256	1.3900	-1522.88	-678.31	-1043.63
2	197.80	55.0	0.0850	0.4280	273.77	117.58	0.9857	0.9937	3.5837	1.0448	1.2326	-1522.88	-678.31	-1043.63
3	207.50	55.0	0.1060	0.4610	273.77	117.58	0.9849	0.9934	3.2446	1.0568	1.1218	-1522.88	-678.31	-1043.63
4	227.30	55.0	0.1800	0.5240	273.77	117.58	0.9834	0.9928	2.3752	1.1139	0.7572	-1522.88	-678.31	-1043.63
5	236.30	55.0	0.2300	0.5550	273.77	117.58	0.9827	0.9926	2.0453	1.1526	0.5735	-1522.88	-678.31	-1043.63
6	248.20	55.0	0.3240	0.5890	273.77	117.58	0.9818	0.9923	1.6169	1.2732	0.2389	-1522.88	-678.31	-1043.63
7	258.00	55.0	0.4290	0.6280	273.77	117.58	0.9810	0.9920	1.3523	1.4178	-0.0473	-1522.88	-678.31	-1043.63
8	267.00	55.0	0.5530	0.6800	273.77	117.58	0.9803	0.9919	1.1747	1.6121	-0.3165	-1522.88	-678.31	-1043.63
9	274.90	55.0	0.6850	0.7460	273.77	117.58	0.9796	0.9918	1.0704	1.8693	-0.5575	-1522.88	-678.31	-1043.63
10	278.40	55.0	0.7740	0.8010	273.77	117.58	0.9793	0.9918	1.0298	2.0673	-0.6969	-1522.88	-678.31	-1043.63
11	279.40	55.0	0.8100	0.8290	273.77	117.58	0.9793	0.9919	1.0220	2.1207	-0.7300	-1522.88	-678.31	-1043.63
12	280.60	55.0	0.8940	0.8980	273.77	117.58	0.9791	0.9920	1.0072	2.2776	-0.8159	-1522.88	-678.31	-1043.63
13	280.50	55.0	0.9540	0.9520	273.77	117.58	0.9791	0.9922	1.0003	2.4693	-0.9037	-1522.88	-678.31	-1043.63

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 516.00 P = 63.00 V = 161.30 OMEGA = 0.637 OMEGAH = 0.152 DIPOLE = 1.69 ETA = 1.10  
 2 T = 647.40 P = \*\*\*\*\* V = 55.20 OMEGA = 0.344 OMEGAH = 0.010 DIPOLE = 1.85 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265E 03  
 2 A = 0.79668E 01 B = 0.16682E 04 C = 0.22800E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.53761E 02 B = .31109E 01 C = 0.16000E 03  
 2 A = 0.22887E 02 B = -.36416E 01 C = 0.68556E 04

## VAPOR PRESSURE AT NBP

P = 762.1 AT T = 78.4  
 P = 760.0 AT T = 100.0

## COMPONENT ID ECHO CHECK

ID NUMBER = 11  
 ID NUMBER = 34

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.15941E 01 B = .48135E 01 C = 0.23615E 01  
 STANDARD DEVIATION = 0.37886E 01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 4.9239 G2INF = 2.3581  
 T1INF = 55.00 T2INF = 55.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.3033  
 AREA BELOW THE X-AXIS IS -0.3288  
 CRCS-CVER POINT IS X = 0.42  
 NORMALIZED AREA DIFFERENCE IS -0.0403  
 CONSISTENCY INDEX IS 4.03



## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	210.06	831.32	C.3638E-11	10.22	0.01707
2	622.07	843.71	0.9552E-04	2.63	0.00898
3	293.09	905.10	0.6552E-01	2.20	0.00549
4	339.00	889.91	0.1239E-01	2.08	0.00502
5	330.33	906.01	0.2431E-02	1.66	0.00613
6	338.28	876.93	0.1041E-02	2.72	0.00511
7	347.96	892.55	0.1763E-02	1.83	0.00543
8	327.30	917.84	0.6980E-03	1.51	0.00731
9	327.28	917.84	0.6979E-03	1.51	0.00731
10	320.71	890.92	0.5011E-02	2.32	0.00507

ETHANCL(1) WATER(2)

SYSTEM 063E

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	195.70	60.0	0.0330	0.2330	342.58	148.70	0.9870	0.9939	3.9789	1.0373	1.3444	-1439.00	-657.27	-994.96
2	270.00	60.0	0.1250	0.4460	342.58	148.70	0.9817	0.9917	2.7586	1.1399	0.8838	-1439.00	-657.27	-994.96
3	306.50	60.0	0.2670	0.5110	342.58	148.70	0.9792	0.9907	1.6751	1.3620	0.2069	-1439.00	-657.27	-994.96
4	330.80	60.0	0.4590	0.5800	342.58	148.70	0.9774	0.9901	1.1914	1.7096	-0.3611	-1439.00	-657.27	-994.96
5	343.10	60.0	0.5970	0.6640	342.58	148.70	0.9764	0.9900	1.0866	1.9039	-0.5609	-1439.00	-657.27	-994.96
6	349.40	60.0	0.6820	0.7380	342.58	148.70	0.9759	0.9900	1.0760	1.9160	-0.5770	-1439.00	-657.27	-994.96
7	354.20	60.0	0.8650	0.8750	342.58	148.70	0.9755	0.9903	1.0192	2.1835	-0.7619	-1439.00	-657.27	-994.96
8	355.40	60.0	0.8910	0.8900	342.58	148.70	0.9754	0.9903	1.0097	2.3879	-0.8607	-1439.00	-657.27	-994.96
9	355.00	60.0	0.9280	0.9280	342.58	148.70	0.9754	0.9904	1.0097	2.3639	-0.8506	-1439.00	-657.27	-994.96
10	354.60	60.0	0.9490	0.9490	342.58	148.70	0.9754	0.9905	1.0086	2.3614	-0.8507	-1439.00	-657.27	-994.96

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 516.00 P = 63.00 V = 161.30 CMFCA = 0.637 CMFCAH = 0.152 DIPOLF = 1.69 ETA = 1.10  
 2 T = 647.40 P = \*\*\*\*\* V = 55.20 CMFCA = 0.344 CMFCAH = 0.010 DIPOLF = 1.85 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265E 03  
 2 A = 0.79668E 01 B = 0.16682E 04 C = 0.22800E 03

## VAPOR PRESSURE AT NBP

P = 762.1 AT T = 78.4

P = 760.0 AT T = 100.0

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.53701E 02 B = -0.31109E-01 C = 0.16000E-03  
 2 A = 0.22887E 02 B = -0.36416E-01 C = 0.68556E-04

## COMPONENT ID CHECK

ID NUMBER = 11

ID NUMBER = 34

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.14696E 01 B = -0.51779E 01 C = 0.29221E 01  
 STANDARD DEVIATION = 0.74054E-01

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2390

AREA BELOW THE X-AXIS IS -0.3844

CROSS-OVER POINT IS X = 0.35

NORMALIZED AREA DIFFERENCE IS -0.2332

CONSISTENCY INDEX IS 23.32

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 4.3475 G2INF = 2.1952  
 T1INF = 60.00 T2INF = 60.00

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)	
			PRESSURE	COMPOSITION
1	163.26 809.81	0.6859E-08	15.71	0.02648
2	1569.19 844.20	0.8523E-03	12.73	0.04292
3	134.94 938.30	0.3837E 00	6.35	0.02430
4	223.57 903.80	0.1311E 00	6.23	0.02437
5	314.73 891.14	0.2864E-01	5.22	0.02585
6	552.92 691.96	0.1678E-01	16.11	0.02457
7	455.01 798.65	0.2127E-01	5.70	0.02471
8	189.68 1001.65	0.6730E-03	1.90	0.03107
9	189.73 1001.63	0.6730E-03	1.90	0.03107
10	139.74 937.66	0.3981E-01	6.23	0.02440

ETHANOL(1) WATER(2)

SYSTEM 063F

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	362.50	70.0	0.0620	0.3740	523.30	232.15	0.9788	0.9898	4.0860	1.0311	1.3769	-1286.76	-617.43	-905.42
2	399.00	70.0	0.0950	0.4390	523.30	232.15	0.9766	0.9888	3.4369	1.0532	1.1828	-1286.76	-617.43	-905.42
3	424.00	70.0	0.1310	0.4820	523.30	232.15	0.9750	0.9882	2.9032	1.0755	0.9930	-1286.76	-617.43	-905.42
4	450.90	70.0	0.1940	0.5240	523.30	232.15	0.9734	0.9876	2.2624	1.1324	0.6921	-1286.76	-617.43	-905.42
5	468.00	70.0	0.2520	0.5520	523.30	232.15	0.9723	0.9872	1.9021	1.1914	0.4678	-1286.76	-617.43	-905.42
6	485.50	70.0	0.3340	0.5830	523.30	232.15	0.9712	0.9868	1.5706	1.2916	0.1956	-1286.76	-617.43	-905.42
7	497.60	70.0	0.4010	0.6110	523.30	232.15	0.9704	0.9865	1.4040	1.3726	0.0226	-1286.76	-617.43	-905.42
8	525.50	70.0	0.5930	0.6910	523.30	232.15	0.9686	0.9860	1.1326	1.6951	-0.4032	-1286.76	-617.43	-905.42
9	534.30	70.0	0.6800	0.7390	523.30	232.15	0.9680	0.9860	1.0725	1.8500	-0.5452	-1286.76	-617.43	-905.42
10	542.70	70.0	0.7930	0.8160	523.30	232.15	0.9674	0.9860	1.0308	2.0480	-0.6865	-1286.76	-617.43	-905.42
11	543.10	70.0	0.8100	0.8260	523.30	232.15	0.9674	0.9861	1.0222	2.1116	-0.7255	-1286.76	-617.43	-905.42
12	544.50	70.0	0.9430	0.9410	523.30	232.15	0.9673	0.9866	1.0027	2.3941	-0.8703	-1286.76	-617.43	-905.42
13	544.50	70.0	0.9470	0.9450	523.30	232.15	0.9673	0.9866	1.0027	2.4002	-0.8728	-1286.76	-617.43	-905.42

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 516.00 P = 63.00 V = 161.30 OMEGA = 0.637 OMEGAH = 0.152 DIPOLF = 1.69 ETA = 1.10  
 2 T = 647.40 P = \*\*\*\*\* V = 55.20 OMEGA = 0.344 OMEGAH = 0.010 DIPOLF = 1.85 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265E 03  
 2 A = 0.79668E 01 B = 0.16682E 04 C = 0.22800E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.53701E 02 B = .31109E 01 C = 0.16000E 03  
 2 A = 0.22887E 02 B = -.36416E 01 C = 0.68556E 04

## VAPOR PRESSURE AT NBP

P = 762.1 AT T = 78.4  
 P = 760.0 AT T = 100.0

## COMPONENT ID CHECK

ID NUMBER = 11  
 ID NUMBER = 34

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.15994E 01 B = .48834E 01 C = 0.24444E 01  
 STANDARD DEVIATION = 0.48207E 01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 4.9499 G2INF = 2.3154  
 T1INF = 70.00 T2INF = 70.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.3015  
 AREA BELOW THE X-AXIS IS -0.3290  
 CROSS-OVER POINT IS X = 0.41  
 NORMALIZED AREA DIFFERENCE IS -0.0436  
 CONSISTENCY INDEX IS 4.36

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	231.45 860.09	0.8822E-10	21.94	0.01716
2	710.10 875.23	0.3242E-04	3.99	0.00690
3	423.51 909.02	0.2979E-01	4.05	0.00369
4	469.89 898.73	0.7373E-02	3.62	0.00358
5	438.44 921.88	0.1502E-02	2.44	0.00523
6	453.97 890.37	0.4901E-03	5.40	0.00323
7	453.07 911.37	0.1099E-02	2.83	0.00450
8	415.48 941.01	0.2359E-03	1.99	0.00683
9	416.23 940.76	0.2058E-03	1.99	0.00683
10	449.86 898.73	0.2733E-02	4.28	0.00341

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	95.5	0.0180	0.1790	1349.69	635.83	0.9693	0.9826	5.4165	0.9814	1.7083	-976.55	-527.42	-716.58
2	760.00	90.6	0.0540	0.3375	1140.40	530.78	0.9667	0.9821	4.0178	0.9842	1.4067	-1028.61	-543.57	-749.02
3	760.00	85.4	0.1240	0.4700	947.25	435.39	0.9638	0.9815	2.9247	1.0360	1.0379	-1087.52	-561.26	-785.32
4	760.00	83.7	0.1760	0.5140	890.10	407.48	0.9628	0.9814	2.3958	1.0789	0.7977	-1107.63	-567.18	-797.62
5	760.00	82.8	0.2300	0.5420	859.39	392.54	0.9623	0.9813	2.0011	1.1294	0.5720	-1119.07	-570.52	-804.60
6	760.00	82.0	0.2880	0.5700	835.75	381.06	0.9618	0.9813	1.7273	1.1812	0.3800	-1128.19	-573.17	-810.15
7	760.00	81.0	0.3850	0.6120	805.03	366.20	0.9612	0.9813	1.4393	1.2840	0.1142	-1140.49	-576.72	-817.63
8	760.00	80.5	0.4400	0.6330	790.02	358.95	0.9609	0.9813	1.3270	1.3607	-0.0251	-1146.71	-578.50	-821.40
9	760.00	79.8	0.5140	0.6570	769.38	349.01	0.9604	0.9813	1.2101	1.5071	-0.2195	-1155.47	-581.01	-826.71
10	760.00	78.9	0.6730	0.7350	743.49	336.56	0.9598	0.9815	1.0692	1.7950	-0.5181	-1166.85	-584.26	-833.59
11	760.00	78.3	0.8400	0.8500	725.50	327.93	0.9593	0.9820	1.0147	2.1322	-0.7426	-1175.02	-586.58	-838.53

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 516.00 P = 63.00 V = 161.30 OMEGA = 0.637 OMEGAH = 0.152 DIPOLE = 1.69 ETA = 1.10  
 2 T = 647.40 P = \*\*\*\*\* V = 55.20 OMEGA = 0.344 OMEGAH = 0.010 DIPOLE = 1.85 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265E 03  
 2 A = 0.79668E 01 B = 0.16682E 04 C = 0.22800E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.53701E 02 B = -.31109E 01 C = -0.16000E 03  
 2 A = 0.22887E 02 B = -.36416E 01 C = 0.68556E 04

## VAPOR PRESSURE AT NBP

P = 762.1 AT T = 78.4  
 P = 760.0 AT T = 100.0

## COMPONENT ID ECHO CHECK

ID NUMBER = 11  
 ID NUMBER = 34

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.16979E 01 B = -.53071E 01 C = 0.29197E 01  
 STANDARD DEVIATION = 0.59692E 01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 5.4626 G2INF = 1.9927  
 T1INF = 100.00 T2INF = 78.33

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.3172  
 AREA BELOW THE X-AXIS IS -0.2996  
 GROSS-OVER POINT IS X = 0.41  
 NORMALIZED AREA DIFFERENCE IS 0.0285  
 HFRINGTON J-FACTOR IS 9.28  
 CONSISTENCY INDEX IS -6.43

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	559.90	724.65	0.1137E-09	45.39	0.03117
2	274.83	668.57	0.9680E-03	6.02	0.00812
3	411.78	943.25	0.3303E-01	6.33	0.00475
4	393.61	952.21	0.5393E-02	6.56	0.00435
5	355.54	961.80	0.1704E-02	6.24	0.00491
6	379.91	979.99	0.2257E-03	11.48	0.00279
7	374.41	960.09	0.1438E-02	6.66	0.00423
8	322.47	965.10	0.7975E-03	5.59	0.00608
9	322.47	965.10	0.7974E-03	5.59	0.00608
10	423.31	931.48	0.2526E-02	5.95	0.00546

ETHANOL(1) WATER(2)

SYSTEM 063H

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	98.6	0.0051	0.0486	1497.87	711.20	0.9711	0.9830	4.6856	1.0040	1.5406	-945.04	-517.41	-696.78
2	760.00	98.1	0.0069	0.0752	1470.35	697.15	0.9708	0.9830	5.4571	0.9973	1.6997	-950.60	-519.19	-700.28
3	760.00	96.0	0.0162	0.1442	1371.25	646.75	0.9657	0.9827	4.7737	1.0039	1.5592	-971.72	-525.90	-713.56
4	760.00	92.9	0.0316	0.2929	1237.32	579.22	0.9679	0.9824	5.4986	0.9406	1.7657	-1003.24	-535.76	-733.26
5	750.00	87.1	0.0823	0.3985	1006.21	464.34	0.9648	0.9816	3.5211	1.0524	1.2077	-1068.17	-555.51	-773.44
6	760.00	85.7	0.1065	0.4513	956.59	439.97	0.9640	0.9815	3.2385	1.0406	1.1354	-1084.36	-560.33	-783.38
7	760.00	84.5	0.1368	0.4812	917.65	420.91	0.9634	0.9814	2.8004	1.0644	0.9674	-1097.76	-564.28	-791.59
8	760.00	84.2	0.1450	0.4805	907.95	416.18	0.9632	0.9814	2.6660	1.0882	0.8960	-1101.20	-565.29	-793.69
9	760.00	83.5	0.1770	0.5095	883.57	404.29	0.9628	0.9813	2.3786	1.0988	0.7723	-1110.03	-567.88	-799.08
10	760.00	80.6	0.4034	0.6120	792.71	360.25	0.9610	0.9812	1.3947	1.3454	0.0360	-1145.59	-578.18	-820.72
11	760.00	79.3	0.5733	0.6849	756.34	342.73	0.9601	0.9813	1.1501	1.6059	-0.3338	-1161.14	-582.63	-830.14
12	760.00	78.6	0.7152	0.7607	735.85	332.90	0.9596	0.9816	1.0515	1.8817	-0.5816	-1170.29	-585.24	-835.67
13	760.00	78.4	0.7715	0.7961	730.24	330.20	0.9595	0.9817	1.0282	2.0150	-0.6728	-1172.85	-585.96	-837.22
14	760.00	78.3	0.8160	0.8246	727.18	328.73	0.9594	0.9818	1.0110	2.1625	-0.7603	-1174.25	-586.36	-838.07
15	760.00	78.3	0.8180	0.8322	726.90	328.60	0.9593	0.9819	1.0182	2.0924	-0.7203	-1174.38	-586.40	-838.15
16	760.00	78.3	0.8386	0.8450	726.06	328.20	0.9593	0.9820	1.0096	2.1823	-0.7708	-1174.77	-586.50	-838.38
17	760.00	78.2	0.8780	0.8789	724.95	327.67	0.9593	0.9821	1.0045	2.2597	-0.8108	-1175.28	-586.65	-838.69
18	760.00	78.2	0.9167	0.9117	724.39	327.40	0.9592	0.9823	0.9987	2.4156	-0.8832	-1175.53	-586.72	-838.84
19	760.00	78.4	0.9910	0.9892	728.57	329.40	0.9593	0.9828	0.9967	2.7194	-1.0037	-1173.61	-586.18	-837.68

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 516.00 P = 63.00 V = 161.30 OMEGA = 0.637 OMEGAH = 0.152 DIPOLE = 1.69 ETA = 1.10  
 2 T = 647.40 P = \*\*\*\*\* V = 55.20 OMEGA = 0.344 OMEGAH = 0.010 DIPOLE = 1.85 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265E 03  
 2 A = 0.79668E 01 B = 0.16682E 04 C = 0.22800E 03

## VAPOR PRESSURE AT NBP

P = 762.1 AT T = 78.4  
 P = 760.0 AT T = 100.0

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.53701E 02 B = -0.31109E 01 C = 0.16000E 03  
 2 A = 0.22887E 02 B = -0.36416E 01 C = 0.68556E 04

## COMPONENT ID ECHO CHECK

ID NUMBER = 11  
 ID NUMBER = 34

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.16473E 01 B = -0.48282E 01 C = 0.22850E 01  
 STANDARD DEVIATION = 0.92443E 01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 5.1929 G2INF = 2.4496  
 T1INF = 100.00 T2INF = 78.33

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.3225  
 AREA BELOW THE X-AXIS IS -0.3277  
 CROSS-OVER POINT IS X = 0.43  
 NORMALIZED AREA DIFFERENCE IS -0.0079  
 HERINGTON J-FACTOR IS 9.30  
 CONSISTENCY INDEX IS -8.51

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	313.33	908.17	0.7367F-10	15.41	0.01318
2	573.99	856.98	0.4545E-02	7.50	0.00810
3	252.67	1023.99	0.1520F 01	9.40	0.00664
4	270.44	1001.27	0.7038E-01	8.99	0.00622
5	410.09	958.37	0.6212E-02	7.42	0.00605
6	425.03	955.49	0.4064E-02	7.36	0.00608
7	447.68	945.97	0.5228E-02	7.20	0.00623
8	410.40	954.89	0.1704E-02	6.54	0.00602
9	396.91	961.77	0.2097E-02	7.48	0.00602
10	282.56	993.38	0.1880E-01	8.71	0.00611

\*\*DIAGNOSTIC\*\*

1 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE



## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	77.2	0.9500	0.9510	733.67	670.34	0.9549	0.9730	0.9866	1.0775	-0.0881	-1296.86	-990.30	-1028.12
2	760.00	77.2	0.9120	0.9140	734.60	671.16	0.9549	0.9724	0.9865	1.0725	-0.0836	-1296.35	-990.02	-1027.83
3	760.00	77.3	0.8570	0.8600	736.00	672.35	0.9551	0.9716	0.9860	1.0716	-0.0832	-1295.58	-989.60	-1027.40
4	760.00	77.3	0.8410	0.8450	736.47	672.81	0.9551	0.9714	0.9867	1.0661	-0.0775	-1295.32	-989.46	-1027.25
5	760.00	77.3	0.8340	0.8380	736.71	673.01	0.9551	0.9713	0.9864	1.0669	-0.0784	-1295.19	-989.39	-1027.18
6	760.00	77.4	0.7740	0.7800	738.11	674.25	0.9554	0.9706	0.9877	1.0614	-0.0720	-1294.43	-988.98	-1026.74
7	760.00	77.5	0.6970	0.7070	740.71	676.52	0.9557	0.9697	0.9910	1.0499	-0.0577	-1293.02	-988.21	-1025.94
8	760.00	77.7	0.5870	0.6050	744.95	680.25	0.9564	0.9686	1.0019	1.0316	-0.0292	-1290.72	-986.96	-1024.64
9	760.00	77.8	0.5280	0.5470	748.98	683.78	0.9569	0.9681	1.0022	1.0293	-0.0267	-1288.56	-985.79	-1023.41
10	760.00	78.1	0.4410	0.4650	755.65	689.64	0.9577	0.9676	1.0119	1.0171	-0.0052	-1285.00	-983.85	-1021.40
11	760.00	78.2	0.4220	0.4480	757.33	691.11	0.9578	0.9675	1.0167	1.0127	0.0040	-1284.11	-983.37	-1020.89
12	760.00	78.4	0.3590	0.3870	763.09	696.16	0.9585	0.9671	1.0253	1.0064	0.0187	-1281.08	-981.72	-1019.17
13	760.00	78.7	0.3010	0.3290	768.65	701.03	0.9592	0.9669	1.0363	1.0015	0.0342	-1278.18	-980.14	-1017.52
14	760.00	79.0	0.2390	0.2560	775.94	707.42	0.9601	0.9666	1.0429	1.0001	0.0419	-1274.42	-978.09	-1015.38
15	760.00	79.3	0.1600	0.1840	783.78	714.29	0.9611	0.9665	1.0678	0.9957	0.0700	-1270.42	-975.92	-1013.11
16	760.00	79.4	0.1360	0.1570	786.73	716.88	0.9615	0.9665	1.0683	0.9964	0.0697	-1268.93	-975.10	-1012.26
17	760.00	79.8	0.0600	0.0710	795.89	724.90	0.9628	0.9664	1.0840	0.9981	0.0826	-1264.33	-972.60	-1009.64
18	760.00	79.9	0.0270	0.0330	800.39	728.83	0.9634	0.9665	1.1140	0.9983	0.1097	-1262.11	-971.38	-1008.37
19	760.00	80.0	0.0160	0.0200	801.88	730.14	0.9636	0.9665	1.1375	0.9986	0.1302	-1261.37	-970.98	-1007.95

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 523.30 P = 37.80 V = 286.00 OMEGA = 0.373 OMEGAH = 0.278 DIPOLE = 1.78 ETA = 0.50  
 2 T = 562.00 P = 48.60 V = 260.10 OMEGA = 0.211 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.70981E 01 B = 0.12387E 04 C = 0.21700E 03  
 2 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03

## VAPOR PRESSURE AT NBP

P = 769.5 AT T = 77.1  
 P = 760.0 AT T = 80.1

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.13612E 03 B = 0.37001E 00 C = 0.80775E 03  
 2 A = 0.70863E 02 B = 0.14907E 01 C = 0.15880E 03

## COMPONENT ID ECHO CHECK

ID NUMBER = 12  
 ID NUMBER = 5

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.11851E 00 B = 0.33148E 00 C = 0.11707E 00  
 STANDARD DEVIATION = 0.70693E 02

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.1258 G2INF = 1.1007  
 T1INF = 80.10 T2INF = 76.72

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0234  
 AREA BELOW THE X-AXIS IS -0.0316  
 CROSS-OVER POINT IS X = 0.42  
 NORMALIZED AREA DIFFERENCE IS -0.1491  
 HERINGTON J-FACTOR IS 1.45  
 CONSISTENCY INDEX IS 13.46

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	124.52	-33.16	0.0	8.56	0.00146
2	474.74	294.14	0.3258E-03	2.63	0.00440
3	270.54	-149.55	0.3802E-02	6.58	0.00153
4	268.98	-148.55	0.3616E-02	6.52	0.00155
5	337.99	-209.76	0.1066E-02	2.99	0.00320
6	299.13	-156.77	0.7585E-04	8.95	0.00115
7	318.77	-196.36	0.1417E-02	3.31	0.00301
8	504.66	308.82	0.3723E-03	2.67	0.00444
9	500.22	-306.61	0.3720E-03	2.66	0.00443
10	236.01	-125.27	0.7972E-01	6.79	0.00148

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2CL	PHI1	PHI2	G1	G2	LN(C1/G2)	R11	B22	B12
1	760.00	77.6	0.9700	0.9870	743.30	262.54	0.9551	0.9566	0.9900	1.1953	-0.1884	-1291.61	-1514.86	-1266.12
2	760.00	77.8	0.9540	0.9800	748.27	264.45	0.9552	0.9566	0.9930	1.1905	-0.1815	-1288.94	-1512.44	-1264.18
3	760.00	78.4	0.9220	0.9670	762.13	265.75	0.9555	0.9565	0.9957	1.1355	-0.1314	-1281.59	-1505.78	-1258.85
4	760.00	78.8	0.8910	0.9530	772.04	273.61	0.9558	0.9564	1.0027	1.1410	-0.1292	-1276.43	-1501.11	-1255.11
5	760.00	79.9	0.8350	0.9280	799.39	284.18	0.9564	0.9563	1.0069	1.1117	-0.0990	-1262.60	-1488.58	-1245.06
6	760.00	81.1	0.7730	0.8990	830.53	296.27	0.9571	0.9563	1.0149	1.0872	-0.0688	-1247.53	-1474.52	-1234.09
7	760.00	82.3	0.7150	0.8670	859.43	307.52	0.9578	0.9562	1.0233	1.0985	-0.0709	-1234.14	-1462.78	-1224.33
8	760.00	83.5	0.6560	0.8370	894.22	321.13	0.9586	0.9563	1.0357	1.0682	-0.0309	-1218.73	-1448.78	-1213.06
9	760.00	85.2	0.5980	0.8000	938.75	338.63	0.9595	0.9564	1.0353	1.0637	-0.0270	-1200.01	-1431.77	-1199.35
10	760.00	89.2	0.4520	0.7030	1058.57	386.12	0.9618	0.9568	1.0701	1.0167	0.0512	-1154.60	-1390.39	-1165.91
11	760.00	92.1	0.3650	0.6290	1149.98	422.71	0.9634	0.9572	1.0933	1.0016	0.0877	-1123.99	-1362.39	-1143.20
12	760.00	95.0	0.2830	0.5450	1249.00	462.81	0.9651	0.9576	1.1268	0.9941	0.1253	-1093.94	-1334.80	-1120.76
13	760.00	95.5	0.2700	0.5290	1266.17	469.79	0.9654	0.9577	1.1290	0.9979	0.1234	-1089.03	-1330.26	-1117.08
14	760.00	99.9	0.1750	0.3910	1424.02	534.48	0.9678	0.9586	1.1499	1.0024	0.1373	-1047.39	-1291.81	-1085.69
15	760.00	103.5	0.1070	0.2650	1569.65	594.91	0.9699	0.9595	1.1589	1.0051	0.1424	-1013.72	-1260.48	-1060.04
16	760.00	106.9	0.0480	0.1370	1717.81	657.09	0.9719	0.9606	1.2229	1.0033	0.1979	-983.19	-1231.87	-1036.55
17	760.00	107.9	0.0320	0.0970	1759.05	674.52	0.9725	0.9609	1.2690	1.0061	0.2322	-975.27	-1224.42	-1030.42
18	760.00	108.8	0.0210	0.0640	1811.89	692.68	0.9730	0.9612	1.2462	1.0045	0.2156	-967.28	-1216.68	-1024.21

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1	T = 523.30	P = 37.80	V = 286.00	OMEGA = 0.373	OMEGA H = 0.278	DIPGLE = 1.78	ETA = 0.50
2	T = 594.00	P = 49.00	V = 331.10	OMEGA = 0.241	OMEGA H = 0.0	DIPGLE = 0.0	ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.70981E 01	B = 0.12387E 04	C = 0.21700E 03
2	A = 0.69533E 01	B = 0.13439E 04	C = 0.21938E 03

## VAPOR PRESSURE AT NBP

P = 769.5	AT T = 77.1
P = 759.4	AT T = 110.6

## MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.13612E 03	B = -0.37001E 00	C = 0.80775E -03
2	A = 0.98864E 02	B = -0.55774E 01	C = 0.27703E 03

## COMPONENT ID ECHO CHECK

ID NUMBER = 12
ID NUMBER = 33

## MIXTURE PROPERTIES

## ACTIVITY-RATIO EQUATION COEFFICIENTS

A = 0.21605E 00	B = -0.34527E 00	C = -0.56246E -01
STANDARD DEVIATION = 0.16993E -01		

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.2412	G2INF = 1.2038
T1INF = 110.63	T2INF = 76.72

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.0636
AREA BELOW THE X-AXIS IS	-0.0389
CROSS-OVER POINT IS X =	0.57
NORMALIZED AREA DIFFERENCE IS	0.2406
HERINGTON J-FACTOR IS	14.53
CONSISTENCY INDEX IS	9.53

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	309.15 -137.10	0.9095E-12	3.18	0.00398
2	54.48 32.80	0.5186E-03	5.38	0.00421
3	403.81 -209.53	0.1363E-01	3.55	0.00425
4	383.76 -196.72	0.1145E-01	3.56	0.00423
5	28.09 132.08	0.1188E-02	3.61	0.00330
6	-185.54 455.12	0.2972E-03	7.59	0.00253
7	-57.41 241.14	0.7982E-03	4.24	0.00300
8	240.89 -80.84	0.4985E-03	3.15	0.00381
9	238.14 -78.47	0.4987E-03	3.15	0.00380
10	385.20 -199.55	0.7302E-01	3.75	0.00427

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	77.9	0.9650	0.9920	750.98	106.85	0.9553	0.9389	0.9903	1.5196	-0.4282	-1287.54	-2228.08	-1521.22
2	760.00	78.2	0.9490	0.9890	756.85	107.88	0.9554	0.9389	0.9962	1.4202	-0.3546	-1284.37	-2223.32	-1518.30
3	760.00	79.2	0.9120	0.9810	781.81	112.23	0.9560	0.9392	0.9960	1.3670	-0.3167	-1271.42	-2203.90	-1506.40
4	760.00	80.9	0.8460	0.9670	824.64	119.77	0.9570	0.9397	1.0044	1.2720	-0.2362	-1250.33	-2172.30	-1487.00
5	760.00	83.1	0.7650	0.9480	882.06	130.02	0.9581	0.9404	1.0193	1.2108	-0.1722	-1224.03	-2132.98	-1462.76
6	760.00	85.6	0.6670	0.9250	952.67	142.85	0.9595	0.9411	1.0576	1.1227	-0.0597	-1194.39	-2088.76	-1435.38
7	760.00	86.5	0.6350	0.9160	978.29	147.56	0.9600	0.9414	1.0719	1.1109	-0.0357	-1184.29	-2073.70	-1426.03
8	760.00	90.1	0.5240	0.8780	1086.60	167.79	0.9618	0.9424	1.1231	1.0891	0.0307	-1144.87	-2015.01	-1389.42
9	760.00	93.2	0.4470	0.8470	1185.71	186.74	0.9632	0.9433	1.1842	1.0442	0.1258	-1112.77	-1967.27	-1359.47
10	760.00	95.0	0.3590	0.8250	1248.31	198.91	0.9641	0.9438	1.2093	1.0453	0.1457	-1094.14	-1939.56	-1342.01
11	760.00	99.6	0.3100	0.7710	1417.12	232.49	0.9663	0.9451	1.2842	1.0209	0.2294	-1049.09	-1872.55	-1299.56
12	760.00	105.0	0.2350	0.6950	1636.15	277.58	0.9687	0.9467	1.3259	1.0289	0.2536	-999.60	-1798.75	-1252.43
13	760.00	111.1	0.1650	0.6120	1909.17	336.00	0.9712	0.9486	1.4289	0.9927	0.3642	-948.27	-1721.87	-1202.89
14	760.00	116.0	0.1240	0.5300	2148.44	389.10	0.9732	0.9500	1.4662	0.9913	0.3914	-910.26	-1664.57	-1165.68
15	760.00	119.1	0.1000	0.4750	2312.76	426.53	0.9745	0.9510	1.5157	0.9843	0.4317	-887.08	-1629.44	-1142.74
16	760.00	123.4	0.0700	0.3840	2557.45	483.65	0.9763	0.9524	1.5859	0.9870	0.4742	-856.15	-1582.24	-1111.76
17	760.00	127.9	0.0440	0.2870	2824.11	547.73	0.9782	0.9538	1.6692	0.9925	0.5199	-826.41	-1536.47	-1081.55
18	760.00	130.0	0.0330	0.2200	2959.66	581.91	0.9792	0.9545	1.6703	1.0028	0.5102	-812.61	-1515.69	-1067.39
19	760.00	133.1	0.0190	0.1380	3161.92	631.53	0.9805	0.9555	1.7057	1.0062	0.5278	-793.45	-1485.21	-1047.53
20	760.00	136.5	0.0060	0.0480	3396.04	691.27	0.9820	0.9568	1.7518	1.0032	0.5575	-773.12	-1453.25	-1026.21

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 523.30 P = 37.80 V = 286.00  $\omega_{FGA} = 0.373$   $\omega_{GAH} = 0.278$  DIPOLE = 1.78 ETA = 0.50  
 2 T = 616.30 P = 34.60 V = 369.40  $\omega_{FGA} = 0.324$   $\omega_{GAH} = 0.0$  DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.70981E-01 B = 0.12387E-04 C = 0.21700E-03 P = 769.5 AT T = 77.1  
 2 A = 0.69905E-01 B = 0.14534E-04 C = 0.21531E-03 P = 760.0 AT T = 138.3

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.13612E-03 B = -.37001E-00 C = 0.80775E-03 COMPONENT ID CHECK  
 2 A = 0.12940E-03 B = -.14187E-00 C = 0.41800E-03 ID NUMBER = 12  
 ID NUMBER = 36

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.53603E-00 B = -.95889E-00 C = 0.19250E-01  
 STANDARD DEVIATION = 0.27099E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.7092 G2INF = 1.4972  
 T1INF = 138.35 T2INF = 76.72

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.1510  
 AREA BELOW THE X-AXIS IS -0.0880  
 CROSS-OVER POINT IS X = 0.57  
 NORMALIZED AREA DIFFERENCE IS 0.2637  
 HERINGTON J-FACTOR IS 26.42  
 CONSISTENCY INDEX IS 0.65

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	692.69 -246.04	0.0	7.89	0.00683
2	671.90 -293.07	0.7701E-03	19.53	0.01272
3	774.00 -300.69	0.9606E-01	9.23	0.00684
4	759.42 -298.03	0.6997E-01	9.59	0.00750
5	509.43 -88.73	0.3269E-02	5.71	0.00584
6	338.73 -121.01	0.1177E-02	14.59	0.00459
7	436.48 -17.13	0.2212E-02	6.93	0.00575
8	456.80 -85.67	0.1264E-02	5.43	0.00640
9	496.80 -85.67	0.1264E-02	5.43	0.00640
10	730.57 -290.08	0.1015E-00	10.45	0.00856

ETHYL ACETATE(1) - WATER(2)

SYSTEM 067A

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	55.84	40.0	0.0001	0.0054	186.02	55.11	0.9961	0.9979	13.4516	1.0058	2.5934	-1927.30	-746.44	-1050.78
2	55.84	40.0	0.0001	0.0055	186.02	55.11	0.9961	0.9979	13.7007	1.0056	2.6118	-1927.30	-746.44	-1050.78
3	202.10	40.0	0.9648	0.9022	186.02	55.11	0.9801	0.9972	0.9947	10.1593	-2.3237	-1927.30	-746.44	-1050.78
4	199.10	40.0	0.9746	0.9246	186.02	55.11	0.9804	0.9975	0.9945	10.6964	-2.3755	-1927.30	-746.44	-1050.78
5	197.10	40.0	0.9807	0.9431	186.02	55.11	0.9806	0.9977	0.9981	10.5190	-2.3551	-1927.30	-746.44	-1050.78
6	193.40	40.0	0.9879	0.9649	186.02	55.11	0.9809	0.9980	0.9951	10.1586	-2.3232	-1927.30	-746.44	-1050.78

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1	T = 523.30	P = 37.80	V = 286.00	OMEGA = 0.373	OMEGA H = 0.278	DIPOLE = 1.78	ETA = 0.50
2	T = 647.40	P = *****	V = 55.20	OMEGA = 0.344	OMEGA H = 0.010	DIPOLE = 1.85	ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.70981E 01	B = 0.12387E 04	C = 0.21700E 03	VAPOR PRESSURE AT NBP
2	A = 0.79668E 01	B = 0.16682E 04	C = 0.22800E 03	P = 769.5 AT T = 77.1
				P = 760.0 AT T = 100.0

## MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.13612E 03	B = -.37001E 00	C = 0.80775E-03	COMPONENT ID CHECK
2	A = 0.22887E 02	B = -.36416E 01	C = 0.68556E-04	ID NUMBER = 12
				ID NUMBER = 34

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.26154E 01	B = -.10216E 02	C = 0.52535E 01
STANDARD DEVIATION = 0.28713E 01		

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 13.6729	G2INF = 10.4502
T1INF = 40.00	T2INF = 40.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.3722
AREA BELOW THE X-AXIS IS	-1.1134
CROSS-OVER POINT IS X =	0.30
NORMALIZED AREA DIFFERENCE IS	-0.4989
CONSISTENCY INDEX IS	49.89

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	86.64 1993.76	0.2274E-10
2	6795.95 1834.30	0.6213E-04
3	7821.40 -100.13	0.3965E 03
4	7788.11 -99.75	0.3675E 01
5	7749.03 4.32	0.5222E 01
6	7739.05 -16.46	0.3568E-01
7	7755.77 -19.71	0.1807E-01
8	532.49 2008.42	0.5567E-04
9	532.28 2008.42	0.5567E-04
10	59.06 2116.17	0.7224E-02

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PRESSURE	COMPOSITION
1	0.99	0.00724
2	48.50	0.24721
3	8.17	0.04226
4	8.17	0.04226
5	8.06	0.04465
6	8.04	0.04423
7	8.03	0.04413
8	0.35	0.00590
9	0.35	0.00589
10	0.66	0.00293

## \*\*DIAGNOSTIC\*\*

2 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

ETHYL ACETATE(1) WATER(2)

SYSTEM 067C

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	233.90	70.0	0.0000	0.0015	579.77	232.15	0.9896	0.9933	14.9539	0.9991	2.7059	-1393.94	-617.43	-785.85
2	234.90	70.0	0.0001	0.0056	579.77	232.15	0.9895	0.9932	22.4247	0.9993	3.1109	-1393.94	-617.43	-785.85
3	235.70	70.0	0.0001	0.0084	579.77	232.15	0.9894	0.9932	22.4995	0.9999	3.1136	-1393.94	-617.43	-785.85
4	235.70	70.0	0.0002	0.0085	579.77	232.15	0.9894	0.9932	21.3444	0.9998	3.0610	-1393.94	-617.43	-785.85
5	646.30	70.0	0.9676	0.9059	579.77	232.15	0.9580	0.9928	0.9567	8.0229	-2.0856	-1393.94	-617.43	-785.85
6	641.10	70.0	0.9723	0.9173	579.77	232.15	0.9583	0.9931	0.9966	8.1839	-2.1055	-1393.94	-617.43	-785.85
7	630.60	70.0	0.9798	0.9395	579.77	232.15	0.9589	0.9938	0.9981	7.6999	-2.0431	-1393.94	-617.43	-785.85
8	623.10	70.0	0.9855	0.9630	579.77	232.15	0.9594	0.9945	1.0045	6.8078	-1.9136	-1393.94	-617.43	-785.85

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 523.30 P = 37.80 V = 286.00  $\Omega$ MEGA = 0.373  $\Omega$ MEGAH = 0.278 DIPOLE = 1.78 ETA = 0.50  
 2 T = 647.40 P = \*\*\*\*\* V = 55.20  $\Omega$ MEGA = 0.344  $\Omega$ MEGAH = 0.010 DIPOLE = 1.85 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.70991E-01 B = 0.12387E-04 C = 0.21700E-03 P = 769.5 AT T = 77.1  
 2 A = 0.79668E-01 B = 0.16682E-04 C = 0.22800E-03 P = 760.0 AT T = 100.0

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.13612E-03 B = -.37001E-00 C = 0.80775E-03 COMPONENT-ID ECHO CHECK  
 2 A = 0.22897E-02 B = -.36416E-01 C = 0.68556E-04 ID NUMBER = 12  
 ID NUMBER = 34

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.29712E-01 B = -.20261E-02 C = 0.15530E-02

STANDARD DEVIATION = 0.15955E-00

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 19.5160 G2INF = 5.8067

T1INF = 70.00 T2INF = 70.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2378

AREA BELOW THE X-AXIS IS -2.2201

CROSS-COVER POINT IS X = 0.17

NORMALIZED AREA DIFFERENCE IS -0.8065

CONSISTENCY INDEX IS 80.65

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	455.21 1760.00	0.1136E-08
2	-1269.81 2795.86	0.8807E-05
3	383.77 2045.65	0.4200E-02
4	343.41 2037.85	0.1821E-00
5	436.15 2067.47	0.3172E-03
6	442.86 2082.13	0.2474E-03
7	456.71 2074.11	0.2193E-03
8	409.55 2047.02	0.3912E-04
9	408.63 2047.20	0.3910E-04
10	384.15 2045.67	0.4022E-01

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
6.80	0.01088
3.54	0.01003
1.04	0.00310
1.13	0.00355
0.95	0.00278
1.36	0.00268
1.18	0.00276
1.01	0.00297
1.01	0.00297
1.04	0.00310

## \*\*DIAGNOSTIC\*\*

1 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
 SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE



## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	118.85	55.0	0.0001	0.0052	339.59	117.58	0.9934	0.9961	15.0570	1.0016	2.7102	-1631.39	-678.31	-904.90
2	119.25	55.0	0.0002	0.0081	339.59	117.58	0.9934	0.9960	16.6109	1.0021	2.8080	-1631.39	-678.31	-904.90
3	119.30	55.0	0.0002	0.0081	339.59	117.58	0.9934	0.9960	15.6946	1.0025	2.7508	-1631.39	-678.31	-904.90
4	372.00	55.0	0.9695	0.9093	339.59	117.58	0.9704	0.9955	0.9952	9.3627	-2.2416	-1631.39	-678.31	-904.90
5	371.70	55.0	0.9699	0.9085	339.59	117.58	0.9704	0.9954	0.9931	9.5630	-2.2648	-1631.39	-678.31	-904.90
6	364.70	55.0	0.9780	0.9342	339.59	117.58	0.9710	0.9960	0.9985	8.6759	-2.1620	-1631.39	-678.31	-904.90
7	358.00	55.0	0.9894	0.9676	339.59	117.58	0.9715	0.9966	0.9998	9.2724	-2.2273	-1631.39	-678.31	-904.90

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 523.30 P = 37.80 V = 286.00 OMEGA = 0.373 OMEGAH = 0.278 DIPOLE = 1.78 ETA = 0.50  
 2 T = 647.40 P = \*\*\*\*\* V = 55.20 OMEGA = 0.344 OMEGAH = 0.010 DIPOLE = 1.85 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.70981E 01 B = 0.12387E 04 C = 0.21700E 03  
 2 A = 0.79668E 01 B = 0.16682E 04 C = 0.22800E 03

## VAPOR PRESSURE AT NBP

P = 769.5 AT T = 77.1  
 P = 760.0 AT T = 100.0

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.13612E 03 B = -0.37001E 00 C = 0.80775E 03  
 2 A = 0.22887E 02 B = -0.36416E 01 C = 0.68556E 04

## COMPONENT ID CHECK

ID NUMBER = 12  
 ID NUMBER = 34

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.27547E 01 B = 0.11880E 02 C = 0.69470E 01  
 STANDARD DEVIATION = 0.50216E 01

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.3565  
 AREA BELOW THE X-AXIS IS -1.2263  
 CROSS-OVER POINT IS X = 0.28  
 NORMALIZED AREA DIFFERENCE IS -0.5495  
 CONSISTENCY INDEX IS 54.95

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 15.7171 G2INF = 8.8343  
 T1INF = 55.00 T2INF = 55.00

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)
			PRESSURE COMPOSITION
1	202.46 1972.34	0.5887E-08	1.83 0.00705
2	9186.32 1864.62	0.5452E-05	110.87 0.29662
3	172.94 2112.55	0.3336E 01	0.73 0.00313
4	171.79 2109.89	0.2925E 01	0.68 0.00315
5	266.84 2110.88	0.3275E-03	0.91 0.00335
6	202.39 2149.80	0.1898E-03	1.50 0.00286
7	239.52 2131.22	0.2863E-03	1.23 0.00311
8	359.67 2056.55	0.3205E-04	0.56 0.00411
9	362.66 2055.64	0.3206E-04	0.56 0.00413
10	173.32 2112.50	0.9643E-02	0.73 0.00313

## \*\*DIAGNOSTIC\*\*

1 DATA POINTS FROM ORIGINAL PREFERENCE DELETED PRIOR TO CALCULATION  
 SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

## SUMMARY VLF DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	74.8	0.9710	0.9140	679.40	284.42	0.9536	0.9921	1.0004	7.8560	-2.0609	-1328.05	-599.29	-752.34
2	760.00	75.0	0.9740	0.9270	683.82	286.80	0.9537	0.9924	1.0050	7.3791	-1.9936	-1325.40	-598.55	-750.99
3	760.00	75.6	0.9830	0.9470	697.21	294.03	0.9540	0.9931	0.9981	7.9974	-2.0810	-1317.50	-596.32	-746.95
4	760.00	75.7	0.9860	0.9540	699.46	295.25	0.9540	0.9933	0.9993	8.3955	-2.1284	-1316.18	-595.95	-746.28
5	760.00	75.9	0.9840	0.9530	703.98	297.70	0.9541	0.9933	0.9940	7.4438	-2.0135	-1313.57	-595.22	-744.94

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1	T = 523.30	P = 37.80	V = 286.00	OMEGA = 0.373	OMEGA H = 0.278	DIPOLE = 1.78	ETA = 0.50
2	T = 647.40	P = *****	V = 55.20	OMEGA = 0.344	OMEGA H = 0.010	DIPOLE = 1.85	ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.70981F 01	B = 0.12387E 04	C = 0.21700F 03
2	A = 0.79668F 01	B = 0.16682E 04	C = 0.22800F 03

## VAPOR PRESSURE AT NBP

P = 769.5	AT T = 77.1
P = 760.0	AT T = 100.0

## MOLAR VOLUME EQUATION COEFFICIENTS

1	A = -0.13612F 03	B = -0.37001E 00	C = -0.80775F 03
2	A = 0.22887F 02	B = -0.36416E 01	C = 0.68556F 04

## COMPONENT ID CHECK

ID NUMBER = 12
ID NUMBER = 34

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = -0.90269E 00	B = -0.52305E 00	C = -0.66745E 00
STANDARD DEVIATION = 0.69779E-01		

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 0.4055	G2INF = 8.1108
T1INF = 100.00	T2INF = 76.72

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

SQUARE ROOT OF NEGATIVE ARGUMENT REQUIRED  
TO OBTAIN X-INTERCEPT  
VALUE OF REQUIRED ARGUMENT IS -0.21364E 01  
THERMODYNAMIC CONSISTENCY TEST IS ABORTED

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	-2722.58 8098.94	0.1306E-07
2	1956.46 1972.05	0.6378E-04
3	4324.54 2008.22	0.5546E 00
4	4549.23 2005.41	0.9337E-02
5	6748.73 2004.21	0.1709E-03
6	6705.68 2011.21	0.5837E-04
7	6722.51 2008.57	0.1086E-03
8	6732.51 1993.43	0.1058E-03
9	6734.35 1993.60	0.1058E-03
10	6682.84 1960.30	0.1017E 01

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

	PRESSURE	COMPOSITION
	43.54	0.06077
	3.53	0.00326
	2.42	0.00222
	2.47	0.00225
	2.49	0.00227
	2.36	0.00218
	2.41	0.00221
	2.70	0.00240
	2.70	0.00240
	3.69	0.00350

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	723.00	132.7	0.9790	0.9740	662.95	296.32	0.9608	0.9557	1.0383	2.8795	-1.0200	-1370.56	-898.19	-1477.86
2	723.00	132.5	0.9600	0.9550	659.44	294.24	0.9607	0.9563	1.0437	2.6367	-0.9268	-1372.30	-899.41	-1479.75
3	723.00	132.3	0.9420	0.9420	655.93	292.17	0.9606	0.9568	1.0546	2.3614	-0.8061	-1374.04	-900.64	-1481.65
4	723.00	132.4	0.9300	0.9310	658.56	293.72	0.9606	0.9572	1.0516	2.3165	-0.7898	-1372.73	-899.72	-1480.22
5	723.00	132.5	0.9230	0.9260	659.44	294.24	0.9607	0.9574	1.0525	2.2550	-0.7620	-1372.30	-899.41	-1479.75
6	723.00	132.6	0.8470	0.8670	661.20	295.27	0.9604	0.9595	1.0707	2.0370	-0.6431	-1371.43	-898.80	-1478.81
7	723.00	132.7	0.7750	0.8350	662.95	296.32	0.9603	0.9606	1.1238	1.7144	-0.4223	-1370.56	-898.19	-1477.86
8	723.00	133.5	0.6540	0.7620	677.17	304.75	0.9600	0.9632	1.1855	1.5677	-0.2761	-1363.67	-893.32	-1470.35
9	723.00	134.0	0.6000	0.7320	686.16	310.13	0.9599	0.9642	1.2290	1.5022	-0.2007	-1359.39	-890.31	-1465.69
10	723.00	134.5	0.5580	0.7090	695.26	315.58	0.9598	0.9650	1.2631	1.4518	-0.1392	-1355.13	-887.33	-1461.05
11	723.00	136.4	0.4670	0.6570	730.63	337.06	0.9598	0.9670	1.3309	1.3313	-0.0003	-1339.14	-876.19	-1443.65
12	723.00	134.5	0.3810	0.6420	771.29	362.24	0.9604	0.9680	1.5109	1.1144	0.3043	-1321.83	-864.24	-1424.83
13	723.00	144.9	0.1810	0.4680	905.75	449.05	0.9597	0.9731	1.9730	1.0151	0.6646	-1271.26	-830.07	-1369.90
14	723.00	149.8	0.0920	0.2970	1019.93	526.84	0.9578	0.9764	2.1833	1.0348	0.7466	-1234.62	-806.00	-1330.18
15	723.00	152.5	0.0500	0.1770	1087.20	574.35	0.9558	0.9779	2.2413	1.0637	0.7453	-1215.15	-793.44	-1309.09
16	723.00	154.5	0.0350	0.1380	1139.10	611.82	0.9555	0.9784	2.3819	1.0302	0.8381	-1201.04	-784.45	-1293.82

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 617.20 P = 37.00 V = 366.00  $\Omega$ MEGA = 0.301  $\Omega$ MFGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 656.00 P = 38.40 V = 375.20  $\Omega$ MEGA = 0.292  $\Omega$ MFGAH = 0.270 DIPOLE = 2.00 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69572E 01 B = 0.14243E 04 C = 0.21321E 03 VAPOR PRESSURE AT NBP  
 P = 760.0 AT T = 136.2  
 2 A = 0.87299E 01 B = 0.25378E 04 C = 0.27315E 03 P = 785.6 AT T = 161.8

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.11139E 03 B = -.50868E-01 C = 0.29917E-03 COMPONENT ID CHECK  
 ID NUMBER = 45  
 2 A = 0.63207E 02 B = 0.58328E-01 C = 0.29602E-04 ID NUMBER = 15

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.88570E 00 B = -.15909E 01 C = -.26622E 00  
 STANDARD DEVIATION = 0.60686E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.4247 G2INF = 2.6416  
 T1INF = 159.13 T2INF = 134.34

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2330  
 AREA BELOW THE X-AXIS IS -0.2315  
 CROSS-OVER POINT IS X = 0.51  
 NORMALIZED AREA DIFFERENCE IS 0.0033  
 HERINGTON J-FACTOR IS 9.92  
 CONSISTENCY INDEX IS -9.60

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	33.78	828.28	0.4547E-11	32.01	0.00692
2	209.93	1521.34	0.7339E-02	12.97	0.02056
3	34.20	886.05	0.1647E 00	25.78	0.00771
4	56.50	867.07	0.6097E-01	25.38	0.00787
5	-58.17	1138.38	0.1437E-01	14.05	0.01281
6	70.36	817.37	0.2772E-02	29.31	0.00686
7	-87.37	1145.22	0.1763E-01	15.07	0.01203
8	148.78	1335.96	0.5584E-02	10.52	0.01646
9	-149.20	1336.92	0.5586E-02	10.52	0.01648
10	28.18	894.18	0.1528E-01	25.58	0.00776

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	238.00	40.0	0.0500	0.4618	776.16	132.30	0.9886	0.9783	2.7961	0.9963	1.0319	-978.66	-1810.36	-1325.68
2	330.30	40.0	0.1000	0.6303	776.16	132.30	0.9838	0.9703	2.6340	0.9941	0.9744	-978.66	-1810.36	-1325.68
3	408.50	40.0	0.1500	0.7150	776.16	132.30	0.9798	0.9637	2.4525	0.9964	0.9007	-978.66	-1810.36	-1325.68
4	473.20	40.0	0.2000	0.7650	776.16	132.30	0.9765	0.9582	2.2712	1.0052	0.8151	-978.66	-1810.36	-1325.68
5	529.50	40.0	0.2500	0.7992	776.16	132.30	0.9736	0.9534	2.1171	1.0199	0.7303	-978.66	-1810.36	-1325.68
6	577.00	40.0	0.3000	0.8234	776.16	132.30	0.9712	0.9494	1.9754	1.0428	0.6389	-978.66	-1810.36	-1325.68
7	617.60	40.0	0.3500	0.8420	776.16	132.30	0.9692	0.9460	1.8489	1.0714	0.5456	-978.66	-1810.36	-1325.68
8	653.70	40.0	0.4000	0.8571	776.16	132.30	0.9673	0.9430	1.7394	1.1074	0.4515	-978.66	-1810.36	-1325.68
9	687.60	40.0	0.4500	0.8706	776.16	132.30	0.9656	0.9401	1.6487	1.1471	0.3627	-978.66	-1810.36	-1325.68
10	717.60	40.0	0.5000	0.8820	776.16	132.30	0.9641	0.9376	1.5661	1.1976	0.2683	-978.66	-1810.36	-1325.68
11	742.00	40.0	0.5500	0.8912	776.16	132.30	0.9629	0.9356	1.4854	1.2658	0.1600	-978.66	-1810.36	-1325.68
12	764.30	40.0	0.6000	0.8998	776.16	132.30	0.9617	0.9338	1.4143	1.3481	0.0479	-978.66	-1810.36	-1325.68
13	785.20	40.0	0.6500	0.9083	776.16	132.30	0.9607	0.9321	1.3522	1.4458	-0.0669	-978.66	-1810.36	-1325.68
14	805.90	40.0	0.7000	0.9167	776.16	132.30	0.9596	0.9304	1.2991	1.5697	-0.1892	-978.66	-1810.36	-1325.68
15	826.50	40.0	0.7500	0.9257	776.16	132.30	0.9586	0.9287	1.2542	1.7199	-0.3158	-978.66	-1810.36	-1325.68
16	846.80	40.0	0.8000	0.9357	776.16	132.30	0.9576	0.9271	1.2162	1.9027	-0.4475	-978.66	-1810.36	-1325.68
17	866.00	40.0	0.8500	0.9466	776.16	132.30	0.9566	0.9255	1.1829	2.1510	-0.5979	-978.66	-1810.36	-1325.68
18	885.00	40.0	0.9000	0.9598	776.16	132.30	0.9556	0.9241	1.1564	2.4782	-0.7623	-978.66	-1810.36	-1325.68
19	903.30	40.0	0.9500	0.9762	776.16	132.30	0.9547	0.9227	1.1361	2.9905	-0.9679	-978.66	-1810.36	-1325.68

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 467.00 P = 36.20 V = 284.00 OMEGA = 0.283 OMEGAH = 0.252 DIPOLE = 1.16 ETA = 0.28  
 2 T = 516.00 P = 63.00 V = 161.30 OMEGA = 0.637 OMEGAH = 0.152 DIPOLE = 1.69 ETA = 1.10

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.77567E 01 B = 0.15177E 04 C = 0.27315E 03  
 2 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265E 03

## VAPOR PRESSURE AT NBP

P = 668.2 AT T = 34.6  
 P = 762.1 AT T = 78.4

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.19173E 03 B = .78144E 00 C = 0.16405E 02  
 2 A = 0.53701E 02 B = -.31109E -01 C = 0.16000E -03

## COMPONENT ID ECHO CHECK

ID NUMBER = 14  
 ID NUMBER = 11

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.10781E 01 B = .10859E 01 C = .10667E 01  
 STANDARD DEVIATION = 0.19573E -01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.9390 G2INF = 2.9288  
 T1INF = 40.00 T2INF = 40.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.3749  
 AREA BELOW THE X-AXIS IS -0.1954  
 CROSS-OVER POINT IS X = 0.62  
 NORMALIZED AREA DIFFERENCE IS 0.3147  
 CONSISTENCY INDEX IS 31.47

## SUMMARY OF WILSCN PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	17.04	749.98	0.2274E-10	85.74	0.02367
2	446.12	4371.15	0.2785E-02	19.44	0.01386
3	-11.64	886.75	0.8913E 00	67.78	0.01961
4	-155.55	1066.32	0.3328E 00	65.18	0.01967
5	-305.30	2132.01	0.2179E-01	16.41	0.00973
6	-254.33	1765.90	0.6670E-02	16.92	0.01085
7	-330.28	2397.07	0.2861E-01	17.18	0.00954
8	-313.06	2183.42	0.1467E-01	16.41	0.00975
9	-313.09	2183.83	0.1468E-01	16.41	0.00974
10	-24.34	882.24	0.6982E-01	70.35	0.02023

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	364.00	50.0	0.0500	0.4203	1082.74	216.87	0.9847	0.9713	2.7772	0.9938	1.0277	-892.91	-1612.44	-1184.93
2	486.10	50.0	0.1000	0.5863	1082.74	216.87	0.9790	0.9623	2.5702	0.9900	0.9540	-892.91	-1612.44	-1184.93
3	534.60	50.0	0.1500	0.6723	1082.74	216.87	0.9745	0.9551	2.3508	0.9908	0.8640	-892.91	-1612.44	-1184.93
4	674.00	50.0	0.2000	0.7285	1082.74	216.87	0.9705	0.9486	2.1924	0.9985	0.7865	-892.91	-1612.44	-1184.93
5	748.80	50.0	0.2500	0.7666	1082.74	216.87	0.9671	0.9432	2.0425	1.0112	0.7030	-892.91	-1612.44	-1184.93
6	813.00	50.0	0.3000	0.7946	1082.74	216.87	0.9642	0.9386	1.9091	1.0299	0.6171	-892.91	-1612.44	-1184.93
7	868.80	50.0	0.3500	0.8161	1082.74	216.87	0.9617	0.9346	1.7908	1.0565	0.5277	-892.91	-1612.44	-1184.93
8	919.60	50.0	0.4000	0.8341	1082.74	216.87	0.9594	0.9309	1.6906	1.0885	0.4403	-892.91	-1612.44	-1184.93
9	967.50	50.0	0.4500	0.8496	1082.74	216.87	0.9573	0.9275	1.6064	1.1283	0.3533	-892.91	-1612.44	-1184.93
10	1006.80	50.0	0.5000	0.8621	1082.74	216.87	0.9555	0.9247	1.5235	1.1805	0.2551	-892.91	-1612.44	-1184.93
11	1041.00	50.0	0.5500	0.8732	1082.74	216.87	0.9540	0.9223	1.4479	1.2436	0.1520	-892.91	-1612.44	-1184.93
12	1070.70	50.0	0.6000	0.8835	1082.74	216.87	0.9526	0.9203	1.3790	1.3190	-0.0445	-892.91	-1612.44	-1184.93
13	1100.80	50.0	0.6500	0.8939	1082.74	216.87	0.9513	0.9182	1.3220	1.4082	-0.0631	-892.91	-1612.44	-1184.93
14	1128.30	50.0	0.7000	0.9040	1082.74	216.87	0.9500	0.9163	1.2706	1.5203	-0.1794	-892.91	-1612.44	-1184.93
15	1157.40	50.0	0.7500	0.9148	1082.74	216.87	0.9487	0.9143	1.2292	1.6572	-0.2988	-892.91	-1612.44	-1184.93
16	1183.60	50.0	0.8000	0.9268	1082.74	216.87	0.9476	0.9125	1.1922	1.8164	-0.4210	-892.91	-1612.44	-1184.93
17	1209.00	50.0	0.8500	0.9396	1082.74	216.87	0.9464	0.9109	1.1604	2.0373	-0.5628	-892.91	-1612.44	-1184.93
18	1233.30	50.0	0.9000	0.9543	1082.74	216.87	0.9453	0.9093	1.1340	2.3545	-0.7306	-892.91	-1612.44	-1184.93
19	1255.20	50.0	0.9500	0.9727	1082.74	216.87	0.9443	0.9080	1.1132	2.8588	-0.9431	-892.91	-1612.44	-1184.93

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 467.00 P = 36.20 V = 284.00 OMEGA = 0.283 OMEGAH = 0.252 DIPOLE = 1.16 ETA = 0.28  
 2 T = 516.00 P = 63.00 V = 161.30 OMEGA = 0.637 OMEGAH = 0.152 DIPOLE = 1.69 ETA = 1.10

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.77567E 01 B = 0.15177E 04 C = 0.27315E 03  
 2 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265E 03

## VAPOR PRESSURE AT NBP

P = 668.2 AT T = 34.6  
 P = 762.1 AT T = 78.4

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.19173E 03 B = .78144E 00 C = 0.16405E 02  
 2 A = 0.53701E 02 B = -.31109E 01 C = 0.16000E 03

## COMPONENT ID ECHO CHECK

ID NUMBER = 14  
 ID NUMBER = 11

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.10576E 01 B = .11117E 01 C = .97291E 00  
 STANDARD DEVIATION = 0.25093E 01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.8795 G2INF = 2.7925  
 T1INF = 50.00 T2INF = 50.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.3648  
 AREA BELOW THE X-AXIS IS -0.1873  
 CROSS-OVER POINT IS X = 0.62  
 NORMALIZED AREA DIFFERENCE IS 0.3215  
 CONSISTENCY INDEX IS 32.15

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRFSSURE	COMPOSITION
1	15.27 748.21	0.5912E-10	104.53	0.02586
2	487.67 2628.78	0.2390E-02	26.30	0.01634
3	-15.86 871.29	0.8218E 00	82.38	0.02212
4	-188.47 1069.76	0.3192E 00	80.62	0.02219
5	-314.05 1848.00	0.2115E-01	20.80	0.01250
6	-280.86 1746.81	0.8526E-02	22.43	0.01234
7	-342.97 2029.82	0.2627E-01	22.15	0.01189
8	-378.13 1901.86	0.1220E-01	20.70	0.01252
9	-324.11 1882.29	0.1219E-01	20.74	0.01255
10	-38.57 872.93	0.7623E-01	86.77	0.02285



HEPTANE (1) ANILINE (2)

SYSTEM 07C

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	742.00	117.0	0.0880	0.8700	1171.90	50.22	0.9585	0.9575	5.9694	1.1191	1.6741	-1348.04	-911.34	-1448.19
2	742.00	112.2	0.1540	0.8970	1038.94	74.86	0.9568	0.9545	3.9598	1.1483	1.2379	-1391.00	-547.99	-1495.58
3	742.00	106.5	0.2670	0.9230	895.60	59.52	0.9546	0.9509	2.7198	1.2413	0.7844	-1444.80	-595.61	-1555.40
4	742.00	105.4	0.3670	0.9250	869.68	56.89	0.9541	0.9502	2.0411	1.4639	0.3324	-1455.56	-1005.36	-1567.42
5	742.00	104.7	0.4130	0.9250	853.49	55.27	0.9538	0.9499	1.8476	1.6244	0.1287	-1462.47	-1011.67	-1575.15
6	742.00	103.8	0.6330	0.9320	832.99	53.24	0.9534	0.9492	1.2440	2.4436	-0.6752	-1471.43	-1019.89	-1585.19
7	742.00	101.1	0.8450	0.9510	773.65	47.52	0.9523	0.9470	1.0225	4.6602	-1.5168	-1498.83	-1045.37	-1615.98
8	742.00	100.2	0.8990	0.9645	754.59	45.73	0.9519	0.9459	0.9990	5.3779	-1.6833	-1508.15	-1054.14	-1626.48

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 540.20 P = 27.00 V = 431.90 OMEGA = 0.349 OMEGAH = 0.0 DIPOLE = 0.0 FTA = 0.0  
 2 T = 699.20 P = 52.40 V = 296.80 OMEGA = 0.383 OMEGAH = 0.211 DIPOLE = 1.53 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69024E 01 B = 0.12681E 04 C = 0.21690E 03 P = 759.4 AT T = 98.4  
 2 A = 0.72418E 01 B = 0.16753E 04 C = 0.20000E 03 P = 764.8 AT T = 184.4

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.12880E 03 B = -.60277E-01 C = 0.41160E-03 COMPONENT ID ECHO CHECK  
 2 A = 0.79371E 02 B = 0.54084E-02 C = 0.11775E-03 ID NUMBER = 16  
 ID NUMBER = 4

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.20470E 01 B = -.49840E 01 C = 0.93423E 00

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 7.7445 G2INF = 7.4095  
 T1INF = 183.24 T2INF = 97.61

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.4449  
 AREA BELOW THE X-AXIS IS -0.5785  
 CROSS-OVER POINT IS X = 0.45  
 NORMALIZED AREA DIFFERENCE IS -0.1305  
 HERINGTON J-FACTOR IS 34.64  
 CONSISTENCY INDEX IS -21.59

SUMMARY OF WILSON PARAMETERS

MODEL NO. PARAMETER VALUES OBJECTIVE FUNCTION

1	835.67	1258.95	0.4093E-10
2	2030.77	1124.73	0.2518E-02
3	915.48	1496.25	0.4161E 00
4	1118.16	1350.52	0.5371E-01
5	1099.67	1229.71	0.3982E-02
6	1052.59	1158.12	0.5648E-03
7	1093.93	1219.40	0.4676E-02
8	1101.07	1230.23	0.3312E-02
9	1102.08	1225.87	0.3335E-02
10	916.44	1497.87	0.1146E-01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

	PRESSURE	COMPOSITION
1	28.65	0.00594
2	38.63	0.00748
3	32.46	0.00751
4	26.38	0.00706
5	14.46	0.00583
6	21.50	0.00517
7	15.20	0.00575
8	14.39	0.00584
9	14.38	0.00584
10	32.64	0.00753

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	634.00	103.8	0.0570	0.3700	832.99	441.86	0.9591	0.9681	5.0880	0.9982	1.6287	-1471.43	-1119.87	-1210.73
2	634.00	98.2	0.1420	0.5440	713.47	354.64	0.9560	0.9669	3.4943	0.9882	1.2630	-1529.17	-1177.72	-1257.16
3	634.00	95.2	0.2210	0.6210	654.95	313.97	0.9544	0.9663	2.7871	1.0211	1.0041	-1561.60	-1210.51	-1283.24
4	634.00	92.2	0.3290	0.6930	600.10	277.16	0.9527	0.9658	2.2763	1.0872	0.7389	-1595.13	-1244.63	-1310.20
5	634.00	90.2	0.4340	0.7300	565.51	254.62	0.9516	0.9654	1.9267	1.2334	0.4460	-1618.14	-1268.14	-1328.70
6	634.00	89.5	0.5520	0.7580	553.76	247.10	0.9512	0.9655	1.6055	1.4393	0.1093	-1626.31	-1276.52	-1335.28
7	634.00	89.0	0.6140	0.7740	545.49	241.83	0.9509	0.9655	1.4958	1.5940	-0.0636	-1632.20	-1282.56	-1340.01
8	634.00	88.8	0.7380	0.7950	542.20	239.75	0.9507	0.9656	1.2857	2.1490	-0.5137	-1634.56	-1284.99	-1341.91
9	634.00	89.3	0.9110	0.8460	550.44	244.98	0.9508	0.9664	1.0519	4.6549	-1.4500	-1628.67	-1278.94	-1337.17
10	634.00	93.4	0.9890	0.9350	621.61	251.44	0.9527	0.9689	0.9953	7.3680	-2.0018	-1581.58	-1230.82	-1299.31

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1	T = 540.20	P = 27.00	V = 431.90	OMEGA = 0.349	OMEGA <sub>H</sub> = 0.0	DIPOLE = 0.0	ETA = 0.0
2	T = 562.90	P = 43.60	V = 223.30	OMEGA = 0.667	OMEGA <sub>H</sub> = 0.252	DIPOLE = 1.65	ETA = 0.45

## VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69024E 01	B = 0.12681E 04	C = 0.21690E 03	VAPOR PRESSURE AT NBP
2	A = 0.73637E 01	B = 0.13052E 04	C = 0.17343E 03	P = 759.4 AT T = 98.4
				P = 767.4 AT T = 118.0

## MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.12880E 03	B = -.60277E-01	C = 0.41160E-03	COMPONENT ID CHECK
2	A = 0.87376E 02	B = -.73723E-01	C = 0.30337E-03	ID NUMBER = 16
				ID NUMBER = 43

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.15692E 01	B = -.15928E 01	C = -.19500E 01
-----------------	-----------------	-----------------

STANDARD DEVIATION = 0.12262E 00

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 4.8026	G2INF = 7.1967
T1INF = 114.78	T2INF = 54.88

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.5154
AREA BELOW THE X-AXIS IS	-0.3926
CROSS-COVER POINT IS X =	0.58
NORMALIZED AREA DIFFERENCE IS	0.1352
HERINGTON J-FACTOR IS	10.77
CONSISTENCY INDEX IS	2.75

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)
			PRESSURE COMPOSITION
1	295.26 1365.86	0.1819F-11	30.50 0.03151
2	-41.96 2514.83	0.1275F-C2	24.55 0.02838
3	445.36 1411.83	0.5835F 00	18.81 0.02600
4	260.63 1539.50	0.1287E 00	19.57 0.02734
5	260.36 1762.26	0.1958F-C1	13.41 0.02469
6	260.88 1834.51	0.1360F-01	13.96 0.02406
7	199.01 2001.45	0.1441F-01	14.58 0.02426
8	283.35 1695.40	0.5507E-02	14.14 0.02489
9	272.17 1714.83	0.5651F-C2	14.05 0.02492
10	445.20 1403.70	0.1277F-C1	18.93 0.02580

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	750.00	107.7	0.1000	0.1660	925.23	671.88	0.9539	0.9608	1.2538	1.0033	0.2543	-1432.92	-1225.53	-1334.66
2	750.00	105.6	0.2000	0.2940	874.82	632.95	0.9530	0.9600	1.2106	1.0134	0.1779	-1453.40	-1242.59	-1353.48
3	750.00	103.9	0.3000	0.4005	834.79	602.16	0.9523	0.9593	1.1513	1.0330	0.1084	-1470.63	-1256.97	-1369.33
4	760.00	102.6	0.4000	0.4970	806.00	580.09	0.9518	0.9588	1.1091	1.0491	0.0557	-1483.61	-1267.81	-1381.28
5	750.00	101.5	0.5000	0.5825	782.67	562.26	0.9513	0.9583	1.0704	1.0775	-0.0066	-1494.52	-1276.93	-1391.32
6	760.00	100.6	0.6000	0.6640	763.01	547.26	0.9509	0.9579	1.0426	1.1132	-0.0656	-1504.60	-1284.85	-1400.05
7	760.00	99.8	0.7000	0.7440	746.64	534.80	0.9505	0.9576	1.0225	1.1568	-0.1231	-1512.11	-1291.64	-1407.52
8	760.00	99.3	0.8000	0.8275	735.05	525.98	0.9503	0.9573	1.0109	1.1885	-0.1619	-1517.97	-1296.55	-1412.93
9	760.00	98.4	0.9000	0.9120	718.11	513.12	0.9499	0.9569	1.0133	1.2425	-0.2040	-1526.73	-1303.89	-1421.00

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 540.20	P = 27.00	V = 431.90	OMEGA = 0.349	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0
2	T = 594.00	P = 40.00	V = 331.10	OMEGA = 0.241	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69024E 01	B = 0.12681E 04	C = 0.21650E 03	VAPOR PRESSURE AT NBP
2	A = 0.69533E 01	B = 0.13439E 04	C = 0.21938E 03	P = 759.4 AT T = 98.4
				P = 759.4 AT T = 110.6

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.12830E 03	B = -0.60277E 01	C = 0.41160E 03	COMPONENT IC ECHO CHECK
2	A = 0.98864E 02	B = -0.55774E 01	C = 0.27703E 03	ID NUMBER = 16
				ID NUMBER = 33

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.32875E 00	B = -0.78255E 00	C = 0.20980E 00
STANDARD DEVIATION = 0.47290E 02		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.3892	G2INF = 1.2763
T1INF = 110.63	T2INF = 98.43

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.0754
AREA BELOW THE X-AXIS IS	-0.0680
CROSS-OVER POINT IS X =	0.48
NORMALIZED AREA DIFFERENCE IS	0.0517
HERINGTON J-FACTOR IS	4.92
CONSISTENCY INDEX IS	0.24

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION
1	126.11	135.35	0.9095E-12
2	-19.48	255.25	0.8659E-04
3	67.07	185.00	0.6853E-03
4	50.51	197.48	0.5416E-03
5	-21.02	257.82	0.1328E-03
6	-37.83	271.90	0.3202E-04
7	-36.47	276.56	0.1383E-03
8	9.42	232.75	0.9846E-04
9	8.14	233.79	0.9845E-04
10	66.74	184.61	0.4356E-02

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
2.68	0.00216
1.63	0.00116
1.26	0.00167
1.27	0.00156
1.70	0.00115
1.82	0.00111
1.80	0.00111
1.50	0.00127
1.51	0.00126
1.32	0.00168

HEPTANE(1) TOLUENE(2)

SYSTEM 0728

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	109.1	0.0480	0.0830	559.07	698.10	0.9544	0.9613	1.3009	1.0042	0.2589	-1419.87	-1214.67	-1322.66
2	760.00	108.4	0.0690	0.1180	941.67	684.61	0.9542	0.9610	1.3100	1.0069	0.2632	-1426.51	-1220.20	-1328.77
3	760.00	107.1	0.1230	0.1930	509.96	660.07	0.9536	0.9605	1.2431	1.0138	0.2039	-1438.99	-1230.59	-1340.23
4	760.00	106.2	0.1660	0.2460	888.47	643.47	0.9533	0.9602	1.2020	1.0214	0.1628	-1447.72	-1237.86	-1348.26
5	760.00	105.0	0.2240	0.3170	860.40	621.85	0.9528	0.9597	1.1847	1.0285	0.1414	-1459.50	-1247.68	-1359.09
6	760.00	104.0	0.2910	0.3870	837.51	604.25	0.9524	0.9593	1.1432	1.0393	0.0953	-1466.43	-1255.97	-1368.23
7	760.00	102.9	0.3650	0.4600	812.95	585.34	0.9519	0.9589	1.1157	1.0548	0.0562	-1480.48	-1265.19	-1378.39
8	760.00	102.1	0.4340	0.5210	795.25	571.87	0.9515	0.9586	1.0859	1.0740	0.0110	-1488.59	-1271.97	-1385.86
9	760.00	101.1	0.5390	0.6080	773.65	555.38	0.9511	0.9582	1.0483	1.1107	-0.0578	-1498.83	-1280.53	-1395.29
10	760.00	100.2	0.6410	0.6940	754.55	540.84	0.9507	0.9578	1.0312	1.1428	-0.1028	-1508.15	-1288.33	-1403.87
11	760.00	99.5	0.7390	0.7750	740.00	529.75	0.9504	0.9574	1.0182	1.1796	-0.1472	-1515.45	-1294.44	-1410.60
12	760.00	98.7	0.9010	0.9130	723.55	517.28	0.9500	0.9570	1.0057	1.2310	-0.2021	-1523.87	-1301.49	-1418.36
13	760.00	98.6	0.9120	0.9220	721.55	515.73	0.9500	0.9570	1.0062	1.2452	-0.2132	-1524.93	-1302.38	-1419.34

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 540.20 P = 27.00 V = 431.90 CMFGA = 0.349 CMFGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 594.00 P = 40.00 V = 331.10 CMFGA = 0.241 CMFGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69024E 01 B = 0.12631E 04 C = 0.21690E 03  
 2 A = 0.69533E 01 B = 0.13439E 04 C = 0.21938E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.12880E 03 B = -0.60277E 01 C = 0.41160E 03  
 2 A = 0.98864E 02 B = -0.55774E 01 C = 0.27703E 03

## VAPOR PRESSURE AT NBP

P = 759.4 AT T = 98.4  
 P = 759.4 AT T = 110.6

## COMPONENT ID CHECK

ID NUMBER = 16  
 ID NUMBER = 33

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.30160E 00 B = -0.78684E 00 C = 0.24683E 00  
 STANDARD DEVIATION = 0.83195E 02

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.3520 G2INF = 1.2692  
 T1INF = 110.63 T2INF = 98.43

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0636  
 AREA BELOW THE X-AXIS IS -0.0731  
 CROSS-OVER POINT IS X = 0.45  
 NORMALIZED AREA DIFFERENCE IS -0.0699  
 HERINGTON J-FACTOR IS 4.92  
 CONSISTENCY INDEX IS 2.06

SUMMARY OF WILSON PARAMETERS

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	68.99	166.93	C.3638F-10	5.49	0.00157
2	151.69	135.91	0.2824E-04	1.40	0.00313
3	59.38	182.13	0.2279E-02	3.92	0.00194
4	66.34	177.13	0.1747F-02	3.85	0.00191
5	129.90	141.01	0.3130F-03	1.67	0.00225
6	153.35	105.99	0.8455F-04	5.53	0.00145
7	177.35	107.16	0.3031E-03	1.99	0.00202
8	81.74	183.11	0.3053E-04	0.95	0.00315
9	82.54	182.53	C.2887F-04	0.95	0.00314
10	77.69	169.61	0.9425F-02	3.64	0.00188

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	136.3	0.0220	0.0700	1828.20	686.95	0.9648	0.9567	1.2696	1.0022	0.2365	-1194.10	-1455.46	-1318.33
2	750.00	134.0	0.0500	0.1450	1739.31	646.51	0.9641	0.9558	1.2153	1.0069	0.1881	-1211.03	-1476.88	-1337.23
3	760.00	132.1	0.0750	0.2020	1668.10	614.50	0.9634	0.9550	1.1761	1.0147	0.1476	-1225.28	-1494.97	-1353.16
4	760.00	128.2	0.1300	0.3200	1528.22	552.55	0.9621	0.9535	1.1717	1.0206	0.1380	-1255.33	-1533.25	-1386.81
5	750.00	124.1	0.1980	0.4340	1390.08	492.79	0.9606	0.9517	1.1452	1.0315	0.1046	-1288.12	-1575.29	-1423.63
6	750.00	121.0	0.2590	0.5180	1251.66	451.00	0.9595	0.9504	1.1233	1.0373	0.0796	-1313.78	-1608.36	-1452.51
7	750.00	120.9	0.2600	0.5210	1288.50	449.70	0.9595	0.9503	1.1281	1.0352	0.0860	-1314.62	-1609.45	-1453.46
8	760.00	120.8	0.2620	0.5200	1285.42	448.40	0.9594	0.9503	1.1200	1.0431	0.0711	-1315.46	-1610.54	-1454.40
9	760.00	120.4	0.2700	0.5360	1273.12	443.24	0.9593	0.9501	1.1309	1.0311	0.0924	-1318.83	-1614.90	-1458.21
10	760.00	117.2	0.3410	0.6100	1177.65	403.59	0.9580	0.9487	1.1002	1.0527	0.0441	-1346.30	-1650.53	-1489.20
11	750.00	115.7	0.3810	0.6400	1134.76	385.97	0.9574	0.9479	1.0715	1.0805	-0.0087	-1359.47	-1667.68	-1504.10
12	760.00	113.5	0.4390	0.6930	1073.83	361.24	0.9566	0.9469	1.0631	1.0855	-0.0208	-1379.16	-1693.40	-1526.39
13	760.00	113.1	0.4480	0.6980	1063.00	356.88	0.9564	0.9467	1.0598	1.0982	-0.0356	-1382.78	-1698.15	-1530.50
14	760.00	113.1	0.4500	0.6940	1063.00	356.88	0.9564	0.9467	1.0490	1.1168	-0.0626	-1382.78	-1698.15	-1530.50
15	760.00	112.8	0.4550	0.7000	1054.94	353.64	0.9563	0.9465	1.0543	1.1149	-0.0559	-1385.51	-1701.73	-1533.60
16	750.00	110.7	0.5210	0.7500	999.72	331.58	0.9554	0.9455	1.0401	1.1262	-0.0796	-1404.85	-1727.12	-1555.54
17	750.00	108.2	0.5990	0.8060	936.74	306.75	0.9543	0.9442	1.0364	1.1269	-0.0838	-1428.42	-1758.20	-1582.34
18	750.00	108.1	0.6070	0.8120	934.28	305.79	0.9543	0.9442	1.0330	1.1177	-0.0788	-1429.38	-1756.47	-1583.43
19	750.00	105.6	0.6940	0.8580	874.35	282.51	0.9532	0.9429	1.0189	1.1720	-0.1399	-1453.59	-1791.56	-1611.03
20	760.00	103.4	0.7790	0.9020	823.99	263.20	0.9522	0.9417	1.0115	1.2005	-0.1713	-1475.44	-1820.64	-1635.97
21	760.00	101.6	0.8510	0.9380	784.39	248.20	0.9514	0.9407	1.0106	1.1933	-0.1662	-1493.70	-1845.04	-1656.86
22	760.00	100.7	0.8940	0.9560	765.13	240.96	0.9510	0.9402	1.0047	1.2256	-0.1987	-1502.96	-1857.46	-1667.47
23	760.00	99.7	0.9400	0.9750	744.15	233.11	0.9505	0.9396	1.0015	1.2708	-0.2382	-1513.36	-1871.42	-1679.39

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 540.20 P = 27.00 V = 431.90 OMEGA = 0.349 OMEGAH = 0.0 DIPCLE = 0.0 ETA = 0.0  
 2 T = 616.30 P = 34.60 V = 369.40 OMEGA = 0.324 OMEGAH = 0.0 DIPCLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69024E 01 B = 0.12681E 04 C = 0.21690E 03  
 2 A = 0.69905E 01 B = 0.14534E 04 C = 0.21531E 03

## VAPOR PRESSURE AT NBP

P = 759.4 AT T = 98.4  
 P = 760.0 AT T = 138.3

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.12880E 03 B = -.60277E-01 C = 0.41160E-03  
 2 A = 0.12940E 03 B = -.14187E 00 C = 0.41800E-03

## COMPONENT ID ECHO CHECK

ID NUMBER = 16  
 ID NUMBER = 36

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.22853E 00 B = -.66542E 00 C = 0.20273E 00  
 STANDARD DEVIATION = 0.18859E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.2568 G2INF = 1.2638  
 T1INF = 138.35 T2INF = 98.43

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0425  
 AREA BELOW THE X-AXIS IS -0.0751  
 CROSS-OVER POINT IS X = 0.39  
 NORMALIZED AREA DIFFERENCE IS -0.3008  
 HERRINGTON J-FACTOR IS 16.12  
 CONSISTENCY INDEX IS 13.97

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	115.40	25.0	0.1000	0.2420	148.78	94.39	0.9883	0.9905	1.8535	1.0193	0.5979	-1886.85	-1527.45	-1712.14
2	126.49	25.0	0.2000	0.3630	148.78	94.39	0.9871	0.9896	1.5208	1.0545	0.3661	-1886.85	-1527.45	-1712.14
3	134.50	25.0	0.3000	0.4560	148.78	94.39	0.9863	0.9889	1.3540	1.0944	0.2129	-1886.85	-1527.45	-1712.14
4	140.40	25.0	0.4000	0.5290	148.78	94.39	0.9857	0.9884	1.2290	1.1533	0.0635	-1886.85	-1527.45	-1712.14
5	144.50	25.0	0.5000	0.5920	148.78	94.39	0.9853	0.9881	1.1319	1.2335	-0.0859	-1886.85	-1527.45	-1712.14
6	147.70	25.0	0.6000	0.6610	148.78	94.39	0.9850	0.9878	1.0761	1.3091	-0.1959	-1886.85	-1527.45	-1712.14
7	150.60	25.0	0.7000	0.7440	148.78	94.39	0.9847	0.9876	1.0583	1.3436	-0.2387	-1886.85	-1527.45	-1712.14
8	153.00	25.0	0.8000	0.8200	148.78	94.39	0.9845	0.9874	1.0366	1.4393	-0.3282	-1886.85	-1527.45	-1712.14
9	154.30	25.0	0.9000	0.9040	148.78	94.39	0.9843	0.9873	1.0243	1.5481	-0.4131	-1886.85	-1527.45	-1712.14

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 507.90 P = 29.90 V = 372.40 OMEGA = 0.298 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 562.00 P = 48.60 V = 260.10 OMEGA = 0.211 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.68778E 01 B = 0.11715E 04 C = 0.22437E 03  
 2 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03

MILAR VOLUME EQUATION COEFFICIENTS

1 A = 0.12596E 03 B = -.14456E 00 C = 0.54720E-03  
 2 A = 0.70863E 02 B = 0.14907E-01 C = 0.15880E-03

VAPOR PRESSURE AT NBP

P = 759.0 AT T = 68.7  
 P = 760.0 AT T = 80.1

COMPONENT ID ECHO CHECK

ID NUMBER = 18  
 ID NUMBER = 5

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.79593E 00 B = -.22558E 01 C = 0.10408E 01  
 STANDARD DEVIATION = 0.22193F-01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.2165 G2INF = 1.5205  
 T1INF = 25.00 T2INF = 25.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.1614  
 AREA BELOW THE X-AXIS IS -0.1464  
 CROSS-OVER POINT IS X = 0.44  
 NORMALIZED AREA DIFFERENCE IS 0.0486  
 CONSISTENCY INDEX IS 4.86

SUMMARY OF WILSON PARAMETERS

MODEL NO. PARAMETER VALUES OBJECTIVE FUNCTION

1	399.73	89.50	0.4093E-10
2	304.53	212.06	0.2514E-03
3	352.77	141.85	0.5312E-02
4	375.35	151.05	0.3507E-02
5	320.07	193.93	0.8510E-03
6	332.64	166.22	0.3000E-03
7	309.94	197.09	0.1018E-02
8	286.54	220.68	0.2613E-03
9	286.54	220.68	0.2613E-03
10	402.22	135.68	0.5264E-02

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	399.73	89.50	0.4093E-10	4.00 0.00697
2	304.53	212.06	0.2514E-03	0.62 0.00521
3	352.77	141.85	0.5312E-02	1.38 0.00343
4	375.35	151.05	0.3507E-02	1.34 0.00349
5	320.07	193.93	0.8510E-03	0.61 0.00407
6	332.64	166.22	0.3000E-03	1.69 0.00362
7	309.94	197.09	0.1018E-02	0.72 0.00386
8	286.54	220.68	0.2613E-03	0.58 0.00529
9	286.54	220.68	0.2613E-03	0.58 0.00529
10	402.22	135.68	0.5264E-02	1.47 0.00343

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	5.73	181.29	0.0	3.89	0.00666
2	201.42	71.23	0.2786E-03	7.53	0.00893
3	99.21	108.19	0.3100E-01	2.46	0.00660
4	132.98	80.47	0.2422E-01	2.76	0.00639
5	255.72	-7.23	0.2959E-02	3.29	0.00588
6	475.57	-173.04	0.1075E-02	12.36	0.00414
7	340.38	-66.56	0.2080E-02	4.92	0.00519
8	9.49	194.01	0.7242E-04	1.09	0.00755
9	11.64	192.02	0.6875E-04	1.09	0.00754
10	93.24	111.48	0.9506E-01	2.80	0.00653

\*\*DIAGNOSTIC\*\*

1 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE



HEXANF(2) BENZENF(1)

SYSTEM 0748

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	701.60	70.0	0.1250	0.1200	534.74	748.65	0.9613	0.9519	1.3613	1.0070	0.3015	-1042.71	-1299.36	-1174.15
2	785.20	70.0	0.2500	0.2250	534.74	748.65	0.9616	0.9523	1.2664	1.0267	0.2098	-1042.71	-1299.36	-1174.15
3	768.70	70.0	0.3750	0.3125	534.74	748.65	0.9624	0.9533	1.1490	1.0713	0.0701	-1042.71	-1299.36	-1174.15
4	744.70	70.0	0.5000	0.4050	534.74	748.65	0.9636	0.9547	1.0835	1.1246	-0.0373	-1042.71	-1299.36	-1174.15
5	711.60	70.0	0.6250	0.5050	534.74	748.65	0.9653	0.9567	1.0346	1.1948	-0.1439	-1042.71	-1299.36	-1174.15
6	676.50	70.0	0.7500	0.6250	534.74	748.65	0.9670	0.9588	1.0164	1.2539	-0.2413	-1042.71	-1299.36	-1174.15
7	620.90	70.0	0.8750	0.7730	534.74	748.65	0.9697	0.9622	0.9920	1.4433	-0.3749	-1042.71	-1299.36	-1174.15

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 562.00 P = 48.60 V = 260.10 CMFGA = 0.211 CMFGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 507.90 P = 29.90 V = 372.40 CMFGA = 0.298 CMFGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03 VAPOR PRESSURE AT NBP P = 760.0 AT T = 80.1  
 2 A = 0.68778E 01 B = 0.11715E 04 C = 0.22437E 03 P = 759.0 AT T = 68.7

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.70863E 02 B = 0.14907E 01 C = 0.15880E 03 COMPONENT ID ECHO CHECK ID NUMBER = 5  
 2 A = 0.12596E 03 B = -.14456E 00 C = 0.54720E 03 ID NUMBER = 18

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.41896E 00 B = -.90118E 00 C = 0.24599E 02  
 STANDARD DEVIATION = 0.13223E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.5204 G2INF = 1.6157  
 T1INF = 70.00 T2INF = 70.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0975  
 AREA BELOW THE X-AXIS IS -0.1283  
 CRSS-OVER POINT IS X = 0.47  
 NORMALIZED AREA DIFFERENCE IS -0.1365  
 CONSISTENCY INDEX IS 13.65

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	338.21 -7.81	0.9095E-12
2	522.83 -228.41	0.4428E-04
3	388.36 -72.63	0.7411E-02
4	453.93 -142.46	0.5009E-02
5	535.75 -224.20	0.7008E-03
6	652.33 -279.73	0.2809E-03
7	588.52 -260.80	0.5391E-03
8	407.62 -110.49	0.3320E-04
9	407.86 -110.73	0.3340E-04
10	406.88 -97.83	0.2761E-01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
4.79	0.00732
2.21	0.00646
3.34	0.00676
2.92	0.00605
3.25	0.00539
10.25	0.00346
4.25	0.00487
1.16	0.00690
1.16	0.00690
2.28	0.00660

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	77.6	0.0730	0.1400	933.71	678.8C	0.9571	0.9657	1.4867	0.9997	0.3968	-1230.08	-987.45	-1111.79
2	750.00	75.1	0.1720	0.2680	869.50	628.49	0.9561	0.9648	1.2956	1.0280	0.2314	-1252.20	-1005.05	-1131.68
3	760.00	73.4	0.2680	0.3760	827.72	595.94	0.9553	0.9642	1.2245	1.0447	0.1588	-1267.61	-1017.34	-1145.54
4	760.00	72.0	0.3720	0.4600	794.45	570.12	0.9547	0.9637	1.1237	1.1009	0.0205	-1280.53	-1027.65	-1157.18
5	760.00	70.9	0.4620	0.5400	769.01	550.44	0.9542	0.9632	1.0967	1.1333	-0.0328	-1290.83	-1035.89	-1166.46
6	760.00	70.0	0.5850	0.6440	740.65	534.74	0.9538	0.9629	1.0606	1.1700	-0.0982	-1299.36	-1042.71	-1174.15
7	760.00	69.4	0.6920	0.7250	735.30	524.46	0.9535	0.9626	1.0274	1.2413	-0.1891	-1305.09	-1047.30	-1179.32
8	750.00	69.1	0.7920	0.8070	728.69	519.38	0.9534	0.9625	1.0081	1.3024	-0.2562	-1307.98	-1049.61	-1181.92
9	760.00	69.0	0.8280	0.8380	726.50	517.69	0.9533	0.9624	1.0043	1.3263	-0.2781	-1308.94	-1050.38	-1182.79
10	750.00	68.9	0.8830	0.8880	724.31	516.01	0.9533	0.9624	1.0009	1.3523	-0.3009	-1309.90	-1051.16	-1183.66
11	760.00	68.8	0.9470	0.9500	722.12	514.33	0.9532	0.9623	1.0014	1.3370	-0.2890	-1310.87	-1051.93	-1184.53
12	760.00	68.8	0.9620	0.9640	722.12	514.33	0.9532	0.9623	1.0003	1.3426	-0.2943	-1310.87	-1051.93	-1184.53

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 507.90 P = 29.90 V = 372.40 OMEGA = 0.298 OMEGAH = 0.0 DIPGLE = 0.0 ETA = 0.0  
 2 T = 562.00 P = 48.60 V = 260.10 OMEGA = 0.211 OMEGAH = 0.0 DIPGLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.68778E 01 B = 0.11715E -04 C = 0.22437E 03  
 2 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.12596E 03 B = -.14456E 00 C = 0.54720E -03  
 2 A = 0.70863E 02 B = 0.14907E -01 C = 0.15880E -03

VAPOR PRESSURE AT NBP

P = 759.0 AT T = 68.7  
 P = 760.0 AT T = 80.1

COMPONENT ID ECHO CHECK

ID NUMBER = 18  
 ID NUMBER = 5

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.47894E 00 B = -.13961E 01 C = 0.60542E 00  
 STANDARD DEVIATION = 0.20024E -01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.6144 G2INF = 1.3658  
 T1INF = 80.10 T2INF = 68.74

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0930  
 AREA BELOW THE X-AXIS IS -0.1103  
 CROSS-OVER POINT IS X = 0.42  
 NORMALIZED AREA DIFFERENCE IS -0.0852  
 HERINGTON J-FACTOR IS 4.98  
 CONSISTENCY INDEX IS 3.53

SUMMARY OF WILSON PARAMETERS

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)	
				PRESSURE	COMPOSITION
1	221.94	131.41	0.9095E-12	4.04	0.00353
2	163.01	193.67	0.6583E-04	2.02	0.00371
3	244.12	131.11	0.7390E-02	2.40	0.00311
4	253.86	125.96	0.4594E-02	2.48	0.00310
5	241.86	136.15	0.5937E-03	2.16	0.00322
6	336.20	76.68	0.3433E-03	3.77	0.00313
7	297.29	104.44	0.4449E-03	2.80	0.00310
8	94.83	234.79	0.4985E-04	1.38	0.00421
9	94.64	234.75	0.4984E-04	1.37	0.00421
10	235.37	134.24	0.1292E-01	2.45	0.00315

HEXANE(1) - BENZENE(2)

SYSTEM 0740

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	77.7	0.0790	0.1490	936.35	680.87	0.9572	0.9657	1.4580	0.9927	0.3844	-1229.21	-986.75	-1111.00
2	750.00	75.6	0.1510	0.2510	882.07	638.31	0.9563	0.9650	1.3628	1.0102	0.2994	-1247.73	-1001.49	-1127.65
3	750.00	74.0	0.2260	0.3380	842.30	607.27	0.9556	0.9644	1.2831	1.0289	0.2208	-1262.14	-1012.97	-1140.62
4	760.00	72.9	0.3050	0.4120	815.72	586.62	0.9551	0.9640	1.1961	1.0531	0.1273	-1272.20	-1021.00	-1149.68
5	760.00	71.7	0.4140	0.5070	787.45	564.70	0.9546	0.9635	1.1226	1.0873	0.0320	-1283.32	-1025.89	-1159.70
6	760.00	71.0	0.4840	0.5610	771.30	552.21	0.9543	0.9633	1.0844	1.1241	-0.0359	-1289.89	-1035.13	-1165.61
7	760.00	70.3	0.5890	0.6440	755.39	539.93	0.9539	0.9630	1.0442	1.1702	-0.1139	-1296.51	-1040.43	-1171.58
8	760.00	69.7	0.6660	0.6960	741.95	529.58	0.9537	0.9628	1.0158	1.2533	-0.2102	-1302.22	-1045.00	-1176.73
9	760.00	69.4	0.7720	0.7910	735.30	524.46	0.9535	0.9626	1.0048	1.2744	-0.2377	-1305.09	-1047.30	-1179.32
10	760.00	69.2	0.9230	0.9190	730.89	521.67	0.9534	0.9625	0.9854	1.4166	-0.3630	-1307.01	-1048.84	-1181.05

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 507.90	P = 29.90	V = 372.40	OMEGA = 0.298	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0
2	T = 562.00	P = 48.60	V = 260.10	OMEGA = 0.211	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.68778E 01	B = 0.11715E 04	C = 0.22437E 03	VAPOR PRESSURE AT NBP
2	A = 0.69056E 01	B = 0.12111E 04	C = 0.22079E 03	P = 759.0 AT T = 68.7
				P = 760.0 AT T = 80.1

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.12596E 03	B = -0.14456E 00	C = 0.54720E-03	COMPONENT ID CHECK
2	A = 0.70863E 02	B = 0.14907E 01	C = 0.15880E-03	ID NUMBER = 18
				ID NUMBER = 5

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.47763E 00	B = -0.12299E 01	C = 0.35266E 00
STANDARD DEVIATION = 0.14443E-01		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.6122	G2INF = 1.4912
T1INF = 80.10	T2INF = 68.74

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.1011
AREA BELOW THE X-AXIS IS	-0.1209
CROSS-OVER POINT IS X =	0.45
NORMALIZED AREA DIFFERENCE IS	-0.0890
PERINGTON J-FACTOR IS	4.98
CONSISTENCY INDEX IS	3.91

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION
1	48.13	287.18	0.1819E-11
2	173.82	166.72	0.2617E-03
3	81.49	251.02	0.4794E-02
4	113.00	226.74	0.3454E-02
5	207.29	151.33	0.6956E-03
6	227.72	158.77	0.2231E-03
7	235.95	135.41	0.7521E-03
8	180.31	162.21	0.2734E-03
9	180.55	162.04	0.2735E-03
10	74.48	257.69	0.1140E-01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

	PRESSURE	COMPOSITION
	8.62	0.00398
	2.90	0.00379
	6.08	0.00332
	5.74	0.00290
	3.08	0.00306
	7.67	0.00223
	3.31	0.00294
	2.91	0.00382
	2.91	0.00382
	6.42	0.00342

HEXANE(1) CHLOROBENZENE(2)

SYSTEM 075A

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	166.40	65.0	0.0830	0.5440	642.75	71.90	0.9882	0.9894	1.6749	1.1377	0.3867	-1348.44	-1133.90	-1595.71
2	222.30	65.0	0.1440	0.6790	642.75	71.90	0.9850	0.9846	1.6040	1.1403	0.3412	-1348.44	-1133.90	-1595.71
3	254.10	65.0	0.2010	0.7440	642.75	71.90	0.9825	0.9809	1.4917	1.1529	0.2577	-1348.44	-1133.90	-1595.71
4	319.70	65.0	0.2840	0.8030	642.75	71.90	0.9791	0.9759	1.3741	1.1920	0.1422	-1348.44	-1133.90	-1595.71
5	392.30	65.0	0.3940	0.8520	642.75	71.90	0.9753	0.9701	1.2512	1.2574	-0.0049	-1348.44	-1133.90	-1595.71
6	433.50	65.0	0.4380	0.8660	642.75	71.90	0.9729	0.9681	1.2068	1.2941	-0.0698	-1348.44	-1133.90	-1595.71
7	428.30	65.0	0.4850	0.8820	642.75	71.90	0.9724	0.9658	1.1750	1.3153	-0.1128	-1348.44	-1133.90	-1595.71
8	453.80	65.0	0.5400	0.8960	642.75	71.90	0.9708	0.9634	1.1339	1.3716	-0.1903	-1348.44	-1133.90	-1595.71
9	477.90	65.0	0.5910	0.9100	642.75	71.90	0.9693	0.9610	1.1062	1.4022	-0.2371	-1348.44	-1133.90	-1595.71
10	516.30	65.0	0.6790	0.9290	642.75	71.90	0.9669	0.9573	1.0590	1.5165	-0.3591	-1348.44	-1133.90	-1595.71
11	578.00	65.0	0.8060	0.9570	642.75	71.90	0.9630	0.9512	1.0243	1.6899	-0.5007	-1348.44	-1133.90	-1595.71
12	639.40	65.0	0.9270	0.9840	642.75	71.90	0.9591	0.9449	1.0070	1.8331	-0.5990	-1348.44	-1133.90	-1595.71

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 507.90 P = 29.90 V = 372.40  $\omega$  = 0.298  $\omega$ GAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 632.40 P = 44.60 V = 307.80  $\omega$  = 0.252  $\omega$ GAH = 0.241 DIPOLE = 1.70 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69778E 01 B = 0.11715E 04 C = 0.22437E 03 P = 759.0 AT T = 68.7  
 2 A = 0.77175E 01 B = 0.19812E 04 C = 0.27315E 03 P = 674.0 AT T = 132.1

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.12596E 03 B = -.14456E 00 C = 0.54720E 03 COMPONENT ID ECHO CHECK  
 2 A = 0.85745E 02 B = 0.10559E 01 C = 0.14999E 03 ID NUMBER = 18  
 ID NUMBER = 56

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.52936E 00 B = -.14526E 01 C = 0.23808E 00  
 STANDARD DEVIATION = 0.13768E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.5978 G2INF = 1.9841  
 T1INF = 65.00 T2INF = 65.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.1007  
 AREA BELOW THE X-AXIS IS -6.2103  
 CROSS-OVER POINT IS X = 0.39  
 NORMALIZED AREA DIFFERENCE IS -0.3687  
 CONSISTENCY INDEX IS 36.87

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	-137.13	599.03	0.9095E-11	6.27	0.01384
2	1625.57	52.19	6.2184E-02	19.88	0.02475
3	140.08	380.72	0.2288E 00	1.67	0.01747
4	252.82	288.54	0.1257E 00	2.52	0.01718
5	120.99	371.47	0.1069E-01	2.32	0.01616
6	440.88	-13.37	0.1207E-02	28.80	0.00647
7	108.47	354.09	0.6794E-02	5.85	0.01468
8	166.83	350.19	0.1247E-03	1.09	0.01703
9	166.83	350.19	0.1247E-03	1.09	0.01703
10	162.96	401.41	0.1172E-00	1.37	0.01689

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	759.80	127.6	0.0180	0.1180	3022.31	582.24	0.9610	0.9793	1.5762	1.1438	0.3207	-889.50	-673.77	-1037.50
2	759.80	121.1	0.0490	0.2820	2656.70	483.76	0.9630	0.9770	1.5775	1.1545	0.3122	-925.20	-701.99	-1079.36
3	759.80	115.7	0.0810	0.4060	2375.07	412.69	0.9640	0.9744	1.5383	1.1554	0.2862	-956.47	-727.73	-1116.22
4	759.80	111.5	0.1090	0.4910	2173.17	364.30	0.9643	0.9720	1.5114	1.1540	0.2659	-981.44	-748.98	-1145.79
5	759.80	101.0	0.2000	0.6660	1712.04	262.01	0.9637	0.9650	1.4173	1.1642	0.1967	-1049.42	-809.99	-1226.93
6	759.80	92.7	0.3090	0.7690	1356.78	168.81	0.9620	0.9589	1.2959	1.2206	0.0599	-1108.69	-866.98	-1298.44
7	759.80	86.8	0.4190	0.8350	1201.18	162.47	0.9604	0.9540	1.2047	1.2623	-0.0468	-1153.48	-912.41	-1352.99
8	759.80	82.7	0.5160	0.8720	1074.16	140.10	0.9590	0.9505	1.1407	1.3582	-0.1746	-1187.17	-947.93	-1394.32
9	759.80	80.2	0.5910	0.8960	1003.82	128.14	0.9581	0.9482	1.0540	1.4243	-0.2638	-1207.82	-970.26	-1419.77
10	759.80	80.1	0.5930	0.8960	1002.15	127.86	0.9581	0.9482	1.0921	1.4344	-0.2726	-1208.33	-970.82	-1420.40
11	759.80	80.2	0.5940	0.8960	1003.26	128.05	0.9581	0.9482	1.0891	1.4359	-0.2764	-1207.99	-970.45	-1419.98
12	759.80	78.3	0.6440	0.9120	952.56	119.63	0.9574	0.9465	1.0761	1.4805	-0.3191	-1223.92	-987.98	-1439.68
13	759.80	75.7	0.7370	0.9340	884.51	108.60	0.9563	0.9440	1.0358	1.6513	-0.4664	-1246.84	-1013.66	-1468.13
14	759.80	74.2	0.7900	0.9500	846.46	102.54	0.9557	0.9424	1.0265	1.6563	-0.4784	-1260.59	-1029.33	-1485.27
15	759.80	74.1	0.7930	0.9600	845.72	102.43	0.9557	0.9419	1.0343	1.3451	-0.2628	-1260.87	-1029.64	-1485.61
16	759.80	72.7	0.8470	0.9650	811.44	97.07	0.9551	0.9408	1.0138	1.6782	-0.5040	-1273.86	-1044.61	-1501.83

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 507.90 P = 29.90 V = 372.40 OMEGA = 0.298 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 632.40 P = 44.60 V = 307.80 OMEGA = 0.252 OMEGAH = 0.241 DIPOLE = 1.70 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.68778E 01 B = 0.11715E 04 C = 0.22437E 03  
 2 A = 0.77175E 01 B = 0.19812E 04 C = 0.27315E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.12596E 03 B = -.14456E 00 C = 0.54720E 03  
 2 A = 0.85745E 02 B = 0.10559E 01 C = 0.14959E 03

VAPOR PRESSURE AT NBP  
 P = 759.0 AT T = 68.7  
 P = 674.0 AT T = 132.1  
 COMPONENT ID ECHO CHECK  
 ID NUMBER = 18  
 ID NUMBER = 56

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.37756E 00 B = -.11425E 01 C = 0.14586E 00  
 STANDARD DEVIATION = 0.59412E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.4587 G2INF = 1.8571  
 T1INF = 136.46 T2INF = 68.73

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0643  
 AREA BELOW THE X-AXIS IS -0.2093  
 CROSS-OVER POINT IS X = 0.35  
 NORMALIZED AREA DIFFERENCE IS 0.5302  
 HERINGTON J-FACTOR IS 29.72  
 CONSISTENCY INDEX IS 23.30

## SUMMARY OF WILSON PARAMETERS

MODEL NO.    PARAMETER VALUES    OBJECTIVE FUNCTION

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE    COMPOSITION

1	-329.81	766.78	0.9095E-11	35.52	0.01390
2	11464.71	125.73	0.1314E-01	107.71	0.06902
3	34.67	448.53	0.5039E-00	14.87	0.02112
4	102.83	374.79	0.2671E-00	17.05	0.02070
5	155.39	342.44	0.4139E-01	14.81	0.02161
6	421.42	-39.83	0.3282E-02	65.75	0.00873
7	88.93	355.09	0.3810E-01	23.95	0.01878
8	414.59	207.43	0.8300E-02	11.73	0.02591
9	414.59	207.43	0.8297E-02	11.73	0.02591
10	4.23	461.41	0.2059E-00	17.48	0.02009

\*\*DIAGNOSTIC\*\*

1 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE



SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	67.9	0.9030	0.8870	702.70	829.11	0.9528	0.9578	1.0072	1.0180	-0.0106	-1319.61	-1182.58	-1249.22
2	760.00	67.8	0.8950	0.8770	700.56	826.66	0.9528	0.9578	1.0077	1.0266	-0.0185	-1320.59	-1183.44	-1250.14
3	750.00	67.2	0.8070	0.7800	687.86	812.11	0.9525	0.9575	1.0121	1.0166	-0.0044	-1326.48	-1188.64	-1255.68
4	750.00	66.5	0.7080	0.6740	673.26	795.37	0.9521	0.9572	1.0181	1.0162	0.0018	-1333.40	-1194.76	-1262.18
5	750.00	65.9	0.6140	0.5770	660.92	781.22	0.9518	0.9569	1.0234	1.0153	0.0080	-1339.39	-1200.04	-1267.81
6	750.00	65.7	0.5880	0.5500	656.85	776.55	0.9517	0.9568	1.0249	1.0179	0.0068	-1341.39	-1201.81	-1269.69
7	750.00	65.4	0.5230	0.4850	650.78	769.58	0.9516	0.9566	1.0254	1.0151	0.0100	-1344.40	-1204.48	-1272.52
8	750.00	64.8	0.4130	0.3780	638.76	755.77	0.9513	0.9564	1.0308	1.0142	0.0162	-1350.47	-1209.83	-1278.22
9	750.00	64.8	0.4080	0.3740	638.76	755.77	0.9513	0.9564	1.0324	1.0121	0.0198	-1350.47	-1209.83	-1278.22
10	760.00	64.7	0.3970	0.3730	636.77	753.49	0.9513	0.9563	1.0614	0.9982	0.0614	-1351.48	-1210.73	-1279.18
11	750.00	64.4	0.3240	0.2930	630.84	746.68	0.9511	0.9562	1.0310	1.0130	0.0176	-1354.53	-1213.42	-1282.04
12	760.00	64.3	0.2850	0.2560	628.97	744.41	0.9511	0.9561	1.0273	1.0109	0.0161	-1355.56	-1214.32	-1283.00
13	760.00	64.1	0.2200	0.1970	624.95	739.90	0.9510	0.9560	1.0304	1.0061	0.0238	-1357.60	-1216.13	-1284.92
14	750.00	64.0	0.2140	0.1920	622.00	737.66	0.9509	0.9560	1.0356	1.0077	0.0273	-1358.62	-1217.03	-1285.88
15	750.00	63.7	0.1160	0.1030	617.16	730.95	0.9508	0.9558	1.0344	1.0036	0.0302	-1361.70	-1219.75	-1288.78
16	760.00	63.7	0.1080	0.1000	617.16	730.95	0.9508	0.9558	1.0787	0.9980	0.0778	-1361.70	-1219.75	-1288.78

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 507.90 P = 29.90 V = 372.40 OMEGA = 0.298 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 504.00 P = 32.10 V = 350.70 OMEGA = 0.285 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.68778E 01 B = 0.11715E 04 C = 0.22437E 03  
 2 A = 0.68657E 01 B = 0.11530E 04 C = 0.22600E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.12596E 03 B = -.14456E 00 C = 0.54720E-03  
 2 A = 0.20978E 03 B = -.71344E 00 C = 0.14350E 02

VAPOR PRESSURE AT NBP

P = 759.6 AT T = 68.7  
 P = 763.6 AT T = 63.5

COMPONENT ID ECHO CHECK

ID NUMBER = 18  
 ID NUMBER = 38

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.54921E-01 B = -.88163E-01 C = 0.14860E-01  
 STANDARD DEVIATION = 0.16282E-01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.0565 G2INF = 1.0186  
 T1INF = 63.33 T2INF = 68.74

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0185  
 AREA BELOW THE X-AXIS IS -0.0028  
 CROSS-OVER POINT IS X = 0.71  
 NORMALIZED AREA DIFFERENCE IS 0.7415  
 HERINGTON J-FACTOR IS 1.87  
 CONSISTENCY INDEX IS 72.28

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION
1	364.99	-255.17	0.0
2	149.35	224.23	0.22226E-04
3	66.09	-24.57	0.6185E-02
4	61.97	-21.31	0.5659E-02
5	-256.71	364.32	0.7021E-03
6	-388.05	558.65	0.3323E-03
7	-316.98	463.20	0.6243E-03
8	-59.59	117.24	0.2119E-04
9	-33.72	89.79	0.2091E-04
10	325.41	-225.75	0.5052E-00

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
7.10	0.00369
0.87	0.00428
3.90	0.00332
4.00	0.00329
1.66	0.00359
6.60	0.00208
2.10	0.00354
0.77	0.00429
0.75	0.00435
5.68	0.00361

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	136.1	0.0110	0.0690	3546.56	683.35	0.9775	0.9566	1.3078	0.9973	0.2710	-845.53	-1457.30	-1103.58
2	760.00	139.0	0.0420	0.2240	3167.05	580.54	0.9755	0.9543	1.2426	1.0077	0.2095	-876.61	-1515.38	-1145.14
3	760.00	118.3	0.1230	0.4860	2510.24	416.89	0.9717	0.9499	1.1565	1.0105	0.1353	-940.99	-1638.13	-1231.95
4	760.00	112.1	0.1650	0.5870	2200.33	346.16	0.9698	0.9473	1.1860	1.0242	0.1466	-977.94	-1710.12	-1282.20
5	760.00	109.7	0.1920	0.6250	2087.41	321.46	0.9690	0.9463	1.1429	1.0338	0.1004	-992.82	-1739.44	-1302.54
6	760.00	96.3	0.3380	0.7850	1527.43	207.94	0.9645	0.9398	1.1092	1.1107	-0.0013	-1082.50	-1920.29	-1426.28
7	760.00	91.3	0.4090	0.8310	1348.14	174.93	0.9627	0.9371	1.0973	1.1591	-0.0548	-1119.14	-1996.31	-1477.45
8	760.00	85.6	0.4970	0.8670	1193.61	147.88	0.9609	0.9344	1.0621	1.2640	-0.1740	-1155.37	-2072.69	-1528.39
9	760.00	82.9	0.5780	0.8980	1081.18	129.06	0.9595	0.9321	1.0427	1.3207	-0.2364	-1185.20	-2136.52	-1570.60
10	760.00	78.2	0.7010	0.9410	949.63	108.01	0.9575	0.9291	1.0236	1.2842	-0.2269	-1224.87	-2222.75	-1627.12
11	760.00	74.8	0.7970	0.9660	862.01	94.60	0.9560	0.9268	1.0166	1.2414	-0.1598	-1254.90	-2289.06	-1670.20
12	760.00	70.9	0.9530	0.9930	748.65	78.02	0.9538	0.9232	1.0039	1.3332	-0.2837	-1299.36	-2388.83	-1734.43
13	760.00	72.6	0.8680	0.9780	808.59	86.67	0.9550	0.9252	1.0064	1.3459	-0.2907	-1274.97	-2333.85	-1699.12

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 507.90	P = 29.90	V = 372.40	OMEGA = 0.298	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0
2	T = 616.30	P = 34.60	V = 369.40	OMEGA = 0.324	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.68778E 01	B = 0.11715E 04	C = 0.22437E 03
2	A = 0.69905E 01	B = 0.14534E 04	C = 0.21531E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.12596E 03	B = .14456E 00	C = 0.54720E 03
2	A = 0.12940E 03	B = -.14187E 00	C = 0.41800E 03

VAPOR PRESSURE AT NBP

P = 759.0 AT T = 68.7  
P = 760.0 AT T = 138.3

COMPONENT ID ECHO CHECK

ID NUMBER = 18  
ID NUMBER = 36

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.28116E 00	B = .11086E 01	C = 0.54396E 00
STANDARD DEVIATION = 0.35245E-01		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.3247	G2INF = 1.3277
T1INF = 138.35	T2INF = 68.74

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0394  
AREA BELOW THE X-AXIS IS -0.1312  
CROSS-OVER POINT IS X = 0.30  
NORMALIZED AREA DIFFERENCE IS -0.5383  
HERINGTON J-FACTOR IS 30.54  
CONSISTENCY INDEX IS 23.29

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	190.22	41.43	C.9095F-12	8.12	0.00925
2	138.38	229.28	0.3322E-02	35.53	0.01972
3	150.74	89.08	0.1319F-00	8.46	0.01025
4	159.58	77.13	0.8431F-01	8.28	0.00995
5	-148.33	369.56	0.4007F-02	4.99	0.00854
6	687.88	-324.75	0.1271E-02	20.05	0.00535
7	-3.60	184.23	0.2166E-02	6.01	0.00762
8	-269.08	555.18	0.5654E-03	3.98	0.00923
9	-269.08	555.18	0.5695E-03	3.98	0.00923
10	108.35	109.79	0.2598E-00	6.71	0.00917

HEXANE(1) TOLUENE(2)

SYSTEM 076A

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	103.5	0.0690	0.2280	1813.62	555.60	0.9667	0.9592	1.3322	1.0111	0.2758	-1032.86	-1260.15	-1142.48
2	760.00	103.3	0.0700	0.2290	1805.20	592.16	0.9667	0.9591	1.3250	1.0167	0.2649	-1034.19	-1261.82	-1143.97
3	760.00	103.1	0.0720	0.2530	1756.83	588.74	0.9666	0.9591	1.4297	0.9928	0.3647	-1035.53	-1263.51	-1145.45
4	760.00	100.5	0.1040	0.3140	1690.29	545.66	0.9658	0.9581	1.3048	1.0178	0.2484	-1053.11	-1285.72	-1165.06
5	760.00	99.4	0.1160	0.3460	1646.53	528.17	0.9654	0.9576	1.3227	1.0156	0.2643	-1060.69	-1295.32	-1173.52
6	760.00	99.2	0.1200	0.3450	1638.67	525.04	0.9654	0.9576	1.2810	1.0278	0.2203	-1062.08	-1297.08	-1175.07
7	760.00	97.9	0.1370	0.3800	1588.14	505.03	0.9649	0.9570	1.2746	1.0307	0.2124	-1071.16	-1308.61	-1185.22
8	760.00	97.6	0.1400	0.3910	1576.63	500.50	0.9648	0.9569	1.2926	1.0250	0.2319	-1073.27	-1311.30	-1187.59
9	760.00	97.5	0.1420	0.3880	1572.81	499.00	0.9648	0.9569	1.2677	1.0356	0.2023	-1073.97	-1312.19	-1188.38
10	760.00	95.1	0.1770	0.4590	1482.98	463.94	0.9640	0.9559	1.2749	1.0254	0.2178	-1091.12	-1334.06	-1207.58
11	760.00	94.9	0.1810	0.4630	1475.65	461.11	0.9639	0.9558	1.2637	1.0290	0.2055	-1092.57	-1335.91	-1209.20
12	760.00	94.8	0.1820	0.4620	1472.00	459.70	0.9639	0.9558	1.2571	1.0353	0.1942	-1093.29	-1336.84	-1210.02
13	760.00	91.1	0.2460	0.5530	1341.30	409.80	0.9626	0.9542	1.2201	1.0451	0.1549	-1120.65	-1371.94	-1240.73
14	760.00	90.8	0.2540	0.5650	1331.07	405.94	0.9625	0.9541	1.2164	1.0375	0.1591	-1122.91	-1374.66	-1243.28
15	760.00	90.5	0.2600	0.5710	1320.90	402.12	0.9624	0.9539	1.2101	1.0412	0.1504	-1125.18	-1377.78	-1245.83
16	760.00	89.9	0.2930	0.6090	1270.86	383.42	0.9618	0.9533	1.1897	1.0409	0.1335	-1136.65	-1392.58	-1258.74
17	760.00	88.0	0.3090	0.6210	1238.26	371.33	0.9614	0.9528	1.1801	1.0654	0.1022	-1144.39	-1402.60	-1267.47
18	760.00	86.6	0.3450	0.6510	1193.61	354.92	0.9609	0.9522	1.1488	1.0822	0.0598	-1155.37	-1416.85	-1279.86
19	760.00	86.1	0.3560	0.6590	1177.95	349.20	0.9607	0.9519	1.1418	1.0928	0.0439	-1159.33	-1422.00	-1284.34
20	760.00	83.4	0.4290	0.7210	1055.91	319.54	0.9596	0.9506	1.1130	1.1005	0.0113	-1181.10	-1450.38	-1308.95
21	760.00	83.1	0.4340	0.7240	1087.06	316.37	0.9595	0.9505	1.1136	1.1091	0.0040	-1183.55	-1453.60	-1311.73
22	760.00	83.0	0.4410	0.7330	1084.12	315.32	0.9595	0.9505	1.1125	1.0899	0.0205	-1184.37	-1454.67	-1312.66
23	760.00	81.1	0.4990	0.7630	1029.33	255.87	0.9587	0.9495	1.0770	1.1493	-0.0649	-1200.15	-1475.36	-1330.55
24	760.00	80.9	0.5030	0.7680	1023.69	253.88	0.9586	0.9494	1.0813	1.1416	-0.0543	-1201.83	-1477.57	-1332.46
25	760.00	80.7	0.5100	0.7760	1018.06	291.90	0.9586	0.9493	1.0834	1.1255	-0.0381	-1203.51	-1479.78	-1334.37
26	760.00	79.0	0.5680	0.8060	971.15	275.49	0.9578	0.9485	1.0584	1.1704	-0.1006	-1217.97	-1498.84	-1350.80
27	760.00	78.7	0.5780	0.8090	963.04	272.67	0.9577	0.9483	1.0526	1.1916	-0.1240	-1220.55	-1502.25	-1353.73
28	760.00	76.7	0.6520	0.8520	910.21	254.47	0.9569	0.9473	1.0389	1.1984	-0.1429	-1237.57	-1525.33	-1373.58
29	760.00	76.6	0.6580	0.8520	907.62	253.58	0.9568	0.9472	1.0323	1.2237	-0.1701	-1238.86	-1526.50	-1374.59
30	760.00	73.1	0.7960	0.9180	820.51	224.14	0.9553	0.9453	1.0154	1.2833	-0.2342	-1270.36	-1568.50	-1410.57
31	760.00	72.5	0.8200	0.9270	806.22	219.38	0.9550	0.9450	1.0126	1.3224	-0.2669	-1275.89	-1575.91	-1416.90
32	760.00	72.1	0.8340	0.9350	796.79	216.25	0.9548	0.9447	1.0159	1.2949	-0.2427	-1279.60	-1580.88	-1421.15
33	760.00	70.9	0.8840	0.9550	769.01	207.08	0.9542	0.9441	1.0137	1.3388	-0.2781	-1290.83	-1595.97	-1434.02

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 507.90 P = 29.90 V = 372.40 OMEGA = 0.298 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 594.00 P = 40.00 V = 331.10 OMEGA = 0.241 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.68778E 01 B = 0.11715E 04 C = 0.22437E 03  
 2 A = 0.69533E 01 B = 0.13439E 04 C = 0.21938E 03

VAPOR PRESSURE AT NBP

P = 759.0 AT T = 68.7  
 P = 759.4 AT T = 110.6

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.12596E 03 B = -.14456E 00 C = 0.54720E-03  
 2 A = 0.98864E 02 B = -.55774E 01 C = 0.27703E-03

COMPONENT ID ECHO CHECK

ID NUMBER = 18  
 ID NUMBER = 33

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.35480E 00 B = -.89702E 00 C = 0.19230E 00  
 STANDARD DEVIATION = 0.21645E-01

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0747  
 AREA BELOW THE X-AXIS IS -0.1044  
 CROSS-OVER POINT IS X = 0.44  
 NORMALIZED AREA DIFFERENCE IS -0.1653  
 HERINGTON J-FACTOR IS 18.38  
 CONSISTENCY INDEX IS -1.85

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.4259 G2INF = 1.4189  
 T1INF = 110.63 T2INF = 68.74

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES			OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)	
					PRESSURE	COMPOSITION
1	70.32	200.39	0.0	4.82	0.00533	
2	255.06	99.81	0.7761E-03	8.07	0.00866	
3	119.58	163.54	0.3559E-01	3.71	0.00546	
4	145.41	142.77	0.2454E-01	3.85	0.00530	
5	130.70	157.39	0.3686E-02	3.03	0.00566	
6	265.44	29.41	0.1408E-02	12.02	0.00384	
7	160.81	128.49	0.3048E-02	4.54	0.00503	
8	92.31	198.30	0.2325E-03	1.49	0.00675	
9	92.16	158.43	0.2299E-03	1.49	0.00675	
10	156.12	140.80	0.4055E-01	2.42	0.00583	

HEXANF(1) TOLUENF(2)

SYSTEM 0788

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	102.1	0.0900	0.2820	1755.32	571.87	0.9663	0.9587	1.3046	1.0014	0.2644	-1042.24	-1271.97	-1152.93
2	760.00	100.9	0.1000	0.3100	1708.41	552.93	0.9659	0.9582	1.3256	1.0059	0.2760	-1050.04	-1281.83	-1161.63
3	760.00	96.0	0.1800	0.4590	1518.09	477.58	0.9643	0.9563	1.2251	1.0002	0.2028	-1084.28	-1325.33	-1199.92
4	760.00	94.4	0.1960	0.4840	1457.46	454.09	0.9637	0.9556	1.2350	1.0225	0.1887	-1096.20	-1340.56	-1213.27
5	760.00	93.0	0.2170	0.5180	1407.36	434.87	0.9632	0.9550	1.2357	1.0235	0.1884	-1106.47	-1353.72	-1224.80
6	760.00	90.8	0.2540	0.5630	1332.77	406.59	0.9625	0.9541	1.2106	1.0407	0.1513	-1122.53	-1374.37	-1242.85
7	760.00	89.8	0.2800	0.5930	1297.38	393.31	0.9621	0.9536	1.1878	1.0376	0.1352	-1130.51	-1384.66	-1251.83
8	760.00	86.8	0.3390	0.6570	1201.50	357.81	0.9610	0.9523	1.1723	1.0455	0.1145	-1153.40	-1414.29	-1277.63
9	760.00	86.3	0.3520	0.6640	1185.76	352.05	0.9608	0.9520	1.1560	1.0616	0.0852	-1157.35	-1419.42	-1282.10
10	760.00	85.3	0.3920	0.6970	1154.74	340.75	0.9604	0.9516	1.1184	1.0536	0.0597	-1165.31	-1429.79	-1291.09
11	760.00	82.5	0.4430	0.7420	1069.50	310.10	0.9593	0.9502	1.1362	1.0745	0.0558	-1188.49	-1460.07	-1317.33
12	760.00	82.4	0.4640	0.7510	1066.60	309.07	0.9592	0.9502	1.1068	1.0812	0.0180	-1189.32	-1461.15	-1318.27
13	760.00	81.9	0.4730	0.7570	1053.59	304.45	0.9591	0.9499	1.1017	1.0892	0.0115	-1193.05	-1466.04	-1322.50
14	760.00	80.8	0.4910	0.7690	1022.28	293.38	0.9586	0.9494	1.1107	1.1118	-0.0010	-1202.25	-1478.12	-1332.93
15	760.00	81.0	0.5080	0.7770	1026.51	294.87	0.9587	0.9495	1.0803	1.1048	-0.0225	-1200.98	-1476.46	-1331.50
16	760.00	78.5	0.5790	0.8220	957.66	270.81	0.9576	0.9482	1.0736	1.1207	-0.0429	-1222.27	-1504.53	-1355.70
17	760.00	77.8	0.6050	0.8320	938.99	264.36	0.9573	0.9478	1.0603	1.1544	-0.0850	-1228.34	-1512.56	-1362.60
18	760.00	76.9	0.6400	0.8480	911.50	254.91	0.9569	0.9473	1.0519	1.1878	-0.1215	-1237.53	-1524.74	-1373.08
19	760.00	74.8	0.7070	0.8800	863.26	238.50	0.9560	0.9463	1.0425	1.2301	-0.1655	-1254.45	-1547.24	-1392.38
20	760.00	74.2	0.7300	0.8900	847.19	233.08	0.9558	0.9459	1.0401	1.2516	-0.1851	-1260.32	-1555.08	-1399.09
21	760.00	73.5	0.7700	0.9070	830.14	227.36	0.9554	0.9455	1.0252	1.2729	-0.2164	-1266.70	-1563.59	-1406.38
22	760.00	72.3	0.8130	0.9270	800.32	217.42	0.9549	0.9448	1.0268	1.2842	-0.2217	-1278.21	-1579.01	-1419.55
23	760.00	72.1	0.8220	0.9300	797.97	216.64	0.9548	0.9448	1.0238	1.2982	-0.2375	-1279.14	-1580.26	-1420.62
24	760.00	71.5	0.8620	0.9460	782.91	211.63	0.9545	0.9444	1.0120	1.3219	-0.2672	-1285.19	-1588.39	-1427.56
25	760.00	71.1	0.8690	0.9480	774.74	208.96	0.9544	0.9442	1.0162	1.3577	-0.2897	-1288.48	-1592.81	-1431.33

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 507.90 P = 29.90 V = 372.40 OMEGA = 0.298 OMEGAH = 0.0 DIPGLE = 0.0 ETA = 0.0  
 2 T = 594.00 P = 49.00 V = 331.10 OMEGA = 0.241 OMEGAH = 0.0 DIPGLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.68778E 01 B = 0.11715E 04 C = 0.22437E 03  
 2 A = 0.69533E 01 B = 0.13439E 04 C = 0.21938E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.12596E 03 B = -.14456E 00 C = 0.54720E-03  
 2 A = 0.98864E 02 B = -.55774E-01 C = 0.27703E-03

VAPOR PRESSURE AT NBP

P = 759.0 AT T = 68.7  
 P = 759.4 AT T = 110.6

COMPONENT ID CHECK

ID NUMBER = 18  
 ID NUMBER = 33

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.32410E 00 B = -.62613E 00 C = -.79097E-01  
 STANDARD DEVIATION = 0.11309E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.3828 G2INF = 1.4639  
 T1INF = 110.63 T2INF = 68.74

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0805  
 AREA BELOW THE X-AXIS IS -0.0959  
 CROSS-OVER POINT IS X = 0.49  
 NORMALIZED AREA DIFFERENCE IS -0.0869  
 HERTHINGTON J-FACTOR IS 18.38  
 CONSISTENCY INDEX IS -9.69

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION
1	-82.36	344.84	0.9095E-12
2	-243.05	575.12	0.1016E-02
3	-47.41	318.69	0.1097E-01
4	-36.13	306.56	0.7849E-02
5	-126.88	408.27	0.2381E-02
6	29.25	223.53	0.1941E-03
7	-130.31	395.48	0.1783E-02
8	-232.94	530.91	0.1614E-02
9	-230.04	527.02	0.1611E-02
10	54.13	324.06	0.1654E-01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

	PRESSURE	COMPOSITION
	5.87	0.00238
	6.62	0.00524
	5.62	0.00259
	5.72	0.00252
	5.33	0.00283
	8.26	0.00168
	5.81	0.00260
	5.03	0.00389
	5.02	0.00385
	5.64	0.00254



TSCAGNAME (1) PHENCL(2)

SYSTEM 079

SUMMARY VLF DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	750.00	126.1	0.9648	0.9659	746.26	122.84	0.9394	0.9617	0.9518	5.7467	-1.7980	-1980.98	-742.33	-1641.52
2	760.00	124.4	0.9936	0.9936	714.45	115.11	0.9385	0.9601	0.9921	6.3202	-1.8517	-2003.16	-752.09	-1660.13
3	750.00	124.4	0.9971	0.9971	714.45	115.11	0.9385	0.9600	0.9921	6.3194	-1.8516	-2003.16	-752.09	-1660.13

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 555.30	P = 19.80	V = 596.40	OMEGA = 0.398	OMEGA H = 0.0	DIPCLE = 0.0	ETA = 0.0
2	T = 692.20	P = 60.50	V = 229.50	OMEGA = 0.449	OMEGA H = 0.241	DIPOLE = 1.45	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.68353E 01	B = 0.13240E 04	C = 0.21074E 03	VAPOR PRESSURE AT NBP			
2	A = 0.75789E 01	B = 0.18170E 04	C = 0.20500E 03	P = 760.3 AT T = 124.1			
				P = 763.2 AT T = 181.9			

MOULAR VOLUME EQUATION COEFFICIENTS

1	A = 0.13846E 03	B = 0.87624E 01	C = 0.20020E 03	COMPONENT ID CHECK			
2	A = 0.80964E 02	B = -0.20853E 01	C = 0.14800E 03	ID NUMBER = 19			
				ID NUMBER = 32			

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = -0.19714E 01	B = -0.16845E 00	C = 0.31394E 00
STANDARD DEVIATION = 0.0		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 0.1393	G2INF = 6.2084
T1INF = 181.75	T2INF = 124.08

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

EQUATION SOLVED FOR X-INTERCEPT  
 ROOTS ARE: X = 0.27885E 01 AND X = -0.22519E 01  
 NEITHER ROOT IS IN THE RANGE 0 TO 1  
 THERMODYNAMIC CONSISTENCY TEST IS ABORTED

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION
1	-3304.53	3109.03	0.3854E 02
2	1997.32	152.38	0.1573E 04
3	9049.06	1282.96	0.1636E 01
4	9303.69	1283.67	0.3317E 02
5	9464.00	550.75	0.1936E 02
6	9339.64	1344.34	0.5221E 06
7	9620.88	829.17	0.3423E 02
8	1947.16	593.99	0.2925E 04
9	1948.26	600.97	0.2929E 04
10	2589.31	2607.36	0.1461E 01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PRESSURE	COMPOSITION
1	49.96	0.01447
2	8.85	0.01088
3	18.21	0.00076
4	18.22	0.00075
5	11.02	0.00848
6	19.10	0.00027
7	13.01	0.00618
8	1.62	0.01441
9	1.63	0.01441
10	10.86	0.01446

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F2GL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	741.00	99.8	0.0400	0.0480	726.95	702.23	0.9495	0.9581	1.1546	0.9981	0.1457	-1587.17	-1315.06	-1450.30
2	741.00	99.6	0.0880	0.1070	724.01	699.35	0.9494	0.9580	1.1745	0.9895	0.1714	-1588.77	-1316.36	-1451.74
3	741.00	99.5	0.1400	0.1630	721.08	696.47	0.9493	0.9580	1.1291	0.9875	0.1340	-1590.37	-1317.65	-1453.19
4	741.00	99.4	0.1900	0.2040	719.13	694.56	0.9493	0.9579	1.0440	0.9998	0.0433	-1591.44	-1318.52	-1454.15
5	741.00	99.3	0.2450	0.2570	717.19	692.65	0.9492	0.9579	1.0227	1.0039	0.0185	-1592.52	-1319.38	-1455.12
6	741.00	99.1	0.3400	0.3500	713.32	688.85	0.9491	0.9578	1.0090	1.0102	-0.0012	-1594.66	-1321.12	-1457.06
7	741.00	98.9	0.4070	0.4160	710.42	686.01	0.9490	0.9578	1.0058	1.0143	-0.0084	-1596.27	-1322.42	-1458.51
8	741.00	98.8	0.4760	0.4900	708.45	684.12	0.9490	0.9577	1.0157	1.0051	0.0105	-1597.35	-1323.29	-1459.49
9	741.00	98.5	0.6950	0.7070	702.74	678.47	0.9488	0.9576	1.0117	1.0002	0.0114	-1600.59	-1325.91	-1462.41
10	741.00	98.4	0.7940	0.8090	699.87	675.66	0.9487	0.9576	1.0174	0.9694	0.0484	-1602.21	-1327.22	-1463.88
11	741.00	98.3	0.8790	0.8880	697.97	673.80	0.9487	0.9576	1.0115	0.9704	0.0415	-1603.29	-1328.09	-1464.85

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 544.10 P = 25.40 V = 468.90 OMEGA = 0.303 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 572.30 P = 34.30 V = 372.40 OMEGA = 0.235 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.68119E 01 B = 0.12578E 04 C = 0.22073F 03 P = 759.2 AT T = 95.2  
 2 A = 0.68269E 01 B = 0.12729E 04 C = 0.22163F 03 P = 759.3 AT T = 100.9

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.17183E 03 B = 0.23795E 00 C = 0.73100E 03 COMPONENT ID ECHO CHECK  
 2 A = 0.11310E 03 B = 0.38740E 01 C = 0.30202E 03 ID NUMBER = 20  
 ID NUMBER = 26

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.19593E 00 B = 0.77872E 00 C = 0.71607E 00  
 STANDARD DEVIATION = 0.28762E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.2164 G2INF = 0.8752  
 T1INF = 100.04 T2INF = 98.35

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

EQUATION SOLVED FOR X-INTERCEPT  
 ROOTS ARE: X = 0.69224E 00 AND X = 0.39526E 00  
 BOTH ROOTS ARE IN THE RANGE 0 TO 1  
 THERMODYNAMIC CONSISTENCY TEST IS ABORTED

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	1164.12 -519.50	0.8777E-10	15.35	0.01412
2	2.02 55.12	0.1158E-04	1.00	0.00612
3	728.50 -321.54	0.1828E-01	5.57	0.00682
4	744.79 -330.08	0.1651E-01	5.28	0.00697
5	330.66 -161.42	0.1153E-02	1.32	0.00562
6	431.56 -207.08	0.1082E-02	2.40	0.00560
7	-54.04 97.65	0.1172E-02	1.01	0.00617
8	71.17 0.68	0.2714E-04	1.02	0.00605
9	70.84 0.97	0.2714E-04	1.02	0.00606
10	721.50 -356.73	0.1094E-01	5.51	0.00781

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PH11	PH12	G1	G2	LN(G1/G2)	B11	B22	B12
1	750.00	113.3	0.4270	0.9364	1028.73	74.00	0.9541	0.9581	1.5365	1.0889	0.3444	-1452.95	-823.02	-1425.80
2	750.00	103.9	0.9015	0.9459	810.66	49.64	0.9500	0.9536	0.9289	7.9943	-2.1525	-1544.40	-894.57	-1520.66
3	760.00	101.1	0.9530	0.9693	752.77	43.87	0.9487	0.9514	0.9683	10.7338	-2.4056	-1573.41	-918.30	-1551.04
4	750.00	101.1	0.9546	0.9704	752.77	43.87	0.9487	0.9513	0.9678	10.7135	-2.4042	-1573.41	-918.30	-1551.04
5	760.00	100.6	0.9795	0.9864	742.76	42.90	0.9485	0.9505	0.9714	11.1372	-2.4393	-1578.68	-922.66	-1556.58
6	760.00	100.6	0.9892	0.9914	742.76	42.90	0.9485	0.9503	0.9668	13.3652	-2.6264	-1578.68	-922.66	-1556.58
7	760.00	100.0	0.9959	0.9966	730.87	41.76	0.9482	0.9497	0.9807	14.2900	-2.6790	-1585.04	-927.95	-1563.27

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 544.10	P = 25.40	V = 468.50	OMEGA = 0.303	OMEGAH = 0.0	DIPOLE = 0.0	ETA = 0.0
2	T = 692.20	P = 60.50	V = 229.50	OMEGA = 0.449	OMEGAH = 0.241	DIPOLE = 1.45	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.68119E 01	B = 0.12578E 04	C = 0.22073E 03	P = 759.2 AT T = 99.2
2	A = -0.75789E 01	B = 0.18170E 04	C = 0.20500E 03	P = 763.2 AT T = 181.9

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.17183E 03	B = -0.23795E 00	C = 0.73100E 03	COMPONENT ID ECHO CHECK
2	A = 0.80964E 02	B = -0.20853E 01	C = 0.14800E 03	ID NUMBER = -20
				ID NUMBER = 32

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.26570E 01	B = -0.52417E 01	C = -0.85192E 01
STANDARD DEVIATION = 0.70237E 01		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 14.2540	G2INF = 14.4376
T1INF = 181.75	T2INF = 99.24

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.6698
AREA BELOW THE X-AXIS IS	-0.6620
CROSS-OVER POINT IS X =	0.50
NORMALIZED AREA DIFFERENCE IS	0.0059
HERINGTON J-FACTOR IS	33.24
CONSISTENCY INDEX IS	-32.65

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	1078.08 1824.80	0.2010E-09
2	-593.94 1958.70	0.1128E-02
3	7309.00 1764.92	0.4001E-01
4	328.77 2061.05	0.2972E 00
5	459.45 976.18	0.1001E-01
6	1224.71 2100.82	0.2869E-03
7	1088.82 912.33	0.1622E-01
8	1098.51 846.53	0.5018E-02
9	1081.44 848.22	0.5022E-02
10	-629.93 2767.00	0.2187E 00

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
64.18	0.00458
24.75	0.01322
65.56	0.00463
63.05	0.00433
17.00	0.01557
77.07	0.00358
19.03	0.01585
17.41	0.01652
17.40	0.01650
37.15	0.00961

\*\*DIAGNOSTIC\*\*

2 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	604.30	100.0	0.1000	0.1703	730.87	537.65	0.9588	0.9665	1.3436	0.9984	0.2969	-1585.04	-1290.07	-1439.38
2	643.60	100.0	0.2000	0.2980	730.87	537.65	0.9561	0.9643	1.2481	1.0096	0.2120	-1585.04	-1290.07	-1439.38
3	676.00	100.0	0.3000	0.4022	730.87	537.65	0.9539	0.9625	1.1765	1.0300	0.1330	-1585.04	-1290.07	-1439.38
4	702.00	100.0	0.4000	0.4905	730.87	537.65	0.9521	0.9610	1.1152	1.0618	0.0491	-1585.04	-1290.07	-1439.38
5	721.30	100.0	0.5000	0.5753	730.87	537.65	0.9508	0.9600	1.0735	1.0900	-0.0152	-1585.04	-1290.07	-1439.38
6	736.20	100.0	0.6000	0.6559	730.87	537.65	0.9498	0.9591	1.0398	1.1256	-0.0793	-1585.04	-1290.07	-1439.38
7	748.40	100.0	0.7000	0.7395	730.87	537.65	0.9450	0.9584	1.0205	1.1541	-0.1231	-1585.04	-1290.07	-1439.38
8	758.50	100.0	0.8000	0.8223	730.87	537.65	0.9483	0.9579	1.0055	1.1961	-0.1736	-1585.04	-1290.07	-1439.38
9	769.50	100.0	0.9000	0.9092	730.87	537.65	0.9475	0.9573	1.0017	1.2392	-0.2128	-1585.04	-1290.07	-1439.38

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 544.10	P = 25.40	V = 468.90	OMEGA = 0.303	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0
2	T = 594.00	P = 40.00	V = 331.10	OMEGA = 0.241	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.68119E 01	B = 0.12578E 04	C = 0.22073E 03	VAPOR PRESSURE AT NBP
2	A = 0.69533E 01	B = 0.13439E 04	C = 0.21938E 03	P = 759.2 AT T = 95.2
				P = 759.4 AT T = 110.6

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.17183E 03	B = -0.23795E 00	C = 0.73100E 03	COMPONENT ID ECHO CHECK
2	A = 0.98864E 02	B = -0.55774E 01	C = 0.27703E 03	ID NUMBER = 20
				ID NUMBER = 33

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.39608E 00	B = -0.10034E 01	C = 0.36399E 00
STANDARD DEVIATION = 0.40103E 02		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.4860	G2INF = 1.2755
T1INF = 100.00	T2INF = 100.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.0880
AREA BELOW THE X-AXIS IS	-0.0722
CROSS-OVER POINT IS X =	0.48
NORMALIZED AREA DIFFERENCE IS	0.0982
CONSISTENCY INDEX IS	9.82

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)		
			PRESSURE	COMPOSITION	
1	163.27	155.74	0.1819E-11	1.88	0.00380
2	77.09	211.79	0.6465E-04	1.78	0.00312
3	102.62	201.73	0.2269E-02	1.79	0.00322
4	80.58	215.88	0.1665E-02	1.81	0.00307
5	-0.74	274.18	0.2476E-03	1.99	0.00246
6	-53.01	326.88	0.1014E-03	3.86	0.00201
7	-34.42	301.48	0.1860E-03	2.21	0.00224
8	94.39	264.22	0.6744E-04	1.71	0.00320
9	94.40	204.21	0.6909E-04	1.71	0.00320
10	104.93	197.34	0.1219E-01	1.69	0.00328

METHANOL(1) BENZENE(2)

SYSTEM 083A

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	203.29	35.0	0.0242	0.2733	204.94	146.62	0.9897	0.9864	11.0827	1.0175	2.3880	-1659.63	-1387.87	-870.71
2	211.10	35.0	0.0254	0.3128	204.94	146.62	0.9885	0.9862	12.5342	1.0002	2.5283	-1659.63	-1387.87	-870.71
3	274.25	35.0	0.1302	0.4858	204.94	146.62	0.9812	0.9846	4.8565	1.0873	1.5048	-1659.63	-1387.87	-870.71
4	298.47	35.0	0.3107	0.5304	204.94	146.62	0.9754	0.9847	2.3520	1.3181	0.5791	-1659.63	-1387.87	-870.71
5	292.50	35.0	0.4989	0.5546	204.94	146.62	0.9787	0.9850	1.5518	1.7442	-0.1169	-1659.63	-1387.87	-870.71
6	292.70	35.0	0.5191	0.5571	204.94	146.62	0.9786	0.9850	1.4991	1.8086	-0.1877	-1659.63	-1387.87	-870.71
7	292.49	35.0	0.6305	0.5790	204.94	146.62	0.9783	0.9855	1.2813	2.2370	-0.5572	-1659.63	-1387.87	-870.71
8	293.58	35.0	0.7965	0.6421	204.94	146.62	0.9780	0.9875	1.0903	3.3546	-1.1239	-1659.63	-1387.87	-870.71
9	255.82	35.0	0.9197	0.7698	204.94	146.62	0.9788	0.9919	1.0208	4.9767	-1.5842	-1659.63	-1387.87	-870.71

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 513.20 P = 78.50 V = 118.00 CMEGA = 0.557 CMEGA H = 0.105 DIPOLE = 1.66 ETA = 1.21  
 2 T = 562.00 P = 48.60 V = 260.10 CMEGA = 0.211 CMEGA H = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.78786E 01 B = 0.14731E 04 C = 0.23000E 03  
 2 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03

VAPOR PRESSURE AT NBP

P = 758.5 AT T = 64.7  
 P = 760.0 AT T = 80.1

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.64511E 02 B = -.19716E 00 C = 0.38735E-03  
 2 A = 0.70863E 02 B = 0.14907E-01 C = 0.15880E-03

COMPONENT ID CHECK

ID NUMBER = 23  
 ID NUMBER = 5

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.25229E 01 B = -.65591E 01 C = 0.23941E 01  
 STANDARD DEVIATION = 0.14030E 00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.5443  
 AREA BELOW THE X-AXIS IS -0.5029  
 CROSS-OVER POINT IS X = 0.46  
 NORMALIZED AREA DIFFERENCE IS 0.0395  
 CONSISTENCY INDEX IS 3.95

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 12.4642 G2INF = 5.1664  
 T1INF = 35.00 T2INF = 35.00

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	1705.28 -14.38	0.1064F-08
2	1855.90 170.75	0.1389F-03
3	1814.92 167.56	0.1331E 01
4	1808.24 171.59	0.1041E-01
5	1816.27 181.39	0.1638E-02
6	1817.56 158.10	0.1059F-02
7	1815.39 178.95	0.1057E-02
8	1818.11 190.21	0.4319F-03
9	1817.83 190.75	0.4318F-03
10	1819.39 160.45	0.5370E-02

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
16.65	0.02428
1.42	0.00653
1.98	0.00431
1.89	0.00453
1.28	0.00520
2.43	0.00427
1.39	0.00503
0.95	0.00578
0.94	0.00582
2.27	0.00423

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	455.84	55.0	0.0304	0.3019	495.20	320.38	0.9810	0.9754	9.1560	1.0190	2.1956	-1318.35	-1169.33	-747.59
2	527.12	55.0	0.0493	0.4051	495.20	320.38	0.9751	0.9741	8.5197	1.0004	2.1419	-1318.35	-1169.33	-747.59
3	597.48	55.0	0.1031	0.4841	495.20	320.38	0.9692	0.9726	5.4842	1.0405	1.6621	-1318.35	-1169.33	-747.59
4	664.24	55.0	0.3297	0.5540	495.20	320.38	0.9636	0.9719	2.1690	1.3368	0.4840	-1318.35	-1169.33	-747.59
5	675.62	55.0	0.4874	0.5845	495.20	320.38	0.9621	0.9726	1.5720	1.6574	-0.0529	-1318.35	-1169.33	-747.59
6	675.59	55.0	0.4984	0.5858	495.20	320.38	0.9621	0.9726	1.5415	1.6894	-0.0917	-1318.35	-1169.33	-747.59
7	678.44	55.0	0.6076	0.6078	495.20	320.38	0.9613	0.9734	1.3157	2.0539	-0.4454	-1318.35	-1169.33	-747.59
8	664.91	55.0	0.7896	0.6716	495.20	320.38	0.9606	0.9766	1.0956	3.1540	-1.0574	-1318.35	-1169.33	-747.59
9	622.29	55.0	0.9014	0.7697	495.20	320.38	0.9615	0.9825	1.0304	4.4446	-1.4617	-1318.35	-1169.33	-747.59

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 513.20	P = 78.50	V = 118.00	CMEGA = 0.557	OMEGAH = 0.105	DIPOLE = 1.66	ETA = 1.21
2	T = 562.00	P = 48.60	V = 260.10	CMEGA = 0.211	CMEGA H = 0.0	DIPCLE = 0.0	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.78786F 01	B = 0.14731F 04	C = 0.23000F 03
2	A = 0.69056F 01	B = 0.12110F 04	C = 0.22079F 03

VAPOR PRESSURE AT NBP

P = 758.5	AT T = 64.7
P = 760.0	AT T = 80.1

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.64511E 02	B = -0.19716E 00	C = 0.38735F 03
2	A = 0.70863F 02	B = 0.14907E 01	C = 0.15880E 03

COMPONENT ID CHECK

ID NUMBER = 23
ID NUMBER = 5

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.23426E 01	B = -0.59019E 01	C = 0.19472E 01
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INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 10.4082	G2INF = 5.0133
T1INF = 55.00	T2INF = 55.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.5165
AREA BELOW THE X-AXIS IS	-0.4758
CROSS-OVER POINT IS X =	0.47
NORMALIZED AREA DIFFERENCE IS	0.0410
CONSISTENCY INDEX IS	4.10

SUMMARY OF WILSON PARAMETERS

MODEL NO. PARAMETER VALUES OBJECTIVE FUNCTION

1	1700.14	-18.13	0.3617E 08
2	1768.98	193.09	0.2663F 03
3	1703.92	180.55	0.4249E 00
4	1800.04	160.14	0.6759F 02
5	1809.94	167.17	0.1353F 02
6	1809.16	157.05	0.1091F 02
7	1810.89	167.23	0.1083E 02
8	1811.61	170.13	0.2343E 03
9	1811.56	170.16	0.2343E 03
10	1800.15	151.38	0.3083E 02

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

	PRESSURE	COMPOSITION
	36.93	0.02330
	2.63	0.00630
	1.90	0.00591
	2.80	0.00586
	1.70	0.00605
	2.68	0.00594
	1.69	0.00606
	1.73	0.00609
	1.73	0.00609
	3.86	0.00578

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	750.00	70.7	0.0260	0.2670	904.64	546.40	0.9761	0.9652	8.4085	1.0070	2.1223	-1105.54	-1037.62	-670.98
2	750.00	66.4	0.0500	0.3710	774.19	475.97	0.9705	0.9658	7.0581	1.0176	1.9368	-1158.91	-1070.49	-690.28
3	750.00	62.9	0.0880	0.4570	676.20	422.20	0.9658	0.9669	5.6284	1.0327	1.6956	-1206.22	-1099.69	-707.32
4	750.00	60.2	0.1640	0.5260	605.65	385.17	0.9621	0.9683	3.8410	1.0796	1.2692	-1243.02	-1122.47	-720.55
5	750.00	58.6	0.3330	0.5590	573.27	364.74	0.9603	0.9691	2.1338	1.3305	0.4723	-1265.10	-1136.17	-728.48
6	750.00	58.0	0.5490	0.5950	559.31	356.86	0.9589	0.9794	1.4055	1.8495	-0.2714	-1274.00	-1141.70	-731.68
7	750.00	58.1	0.6990	0.6330	561.10	357.87	0.9579	0.9721	1.1731	2.5084	-0.7600	-1272.85	-1140.98	-731.26
8	750.00	58.5	0.7820	0.6650	569.42	362.57	0.9573	0.9736	1.0849	3.1255	-1.0581	-1267.53	-1137.68	-729.36
9	750.00	59.9	0.8980	0.7600	602.51	381.17	0.9563	0.9786	1.0193	4.5753	-1.5015	-1247.23	-1125.08	-722.07
10	750.00	62.7	0.9730	0.9070	672.06	419.90	0.9564	0.9871	1.0067	6.1332	-1.8071	-1208.39	-1101.03	-708.10

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1	T = 513.20	P = 78.50	V = 118.00	OMEGA = 0.557	OMEGA H = 0.105	DIPOLE = 1.66	ETA = 1.21
2	T = 562.00	P = 48.60	V = 260.10	OMEGA = 0.211	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.78786E 01	B = 0.14731E 04	C = 0.23000E 03
2	A = 0.69056E 01	B = 0.12110E 04	C = 0.22079E 03

## VAPOR PRESSURE AT NBP

P = 758.5 AT T = 64.7

P = 760.0 AT T = 80.1

## MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.64511E 02	B = -.19716E 00	C = 0.38735E-03
2	A = 0.70863E 02	B = 0.14907E-01	C = 0.15880E-03

## COMPONENT ID ECHO CHECK

ID NUMBER = 23

ID NUMBER = 5

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.21610E 01 B = -.51093E 01 C = 0.11492E 01

STANDARD DEVIATION = 0.85918E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 8.6800 G2INF = 6.0437

T1INF = 80.10 T2INF = 64.75

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.4912

AREA BELOW THE X-AXIS IS -0.5017

CROSS-OVER POINT IS X = 0.47

NORMALIZED AREA DIFFERENCE IS -0.0106

HERINGTON J-FACTOR IS 10.00

CONSISTENCY INDEX IS -8.94

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	1638.61	0.2201E-09
2	1740.44	0.1761E-03
3	1698.63	0.1637E-01
4	1704.04	0.2443E-02
5	1714.37	0.6018E-03
6	1711.50	0.5135E-03
7	1723.84	0.5558E-03
8	1716.47	0.8536E-04
9	1716.40	0.8539E-04
10	1699.24	0.2324E-03

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
20.27	0.01438
2.34	0.00516
2.64	0.00402
2.38	0.00413
1.89	0.00436
2.05	0.00427
1.63	0.00467
1.80	0.00443
1.81	0.00443
2.64	0.00404



SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	259.13	35.0	0.0169	0.3297	204.94	173.52	0.9855	0.9830	24.2963	0.9991	3.1912	-1659.63	-1403.92	-881.52
2	262.31	35.0	0.0189	0.3374	204.94	173.52	0.9851	0.9829	22.4971	1.0017	3.1117	-1659.63	-1403.92	-881.52
3	315.12	35.0	0.1349	0.4630	204.94	173.52	0.9789	0.9815	5.1627	1.1041	1.5424	-1659.63	-1403.92	-881.52
4	324.64	35.0	0.3560	0.4915	204.94	173.52	0.9776	0.9816	2.1366	1.4469	0.3898	-1659.63	-1403.92	-881.52
5	325.71	35.0	0.4776	0.5030	204.94	173.52	0.9773	0.9818	1.6347	1.7494	-0.0678	-1659.63	-1403.92	-881.52
6	325.71	35.0	0.4939	0.5056	204.94	173.52	0.9773	0.9818	1.5888	1.7964	-0.1228	-1659.63	-1403.92	-881.52
7	323.81	35.0	0.6557	0.5302	204.94	173.52	0.9769	0.9825	1.2472	2.4964	-0.6939	-1659.63	-1403.92	-881.52
8	312.61	35.0	0.7912	0.5752	204.94	173.52	0.9767	0.9843	1.0900	3.5661	-1.1853	-1659.63	-1403.92	-881.52
9	277.37	35.0	0.9120	0.7024	204.94	173.52	0.9777	0.9850	1.0185	5.3365	-1.6562	-1659.63	-1403.92	-881.52

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 513.20	P = 78.50	V = 118.00	OMEGA = 0.557	OMEGA H = 0.105	DIPOLE = 1.66	ETA = 1.21
2	T = 556.40	P = 45.00	V = 279.60	OMEGA = 0.193	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.78786E 01	B = 0.14731E 04	C = 0.23000E 03
2	A = 0.69335E 01	B = 0.12424E 04	C = 0.23000E 03

VAPOR PRESSURE AT NBP

P = 758.5	AT T = 64.7
P = 766.0	AT T = 76.8

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.64511E 02	B = -0.19716E 00	C = 0.38735E 03
2	A = 0.61938E 02	B = -0.29977E 00	C = 0.16761E 02

COMPONENT ID CHECK

ID NUMBER = 23
ID NUMBER = 6

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.31277E 01	B = -0.87713E 01	C = 0.40678E 01
STANDARD DEVIATION = 0.25487E 00		

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.6430
AREA BELOW THE X-AXIS IS	-0.5449
CROSS-OVER POINT IS X =	C.45
NORMALIZED AREA DIFFERENCE IS	0.0825
CONSISTENCY INDEX IS	8.25

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 22.8225	G2INF = 4.8344
T1INF = 35.00	T2INF = 35.00

SUMMARY OF WILSON PARAMETERS

MODEL NO. PARAMETER VALUES OBJECTIVE FUNCTION

1	2331.35	-311.79	0.3988E-08
2	2388.32	-4.11	0.1931E-05
3	2596.76	-37.27	0.1623E 00
4	2588.47	-26.53	0.1636E-02
5	2585.70	-30.54	0.4982E-03
6	2583.04	-11.12	0.2141E-03
7	2583.19	-26.17	0.3756E-03
8	2584.57	-38.02	0.1834E-03
9	2584.83	-38.27	0.1834E-03
10	2592.24	-26.03	0.2492E-03

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	2331.35	-311.79	26.91	0.04489
2	2388.32	-4.11	3.31	0.00973
3	2596.76	-37.27	1.11	0.00358
4	2588.47	-26.53	1.23	0.00312
5	2585.70	-30.54	1.13	0.00326
6	2583.04	-11.12	1.94	0.00314
7	2583.19	-26.17	1.20	0.00308
8	2584.57	-38.02	1.05	0.00374
9	2584.83	-38.27	1.05	0.00375
10	2592.24	-26.03	1.26	0.00315

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PH11	PH12	G1	G2	LN(G1/G2)	B11	B22	B12
1	530.66	55.0	0.0254	0.3619	495.20	366.24	0.9740	0.9699	16.2539	1.0027	2.7856	-1318.35	-1189.62	-758.82
2	716.95	55.0	0.1493	0.4981	495.20	366.24	0.9625	0.9669	4.6425	1.1111	1.4299	-1318.35	-1189.62	-758.82
3	741.36	55.0	0.3647	0.5284	495.20	366.24	0.9602	0.9669	2.0796	1.4454	0.3638	-1318.35	-1189.62	-758.82
4	745.60	55.0	0.4893	0.5431	495.20	366.24	0.9595	0.9673	1.6011	1.7526	-0.0904	-1318.35	-1189.62	-758.82
5	745.72	55.0	0.4946	0.5438	495.20	366.24	0.9595	0.9673	1.5862	1.7686	-0.1089	-1318.35	-1189.62	-758.82
6	744.54	55.0	0.6448	0.5686	495.20	366.24	0.9587	0.9684	1.2692	2.3785	-0.6281	-1318.35	-1189.62	-758.82
7	724.28	55.0	0.7903	0.6187	495.20	366.24	0.9584	0.9713	1.0958	3.4751	-1.1541	-1318.35	-1189.62	-758.82
8	658.37	55.0	0.9089	0.7337	495.20	366.24	0.9598	0.9790	1.0288	5.1206	-1.6049	-1318.35	-1189.62	-758.82

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 513.20 P = 78.50 V = 118.00 CMFGA = 0.557 OMEGAH = 0.105 DIPOLE = 1.66 ETA = 1.21  
 2 T = 556.40 P = 45.00 V = 279.60 CMFGA = 0.193 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.78786E 01 B = 0.14731E 04 C = 0.23000E 03 P = 758.5 AT T = 64.7  
 2 A = 0.69339E 01 B = 0.12424E 04 C = 0.23000E 03 P = 766.0 AT T = 76.8

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.64511E 02 B = -.19716E 00 C = 0.38735E-03 COMPONENT ID CHECK  
 2 A = 0.61938E 02 B = -.29977E 00 C = 0.16761E-02 ID NUMBER = 23  
 ID NUMBER = 6

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.27520E 01 B = -.73479E 01 C = 0.29499E 01

STANDARD DEVIATION = 0.19040E 00

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 15.6732 G2INF = 5.1863  
 T1INF = 55.00 T2INF = 55.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.5842  
 AREA BELOW THE X-AXIS IS -0.5229  
 CROSS-OVER POINT IS X = 0.46  
 NORMALIZED AREA DIFFERENCE IS 0.0554  
 CONSISTENCY INDEX IS 5.54

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)
			PRESSURE COMPOSITION
1	2260.33 -319.27	0.1573E-08	56.06 0.03184
2	2408.64 -45.56	0.3908E-04	3.36 0.00483
3	2571.55 -94.05	0.3771E-02	1.86 0.00310
4	2558.27 -85.77	0.9963E-03	1.75 0.00306
5	2551.25 -81.66	0.2852E-03	1.90 0.00311
6	2552.02 -76.18	0.1948E-03	2.13 0.00316
7	2546.89 -77.96	0.2553E-03	2.06 0.00316
8	2550.03 -83.31	0.8409E-04	1.83 0.00312
9	2550.11 -83.34	0.8403E-04	1.83 0.00312
10	2570.91 -93.75	0.8892E-04	1.84 0.00309

\*\*DIAGNOSTIC\*\*

1 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
 SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	750.00	76.6	0.1340	0.1830	1116.25	680.49	0.9640	0.9583	0.8950	1.0075	-0.1184	-1035.32	-1196.54	-1113.82
2	750.00	75.0	0.2420	0.3260	1055.67	639.26	0.9632	0.9574	0.9327	1.0098	-0.0795	-1053.76	-1217.71	-1133.61
3	750.00	73.6	0.3200	0.4280	1004.81	604.87	0.9624	0.9565	0.9722	1.0088	-0.0370	-1070.20	-1236.60	-1151.25
4	750.00	72.3	0.4010	0.5290	959.33	574.30	0.9617	0.9558	1.0036	0.9924	0.0112	-1085.72	-1254.45	-1167.91
5	750.00	71.7	0.4350	0.5660	938.91	560.62	0.9614	0.9554	1.0110	0.9927	0.0183	-1092.97	-1262.78	-1175.70
6	750.00	70.0	0.5420	0.6760	882.89	523.30	0.9604	0.9543	1.0296	0.9784	0.0511	-1113.81	-1266.76	-1198.08
7	750.00	68.6	0.6520	0.7590	838.78	494.10	0.9596	0.9535	1.0107	1.0134	-0.0027	-1131.31	-1306.91	-1216.88
8	750.00	67.7	0.7280	0.8130	811.37	476.05	0.9591	0.9525	1.0018	1.0436	-0.0409	-1142.72	-1320.05	-1229.14
9	750.00	66.9	0.7900	0.8580	787.60	460.45	0.9587	0.9524	1.0032	1.0606	-0.0556	-1152.97	-1331.86	-1240.16
10	750.00	66.6	0.8140	0.8750	778.83	454.72	0.9585	0.9522	1.0039	1.0671	-0.0611	-1156.84	-1336.33	-1244.33
11	750.00	65.8	0.8730	0.9190	755.83	439.71	0.9580	0.9516	1.0125	1.0468	-0.0333	-1167.24	-1348.31	-1255.50
12	750.00	65.6	0.9100	0.9370	750.17	436.01	0.9579	0.9515	0.9977	1.1584	-0.1493	-1169.85	-1351.32	-1258.31

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 513.20 P = 78.50 V = 118.00 OMEGA = 0.557 OMEGAH = 0.105 DIPOLE = 1.66 ETA = 1.21  
 2 T = 516.00 P = 63.00 V = 161.30 OMEGA = 0.637 OMEGAH = 0.152 DIPOLE = 1.69 ETA = 1.10

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.78786E 01 B = 0.14731E 04 C = 0.23000E 03  
 2 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.64511E 02 B = -.19716E 00 C = 0.38735E-03  
 2 A = 0.53701E 02 B = .31109E 01 C = 0.16000E 03

VAPOR PRESSURE AT NBP

P = 758.5 AT T = 64.7  
 P = 762.1 AT T = 78.4

COMPONENT ID ECHO CHECK

ID NUMBER = 23  
 ID NUMBER = 11

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = -.25121E 00 B = 0.10231E 01 C = -.96279E 00  
 STANDARD DEVIATION = 0.28018E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 0.7779 G2INF = 1.2104  
 T1INF = 78.33 T2INF = 64.75

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

EQUATION SOLVED FOR X-INTERCEPT  
 ROOTS ARE: X = 0.38511E 00 AND X = 0.67750E 00  
 BOTH ROOTS ARE IN THE RANGE 0 TO 1  
 THERMODYNAMIC CONSISTENCY TEST IS ABORTED

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	-551.31 1430.04	0.1741E-12	35.39	0.01983
2	-318.18 837.43	0.8017E-04	4.49	0.00885
3	-270.40 704.92	0.3504E-01	6.91	0.00874
4	-277.59 710.87	0.3671E-01	5.40	0.00853
5	-285.60 677.28	0.2546E-02	3.59	0.00799
6	-200.35 396.14	0.1807E-02	9.24	0.00805
7	-236.56 525.45	0.1829E-02	5.38	0.00759
8	-324.32 821.63	0.3256E-03	3.29	0.00855
9	-324.32 821.63	0.3255E-03	3.29	0.00855
10	-298.67 755.43	0.1472E-01	3.78	0.00849

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	231.50	40.0	0.0500	0.2115	258.89	186.02	0.9804	0.9771	3.7067	1.0080	1.3021	-1565.90	-1927.30	-1814.38
2	231.50	40.0	0.0670	0.2130	258.89	186.02	0.9804	0.9771	2.7859	1.0245	1.0004	-1565.90	-1927.30	-1814.38
3	240.00	40.0	0.0970	0.2620	258.89	186.02	0.9799	0.9762	2.4523	1.0281	0.8653	-1565.90	-1927.30	-1814.38
4	259.00	40.0	0.1540	0.3718	258.89	186.02	0.9785	0.9742	2.3622	1.0058	0.8538	-1565.90	-1927.30	-1814.38
5	268.50	40.0	0.2175	0.4242	258.89	186.02	0.9779	0.9732	1.9769	1.0322	0.6498	-1565.90	-1927.30	-1814.38
6	284.00	40.0	0.2620	0.4695	258.89	186.02	0.9767	0.9715	1.9188	1.0647	0.5891	-1565.90	-1927.30	-1814.38
7	289.50	40.0	0.3000	0.4912	258.89	186.02	0.9763	0.9709	1.7864	1.0967	0.4879	-1565.90	-1927.30	-1814.38
8	296.50	40.0	0.3820	0.5356	258.89	186.02	0.9758	0.9701	1.5659	1.1602	0.2999	-1565.90	-1927.30	-1814.38
9	298.00	40.0	0.4500	0.5360	258.89	186.02	0.9757	0.9700	1.3369	1.3089	0.0211	-1565.90	-1927.30	-1814.38
10	304.00	40.0	0.5680	0.6150	258.89	186.02	0.9753	0.9692	1.2392	1.4094	-0.1286	-1565.90	-1927.30	-1814.38
11	305.00	40.0	0.6560	0.6600	258.89	186.02	0.9753	0.9690	1.1553	1.5678	-0.3053	-1565.90	-1927.30	-1814.38
12	302.00	40.0	0.7190	0.6940	258.89	186.02	0.9756	0.9692	1.0978	1.7108	-0.4437	-1565.90	-1927.30	-1814.38
13	303.50	40.0	0.7800	0.7300	258.89	186.02	0.9755	0.9689	1.0696	1.9371	-0.5939	-1565.90	-1927.30	-1814.38
14	311.50	40.0	0.8100	0.7495	258.89	186.02	0.9757	0.9691	1.0508	2.0676	-0.6769	-1565.90	-1927.30	-1814.38

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 513.20 P = 78.50 V = 118.00 OMEGA = 0.557 OMEGAH = 0.105 DIPOLE = 1.66 ETA = 1.21  
 2 T = 523.30 P = 37.80 V = 286.00 OMEGA = 0.373 OMEGAH = 0.278 DIPOLE = 1.78 ETA = 0.50

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.78786E-01 B = 0.14731E-04 C = 0.23000E-03  
 2 A = 0.70981E-01 B = 0.12387E-04 C = 0.21700E-03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.64511E-02 B = -.19716E-00 C = 0.38735E-03  
 2 A = 0.13612E-03 B = -.37001E-00 C = 0.80775E-03

## VAPOR PRESSURE AT NBP

P = 758.5 AT T = 64.7  
 P = 769.5 AT T = 77.1

## COMPONENT ID ECHO CHECK

ID NUMBER = 23  
 ID NUMBER = 12

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.12692E-01 B = -.28664E-01 C = 0.62524E-00  
 STANDARD DEVIATION = 0.78406E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 3.5582 G2INF = 2.6429  
 T1INF = 40.00 T2INF = 40.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.3024  
 AREA BELOW THE X-AXIS IS -0.2579  
 CROSS-OVER POINT IS X = 0.50  
 NORMALIZED AREA DIFFERENCE IS 0.0794  
 CONSISTENCY INDEX IS 7.94

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION
1	1161.61	-337.89	0.7265E-08
2	981.86	-156.01	0.1488E-02
3	1247.09	-349.46	0.4463E 00
4	1093.06	-230.98	0.6166E-01
5	1057.79	-199.51	0.9546E-02
6	1006.89	-123.40	0.5747E-02
7	1008.75	-150.09	0.6093E-02
8	1123.37	-263.52	0.3015E-02
9	1124.06	-264.13	0.3015E-02
10	1213.15	-333.27	0.3402E-01

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
4.91	0.01608
3.09	0.01213
3.46	0.01671
2.72	0.01383
2.75	0.01313
4.25	0.01206
2.94	0.01212
2.70	0.01443
2.71	0.01444
3.33	0.01616

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	330.50	50.0	0.0525	0.1700	402.25	280.08	0.9758	0.9717	2.5943	1.0028	0.9506	-1395.64	-1722.75	-1617.95
2	373.50	50.0	0.1260	0.3375	402.25	280.08	0.9732	0.9678	2.4185	0.9765	0.9070	-1395.64	-1722.75	-1617.95
3	405.50	50.0	0.2315	0.4360	402.25	280.08	0.9712	0.9649	1.8423	1.0231	0.5881	-1395.64	-1722.75	-1617.95
4	435.00	50.0	0.3435	0.5125	402.25	280.08	0.9693	0.9621	1.5625	1.1072	0.3444	-1395.64	-1722.75	-1617.95
5	455.50	50.0	0.4510	0.5685	402.25	280.08	0.9680	0.9602	1.3834	1.2223	0.1238	-1395.64	-1722.75	-1617.95
6	459.50	50.0	0.5425	0.6170	402.25	280.08	0.9678	0.9597	1.2561	1.3151	0.0458	-1395.64	-1722.75	-1617.95
7	460.50	50.0	0.5680	0.6325	402.25	280.08	0.9677	0.9596	1.2325	1.3390	-0.0829	-1395.64	-1722.75	-1617.95
8	461.50	50.0	0.6350	0.6640	402.25	280.08	0.9677	0.9594	1.1599	1.4518	-0.2245	-1395.64	-1722.75	-1617.95
9	463.00	50.0	0.7060	0.6975	402.25	280.08	0.9677	0.9591	1.0994	1.6276	-0.3924	-1395.64	-1722.75	-1617.95
10	461.50	50.0	0.7580	0.7290	402.25	280.08	0.9678	0.9591	1.0669	1.7657	-0.5038	-1395.64	-1722.75	-1617.95
11	457.50	50.0	0.8215	0.7655	402.25	280.08	0.9682	0.9593	1.0251	2.0539	-0.6950	-1395.64	-1722.75	-1617.95
12	452.50	50.0	0.8755	0.8100	402.25	280.08	0.9686	0.9596	1.0071	2.3606	-0.8519	-1395.64	-1722.75	-1617.95
13	444.50	50.0	0.9250	0.8550	402.25	280.08	0.9692	0.9601	0.9890	2.9394	-1.0893	-1395.64	-1722.75	-1617.95

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 513.20 P = 78.50 V = 118.00  $\omega$  = 0.557  $\omega$ GAH = 0.105 DIPOLE = 1.66 ETA = 1.21  
 2 T = 523.30 P = 37.80 V = 286.00  $\omega$  = 0.373  $\omega$ GAH = 0.278 DIPOLE = 1.78 ETA = 0.50

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.78786E 01 B = 0.14731E 04 C = 0.23000E 03  
 2 A = 0.70981E 01 B = 0.12387E 04 C = 0.21700E 03

## VAPOR PRESSURE AT NBP

P = 758.5 AT T = 64.7  
 P = 769.5 AT T = 77.1

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.64511E 02 B = .19716E 00 C = 0.38735E 03  
 2 A = 0.13612E 03 B = -.37001E 00 C = 0.80775E 03

## COMPONENT ID CHECK

ID NUMBER = 23  
 ID NUMBER = 12

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.10496E 01 B = .16893E 01 C = .57114E 00  
 STANDARD DEVIATION = 0.52785E 01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.8564 G2INF = 3.3564  
 T1INF = 50.00 T2INF = 50.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2907  
 AREA BELOW THE X-AXIS IS -0.2761  
 CROSS-OVER POINT IS X = 0.53  
 NORMALIZED AREA DIFFERENCE IS 0.0256  
 CONSISTENCY INDEX IS 2.56

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	887.76 -44.81	0.2274E-10	8.21	0.00602
2	836.71 89.24	0.6157E-03	2.71	0.01029
3	856.35 15.80	0.1080E-00	10.67	0.00608
4	857.60 -15.42	0.2812E-01	7.99	0.00588
5	906.18 -118.77	0.4544E-02	3.52	0.00843
6	882.57 -4.15	0.1748E-02	11.68	0.00655
7	902.65 -108.70	0.3673E-02	3.96	0.00796
8	937.03 -174.44	0.5102E-03	2.14	0.01071
9	937.03 -174.44	0.5102E-03	2.14	0.01071
10	870.10 0.01	0.1519E-01	10.66	0.00604



## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	456.00	60.0	0.0190	0.0950	604.88	408.70	0.9708	0.9660	3.6561	0.9921	1.3043	-1245.82	-1546.48	-1446.57
2	490.50	60.0	0.0495	0.1785	604.88	408.70	0.9690	0.9634	2.8307	0.9969	1.0436	-1245.82	-1546.48	-1446.57
3	545.00	60.0	0.1090	0.3100	604.88	408.70	0.9661	0.9592	2.4728	0.9878	0.9176	-1245.82	-1546.48	-1446.57
4	558.00	60.0	0.1360	0.3450	604.88	408.70	0.9654	0.9581	2.2566	0.9890	0.8249	-1245.82	-1546.48	-1446.57
5	591.50	60.0	0.1970	0.4160	604.88	408.70	0.9635	0.9554	2.0605	0.9941	0.7289	-1245.82	-1546.48	-1446.57
6	611.00	60.0	0.2375	0.4350	604.88	408.70	0.9624	0.9539	1.7784	1.0536	0.5235	-1245.82	-1546.48	-1446.57
7	644.00	60.0	0.3590	0.5320	604.88	408.70	0.9607	0.9512	1.5137	1.0908	0.3277	-1245.82	-1546.48	-1446.57
8	650.00	60.0	0.4020	0.5500	604.88	408.70	0.9598	0.9499	1.4309	1.1506	0.2180	-1245.82	-1546.48	-1446.57
9	673.00	60.0	0.4950	0.5940	604.88	408.70	0.9591	0.9487	1.2788	1.2518	0.0213	-1245.82	-1546.48	-1446.57
10	634.50	60.0	0.5900	0.6430	604.88	408.70	0.9585	0.9477	1.1805	1.3773	-0.1542	-1245.82	-1546.48	-1446.57
11	670.00	60.0	0.6990	0.7020	604.88	408.70	0.9583	0.9470	1.0963	1.5775	-0.3638	-1245.82	-1546.48	-1446.57
12	637.50	60.0	0.7350	0.7280	604.88	408.70	0.9585	0.9470	1.0776	1.6296	-0.4137	-1245.82	-1546.48	-1446.57
13	688.00	60.0	0.7480	0.7320	604.88	408.70	0.9585	0.9470	1.0654	1.6896	-0.4612	-1245.82	-1546.48	-1446.57
14	677.00	60.0	0.8980	0.8470	604.88	408.70	0.9593	0.9473	1.0113	2.3458	-0.8414	-1245.82	-1546.48	-1446.57
15	674.50	60.0	0.9100	0.8535	604.88	408.70	0.9595	0.9474	1.0021	2.5367	-0.9288	-1245.82	-1546.48	-1446.57

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 513.20 P = 78.50 V = 118.00 OMEGA = 0.557 OMEGAH = 0.105 DIPOLE = 1.66 ETA = 1.21  
 2 T = 523.30 P = 37.80 V = 286.00 OMEGA = 0.373 OMEGAH = 0.278 DIPOLE = 1.78 ETA = 0.50

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.78786E 01 B = 0.14731E 04 C = 0.23000E 03  
 2 A = 0.70981E 01 B = 0.12387E 04 C = 0.21700E 03

## VAPOR PRESSURE AT NBP

P = 758.5 AT T = 64.7  
 P = 769.5 AT T = 77.1

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.64511E 02 B = -1.9716E 00 C = 0.38735E 03  
 2 A = 0.13612E 03 B = -3.7001E 00 C = 0.80775E 03

## COMPONENT ID CHECK

ID NUMBER = 23  
 ID NUMBER = 12

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.12089E 01 B = -2.5503E 01 C = 0.32751E 00  
 STANDARD DEVIATION = 0.67521E 01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 3.3499 G2INF = 2.7562  
 T1INF = 60.00 T2INF = 60.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2994  
 AREA BELOW THE X-AXIS IS -0.2564  
 CROSS-OVER POINT IS X = 0.51  
 NORMALIZED AREA DIFFERENCE IS 0.0773  
 CONSISTENCY INDEX IS 7.73

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	1158.25 -302.27	0.1637E-10	13.28	0.01147
2	858.52 -135.54	6.4107E-03	7.68	0.01590
3	1240.27 -347.08	0.3024E-00	15.95	0.01256
4	1157.70 -306.11	0.7068E-01	12.70	0.01159
5	1058.78 -269.14	0.8129E-02	7.03	0.01275
6	1016.22 -143.05	0.3375E-02	17.87	0.00893
7	1015.56 -221.05	0.5881E-02	8.11	0.01171
8	1104.55 -336.65	0.1134E-02	3.97	0.01533
9	1105.02 -336.79	0.1134E-02	3.97	0.01533
10	1186.23 -301.74	0.3535E-01	16.45	0.01131

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	730.00	73.5	0.0340	0.1420	1001.25	651.21	0.9618	0.9545	2.9245	0.9470	1.1276	-1071.38	-1345.46	-1248.80
2	730.00	70.6	0.0890	0.2600	902.34	591.56	0.9607	0.9526	2.2673	0.9515	0.8683	-1106.40	-1385.46	-1288.35
3	730.00	68.7	0.1270	0.3350	841.87	554.84	0.9600	0.9513	2.1925	0.9500	0.8364	-1130.05	-1412.56	-1315.09
4	730.00	66.8	0.2060	0.4070	784.67	519.90	0.9592	0.9498	1.7604	0.9525	0.5731	-1154.26	-1440.41	-1342.52
5	730.00	65.2	0.2730	0.4760	738.95	491.83	0.9585	0.9486	1.6485	1.0112	0.4888	-1175.10	-1464.44	-1366.16
6	730.00	64.2	0.3250	0.5000	711.47	474.50	0.9579	0.9478	1.5059	1.0753	0.3394	-1188.35	-1479.75	-1381.19
7	730.00	64.1	0.3480	0.5210	708.77	473.23	0.9579	0.9477	1.4750	1.0701	0.3209	-1189.68	-1481.29	-1382.71
8	730.00	63.5	0.3980	0.5470	692.72	463.32	0.9577	0.9471	1.3850	1.1189	0.2133	-1197.72	-1490.59	-1391.84
9	730.00	63.4	0.4140	0.5590	690.09	461.69	0.9576	0.9470	1.3658	1.1229	0.1959	-1199.06	-1492.15	-1393.37
10	730.00	63.1	0.5050	0.5940	682.20	456.80	0.9575	0.9467	1.2035	1.2364	-0.0270	-1203.11	-1496.84	-1397.97
11	730.00	62.5	0.5520	0.6360	666.65	447.16	0.9573	0.9461	1.2060	1.2504	-0.0361	-1211.24	-1506.27	-1407.22
12	730.00	62.3	0.5980	0.6520	661.52	443.98	0.9572	0.9459	1.1500	1.3415	-0.1540	-1213.97	-1509.44	-1410.32
13	730.00	62.6	0.6020	0.6430	669.22	448.76	0.9574	0.9461	1.1138	1.3756	-0.2111	-1209.89	-1504.70	-1405.67
14	730.00	62.3	0.6170	0.6450	661.52	443.98	0.9572	0.9459	1.1026	1.4364	-0.2645	-1213.97	-1509.44	-1410.32
15	730.00	62.2	0.6700	0.6900	658.98	442.40	0.9572	0.9456	1.0904	1.4605	-0.2922	-1215.34	-1511.02	-1411.87
16	730.00	62.2	0.8120	0.7790	658.98	442.40	0.9574	0.9452	1.0160	1.8268	-0.5867	-1215.34	-1511.02	-1411.87
17	730.00	62.4	0.8520	0.8100	664.08	445.57	0.9576	0.9452	0.9552	1.9808	-0.6843	-1212.61	-1507.85	-1408.77
18	730.00	62.8	0.8940	0.8560	674.39	451.96	0.9578	0.9452	0.9913	2.0666	-0.7346	-1207.17	-1501.55	-1402.58
19	730.00	63.5	0.9370	0.9030	692.73	463.32	0.9583	0.9455	0.9718	2.2854	-0.8552	-1197.72	-1490.59	-1391.84
20	730.00	63.6	0.9580	0.9280	695.38	464.96	0.9584	0.9454	0.9732	2.5354	-0.9576	-1196.37	-1489.04	-1390.31

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 513.20 P = 79.50 V = 118.00 OMEGA = 0.557 OMEGAH = 0.105 DIPOLE = 1.66 ETA = 1.21  
 2 T = 523.30 P = 37.80 V = 286.00 OMEGA = 0.373 OMEGAH = 0.278 DIPOLE = 1.78 ETA = 0.50

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.78786E-01 B = 0.14731E-04 C = 0.23000E-03  
 2 A = 0.70981E-01 B = 0.12387E-04 C = 0.21700E-03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.64511E-02 B = -0.19716E-00 C = 0.38735E-03  
 2 A = 0.13612E-03 B = -0.37001E-00 C = 0.80775E-03

## VAPOR PRESSURE AT NBP

P = 758.5 AT T = 64.7

P = 769.5 AT T = 77.1

COMPONENT ID CHECK

ID NUMBER = 23

ID NUMBER = 12

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.11179E-01 B = -0.23588E-01 C = 0.27807E-00  
 STANDARD DEVIATION = 0.44292E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 3.0585 G2INF = 2.6191  
 T1INF = 75.51 T2INF = 63.72

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2757

AREA BELOW THE X-AXIS IS -0.2445

CROSS-OVER POINT IS X = 0.50

NORMALIZED AREA DIFFERENCE IS 0.0600

HERINGTON J-FACTOR IS 5.95

CONSISTENCY INDEX IS 0.05

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	1162.87 -336.49	0.4547E-11	34.27	0.00960
2	765.58 -154.47	0.5333E-02	7.98	0.01959
3	1152.62 -357.60	0.2267E 00	28.19	0.00990
4	1049.53 -304.56	0.8720E-01	22.39	0.00568
5	970.91 -304.59	0.1612E-01	8.95	0.01426
6	1022.96 -202.97	0.3446E-02	37.63	0.00765
7	965.07 -285.41	0.1799E-01	11.60	0.01313
8	943.05 -318.70	0.1456E-02	5.09	0.01734
9	943.77 -319.30	0.1465E-02	5.09	0.01734
10	1145.47 -352.41	0.2850E-01	28.17	0.00976

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	76.1	0.0125	0.0475	1097.03	708.52	0.9612	0.9542	2.5267	0.9836	0.9434	-1041.04	-1310.96	-1214.61
2	760.00	74.1	0.0320	0.1330	1024.55	665.19	0.9606	0.9530	2.9571	0.9716	1.1130	-1063.70	-1336.72	-1240.14
3	760.00	71.2	0.0800	0.2475	923.48	604.35	0.9594	0.9511	2.4391	0.9747	0.9173	-1098.56	-1376.49	-1279.49
4	760.00	67.8	0.1550	0.3650	812.87	537.15	0.9579	0.9485	2.1058	1.0048	0.7399	-1142.08	-1426.39	-1328.72
5	760.00	65.6	0.2510	0.4550	750.17	498.74	0.9569	0.9468	1.7547	1.0459	0.5174	-1169.85	-1458.38	-1360.21
6	760.00	64.1	0.3465	0.5205	708.77	473.23	0.9562	0.9455	1.5379	1.1100	0.3260	-1189.68	-1481.29	-1382.71
7	760.00	64.0	0.4020	0.5560	706.08	471.57	0.9563	0.9453	1.4214	1.1269	0.2322	-1191.01	-1482.83	-1384.23
8	760.00	63.3	0.4975	0.5970	686.14	459.24	0.9559	0.9446	1.2686	1.2490	0.0156	-1201.08	-1494.49	-1395.66
9	760.00	63.0	0.5610	0.6380	678.81	454.70	0.9558	0.9442	1.2152	1.2965	-0.0648	-1204.86	-1498.87	-1399.96
10	760.00	62.5	0.5890	0.6560	666.65	447.16	0.9556	0.9438	1.2115	1.3375	-0.0990	-1211.24	-1506.27	-1407.22
11	760.00	62.6	0.6220	0.6670	670.51	449.56	0.9557	0.9438	1.1599	1.4004	-0.1885	-1209.21	-1503.91	-1404.90
12	760.00	62.5	0.6960	0.7000	666.65	447.16	0.9557	0.9436	1.0941	1.5767	-0.3654	-1211.24	-1506.27	-1407.22
13	760.00	62.3	0.7650	0.7420	662.80	444.78	0.9557	0.9432	1.0612	1.7629	-0.5075	-1213.29	-1508.65	-1409.54
14	760.00	62.6	0.8250	0.7890	669.22	448.76	0.9559	0.9432	1.0366	1.9188	-0.6157	-1209.89	-1504.70	-1405.67
15	760.00	62.8	0.8550	0.8070	674.39	451.96	0.9561	0.9432	1.0154	2.1033	-0.7282	-1207.17	-1501.55	-1402.58
16	760.00	63.2	0.9160	0.8600	685.08	458.59	0.9564	0.9433	0.9946	2.5957	-0.9593	-1201.62	-1495.12	-1396.28
17	760.00	63.9	0.9550	0.9290	703.39	469.91	0.9568	0.9434	1.0042	2.3984	-0.8706	-1192.35	-1484.38	-1385.75

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 513.20 P = 78.50 V = 118.00 OMEGA = 0.557 OMEGAH = 0.105 DIPOLE = 1.66 ETA = 1.21  
 2 T = 523.30 P = 37.80 V = 286.00 OMEGA = 0.373 OMEGAH = 0.278 DIPOLE = 1.78 ETA = 0.50

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.78786E 01 B = 0.14731E 04 C = 0.23000E 03  
 2 A = 0.70981E 01 B = 0.12387E 04 C = 0.21700E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.64511E 02 B = -.19716E 00 C = 0.38735E 03  
 2 A = 0.13612E 03 B = -.37001E 00 C = 0.80775E 03

## VAPOR PRESSURE AT NBP

P = 758.5 AT T = 64.7

P = 769.5 AT T = 77.1

## COMPONENT ID CHECK

ID NUMBER = 23

ID NUMBER = 12

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.10583E 01 B = -.19773E 01 C = -.11159E 00  
 STANDARD DEVIATION = 0.58186E 01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.9815 G2INF = 2.8027  
 F1INF = 76.72 F2INF = 64.75

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2778

AREA BELOW THE X-AXIS IS -0.2453

GROSS OVER POINT IS X = 0.52

NORMALIZED AREA DIFFERENCE IS 0.0621

PERINGTON J-FACTOR IS 6.43

CONSISTENCY INDEX IS -0.22

## SUMMARY OF WILSON PARAMETERS

MODEL NO. PARAMETER VALUES OBJECTIVE FUNCTION

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE COMPOSITION

1	1069.26	-246.94	0.9055E-12	13.16	0.00946
2	849.39	-124.57	0.1219E-02	6.15	0.01075
3	1054.78	-244.52	0.2808E-00	11.38	0.00946
4	1018.32	-226.85	0.5745E-01	8.73	0.00923
5	960.25	-196.83	0.5855E-02	5.23	0.00902
6	944.55	-104.63	0.2821E-02	16.89	0.00759
7	941.22	-170.78	0.5145E-02	6.17	0.00853
8	979.06	-235.92	0.9614E-03	4.86	0.01009
9	976.68	-234.23	0.9548E-03	4.86	0.01009
10	1050.92	-242.37	0.3053E-01	11.16	0.00943

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	74.8	0.0190	0.0790	1048.27	679.40	0.9607	0.9534	2.8916	0.9976	1.0642	-1056.09	-1328.05	-1231.56
2	760.00	74.0	0.0240	0.0930	1019.14	661.94	0.9603	0.9529	2.7708	1.0130	1.0062	-1065.47	-1338.73	-1242.13
3	760.00	72.3	0.0560	0.1810	559.33	625.99	0.9597	0.9518	2.4538	0.9989	0.8988	-1085.72	-1361.81	-1264.98
4	760.00	67.1	0.1810	0.3840	793.49	525.30	0.9576	0.9480	1.5428	1.0278	0.6367	-1150.40	-1435.96	-1338.15
5	760.00	64.7	0.3110	0.4920	725.11	483.31	0.9565	0.9460	1.5836	1.0928	0.3710	-1181.70	-1472.07	-1373.65
6	760.00	64.2	0.3530	0.5200	711.47	474.90	0.9563	0.9456	1.5153	1.1133	0.3083	-1188.35	-1479.75	-1381.19
7	760.00	63.6	0.4030	0.5570	695.38	464.96	0.9560	0.9450	1.4419	1.1419	0.2333	-1196.37	-1489.04	-1390.31
8	760.00	62.6	0.5660	0.6400	669.22	448.76	0.9556	0.9439	1.2253	1.3211	-0.0753	-1209.89	-1504.70	-1405.67
9	760.00	62.4	0.6160	0.6750	664.08	445.57	0.9556	0.9436	1.1565	1.3571	-0.1260	-1212.61	-1507.85	-1408.77
10	760.00	62.4	0.6460	0.6780	664.08	445.57	0.9556	0.9436	1.1460	1.4585	-0.2411	-1212.61	-1507.85	-1408.77
11	760.00	62.3	0.7080	0.7110	661.52	443.98	0.9556	0.9434	1.1008	1.5923	-0.3691	-1213.97	-1509.44	-1410.32
12	760.00	62.1	0.7200	0.7160	656.44	440.82	0.9555	0.9432	1.0984	1.6431	-0.4028	-1216.71	-1512.61	-1413.43
13	760.00	62.3	0.7340	0.7170	661.52	443.98	0.9556	0.9433	1.0708	1.7115	-0.4690	-1213.97	-1509.44	-1410.32
14	760.00	62.5	0.7430	0.7320	666.65	447.16	0.9557	0.9434	1.0718	1.6658	-0.4410	-1211.24	-1506.27	-1407.22
15	760.00	62.6	0.7440	0.7330	669.22	448.76	0.9558	0.9435	1.0678	1.6603	-0.4414	-1209.89	-1504.70	-1405.67
16	760.00	62.5	0.8100	0.7790	666.65	447.16	0.9558	0.9432	1.0464	1.8576	-0.5740	-1211.24	-1506.27	-1407.22
17	760.00	62.4	0.8150	0.7840	664.08	445.57	0.9558	0.9431	1.0506	1.8711	-0.5772	-1212.61	-1507.85	-1408.77
18	760.00	62.8	0.8890	0.8460	674.39	451.96	0.9561	0.9430	1.0238	2.1919	-0.7612	-1207.17	-1501.55	-1402.58
19	760.00	63.3	0.9390	0.9030	687.45	460.05	0.9565	0.9431	1.0153	2.4682	-0.8883	-1200.41	-1493.71	-1394.90

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 513.20 P = 78.50 V = 118.00 OMEGA = 0.557 OMEGAH = 0.105 DIPOLE = 1.66 ETA = 1.21  
 2 T = 523.30 P = 37.80 V = 286.00 OMEGA = 0.373 OMEGAH = 0.278 DIPOLE = 1.78 ETA = 0.50

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.78786E 04 B = 0.14731E 04 C = 0.23000E 03  
 2 A = 0.70981E 01 B = 0.12387E 04 C = 0.21700E 03

## VAPOR PRESSURE AT NBP

P = 758.5 AT T = 64.7  
 P = 769.5 AT T = 77.1

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.64511E 02 B = 0.19716E 00 C = 0.38735E 03  
 2 A = 0.13612E 03 B = -0.37001E 00 C = 0.80775E 03

## COMPONENT ID CHECK

ID NUMBER = 23  
 ID NUMBER = 12

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.10388E 01 B = 0.19849E 01 C = 0.26798E 01  
 STANDARD DEVIATION = 0.34718E 01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.8258 G2INF = 2.6454  
 T1INF = 76.72 T2INF = 64.75

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2706  
 AREA BELOW THE X-AXIS IS -0.2331  
 CROSS-OVER POINT IS X = 0.52  
 NORMALIZED AREA DIFFERENCE IS 0.0743  
 HERINGTON J-FACTOR IS 6.54  
 CONSISTENCY INDEX IS 0.89

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	1083.02 -292.52	0.9095E-12	5.61	0.00832
2	905.72 -155.69	0.7135E-03	4.90	0.00592
3	1104.50 -307.06	0.1052E-00	5.43	0.00883
4	1061.25 -281.29	0.3487E-01	5.07	0.00780
5	931.62 -170.17	0.3468E-02	4.78	0.00622
6	882.26 -107.04	0.1987E-02	6.22	0.00603
7	885.22 -119.68	0.2194E-02	5.43	0.00585
8	1305.91 -235.42	0.1098E-02	4.26	0.00717
9	1005.53 -239.14	0.1095E-02	4.26	0.00716
10	1097.75 -302.55	0.1236E-01	5.83	0.00866



## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	74.4	0.0280	0.1200	1033.63	670.63	0.9606	0.9532	3.0226	0.9744	1.1321	-1060.77	-1333.37	-1236.83
2	760.00	74.0	0.0370	0.1330	1019.14	661.94	0.9605	0.9529	2.5708	0.9814	0.9630	-1065.47	-1338.73	-1242.13
3	750.00	71.5	0.0730	0.2200	932.17	609.60	0.9595	0.9513	2.3539	0.9942	0.8619	-1095.40	-1372.87	-1275.91
4	760.00	69.3	0.1230	0.3100	860.61	566.23	0.9586	0.9497	2.1303	0.9992	0.7571	-1122.52	-1403.93	-1306.58
5	760.00	66.4	0.2110	0.4200	773.03	512.77	0.9573	0.9475	1.8705	1.0285	0.5982	-1159.43	-1446.36	-1348.39
6	750.00	66.0	0.2360	0.4420	761.54	505.77	0.9571	0.9471	1.7862	1.0357	0.5450	-1164.63	-1452.35	-1354.28
7	750.00	65.8	0.2390	0.4400	755.83	502.22	0.9570	0.9470	1.7688	1.0506	0.5209	-1167.24	-1455.37	-1357.24
8	760.00	65.7	0.2650	0.4680	741.74	493.55	0.9568	0.9466	1.7287	1.0511	0.4976	-1173.79	-1462.93	-1364.67
9	750.00	64.0	0.3520	0.5260	706.08	471.57	0.9562	0.9454	1.5356	1.1104	0.3242	-1191.01	-1482.83	-1384.23
10	760.00	63.7	0.4080	0.5580	698.04	466.61	0.9561	0.9451	1.4215	1.1450	0.2163	-1195.03	-1487.48	-1388.79
11	750.00	63.6	0.4400	0.5730	695.38	464.96	0.9561	0.9449	1.3587	1.1733	0.1467	-1196.37	-1489.04	-1390.31
12	760.00	63.1	0.5330	0.6200	682.20	456.80	0.9559	0.9444	1.2368	1.2737	0.0294	-1203.11	-1496.84	-1397.97
13	760.00	62.9	0.5850	0.6470	676.98	453.57	0.9558	0.9441	1.1849	1.3406	-0.1234	-1205.81	-1499.98	-1401.04
14	750.00	62.4	0.6640	0.6870	664.08	445.57	0.9556	0.9435	1.1298	1.4936	-0.2792	-1212.61	-1507.85	-1408.77
15	760.00	62.4	0.7080	0.7110	664.08	445.57	0.9556	0.9434	1.0966	1.5867	-0.3694	-1212.61	-1507.85	-1408.77
16	750.00	62.4	0.7480	0.7370	664.08	445.57	0.9557	0.9433	1.0760	1.6729	-0.4413	-1212.61	-1507.85	-1408.77
17	760.00	62.4	0.7930	0.7680	664.08	445.57	0.9557	0.9431	1.0577	1.7963	-0.5296	-1212.61	-1507.85	-1408.77
18	750.00	62.5	0.8220	0.7900	666.65	447.16	0.9558	0.9431	1.0457	1.8840	-0.5887	-1211.24	-1506.27	-1407.22
19	760.00	62.8	0.8330	0.8420	674.39	451.96	0.9561	0.9431	1.0259	2.1335	-0.7322	-1207.17	-1501.55	-1402.58
20	750.00	64.0	0.9610	0.9340	706.08	471.57	0.9569	0.9434	0.9995	2.5636	-0.9419	-1191.01	-1482.83	-1384.23

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 513.20 P = 78.50 V = 118.00 CMFGA = 0.557 OMEGAH = 0.105 DIPOLE = 1.66 ETA = 1.21  
 2 T = 523.30 P = 37.80 V = 286.00 CMFGA = 0.373 OMEGAH = 0.278 DIPOLE = 1.78 ETA = 0.50

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = -0.78786E-01 B = 0.14731E-04 C = 0.23000E-03 VAPOR PRESSURE AT NBP  
 2 A = 0.70981E-01 B = 0.12387E-04 C = 0.21700E-03 P = 758.5 AT T = 64.7  
 P = 769.5 AT T = 77.1

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.64511E-02 B = -0.19716E-00 C = 0.38735E-03 COMPONENT ID ECHO CHECK  
 2 A = 0.13612E-03 B = -0.37001E-00 C = 0.80775E-03 ID NUMBER = 23  
 ID NUMBER = 12

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.10560E-01 B = -0.20938E-01 C = 0.82016E-01  
 STANDARD DEVIATION = 0.42508E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.8747 G2INF = 2.6009  
 T1INF = 76.72 T2INF = 64.75

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2699  
 AREA BELOW THE X-AXIS IS -0.2335  
 CROSS-COVER POINT IS X = 0.51  
 NORMALIZED AREA DIFFERENCE IS 0.0723  
 HERRINGTON J-FACTOR IS 6.4  
 CONSISTENCY INDEX IS 0.82

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRFSSURE	COMPOSITION
1	1110.42 -317.03	0.1819E-11	8.75	0.00974
2	862.09 -126.66	0.1019E-02	5.86	0.00796
3	1113.67 -311.95	0.1934E-00	9.92	0.00985
4	1052.71 -272.29	0.4444E-01	7.11	0.00853
5	947.94 -188.43	0.4223E-02	3.88	0.00790
6	935.55 -134.20	0.2555E-02	9.52	0.00667
7	920.98 -152.78	0.3721E-02	4.54	0.00737
8	963.72 -217.53	0.7522E-03	3.58	0.00856
9	963.27 -217.16	0.7441E-03	3.59	0.00856
10	1092.80 -297.37	0.2024E-01	5.17	0.00927

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	60.6	0.1380	0.7200	619.27	210.23	0.9583	0.9489	6.1268	1.1081	1.7101	-1237.43	-2034.40	-1021.63
2	760.00	59.5	0.1780	0.7330	592.40	201.52	0.9573	0.9493	5.0497	1.1563	1.4741	-1253.30	-2053.78	-1030.25
3	760.00	58.9	0.3900	0.7390	579.90	197.46	0.9568	0.9494	2.3725	1.5547	0.4227	-1260.96	-2063.16	-1034.41
4	760.00	58.8	0.6680	0.7460	577.38	196.64	0.9566	0.9498	1.4040	2.7928	-0.6877	-1262.53	-2065.08	-1035.26
5	760.00	58.8	0.8100	0.7480	577.15	196.56	0.9565	0.9500	1.1614	4.8441	-1.4281	-1262.67	-2065.25	-1035.34
6	760.00	59.0	0.8850	0.7650	581.73	198.05	0.9563	0.9512	1.0783	7.4171	-1.9284	-1259.83	-2061.77	-1033.79
7	760.00	59.9	0.9460	0.8090	602.51	204.80	0.9560	0.9548	1.0297	12.4617	-2.4934	-1247.23	-2046.37	-1026.95

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 513.20 P = 78.50 V = 118.00 CMFGA = 0.557 CMFGAH = 0.105 DIPOLE = 1.66 ETA = 1.21

2 T = 540.20 P = 27.00 V = 431.90 CMFGA = 0.349 CMFGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.78786E 01 B = 0.14731E 04 C = 0.23000E 03

2 A = 0.69024E 01 B = 0.12681E 04 C = 0.21690E 03

VAPOR PRESSURE AT NBP

P = 758.5 AT T = 64.7

P = 759.4 AT T = 98.4

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.64511E 02 B = 0.19716E 00 C = 0.38735E 03

2 A = 0.12880E 03 B = -0.60277E -01 C = 0.41160E -03

COMPONENT ID ECHO CHECK

ID NUMBER = 23

ID NUMBER = 16

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.21239E 01 B = 0.33493E 01 C = 0.14586E 01

STANDARD DEVIATION = 0.14067E 00

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 8.3641 G2INF = 14.6430

T1INF = 98.43 T2INF = 64.75

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.5833

AREA BELOW THE X-AXIS IS -0.6202

CROSS-OVER POINT IS X = 0.52

NORMALIZED AREA DIFFERENCE IS -0.0307

HERINGTON J-FACTOR IS 17.90

CONSISTENCY INDEX IS -14.84

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	1903.58 399.47	0.3365E-10
2	2642.76 869.42	0.3554E-04
3	2673.83 739.33	0.6992E-01
4	2672.92 754.25	0.2233E-02
5	2538.81 833.94	0.6875E-03
6	2653.48 736.80	0.1436E-03
7	2510.20 839.35	0.5191E-03
8	2487.10 891.45	0.3371E-03
9	2487.85 892.48	0.3370E-03
10	2558.19 765.30	0.7277E-03

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
80.42	0.03154
4.56	0.00407
7.97	0.00281
7.19	0.00282
5.13	0.00378
8.30	0.00274
5.21	0.00402
4.30	0.00472
4.27	0.00473
7.83	0.00292

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1G1	F2G2	PH1	PH2	G1	G2	LN(G1/G2)	B11	B22	B12
1	615.00	45.0	0.1000	0.4810	324.09	327.88	0.9640	0.9595	8.7878	1.0335	2.1404	-1478.04	-1579.31	-939.14
2	626.00	45.0	0.2000	0.4920	324.09	327.88	0.9630	0.9592	4.5696	1.1579	1.3728	-1478.04	-1579.31	-939.14
3	627.00	45.0	0.3000	0.4940	324.05	327.88	0.9628	0.9592	3.0633	1.3202	0.8417	-1478.04	-1579.31	-939.14
4	627.00	45.0	0.4000	0.4960	324.09	327.88	0.9627	0.9592	2.3066	1.5343	0.4077	-1478.04	-1579.31	-939.14
5	627.00	45.0	0.5000	0.4960	324.09	327.88	0.9627	0.9592	1.8452	1.8411	0.0022	-1478.04	-1579.31	-939.14
6	627.00	45.0	0.6000	0.4980	324.05	327.88	0.9627	0.9593	1.5438	2.2925	-0.3954	-1478.04	-1579.31	-939.14
7	627.00	45.0	0.7000	0.4980	324.09	327.88	0.9627	0.9593	1.3232	3.0566	-0.8372	-1478.04	-1579.31	-939.14
8	627.00	45.0	0.8000	0.4980	324.05	327.88	0.9627	0.9593	1.1578	4.5849	-1.3762	-1478.04	-1579.31	-939.14
9	616.00	45.0	0.9000	0.5110	324.09	327.88	0.9628	0.9605	1.0378	8.7873	-2.1362	-1478.04	-1579.31	-939.14

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 513.20 P = 73.50 V = 118.00 OMEGA = 0.557 OMEGAH = 0.105 DIPOLE = 1.66 ETA = 1.21  
 2 T = 507.90 P = 29.90 V = 372.40 OMEGA = 0.298 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.78786E 01 B = 0.14731E 04 C = 0.23000E 03 P = 758.5 AT T = 64.7  
 2 A = 0.68778E 01 B = 0.11715E 04 C = 0.22437E 03 P = 759.0 AT T = 66.7

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.64511E 02 B = -.19716E 00 C = 0.38735E-03 ID NUMBER = 23  
 2 A = 0.12596E 03 B = -.14456E 00 C = 0.54720E-03 ID NUMBER = 18

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.24578E 01 B = -.46977E 01 C = -.21402E-01  
 STANDARD DEVIATION = 0.15101E 00

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 11.6795 G2INF = 11.7195  
 T1INF = 45.00 T2INF = 45.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.6158  
 AREA BELOW THE X-AXIS IS -0.6140  
 CROSS-OVER POINT IS X = 0.50  
 NORMALIZED AREA DIFFERENCE IS 0.0015  
 CONSISTENCY INDEX IS 0.15

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	1797.93 290.12	0.1028E-08
2	2271.49 755.75	0.1596E-03
3	2557.71 1050.68	0.3950E-01
4	2451.17 967.66	0.7650E-02
5	2416.02 935.19	0.2651E-02
6	2735.91 1278.42	0.1651E-04
7	2435.51 960.89	0.2086E-02
8	2374.95 905.21	0.8074E-03
9	2374.95 905.21	0.8082E-03
10	2557.79 1050.63	0.4906E-03

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
75.09	0.04228
8.71	0.01132
14.37	0.00380
7.45	0.00575
6.47	0.00656
26.61	0.00071
7.11	0.00601
5.25	0.00769
5.25	0.00769
14.37	0.00380

METHANOL (1) ISOPRENE (2)

SYSTEM C89

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	745.00	32.6	0.0140	0.0840	182.58	651.52	0.9725	0.9606	23.7708	0.9572	3.2122	-1706.84	-1015.60	-764.54
2	745.00	30.1	0.1540	0.1540	161.50	635.35	0.9656	0.9603	4.4471	1.1217	1.3774	-1757.61	-1035.43	-779.13
3	745.00	32.8	0.6380	0.1900	184.37	696.60	0.9640	0.9621	1.1582	2.2934	-0.6831	-1702.85	-1014.04	-763.39
4	745.00	51.5	0.9670	0.5500	428.50	1249.66	0.9564	0.9778	0.9443	7.9192	-2.1266	-1371.94	-884.43	-667.98

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 513.20	P = 78.50	V = 118.00	OMEGA = 0.557	OMEGA H = 0.105	DIPOLE = 1.66	ETA = 1.21
2	T = 484.30	P = 38.00	V = 272.40	OMEGA = 0.175	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.78786E 01	B = 0.14731E 04	C = 0.23000E 03	P = 758.5	AT T = 64.7
2	A = 0.69033E 01	B = 0.10810E 04	C = 0.23467E 03	P = 760.8	AT T = 34.1

MOLEAR VOLUME EQUATION COEFFICIENTS

1	A = 0.64511E 02	B = -0.19716E 00	C = 0.38735E 03	COMPONENT ID ECHO CHECK
2	A = 0.26319E 03	B = -0.11928E 01	C = 0.21397E 02	ID NUMBER = 23
				ID NUMBER = 21

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.30193E 01	B = -0.81197E 01	C = 0.30005E 01
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INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 20.4770	G2INF = 8.1651
T1INF = 33.49	T2INF = 64.24

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.6278
AREA BELOW THE X-AXIS IS	-0.6681
CROSS-OVER POINT IS X =	0.45
NORMALIZED AREA DIFFERENCE IS	-0.0312
HERINGTON J-FACTOR IS	10.59
CONSISTENCY INDEX IS	-7.47

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)	
			PRESSURE	COMPOSITION
1	1947.54 219.78	0.2337E-09	15.79	0.02399
2	2326.78 -169.03	0.3499E-02	46.68	0.04985
3	2251.97 281.67	0.2714E 00	34.05	0.01092
4	2263.70 236.06	0.3607E-01	27.34	0.01367
5	1839.80 310.70	0.6573E-02	14.69	0.02131
6	2297.73 329.17	0.6385E-03	44.32	0.00717
7	1852.68 328.06	0.5789E-02	17.39	0.01981
8	1702.67 302.14	0.1008E-02	9.02	0.02600
9	1702.07 302.30	0.1007E-02	9.01	0.02601
10	2247.99 290.74	0.1026E-02	35.29	0.01042

\*\*DIAGNOSTIC\*\*

2 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
 SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	730.00	62.4	0.0700	0.1980	664.08	656.38	0.9826	0.9514	3.0506	0.9080	1.2118	-1212.61	-1434.61	-777.39
2	730.00	60.7	0.1240	0.2900	621.69	619.94	0.9766	0.9523	2.6779	0.9044	1.0855	-1236.03	-1453.84	-786.11
3	730.00	58.0	0.2850	0.4180	558.87	565.37	0.9689	0.9546	1.8534	0.9984	0.6187	-1274.28	-1485.27	-800.30
4	730.00	57.4	0.4200	0.4800	545.63	553.78	0.9658	0.9567	1.4745	1.1250	0.2705	-1282.97	-1492.40	-803.52
5	730.00	57.0	0.5510	0.5340	536.95	546.16	0.9633	0.9588	1.2674	1.3234	-0.0432	-1288.79	-1497.19	-805.67
6	730.00	57.2	0.6590	0.5770	541.28	549.96	0.9618	0.9608	1.1498	1.5337	-0.2881	-1285.87	-1494.75	-804.59
7	730.00	57.8	0.7270	0.6130	554.43	561.48	0.9610	0.9628	1.0653	1.7657	-0.5053	-1277.17	-1487.64	-801.37
8	730.00	58.1	0.7620	0.6330	561.10	567.32	0.9605	0.9639	1.0366	1.9031	-0.6076	-1272.85	-1484.09	-799.77
9	730.00	58.5	0.8200	0.6790	570.10	575.18	0.9594	0.9665	1.0158	2.1767	-0.7622	-1267.10	-1479.37	-797.64
10	730.00	58.9	0.8390	0.6950	579.21	583.11	0.9593	0.9675	1.0000	2.2832	-0.8256	-1261.39	-1474.67	-795.53
11	730.00	60.0	0.3880	0.7500	604.88	605.41	0.9587	0.9710	0.9757	2.6005	-0.9803	-1245.82	-1461.89	-789.75
12	730.00	60.1	0.9010	0.7620	607.26	607.46	0.9585	0.9717	0.9731	2.7934	-1.0546	-1244.42	-1460.73	-789.23
13	730.00	60.9	0.9270	0.7960	626.56	624.14	0.9584	0.9740	0.9574	3.1677	-1.1965	-1233.25	-1451.56	-785.08
14	730.00	62.8	0.9680	0.8810	674.35	665.20	0.9585	0.9797	0.9429	3.5788	-1.4398	-1207.17	-1430.14	-775.36

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 513.20 P = 73.50 V = 118.00 OMEGA = 0.557 OMEGAH = 0.105 DIPOLE = 1.66 ETA = 1.21  
 2 T = 500.10 P = 23.40 V = 382.00 OMEGA = 0.350 OMEGAH = 0.306 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.78786E 01 B = 0.14731E 04 C = 0.23000E 03  
 2 A = 0.79047E 01 B = 0.16993E 04 C = 0.27315E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.64511E 02 B = -.19716E 00 C = 0.38735E 03  
 2 A = 0.14077E 03 B = 0.0 C = 0.0

VAPOR PRESSURE AT NBP

P = 758.5 AT T = 64.7  
 P = 846.9 AT T = 68.3

COMPONENT ID CHECK

ID NUMBER = 23  
 ID NUMBER = 46

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.13240E 01 B = -.20620E 01 C = -.67306E 00  
 STANDARD DEVIATION = 0.62588E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 3.7585 G2INF = 4.1003  
 T1INF = 63.93 T2INF = 63.72

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.3790  
 AREA BELOW THE X-AXIS IS -0.3104  
 CROSS-OVER POINT IS X = 0.55  
 NORMALIZED AREA DIFFERENCE IS 0.0996  
 HERINGTON J-FACTOR IS 3.15  
 CONSISTENCY INDEX IS 6.81

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	1301.22 -212.84	0.4547E-11	55.12	0.01463
2	916.79 -170.33	0.1212E-01	12.84	0.04049
3	1178.77 -141.51	0.4651E 00	45.64	0.01185
4	1140.45 -147.43	0.1241E 00	37.52	0.01162
5	1083.56 -206.88	0.3034E-01	17.40	0.02257
6	1203.08 -121.19	0.5641E-02	51.09	0.01239
7	1108.38 -207.64	0.3729E-01	21.87	0.01986
8	955.76 -147.32	0.1850E-02	6.10	0.03327
9	956.32 -148.24	0.1843E-02	6.10	0.03327
10	1258.38 -207.94	0.2430E-01	48.65	0.01359

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	75.3	0.0760	0.1930	1066.82	641.20	0.9575	0.9646	1.7296	0.9952	0.5528	-1050.28	-1002.98	-1152.94
2	760.00	72.2	0.1470	0.3080	955.91	579.92	0.9572	0.9628	1.5921	1.0202	0.4451	-1086.92	-1028.04	-1189.65
3	760.00	70.7	0.1970	0.3770	905.62	551.95	0.9571	0.9617	1.5348	1.0239	0.4047	-1105.17	-1040.49	-1207.92
4	760.00	68.8	0.2650	0.4530	844.97	518.02	0.9568	0.9603	1.4689	1.0449	0.3405	-1128.79	-1056.55	-1231.54
5	760.00	67.5	0.3560	0.5280	805.37	495.76	0.9567	0.9590	1.3370	1.0738	0.2193	-1145.27	-1067.74	-1248.01
6	760.00	65.9	0.4980	0.6220	758.68	469.38	0.9566	0.9571	1.1950	1.1629	0.0273	-1165.93	-1081.75	-1268.66
7	760.00	65.1	0.6220	0.6950	736.16	456.62	0.9566	0.9556	1.1018	1.2790	-0.1491	-1176.42	-1088.86	-1279.13
8	760.00	64.4	0.7470	0.7770	716.90	445.67	0.9566	0.9540	1.0533	1.4290	-0.3051	-1185.69	-1095.13	-1288.39
9	760.00	64.3	0.8290	0.8320	714.18	444.12	0.9568	0.9530	1.0203	1.5967	-0.4478	-1187.02	-1096.02	-1289.72
10	760.00	64.3	0.8410	0.8420	714.18	444.12	0.9568	0.9528	1.0179	1.6147	-0.4614	-1187.02	-1096.02	-1289.72
11	760.00	64.3	0.8730	0.8690	714.18	444.12	0.9569	0.9523	1.0121	1.6752	-0.5039	-1187.02	-1096.02	-1289.72
12	760.00	64.4	0.9360	0.9260	716.90	445.67	0.9571	0.9513	1.0023	1.8693	-0.6233	-1185.69	-1095.13	-1288.39

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 513.20 P = 78.50 V = 118.00 OMEGA = 0.557 OMEGAH = 0.105 DIPOLE = 1.66 ETA = 1.21  
 2 T = 533.20 P = 39.50 V = 288.40 OMEGA = 0.337 OMEGAH = 0.215 DIPOLE = 2.70 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.78786E 01 B = 0.14731E 04 C = 0.23000E 03  
 2 A = 0.69742E 01 B = 0.12096E 04 C = 0.21600E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.64511E 02 B = -0.19716E 00 C = 0.38735E 03  
 2 A = 0.71193E 02 B = 0.96599E 02 C = 0.18100E 03

VAPOR PRESSURE AT NBP

P = 758.5 AT T = 64.7  
 P = 762.4 AT T = 79.6

COMPONENT ID ECHC CHECK

ID NUMBER = 23  
 ID NUMBER = 28

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.62165E 00 B = -0.10270E 01 C = -0.31219E 00  
 STANDARD DEVIATION = 0.11672E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.8620 G2INF = 2.0494  
 T1INF = 79.50 T2INF = 64.75

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.1698  
 AREA BELOW THE X-AXIS IS -0.1657  
 CROSS-OVER POINT IS X = 0.52  
 NORMALIZED AREA DIFFERENCE IS 0.0122  
 HERINGTON J-FACTOR IS 6.76  
 CONSISTENCY INDEX IS -5.54



## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	735.27 -229.40	0.3638E-11	2.73	0.00214
2	780.19 -266.68	0.1489E-03	2.33	0.00296
3	728.97 -225.16	0.3675E-02	2.74	0.00208
4	726.59 -223.31	0.1761E-02	2.78	0.00206
5	740.61 -236.84	0.4363E-03	2.49	0.00220
6	695.93 -180.68	0.1377E-03	3.96	0.00201
7	733.47 -226.13	0.3209E-03	2.87	0.00212
8	778.79 -275.11	0.2099E-03	1.85	0.00266
9	778.79 -279.11	0.2100E-03	1.85	0.00266
10	732.00 -227.38	0.1972E-02	2.70	0.00211

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	745.00	54.0	0.0400	0.2340	475.34	592.14	0.9728	0.9530	8.9060	0.9519	2.2360	-1333.42	-1341.45	-838.49
2	745.00	47.8	0.1270	0.3360	366.15	482.79	0.9646	0.9521	5.1843	1.1118	1.5397	-1431.25	-1408.15	-877.34
3	745.00	44.7	0.3950	0.3950	319.83	434.27	0.9598	0.9523	2.2323	1.6254	0.3173	-1483.15	-1443.61	-897.94
4	745.00	44.9	0.5660	0.4170	322.67	437.28	0.9588	0.9532	1.6285	2.1704	-0.2872	-1479.74	-1441.28	-896.58
5	745.00	44.9	0.5680	0.4150	322.67	437.28	0.9589	0.9531	1.6151	2.1877	-0.3034	-1479.74	-1441.28	-896.58
6	745.00	48.4	0.8810	0.4920	375.72	462.65	0.9575	0.9576	1.0586	6.1504	-1.7595	-1421.44	-1401.45	-873.45

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1	T = 513.20	P = 78.50	V = 118.00	OMEGA = 0.557	OMEGA <sub>H</sub> = 0.105	DIPOLE = 1.66	ETA = 1.21
2	T = 497.99	P = 29.50	V = 367.30	OMEGA = 0.278	OMEGA <sub>H</sub> = 0.0	DIPOLE = 0.0	ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.78786E 01	B = -0.14731E 04	C = 0.23000E 03	VAPOR PRESSURE AT NBP
2	A = 0.68391E 01	B = 0.11354E 04	C = 0.22657E 03	P = 758.5 AT T = 64.7
				P = 760.7 AT T = 60.3

## MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.64511E 02	B = -0.19716E 00	C = 0.38735E 03	COMPONENT ID ECHO CHECK
2	A = 0.10013E 03	B = 0.38799E 01	C = 0.23671E 03	ID NUMBER = 23
				ID NUMBER = 30

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.23116E 01	B = -0.50170E 01	C = 0.50326E 00
STANDARD DEVIATION = 0.13841E 00		

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 10.0909	G2INF = 9.0439
T1INF = 59.65	T2INF = 64.24

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.5502
AREA BELOW THE X-AXIS IS	-0.5793
CROSS-OVER POINT IS X =	0.48
NORMALIZED AREA DIFFERENCE IS	-0.0258
HERINGTON J-FACTOR IS	7.05
CONSISTENCY INDEX IS	-4.48

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	1822.36 146.67	0.3729E-10
2	2185.77 886.40	0.7217E-02
3	1830.54 666.17	0.2191E 00
4	1870.36 615.27	0.4402E-01
5	1910.58 698.00	0.1768E-01
6	1979.01 348.74	0.2752E-02
7	1997.18 560.34	0.1534E-01
8	1821.64 1027.50	0.1478E-01
9	1821.64 1027.50	0.1479E-01
10	1822.46 685.23	0.5918E-02

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
71.48	0.02086
45.55	0.03336
35.39	0.01981
35.45	0.01774
27.28	0.01914
47.12	0.01315
34.54	0.01707
34.17	0.02546
34.17	0.02546
34.94	0.01982

METHANOL (1) 3 METHYLPENTANE (2)

SYSTEM 093

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	745.00	52.7	0.0790	0.3210	450.49	516.52	0.9678	0.9535	6.4934	1.0088	1.8620	-1353.30	-1374.44	-850.62
2	745.00	47.8	0.1900	0.3800	366.15	438.23	0.9624	0.9527	3.9104	1.2335	1.1538	-1431.25	-1428.79	-881.83
3	745.00	46.2	0.4250	0.4250	341.60	414.75	0.9593	0.9534	2.0889	1.7039	0.2037	-1457.78	-1447.33	-892.45
4	745.00	47.4	0.7820	0.4720	359.88	432.27	0.9578	0.9557	1.1950	3.9694	-1.2005	-1437.83	-1433.39	-884.46

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 513.20	P = 78.50	V = 118.00	OMEGA = 0.557	OMEGA H = 0.105	DIPOLE = 1.66	ETA = 1.21
2	T = 504.40	P = 30.80	V = 367.00	OMEGA = 0.276	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.78786E 01	B = 0.14731E 04	C = 0.23000E 03
2	A = 0.68489E 01	B = 0.11524E 04	C = 0.22713E 03

VAPOR PRESSURE AT NBP

P = 758.5	AT T = 64.7
P = 760.4	AT T = 63.3

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.64511E 02	B = -.19716E 00	C = 0.38735E-03
2	A = 0.10922E 03	B = -.35414E-01	C = 0.35999E-03

COMPONENT ID CHECK

ID NUMBER = 23
ID NUMBER = 31

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.22370E 01	B = -.55048E 01	C = 0.14334E 01
STANDARD DEVIATION = 0.11333E 00		

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.4931
AREA BELOW THE X-AXIS IS	-0.5307
CROSS-OVER POINT IS X =	0.46
NORMALIZED AREA DIFFERENCE IS	-0.0367
HERINGTON J-FACTOR IS	7.73
CONSISTENCY INDEX IS	-4.05

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 9.3653	G2INF = 6.2617
T1INF = 62.65	T2INF = 64.24

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	1855.00 -99.55	0.9095F-12
2	2208.64 946.71	0.3780F-02
3	1728.86 780.34	0.2245F 00
4	1816.16 600.63	0.3724F-01
5	1826.77 844.86	0.1584F-01
6	2014.11 107.10	0.1660F-02
7	1928.94 553.11	0.1194F-01
8	1708.01 8169.50	0.3697F-02
9	1707.98 8204.07	0.3714F-02
10	1653.85 8458.87	0.2593F-01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
92.66	0.02717
41.68	0.04092
36.88	0.02487
39.80	0.02277
31.88	0.02898
66.66	0.01088
38.59	0.02466
19.34	0.04151
19.34	0.04151
21.61	0.03952

\*\*DIAGNOSTIC\*\*

1 DATA POINTS FROM ORIGINAL PREFERENCE DELETED PRIOR TO CALCULATION  
SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	88.3	0.1550	0.4370	1646.50	518.63	0.9666	0.9650	1.2587	0.9396	0.2923	-911.08	-1025.03	-999.07
2	750.00	83.5	0.2650	0.5950	1409.50	426.63	0.9668	0.9625	1.1687	0.9422	0.2155	-959.88	-1074.14	-1050.14
3	760.00	81.6	0.3100	0.6600	1323.36	394.14	0.9661	0.9614	1.1794	0.9109	0.2583	-980.01	-1094.45	-1071.24
4	760.00	78.8	0.3860	0.7250	1203.98	350.00	0.9648	0.9597	1.1422	0.9308	0.2046	-1010.56	-1125.33	-1103.27
5	760.00	72.6	0.6100	0.8720	969.68	266.66	0.9618	0.9557	1.0760	0.8915	0.1881	-1082.11	-1197.94	-1178.41
6	750.00	67.2	0.8600	0.9650	756.45	208.24	0.9588	0.9519	1.0251	0.8661	0.1686	-1149.11	-1266.28	-1248.90
7	760.00	66.5	0.8950	0.9750	775.93	201.52	0.9584	0.9514	1.0211	0.8519	0.1812	-1158.14	-1275.51	-1258.41

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1	T = 513.20	P = 78.50	V = 118.00	OMEGA = 0.557	OMEGA <sub>H</sub> = 0.105	DIPOLE = 1.66	ETA = 1.21
2	T = 540.70	P = 51.00	V = 220.00	OMEGA = 0.612	OMEGA <sub>H</sub> = 0.201	DIPOLE = 1.68	ETA = 0.57

## VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.78786E 01	B = 0.14731E 04	C = 0.23000E 03	VAPOR PRESSURE AT NBP
2	A = -0.79973E 01	B = -0.15697E 04	C = 0.20950E 03	P = 758.5 AT T = 64.7
				P = 757.4 AT T = 97.2

## MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.64511E 02	B = -1.9716E 00	C = 0.38735E 03	COMPONENT ID ECHO CHECK
2	A = 0.77979E 02	B = -0.91570E 01	C = 0.27520E 03	ID NUMBER = 23
				ID NUMBER = 37

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.34613E 00	B = -0.45750E 00	C = 0.30114E 00
STANDARD DEVIATION = 0.21747E-01		

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.4136	G2INF = 0.8271
T1INF = 97.29	T2INF = 64.75

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

SQUARE ROOT OF NEGATIVE ARGUMENT REQUIRED  
TO OBTAIN X-INTERCEPT  
VALUE OF REQUIRED ARGUMENT IS -0.20764E 00  
THERMODYNAMIC CONSISTENCY TEST IS ABORTED

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	1845.13 -1136.54	0.3053E-10
2	-24.11 244.26	0.4011E-03
3	1143.08 -858.06	0.2022E 00
4	1114.50 -392.13	0.1839E 00
5	107.07 284.36	0.9449E-02
6	-115.27 10434.52	0.1825E-02
7	63.22 450.97	0.6611E-02
8	215.46 23.85	0.7182E-04
9	215.46 23.84	0.7188E-04
10	1101.02 -395.92	0.1816E 01

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
55.29	0.04750
38.66	0.03710
27.00	0.03551
40.13	0.03840
8.53	0.02318
70.55	0.00950
16.93	0.02078
2.22	0.02599
2.22	0.02599
42.84	0.03897

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	474.80	55.0	0.9529	0.9816	495.20	214.61	0.9681	0.9846	0.9955	0.8851	0.1175	-1318.35	-438.13	-984.63
2	488.41	55.0	0.9232	0.9636	495.20	214.61	0.9685	0.9850	0.9961	1.0604	-0.0626	-1318.35	-438.13	-984.63
3	478.39	55.0	0.9854	0.9479	495.20	214.61	0.9652	0.9854	1.0014	0.9968	0.0046	-1318.35	-438.13	-984.63
4	466.47	55.0	0.8432	0.9191	495.20	214.61	0.9699	0.9860	0.9949	1.1038	-0.1038	-1318.35	-438.13	-984.63
5	460.54	55.0	0.7946	0.8915	495.20	214.61	0.9703	0.9864	1.0115	1.1162	-0.0986	-1318.35	-438.13	-984.63
6	445.49	55.0	0.7372	0.8596	495.20	214.61	0.9712	0.9871	1.0179	1.0928	-0.0711	-1318.35	-438.13	-984.63
7	432.97	55.0	0.6983	0.8330	495.20	214.61	0.9720	0.9877	1.0129	1.1011	-0.0836	-1318.35	-438.13	-984.63
8	402.85	55.0	0.5990	0.7693	495.20	214.61	0.9738	0.9890	1.0166	1.0664	-0.0478	-1318.35	-438.13	-984.63
9	383.30	55.0	0.5310	0.7189	495.20	214.61	0.9750	0.9898	1.0209	1.0580	-0.0356	-1318.35	-438.13	-984.63
10	364.13	55.0	0.4682	0.6664	495.20	214.61	0.9761	0.9906	1.0209	1.0528	-0.0308	-1318.35	-438.13	-984.63
11	346.22	55.0	0.3986	0.6027	495.20	214.61	0.9771	0.9913	1.0323	1.0551	-0.0219	-1318.35	-438.13	-984.63
12	320.89	55.0	0.3498	0.5460	495.20	214.61	0.9767	0.9922	0.9892	1.0346	-0.0448	-1318.35	-438.13	-984.63
13	312.66	55.0	0.2739	0.4626	495.20	214.61	0.9789	0.9926	1.0433	1.0690	-0.0244	-1318.35	-438.13	-984.63
14	297.66	55.0	0.2314	0.4070	495.20	214.61	0.9798	0.9931	1.0352	1.0615	-0.0251	-1318.35	-438.13	-984.63
15	287.66	55.0	0.2107	0.3711	495.20	214.61	0.9803	0.9934	1.0024	1.0598	-0.0557	-1318.35	-438.13	-984.63
16	289.25	55.0	0.1907	0.3428	495.20	214.61	0.9801	0.9935	1.0312	1.0854	-0.0513	-1318.35	-438.13	-984.63
17	273.03	55.0	0.1638	0.3062	495.20	214.61	0.9811	0.9939	1.0106	1.0480	-0.0363	-1318.35	-438.13	-984.63
18	258.93	55.0	0.1065	0.2056	495.20	214.61	0.9817	0.9943	0.9867	1.0660	-0.0773	-1318.35	-438.13	-984.63
19	250.90	55.0	0.0822	0.1702	495.20	214.61	0.9821	0.9946	1.0298	1.0502	-0.0197	-1318.35	-438.13	-984.63
20	247.02	55.0	0.0451	0.1120	495.20	214.61	0.9821	0.9947	1.2160	1.0637	-0.1339	-1318.35	-438.13	-984.63

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 513.20 P = 78.50 V = 118.00 OMEGA = 0.557 OMEGAH = 0.105 DIPOLE = 1.66 ETA = 1.21  
 2 T = 508.50 P = 47.00 V = 218.50 OMEGA = 0.663 OMEGAH = 0.187 DIPOLE = 1.60 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.78786E-01 B = 0.14731E-04 C = 0.23000E-03  
 2 A = 0.66664E-01 B = 0.81305E-03 C = 0.13293E-03  
 P = 758.5 AT T = 64.7  
 P = 769.7 AT T = 82.5

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.64511E-02 B = -.19716E-00 C = 0.38735E-03  
 2 A = 0.14178E-03 B = -.49807E-00 C = 0.92870E-03  
 COMPONENT ID CHECK  
 ID NUMBER = 23  
 ID NUMBER = 22

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.47678E-01 B = -.44585E-00 C = 0.41824E-00  
 STANDARD DEVIATION = 0.55716E-01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.0488 G2INF = 0.9801  
 T1INF = 55.00 T2INF = 55.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

EQUATION SOLVED FOR X-INTERCEPT  
 ROOTS ARE: X = 0.94544E-00 AND X = 6.12058E-00  
 BOTH ROOTS ARE IN THE RANGE 0 TO 1  
 THERMODYNAMIC CONSISTENCY TEST IS ABORTED

## SUMMARY OF WILSON PARAMETERS

MODEL NO.    PARAMETER VALUES    OBJECTIVE FUNCTION

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE    COMPOSITION

1	986.32	-808.05	C.9415E-12	10.36	0.00657
2	1836.15	-964.96	0.4785E-02	4.92	0.01420
3	1236.38	-876.63	0.9682E-01	7.12	0.00745
4	1253.74	-887.30	C.9158E-01	7.61	0.00697
5	1402.65	-906.16	0.1436E-01	5.14	0.00963
6	1241.46	-920.14	0.1777E-02	11.92	0.00550
7	1489.93	-935.33	C.1334E-01	5.73	0.00906
8	1360.76	-870.28	0.4394E-02	4.01	0.01244
9	1360.77	-870.28	0.4395E-02	4.01	0.01244
10	1217.00	-874.11	0.1150E-01	7.53	0.00706

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	750.00	79.9	0.1350	0.2050	1249.84	682.16	0.9625	0.9868	0.8874	1.0075	-0.1269	-958.43	-377.68	-761.77
2	750.00	79.7	0.1400	0.2100	1241.40	676.61	0.9624	0.9867	0.8825	1.0153	-0.1401	-1000.63	-378.07	-763.28
3	750.00	79.4	0.1650	0.2550	1228.83	668.35	0.9626	0.9866	0.9187	0.9982	-0.0829	-1003.93	-378.66	-765.56
4	750.00	78.3	0.2150	0.3150	1183.59	638.70	0.9624	0.9863	0.9041	1.0212	-0.1218	-1016.13	-380.85	-773.98
5	750.00	78.0	0.2200	0.3270	1171.49	630.79	0.9624	0.9862	0.9266	1.0224	-0.0984	-1019.49	-381.45	-776.30
6	750.00	77.6	0.2550	0.3800	1155.49	620.36	0.9625	0.9860	0.9420	1.0024	-0.0622	-1023.98	-382.26	-779.41
7	750.00	73.7	0.4670	0.6370	1008.38	525.43	0.9617	0.9841	0.9872	0.9667	0.0210	-1069.01	-390.43	-810.57
8	750.00	73.1	0.4900	0.6650	987.12	511.88	0.9615	0.9838	1.0031	0.9567	0.0474	-1076.14	-391.74	-815.51
9	750.00	71.2	0.5970	0.7550	922.15	470.73	0.9607	0.9828	0.9999	0.9619	0.0388	-1099.05	-395.96	-831.41
10	750.00	70.2	0.6650	0.8080	889.34	450.13	0.9603	0.9821	0.9956	0.9476	0.0494	-1111.33	-398.24	-839.93
11	750.00	69.5	0.7000	0.8350	866.93	436.13	0.9600	0.9817	1.0024	0.9382	0.0661	-1120.02	-399.85	-845.97
12	750.00	66.4	0.9100	0.9580	773.03	378.13	0.9584	0.9797	0.9904	0.9163	0.0778	-1159.43	-407.25	-873.40

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 513.20 P = 78.50 V = 118.00 CMEGA = 0.557 OMEGAH = 0.105 DIPOLE = 1.66 ETA = 1.21  
 2 T = 508.50 P = 47.60 V = 218.50 CMEGA = 0.663 OMEGAH = 0.187 DIPOLE = 1.60 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.78786E 01 B = 0.14731E 04 C = 0.23000E 03 P = 758.5 AT T = 64.7  
 2 A = 0.66604E 01 B = 0.81305E 03 C = 0.13293E 03 P = 769.7 AT T = 82.5

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.64511E 02 B = -.19716E 00 C = 0.38735E 03 COMPONENT ID ECHO CHECK  
 2 A = 0.14178E 03 B = .49807E 00 C = 0.92870E 03 ID NUMBER = 23  
 ID NUMBER = 22

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = -.21855E 00 B = 0.69110E 00 C = -.40598E 00  
 STANDARD DEVIATION = 0.19454E 01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 0.8037 G2INF = 0.9356  
 T1INF = 82.19 T2INF = 64.75

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS -0.0409  
 AREA BELOW THE X-AXIS IS 0.0325  
 CROSS-OVER POINT IS X = 0.42  
 NORMALIZED AREA DIFFERENCE IS 0.1134  
 HERINGTON J-FACTOR IS 7.74  
 CONSISTENCY INDEX IS 3.60

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	-292.88	818.01	0.5983E-11	24.18	0.00824
2	193.93	205.83	0.4160E-03	3.75	0.00849
3	-173.99	541.89	0.5717E-02	7.68	0.00390
4	-175.48	543.99	0.6067E-02	7.96	0.00390
5	-157.40	529.38	0.1719E-02	4.60	0.00492
6	-229.55	722.37	0.4750E-03	10.88	0.00400
7	-162.84	545.70	0.1753E-02	4.75	0.00482
8	-29.55	197.93	0.3590E-03	3.29	0.00776
9	-29.55	197.93	0.3588E-03	3.29	0.00776
10	-144.74	445.70	0.1920E-00	7.48	0.00402



## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	89.9	0.0460	0.519C	1731.97	394.56	0.9762	0.9608	4.8257	0.9295	1.6471	-895.44	-1383.67	-740.95
2	760.00	66.8	0.2340	0.8130	783.21	177.73	0.9599	0.9664	3.2314	1.0047	1.1682	-1154.90	-1650.22	-864.06
3	760.00	65.8	0.3300	0.8220	754.42	171.19	0.9592	0.9667	2.4034	1.1356	0.7457	-1167.85	-1663.79	-870.17
4	760.00	65.1	0.4390	0.8290	736.16	167.04	0.9588	0.9669	1.8641	1.3434	0.3275	-1176.42	-1672.72	-874.18
5	760.00	64.1	0.6750	0.8420	710.12	161.12	0.9580	0.9677	1.2770	2.2101	-0.5485	-1189.01	-1685.92	-880.10
6	760.00	63.7	0.8300	0.8660	698.04	158.38	0.9575	0.9693	1.0860	3.6514	-1.2126	-1195.03	-1692.24	-882.92
7	760.00	63.6	0.8700	0.8780	695.38	157.77	0.9573	0.9701	1.0543	4.3678	-1.4214	-1196.37	-1693.66	-883.56
8	760.00	63.7	0.9300	0.9120	698.04	158.38	0.9571	0.9726	1.0203	5.8439	-1.7453	-1195.03	-1692.24	-882.92
9	760.00	64.1	0.9740	0.9570	708.77	160.81	0.9571	0.9762	1.0068	7.5990	-2.0212	-1189.68	-1686.62	-880.41

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1	T = 513.20	P = 78.50	V = 118.00	OMEGA = 0.557	OMEGA H = 0.105	DIPCLE = 1.66	ETA = 1.21
2	T = 594.00	P = 40.00	V = 331.10	OMEGA = 0.241	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.78736E 01	B = 0.14731E 04	C = 0.23000E 03
2	A = 0.69533E 01	B = 0.13439E 04	C = 0.21938E 03

## VAPOR PRESSURE AT NBP

P = 758.5 AT T = 64.7  
P = 759.4 AT T = 110.6

## MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.64511E 02	B = -.19716E 00	C = 0.38735E-03
2	A = 0.98864E 02	B = -.55774E-01	C = 0.27703E-03

## COMPONENT ID CHECK

ID NUMBER = 23  
ID NUMBER = 33

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.17776E 01	B = -.25914E-01	C = -.12885E 01
STANDARD DEVIATION = 0.51529E-01		

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 5.9159	G2INF = 8.1843
T1INF = 110.63	T2INF = 64.75

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.5145  
AREA BELOW THE X-AXIS IS -0.4620  
CROSS-OVER POINT IS X = 0.54  
NORMALIZED AREA DIFFERENCE IS 0.0537  
HERINGTON J-FACTOR IS 20.95  
CONSISTENCY INDEX IS -15.57

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	1522.72	0.5275E-16
2	1148.38	0.4791E-02
3	1423.33	0.2474E 00
4	1403.39	0.4584E-01
5	1365.74	0.1070E-01
6	1430.14	0.2863E-02
7	1390.97	0.9493E-02
8	1340.91	0.6960E-02
9	1341.16	0.6964E-02
10	1414.76	0.8845E-02

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
26.57	0.01188
26.31	0.01946
18.14	0.01022
16.02	0.01025
16.92	0.01058
19.18	0.00933
19.41	0.01016
16.70	0.01120
16.72	0.01119
17.43	0.01020

\*\*DIAGNOSTIC\*\*

5 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	95.2	0.0293	0.1831	2039.57	628.94	0.9716	0.9825	2.2551	0.9985	0.8165	-845.79	-528.40	-697.87
2	760.00	94.5	0.0346	0.2107	1596.73	613.11	0.9713	0.9824	2.2481	0.9950	0.8151	-852.17	-530.68	-702.28
3	750.00	93.7	0.0406	0.2363	1948.60	595.42	0.9711	0.9822	2.2011	0.9974	0.7916	-859.52	-533.29	-707.36
4	760.00	92.8	0.0422	0.2652	1895.51	576.02	0.9707	0.9821	2.4423	0.9935	0.8995	-867.88	-536.26	-713.12
5	760.00	91.8	0.0557	0.2978	1837.84	555.08	0.9704	0.9819	2.1422	0.9991	0.7627	-877.27	-539.57	-719.58
6	760.00	90.9	0.0644	0.3265	1787.09	536.77	0.9700	0.9818	2.0884	1.0000	0.7364	-885.83	-542.56	-725.45
7	760.00	90.0	0.0737	0.3608	1737.43	518.97	0.9697	0.9816	2.0735	0.9913	0.7379	-894.48	-545.58	-731.37
8	760.00	89.1	0.0838	0.3861	1688.82	501.65	0.9693	0.9814	2.0069	0.9957	0.7009	-903.22	-548.61	-737.35
9	760.00	89.2	0.0948	0.4142	1654.17	503.55	0.9694	0.9814	1.8972	0.9580	0.6833	-902.25	-548.27	-736.69
10	760.00	78.8	0.2801	0.6621	1203.98	335.20	0.9649	0.9794	1.4376	1.0417	0.3222	-1010.56	-584.62	-809.82
11	760.00	77.6	0.3004	0.6882	1155.49	319.23	0.9643	0.9792	1.4509	1.0383	0.3346	-1023.98	-588.98	-818.78
12	760.00	77.6	0.3212	0.6882	1155.49	319.23	0.9643	0.9792	1.3570	1.0701	0.2375	-1023.98	-588.98	-818.78
13	760.00	76.9	0.3435	0.7072	1127.91	310.21	0.9640	0.9790	1.3221	1.0546	0.1888	-1031.91	-591.54	-824.05
14	760.00	76.2	0.3664	0.7178	1100.86	301.41	0.9636	0.9789	1.3014	1.0586	0.1693	-1039.90	-594.11	-829.36
15	760.00	75.7	0.3909	0.7274	1081.85	295.25	0.9634	0.9788	1.2575	1.1269	0.1097	-1045.65	-595.95	-833.18
16	760.00	75.1	0.4141	0.7428	1059.37	287.99	0.9631	0.9787	1.2375	1.1330	0.0882	-1052.60	-598.18	-837.79
17	760.00	74.6	0.4391	0.7597	1040.93	282.07	0.9628	0.9785	1.2144	1.1288	0.0731	-1058.43	-600.03	-841.65
18	760.00	74.0	0.4637	0.7668	1019.14	275.09	0.9625	0.9784	1.1852	1.1747	0.0089	-1065.47	-602.27	-846.31
19	760.00	67.2	0.8457	0.9360	796.45	205.56	0.9588	0.9769	1.0111	1.4570	-0.3924	-1149.11	-628.30	-901.23
20	760.00	66.6	0.8869	0.9632	778.83	200.21	0.9585	0.9767	1.0142	1.2056	-0.1728	-1156.84	-630.66	-906.27
21	760.00	65.7	0.9293	0.9771	753.00	192.41	0.9579	0.9765	1.0150	1.2485	-0.2070	-1168.55	-634.22	-913.88

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 513.20 P = 79.50 V = 118.00 OMEGA = 0.557 OMEGAH = 0.105 DIPOLE = 1.66 ETA = 1.21  
 2 T = 647.40 P = \*\*\*\*\* V = 55.20 OMEGA = 0.344 OMEGAH = 0.010 DIPOLE = 1.85 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.78786E 01 B = 0.14731E 04 C = 0.23000E 03  
 2 A = 0.79668E 01 B = 0.16682E 04 C = 0.22800E 03

## VAPOR PRESSURE AT NEP

P = 758.5 AT T = 64.7

P = 760.0 AT T = 100.0

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.64511E 02 B = -.19716E 00 C = 0.38735E-03  
 2 A = 0.22887E 02 B = -.36416E-01 C = 0.68556E-04

## COMPONENT ID CHECK

ID NUMBER = 23

ID NUMBER = 34

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.91863E 00 B = -.25837E 01 C = 0.14245E 01  
 STANDARD DEVIATION = 0.49856E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.5059 G2INF = 1.2719  
 F1INF = 100.00 F2INF = 64.75

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.1958

AREA BELOW THE X-AXIS IS -0.0942

CROSS-OVER POINT IS X = 0.49

NORMALIZED AREA DIFFERENCE IS 0.3504

HERINGTON J-FACTOR IS 15.65

CONSISTENCY INDEX IS 19.39

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	756.65	140.83	0.3865F-09	50.19	0.03616
2	13.41	555.51	0.2447F-02	18.92	0.01990
3	456.71	344.15	0.3879F-00	17.27	0.01685
4	483.13	322.45	0.2185E-00	19.66	0.01828
5	102.66	560.29	0.7852F-02	5.99	0.00916
6	-21.64	692.09	0.2343E-02	18.63	0.00499
7	68.31	591.59	0.5296F-02	8.33	0.00782
8	116.77	540.63	0.2416E-02	4.35	0.01073
9	116.74	540.66	0.2416F-02	4.35	0.01072
10	720.49	189.35	0.2378E-00	36.68	0.02857

METHYL ACETATE(1) BENZENE(2)

SYSTEM 098A

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F2CL	PH11	PH12	G1	G2	LN(G1/G2)	B11	B22	B12
1	131.30	25.0	0.1000	0.3232	209.75	54.39	0.9858	0.9858	2.0013	1.0347	0.6597	-1795.50	-1527.45	-1285.50
2	152.50	25.0	0.2000	0.4661	209.75	54.39	0.9870	0.9888	1.6713	1.0654	0.4503	-1795.50	-1527.45	-1285.50
3	167.30	25.0	0.3000	0.5531	209.75	54.39	0.9852	0.9883	1.4477	1.1174	0.2590	-1795.50	-1527.45	-1285.50
4	178.70	25.0	0.4000	0.6210	209.75	54.39	0.9838	0.9881	1.3002	1.1806	0.0965	-1795.50	-1527.45	-1285.50
5	188.30	25.0	0.5000	0.6810	209.75	54.39	0.9826	0.9881	1.2005	1.2564	-0.0455	-1795.50	-1527.45	-1285.50
6	190.30	25.0	0.5223	0.6922	209.75	54.39	0.9824	0.9881	1.1802	1.2823	-0.0830	-1795.50	-1527.45	-1285.50
7	197.10	25.0	0.6000	0.7380	209.75	54.39	0.9815	0.9882	1.1335	1.3502	-0.1750	-1795.50	-1527.45	-1285.50
8	205.30	25.0	0.7000	0.8007	209.75	54.39	0.9805	0.9885	1.0968	1.4268	-0.2631	-1795.50	-1527.45	-1285.50
9	206.60	25.0	0.7399	0.8300	209.75	54.39	0.9803	0.9888	1.0832	1.4145	-0.2668	-1795.50	-1527.45	-1285.50
10	213.10	25.0	0.8000	0.8640	209.75	54.39	0.9796	0.9890	1.0739	1.5167	-0.3453	-1795.50	-1527.45	-1285.50
11	220.30	25.0	0.9000	0.9307	209.75	54.39	0.9788	0.9897	1.0621	1.5990	-0.4092	-1795.50	-1527.45	-1285.50

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 506.90 P = 46.30 V = 228.00 CMFGA = 0.326 CMGAH = 0.215 DIPCLE = 1.72 ETA = 0.62  
 2 T = 562.00 P = 48.60 V = 260.10 CMFGA = 0.211 CMGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69894E 01 B = 0.11110E 04 C = 0.21351E 03 P = 784.0 AT T = 57.8  
 2 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03 P = 760.0 AT T = 80.1

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.13600E 03 B = 0.46705E 00 C = 0.92210E 03 COMPONENT ID ECHO CHECK  
 2 A = 0.70853E 02 B = 0.14907E 01 C = 0.15880E 03 ID NUMBER = 24  
 ID NUMBER = 5

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.88720E 00 B = 0.24124E 01 C = 0.10951E 01  
 STANDARD DEVIATION = 0.12900E 01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.4283 G2INF = 1.5374  
 T1INF = 25.00 T2INF = 25.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.1884  
 AREA BELOW THE X-AXIS IS -0.1424  
 CROSS-OVER POINT IS X = 0.47  
 NORMALIZED AREA DIFFERENCE IS 0.1391  
 CONSISTENCY INDEX IS 13.91

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION
1	782.11	-233.43	0.9095E-12
2	529.17	69.45	0.1477E-02
3	692.08	-108.07	0.4303E-01
4	645.69	-81.03	0.2641E-01
5	463.57	52.86	0.5137E-02
6	528.85	-20.83	0.9325E-03
7	414.90	123.30	0.6496E-02
8	439.26	136.45	0.1544E-02
9	439.26	130.53	0.1944E-02
10	719.07	-126.07	0.2563E-01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
12.05	0.01146
2.13	0.01188
6.21	0.00821
5.92	0.00713
1.98	0.00963
6.24	0.00527
2.27	0.00905
1.94	0.01169
1.94	0.01170
6.58	0.00872

METHYL ACETATE(1) BENZENE(2)

SYSTEM 09EB

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	195.80	35.0	0.1000	0.3037	320.60	146.62	0.9869	0.9865	1.8289	1.0183	0.5856	-1596.05	-1387.87	-1175.30
2	226.20	35.0	0.2000	0.4483	320.60	146.62	0.9835	0.9852	1.5539	1.0470	0.3948	-1596.05	-1387.87	-1175.30
3	248.20	35.0	0.3000	0.5414	320.60	146.62	0.9811	0.9845	1.3653	1.0906	0.2276	-1596.05	-1387.87	-1175.30
4	265.60	35.0	0.4000	0.6158	320.60	146.62	0.9792	0.9841	1.2475	1.1401	0.0900	-1596.05	-1387.87	-1175.30
5	280.80	35.0	0.5000	0.6785	320.60	146.62	0.9776	0.9840	1.1606	1.2101	-0.0418	-1596.05	-1387.87	-1175.30
6	293.70	35.0	0.5273	0.6940	320.60	146.62	0.9773	0.9840	1.1369	1.2309	-0.0795	-1596.05	-1387.87	-1175.30
7	294.60	35.0	0.6000	0.7408	320.60	146.62	0.9762	0.9841	1.1062	1.2795	-0.1456	-1596.05	-1387.87	-1175.30
8	307.60	35.0	0.7000	0.8040	320.60	146.62	0.9748	0.9844	1.0729	1.3473	-0.2277	-1596.05	-1387.87	-1175.30
9	312.60	35.0	0.7399	0.8284	320.60	146.62	0.9743	0.9845	1.0623	1.3828	-0.2637	-1596.05	-1387.87	-1175.30
10	320.10	35.0	0.8000	0.8650	320.60	146.62	0.9736	0.9848	1.0509	1.4384	-0.3139	-1596.05	-1387.87	-1175.30
11	334.70	35.0	0.9000	0.9349	320.60	146.62	0.9722	0.9856	1.0529	1.4623	-0.3285	-1596.05	-1387.87	-1175.30

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 506.90 P = 46.30 V = 228.00  $\Omega$ MEGA = 0.326  $\Omega$ MEGAH = 0.215 DIPOLE = 1.72 ETA = 0.62  
 2 T = 562.00 P = 48.60 V = 260.10  $\Omega$ MEGA = 0.211  $\Omega$ MEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69894E 01 B = 0.11110E 04 C = 0.21351E 03 P = 784.0 AT T = 57.8  
 2 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03 P = 760.0 AT T = 80.1

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.13600E 03 B = 0.46705E 00 C = 0.92210E 03 COMPONENT ID CHECK  
 2 A = 0.70863E 02 B = 0.14907E 01 C = 0.15880E 03 ID NUMBER = 24  
 ID NUMBER = 5

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.79546E 00 B = 0.22008E 01 C = 0.10447E 01

STANDARD DEVIATION = 0.83412E 02

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.2154 G2INF = 1.4343

T1INF = 35.00 T2INF = 35.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.1670

AREA BELOW THE X-AXIS IS -0.1237

CROSS-OVER POINT IS X = 0.46

NORMALIZED AREA DIFFERENCE IS 0.1490

CONSISTENCY INDEX IS 14.90

SUMMARY OF WILSON PARAMETERS

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES			OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)	
					PRESSURE	COMPOSITION
1	811.07	-284.93		0.4547E-11	13.87	0.01113
2	444.42	42.48		0.9230E-03	2.54	0.00680
3	690.55	-161.08		0.2571E-01	6.58	0.00722
4	641.25	-134.29		0.1610E-01	6.32	0.00652
5	465.86	16.40		0.2714E-02	2.46	0.00569
6	506.77	-46.79		0.6356E-03	5.26	0.00450
7	427.27	41.46		0.3602E-02	2.58	0.00604
8	444.71	41.47		0.1484E-02	2.53	0.00671
9	445.42	40.98		0.1484E-02	2.53	0.00672
10	713.37	-176.59		0.2273E-01	7.07	0.00763

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	291.00	50.0	0.0410	0.1050	568.21	266.50	0.9862	0.9825	1.2919	0.9599	0.2563	-1346.77	-1217.82	-1038.87
2	309.80	50.0	0.0800	0.1940	568.21	266.50	0.9842	0.9816	1.2596	0.9982	0.2638	-1346.77	-1217.82	-1038.87
3	334.30	50.0	0.1330	0.2880	568.21	266.50	0.9818	0.9805	1.2491	1.0085	0.2140	-1346.77	-1217.82	-1038.87
4	349.30	50.0	0.1710	0.3410	568.21	266.50	0.9803	0.9799	1.2001	1.0193	0.1633	-1346.77	-1217.82	-1038.87
5	337.00	50.0	0.2540	0.4610	568.21	266.50	0.9768	0.9786	1.2056	1.0249	0.1624	-1346.77	-1217.82	-1038.87
6	405.20	50.0	0.3030	0.5090	568.21	266.50	0.9753	0.9780	1.1664	1.0456	0.1093	-1346.77	-1217.82	-1038.87
7	432.70	50.0	0.3710	0.5770	568.21	266.50	0.9729	0.9773	1.1503	1.0650	0.0770	-1346.77	-1217.82	-1038.87
8	445.70	50.0	0.4140	0.6140	568.21	266.50	0.9718	0.9771	1.1285	1.0742	0.0493	-1346.77	-1217.82	-1038.87
9	464.40	50.0	0.4660	0.6570	568.21	266.50	0.9703	0.9768	1.1159	1.0910	0.0226	-1346.77	-1217.82	-1038.87
10	483.70	50.0	0.5480	0.7160	568.21	266.50	0.9686	0.9768	1.0752	1.1114	-0.0331	-1346.77	-1217.82	-1038.87
11	506.30	50.0	0.6160	0.7660	568.21	266.50	0.9668	0.9766	1.0691	1.1280	-0.0536	-1346.77	-1217.82	-1038.87
12	525.10	50.0	0.7020	0.8160	568.21	266.50	0.9653	0.9768	1.0348	1.1854	-0.1360	-1346.77	-1217.82	-1038.87
13	540.00	50.0	0.7590	0.8510	568.21	266.50	0.9642	0.9769	1.0251	1.2207	-0.1746	-1346.77	-1217.82	-1038.87
14	555.30	50.0	0.8110	0.8840	568.21	266.50	0.9631	0.9770	1.0236	1.2463	-0.1968	-1346.77	-1217.82	-1038.87
15	570.70	50.0	0.8820	0.9280	568.21	266.50	0.9619	0.9775	1.0142	1.2739	-0.2280	-1346.77	-1217.82	-1038.87
16	581.20	50.0	0.9270	0.9550	568.21	266.50	0.9612	0.9778	1.0105	1.3110	-0.2604	-1346.77	-1217.82	-1038.87
17	583.00	50.0	0.9430	0.9650	568.21	266.50	0.9610	0.9780	1.0067	1.3102	-0.2636	-1346.77	-1217.82	-1038.87

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 506.90 P = 46.30 V = 228.00 OMEGA = 0.326 OMEGAH = 0.215 DIPOLE = 1.72 ETA = 0.62  
 2 T = 562.00 P = 48.60 V = 260.10 OMEGA = 0.211 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69894E 01 B = 0.11110E 04 C = 0.21351E 03  
 2 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.13600E 03 B = -.46705E 00 C = 0.92210E-03  
 2 A = 0.70863E 02 B = 0.14907E-01 C = 0.15880E-03

## VAPOR PRESSURE AT NBP

P = 784.0 AT T = 57.8

P = 760.0 AT T = 80.1

## COMPONENT ID ECHO CHECK

ID NUMBER = 24

ID NUMBER = 5

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.28980E 00 B = -.57196E 00 C = -.24384E-01  
 STANDARD DEVIATION = 0.13630E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.3362 G2INF = 1.3587  
 T1INF = 50.00 T2INF = 50.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0724

AREA BELOW THE X-AXIS IS -0.0767

CROSS-OVER POINT IS X = 0.50

NORMALIZED AREA DIFFERENCE IS -0.0289

CONSISTENCY INDEX IS 2.89



SUMMARY OF WILSON PARAMETERS

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES			OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)	
					PRESSURE	COMPOSITION
1	143.20	56.59		0.1819E-11	5.29	0.00181
2	123.05	132.21		0.2453E-03	2.35	0.00549
3	132.00	78.73		0.8359E-02	4.31	0.00216
4	134.19	77.56		0.6310E-02	4.22	0.00218
5	33.00	218.94		0.1257E-02	2.00	0.00381
6	163.69	32.52		0.2047E-03	5.67	0.00171
7	48.59	193.19		0.1009E-02	2.37	0.00342
8	28.31	316.50		0.2692E-03	1.51	0.00496
9	-28.31	316.50		0.2692E-03	1.51	0.00496
10	126.48	84.58		0.1911E-01	4.29	0.00218

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	750.00	77.8	0.0520	0.1300	1387.09	683.16	0.9728	0.9659	1.3286	0.9829	0.3014	-1003.68	-985.99	-848.60
2	750.00	76.8	0.0840	0.1930	1345.75	661.56	0.9714	0.9658	1.2568	0.9742	0.2547	-1014.38	-993.30	-854.68
3	750.00	73.1	0.1920	0.3690	1209.42	590.71	0.9674	0.9656	1.1649	0.9670	0.1862	-1052.71	-1019.39	-876.32
4	750.00	72.4	0.2140	0.4030	1183.71	577.41	0.9667	0.9657	1.1653	0.9622	0.1915	-1060.52	-1024.69	-880.72
5	750.00	71.2	0.2550	0.4560	1140.72	555.22	0.9654	0.9658	1.1468	0.9621	0.1756	-1074.04	-1033.85	-888.30
6	750.00	69.3	0.3280	0.5370	1076.93	522.42	0.9637	0.9661	1.0998	0.9755	0.1198	-1095.26	-1048.22	-900.18
7	750.00	66.9	0.4270	0.6200	999.48	482.79	0.9616	0.9667	1.0585	1.0058	0.0511	-1123.14	-1067.07	-915.73
8	750.00	64.8	0.5220	0.6970	936.65	450.79	0.9598	0.9675	1.0368	1.0304	0.0062	-1147.71	-1083.65	-929.38
9	750.00	63.0	0.6160	0.7670	884.78	424.50	0.9583	0.9684	1.0219	1.0484	-0.0257	-1169.52	-1098.35	-941.46
10	750.00	61.3	0.7110	0.8270	836.74	400.24	0.9570	0.9694	1.0080	1.0982	-0.0857	-1191.11	-1112.90	-953.39
11	750.00	59.8	0.8060	0.8850	794.90	379.19	0.9558	0.9706	1.0004	1.1492	-0.1387	-1211.14	-1126.39	-964.44
12	750.00	58.6	0.8870	0.9290	764.57	363.58	0.9550	0.9716	0.9912	1.2703	-0.2481	-1226.45	-1136.70	-972.88
13	750.00	57.8	0.9390	0.9620	744.34	353.85	0.9544	0.9725	0.9954	1.2567	-0.2645	-1237.07	-1143.85	-978.72

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 506.90 P = 46.30 V = 228.00 OMEGA = 0.326 OMEGAH = 0.215 DIPOLE = 1.72 ETA = 0.62  
 2 T = 562.00 P = 48.60 V = 260.10 OMEGA = 0.211 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69894E 01 B = 0.11110E 04 C = 0.21351E 03  
 2 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.13600E 03 B = 0.46705E 00 C = 0.92210E 03  
 2 A = 0.70863E 02 B = 0.14907E 01 C = 0.15880E 03

## VAPOR PRESSURE AT NBP

P = 784.0 AT T = 57.8  
 P = 760.0 AT T = 80.1

## COMPONENT ID CHECK

ID NUMBER = 24  
 ID NUMBER = 5

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.30470E 00 B = 0.50635E 00 C = 0.97492E 01  
 STANDARD DEVIATION = 0.19328E 01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.3562 G2INF = 1.3487  
 T1INF = 80.10 T2INF = 56.91

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0856  
 AREA BELOW THE X-AXIS IS -0.0666  
 CROSS-OVER POINT IS X = 0.54  
 NORMALIZED AREA DIFFERENCE IS 0.1250  
 HERINGTON J-FACTOR IS 10.54  
 CONSISTENCY INDEX IS 1.96

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	245.89	-30.55	0.0	24.78	0.00408
2	359.93	841.57	0.4179E-03	7.85	0.01696
3	137.07	45.95	0.3287E-01	18.38	0.00565
4	55.75	130.41	0.2794E-01	17.12	0.00569
5	81.52	47.11	0.5317E-02	6.53	0.01002
6	30.02	270.60	0.3502E-03	28.21	0.00306
7	85.56	53.82	0.5236E-02	8.72	0.00901
8	118.28	-23.93	0.3116E-04	0.85	0.01314
9	118.29	-23.93	0.3119E-04	0.85	0.01314
10	58.12	132.53	0.1488E-00	18.08	0.00538

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PH11	PH12	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	57.9	0.8950	0.9330	747.36	355.36	0.9546	0.9716	1.0089	1.3214	-0.2699	-1235.46	-1142.77	-977.84
2	760.00	58.4	0.8630	0.9140	759.99	361.68	0.9549	0.9711	1.0083	1.2766	-0.2359	-1228.83	-1138.30	-974.19
3	750.00	60.1	0.7350	0.8320	804.15	383.83	0.9563	0.9693	1.0200	1.2125	-0.1729	-1206.61	-1123.34	-961.95
4	750.00	61.8	0.6200	0.7490	850.22	407.04	0.9578	0.9677	1.0311	1.1894	-0.1428	-1184.90	-1108.72	-949.97
5	750.00	63.8	0.5050	0.6650	906.94	435.72	0.9596	0.9666	1.0557	1.1371	-0.0743	-1160.02	-1091.95	-936.20
6	750.00	66.8	0.3620	0.5450	997.29	481.67	0.9624	0.9655	1.1008	1.0828	0.0165	-1123.56	-1067.62	-916.19
7	750.00	67.5	0.3380	0.5280	1019.31	492.92	0.9629	0.9655	1.1181	1.0578	0.0554	-1115.76	-1062.08	-911.62
8	750.00	71.0	0.2120	0.3870	1134.87	552.21	0.9663	0.9651	1.1778	1.0298	0.1343	-1075.92	-1035.13	-889.36
9	750.00	71.8	0.1890	0.3560	1162.55	566.50	0.9671	0.9651	1.1873	1.0247	0.1473	-1067.09	-1029.14	-884.40
10	760.00	73.5	0.1390	0.2820	1223.15	597.81	0.9689	0.9651	1.2177	1.0198	0.1774	-1048.62	-1016.61	-874.02
11	760.00	75.9	0.0760	0.1750	1312.58	644.26	0.9715	0.9654	1.2914	1.0134	0.2424	-1023.27	-999.36	-859.71
12	750.00	76.9	0.0550	0.1330	1351.21	664.41	0.9725	0.9656	1.3188	1.0100	0.2668	-1012.95	-992.32	-853.86

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 506.90 P = 46.30 V = 228.00 OMEGA = 0.326 CMEGAH = 0.215 DIPOLF = 1.72 FTA = 0.62  
 2 T = 562.00 P = 49.60 V = 260.10 OMEGA = 0.211 OMEGAH = 0.0 DIPOLF = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69894E 01 B = 0.11110E 04 C = 0.21351E 03  
 2 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03

## VAPOR PRESSURE AT NBP

P = 784.0 AT T = 57.8  
 P = 760.0 AT T = 80.1

## MOLEAR VOLUME EQUATION COEFFICIENTS

1 A = 0.13600E 03 B = -.46705E 00 C = 0.92210E-03  
 2 A = 0.70863E 02 B = 0.14907E 01 C = 0.15880E-03

## COMPONENT ID CHECK

ID NUMBER = 24  
 ID NUMBER = 5

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.30779E 00 B = -.89129E 00 C = 0.29136E 00  
 STANDARD DEVIATION = 0.11441E 01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.3604 G2INF = 1.3393  
 T1INF = 80.10 T2INF = 56.91

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0580  
 AREA BELOW THE X-AXIS IS -0.0988  
 CROSS-OVER POINT IS X = 0.40  
 NORMALIZED AREA DIFFERENCE IS -0.2598  
 HERINGTON J-FACTOR IS 10.54  
 CONSISTENCY INDEX IS 15.44

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	269.87	-53.45	C.9055E-12	3.43	0.00708
2	276.01	-21.67	0.1613E-03	6.07	0.01007
3	243.70	-24.98	0.1743E-01	2.98	0.00748
4	282.53	-61.56	C.1284E-01	3.28	0.00726
5	447.10	-194.18	0.1816E-02	4.75	0.00647
6	643.80	-337.11	0.6316E-03	9.96	0.00445
7	549.03	-265.32	C.1203E-02	6.03	0.00575
8	214.91	7.25	0.2318E-03	2.59	0.00790
9	214.71	7.42	C.2318E-03	2.59	0.00790
10	240.80	-20.81	0.5734E-01	2.86	0.00759

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	500.30	50.0	0.0640	0.0400	568.21	499.37	0.9690	0.9749	0.5321	0.9997	-0.6306	-1346.77	-1009.80	-1126.02
2	482.00	50.0	0.1340	0.0890	568.21	499.37	0.9659	0.9759	0.5454	0.9889	-0.5951	-1346.77	-1009.80	-1126.02
3	472.10	50.0	0.1780	0.1310	568.21	499.37	0.9703	0.9764	0.5522	0.9739	-0.4975	-1346.77	-1009.80	-1126.02
4	455.60	50.0	0.2580	0.2200	568.21	499.37	0.9710	0.9773	0.6627	0.9355	-0.3448	-1346.77	-1009.80	-1126.02
5	450.10	50.0	0.3140	0.3080	568.21	499.37	0.9710	0.9777	0.7531	0.8873	-0.1639	-1346.77	-1009.80	-1126.02
6	449.10	50.0	0.3560	0.3540	568.21	499.37	0.9710	0.9778	0.7617	0.8805	-0.1449	-1346.77	-1009.80	-1126.02
7	450.60	50.0	0.3940	0.4050	568.21	499.37	0.9707	0.9778	0.7898	0.8647	-0.0905	-1346.77	-1009.80	-1126.02
8	453.80	50.0	0.4380	0.4700	568.21	499.37	0.9703	0.9778	0.8300	0.8364	-0.0076	-1346.77	-1009.80	-1126.02
9	458.10	50.0	0.4770	0.5260	568.21	499.37	0.9659	0.9777	0.8607	0.8113	0.0590	-1346.77	-1009.80	-1126.02
10	465.30	50.0	0.5250	0.5840	568.21	499.37	0.9653	0.9775	0.8813	0.7562	0.1016	-1346.77	-1009.80	-1126.02
11	483.60	50.0	0.6120	0.6980	568.21	499.37	0.9679	0.9770	0.9377	0.7350	0.2436	-1346.77	-1009.80	-1126.02
12	508.00	50.0	0.7070	0.7960	568.21	499.37	0.9661	0.9762	0.9705	0.6900	0.3411	-1346.77	-1009.80	-1126.02
13	512.80	50.0	0.7260	0.8140	568.21	499.37	0.9658	0.9761	0.9753	0.6790	0.3621	-1346.77	-1009.80	-1126.02
14	518.00	50.0	0.7470	0.8350	568.21	499.37	0.9654	0.9760	0.9818	0.6588	0.3989	-1346.77	-1009.80	-1126.02
15	535.20	50.0	0.8150	0.8860	568.21	499.37	0.9643	0.9754	0.9852	0.6428	0.4271	-1346.77	-1009.80	-1126.02
16	571.90	50.0	0.9350	0.9660	568.21	499.37	0.9618	0.9742	0.9978	0.5822	0.5387	-1346.77	-1009.80	-1126.02

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 506.90 P = 46.30 V = 228.00  $\Omega$ MFGA = 0.326  $\Omega$ MEGAH = 0.215 DIPOLE = 1.72 FTA = 0.62  
 2 T = 536.60 P = 54.00 V = 276.00  $\Omega$ MFGA = -0.214  $\Omega$ MEGAH = -0.187 DIPOLE = 1.02 ETA = 0.28

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69894E 01 B = 0.11116E 04 C = 0.21351E 03  
 2 A = 0.69033E 01 B = 0.11630E 04 C = 0.22740E 03

## VAPOR PRESSURE AT NBP

P = 784.0 AT T = 57.8  
 P = 749.5 AT T = 61.3

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.13600E 03 B = -.46705E 00 C = 0.92210E-03  
 2 A = -0.61065E 02 B = 0.30264E-01 C = 0.11910E-03

## COMPONENT ID CHECK

ID NUMBER = 24  
 ID NUMBER = 8

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = -.83211E 00 B = 0.22259E 01 C = -.80629E 00  
 STANDARD DEVIATION = 0.30789E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 0.4351 G2INF = 0.5557  
 T1INF = 50.00 T2INF = 50.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS -0.1736  
 AREA BELOW THE X-AXIS IS 0.1857  
 CROSS-OVER POINT IS X = 0.45  
 NORMALIZED AREA DIFFERENCE IS -0.0337  
 CONSISTENCY INDEX IS 3.37

## SUMMARY OF WILSON PARAMETERS

MODEL NO. PARAMETER VALUES

OBJECTIVE FUNCTION

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE

COMPOSITION

1	41.12	-417.50	0.1297F-10	3.00	0.00466
2	109.52	-479.17	0.3796F-03	2.16	0.00337
3	70.46	-452.60	0.5658F-02	2.38	0.00340
4	30.64	-422.11	0.1362F-01	2.67	0.00414
5	127.46	-492.88	0.9531E-03	2.03	0.00330
6	118.78	-500.47	0.4228F-03	3.48	0.00262
7	135.50	-498.37	0.9609F-03	1.99	0.00333
8	135.56	-496.04	0.4379F-03	2.10	0.00346
9	136.06	-496.35	0.4381F-03	2.10	0.00346
10	72.34	-454.32	0.6192F-02	2.36	0.00338

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	58.1	0.9200	0.9530	752.39	653.01	0.9546	0.9689	0.9958	0.6604	0.4107	-1232.80	-935.85	-1035.93
2	760.00	59.2	0.8510	0.9070	780.53	676.39	0.9553	0.9690	0.9884	0.6775	0.3777	-1218.30	-926.47	-1024.50
3	760.00	60.3	0.7820	0.8540	809.46	700.42	0.9560	0.9691	0.9773	0.7020	0.3308	-1204.03	-917.23	-1013.24
4	760.00	61.4	0.7060	0.7910	839.20	725.08	0.9568	0.9691	0.9679	0.7199	0.2960	-1189.96	-908.13	-1002.16
5	760.00	62.4	0.6400	0.7190	866.95	748.07	0.9575	0.9691	0.9401	0.7661	0.2047	-1177.37	-899.98	-992.23
6	760.00	63.2	0.5630	0.6310	889.64	766.86	0.9581	0.9690	0.9146	0.8084	0.1235	-1167.41	-893.55	-984.39
7	760.00	63.7	0.5320	0.5920	904.04	778.79	0.9585	0.9690	0.8940	0.8219	0.0841	-1161.25	-889.57	-979.54
8	760.00	64.2	0.4630	0.5020	918.62	790.85	0.9591	0.9688	0.8577	0.8608	-0.0036	-1155.13	-885.61	-974.72
9	760.00	64.7	0.4060	0.4250	933.38	803.06	0.9596	0.9688	0.8155	0.8848	-0.0816	-1149.04	-881.68	-969.94
10	760.00	64.7	0.3350	0.3270	933.38	803.06	0.9600	0.9685	0.7607	0.9248	-0.1953	-1149.04	-881.68	-969.94
11	760.00	64.6	0.2630	0.2360	930.41	800.61	0.9604	0.9683	0.7018	0.9500	-0.3027	-1150.26	-882.47	-970.89
12	760.00	64.2	0.2240	0.1910	918.62	790.85	0.9604	0.9681	0.6755	0.9669	-0.3587	-1155.13	-885.61	-974.72
13	760.00	63.7	0.1710	0.1300	904.04	778.79	0.9605	0.9679	0.6120	0.9882	-0.4791	-1161.25	-889.57	-979.54
14	760.00	63.5	0.1590	0.1170	898.26	774.00	0.9605	0.9678	0.5962	0.9947	-0.5119	-1163.71	-891.16	-981.48
15	760.00	62.2	0.0640	0.0400	861.35	743.43	0.9602	0.9672	0.5275	1.0110	-0.6497	-1179.87	-901.60	-994.20

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 506.90 P = 46.30 V = 228.00 OMEGA = 0.326 OMEGAH = 0.215 DIPOLE = 1.72 ETA = 0.62  
 2 T = 536.60 P = 54.00 V = 276.00 OMEGA = 0.214 OMEGAH = 0.187 DIPOLE = 1.02 ETA = 0.28

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69894E 01 B = 0.11110E 04 C = 0.21351E 03 VAPOR PRESSURE AT NBP  
 2 A = 0.69033E 01 B = 0.11630E 04 C = 0.22740E 03 P = 784.0 AT T = 57.8  
 P = 749.5 AT T = 61.3

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.13600E 03 B = -.46705E 00 C = 0.92210E-03 COMPONENT ID CHECK  
 2 A = 0.61065E 02 B = 0.30264E-01 C = 0.11910E-03 ID NUMBER = 24  
 ID NUMBER = 8

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = -.80782E 00 B = 0.21513E 01 C = -.88701E 00  
 STANDARD DEVIATION = 0.14079E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 0.4458 G2INF = 0.6335  
 T1INF = 61.73 T2INF = 56.91

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS -0.1728  
 AREA BELOW THE X-AXIS IS 0.1449  
 CROSS-OVER POINT IS X = 0.46  
 NORMALIZED AREA DIFFERENCE IS 0.0876  
 HERINGTON J-FACTOR IS 3.54  
 CONSISTENCY INDEX IS 5.22



## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	320.65	-558.23	C.3197E-12	7.07	0.00716
2	26.77	-381.88	0.2462E-03	2.55	0.00368
3	87.43	-435.09	0.6257E-02	3.36	0.00400
4	122.15	-460.68	0.1221E-01	3.72	0.00445
5	1.40	-366.69	0.8796E-03	3.00	0.00340
6	-13.69	-379.13	0.2781E-03	8.20	0.00219
7	-16.27	-351.27	0.9854E-03	3.00	0.00362
8	14.15	-371.74	0.3229E-03	2.56	0.00370
9	7.74	-366.54	0.3222E-03	2.57	0.00371
10	93.40	-435.06	0.9492E-02	2.86	0.00416

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	74.3	0.0330	0.1820	1252.45	600.77	0.9713	0.9596	3.2410	1.0228	1.1534	-1040.08	-1161.43	-935.42
2	760.00	68.4	0.0850	0.3500	1048.15	499.72	0.9661	0.9584	2.8758	1.0312	1.0257	-1105.33	-1211.51	-974.59
3	760.00	64.9	0.1420	0.4430	939.33	446.27	0.9630	0.9579	2.4235	1.0547	0.8320	-1146.62	-1243.04	-999.15
4	760.00	59.7	0.2830	0.5750	793.59	375.14	0.9584	0.9578	1.8593	1.1454	0.4844	-1211.79	-1292.61	-1037.65
5	760.00	59.0	0.3130	0.5940	775.35	366.28	0.9578	0.9579	1.7763	1.1697	0.4178	-1220.92	-1299.55	-1043.03
6	760.00	57.9	0.3730	0.6250	747.36	352.70	0.9568	0.9581	1.6254	1.2296	0.2790	-1235.46	-1310.59	-1051.57
7	760.00	56.8	0.4750	0.6640	720.13	339.50	0.9557	0.9585	1.4056	1.3675	0.0275	-1250.23	-1321.80	-1060.25
8	760.00	56.7	0.5070	0.6730	717.69	338.32	0.9555	0.9587	1.3391	1.4225	-0.0604	-1251.58	-1322.83	-1061.04
9	760.00	56.0	0.6160	0.7140	700.80	330.15	0.9547	0.9594	1.1964	1.6380	-0.3142	-1261.11	-1330.06	-1066.63
10	760.00	55.8	0.6880	0.7440	696.04	327.84	0.9543	0.9601	1.1233	1.8185	-0.4817	-1263.86	-1332.14	-1068.23
11	760.00	55.7	0.7220	0.7590	693.66	326.70	0.9541	0.9604	1.0955	1.9288	-0.5656	-1265.23	-1333.18	-1069.04
12	760.00	55.5	0.7810	0.7890	688.93	324.41	0.9537	0.9611	1.0596	2.1604	-0.7124	-1267.98	-1335.27	-1070.65
13	760.00	55.5	0.8350	0.8200	690.11	324.98	0.9535	0.9620	1.0281	2.4441	-0.8660	-1267.29	-1334.75	-1070.25
14	760.00	55.8	0.9400	0.9140	696.04	327.84	0.9533	0.9649	1.0090	3.1928	-1.1519	-1263.86	-1332.14	-1068.23

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 506.90 P = 46.30 V = 228.00 OMEGA = 0.326 OMEGAH = 0.215 DIPOLE = 1.72 ETA = 0.62  
 2 T = 553.20 P = 40.00 V = 311.20 OMEGA = 0.210 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69894E 01 B = 0.11110E 04 C = 0.21351E 03  
 2 A = 0.68450E 01 B = 0.12035E 04 C = 0.22286E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.13600E 03 B = -.46705E 00 C = 0.92210E-03  
 2 A = 0.92914E 02 B = -.24859E-01 C = 0.26157E-03

## VAPOR PRESSURE AT NBP

P = 784.0 AT T = 57.8  
 P = 759.1 AT T = 80.7

## COMPONENT ID CHECK

ID NUMBER = 24  
 ID NUMBER = 9

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.12175E 01 B = -.25221E 01 C = 0.35190E-01

STANDARD DEVIATION = 0.20138E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 3.3788 G2INF = 3.5585  
 T1INF = 80.74 T2INF = 56.91

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2952  
 AREA BELOW THE X-AXIS IS -0.3270  
 CROSS-OVER POINT IS X = 0.49  
 NORMALIZED AREA DIFFERENCE IS -0.0511  
 FERINGTON J-FACTOR IS 11.52  
 CONSISTENCY INDEX IS -6.41

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	721.49	267.82	0.3529E-09	8.02	0.00546
2	955.70	140.39	0.3670E-03	7.26	0.00966
3	724.97	304.59	0.2014E-01	5.28	0.00597
4	748.68	277.97	0.7537E-02	4.71	0.00556
5	783.84	240.82	0.1738E-02	4.42	0.00498
6	778.64	205.32	0.6440E-03	10.34	0.00395
7	781.90	233.62	0.1511E-02	5.07	0.00473
8	800.49	237.81	0.4972E-03	3.71	0.00513
9	800.49	237.81	0.4970E-03	3.71	0.00513
10	724.80	305.62	0.1725E-02	5.28	0.00600

## SUMMARY VLF DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	418.50	50.0	0.0050	0.0180	568.21	402.25	0.9704	0.9710	2.5687	0.9962	0.9472	-1346.77	-1395.64	-1411.17
2	429.00	50.0	0.0125	0.0470	568.21	402.25	0.9698	0.9703	2.7482	0.9978	1.0132	-1346.77	-1395.64	-1411.17
3	451.00	50.0	0.0315	0.1090	568.21	402.25	0.9684	0.9687	2.6550	0.9983	0.9781	-1346.77	-1395.64	-1411.17
4	480.50	50.0	0.0600	0.1890	568.21	402.25	0.9666	0.9666	2.5698	0.9952	0.9486	-1346.77	-1395.64	-1411.17
5	537.00	50.0	0.1880	0.3810	568.21	402.25	0.9612	0.9604	1.9394	1.0308	0.6321	-1346.77	-1395.64	-1411.17
6	596.00	50.0	0.2590	0.4430	568.21	402.25	0.9554	0.9582	1.7171	1.0659	0.4768	-1346.77	-1395.64	-1411.17
7	641.00	50.0	0.4280	0.5560	568.21	402.25	0.9566	0.9548	1.3983	1.1795	0.1702	-1346.77	-1395.64	-1411.17
8	651.00	50.0	0.5000	0.5800	568.21	402.25	0.9560	0.9540	1.2672	1.2952	-0.0218	-1346.77	-1395.64	-1411.17
9	660.50	50.0	0.6080	0.6380	568.21	402.25	0.9555	0.9532	1.1624	1.4433	-0.2165	-1346.77	-1395.64	-1411.17
10	660.50	50.0	0.7290	0.7070	568.21	402.25	0.9556	0.9529	1.0744	1.6894	-0.4526	-1346.77	-1395.64	-1411.17
11	657.00	50.0	0.7830	0.7430	568.21	402.25	0.9559	0.9530	1.0460	1.8410	-0.5653	-1346.77	-1395.64	-1411.17
12	654.00	50.0	0.8160	0.7660	568.21	402.25	0.9561	0.9532	1.0303	1.9681	-0.6472	-1346.77	-1395.64	-1411.17
13	645.50	50.0	0.8640	0.8070	568.21	402.25	0.9567	0.9536	1.0125	2.1687	-0.7617	-1346.77	-1395.64	-1411.17
14	632.50	50.0	0.9110	0.8550	568.21	402.25	0.9577	0.9543	0.9979	2.4416	-0.8947	-1346.77	-1395.64	-1411.17
15	607.50	50.0	0.9720	0.9440	568.21	402.25	0.9594	0.9558	0.9937	2.8832	-1.0652	-1346.77	-1395.64	-1411.17

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 506.90 P = 46.30 V = 228.00 OMEGA = 0.326 OMEGAH = 0.215 DIPOLE = 1.72 ETA = 0.62  
 2 T = 513.20 P = 78.50 V = 118.00 OMEGA = 0.557 OMEGAH = 0.105 DIPOLE = 1.66 ETA = 1.21

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69894E 01 B = 0.11110E 04 C = 0.21351E 03  
 2 A = 0.78786E 01 B = 0.14731E 04 C = 0.23000E 03

## VAPOR PRESSURE AT NBP

P = 784.0 AT T = 57.8  
 P = 758.5 AT T = 64.7

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.13600E 03 B = -.46705E 00 C = 0.92210E -03  
 2 A = 0.64511E 02 B = -.15716E 00 C = 0.38735E -03

## COMPONENT ID CHECK

ID NUMBER = 24  
 ID NUMBER = 23

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.10137E 01 B = -.16949E 01 C = -.20661E 00  
 STANDARD DEVIATION = 0.33902E -01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.7557 G2INF = 2.9679  
 F1INF = 50.00 F2INF = 50.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2614  
 AREA BELOW THE X-AXIS IS -0.2641  
 CROSS-OVER POINT IS X = 0.51  
 NORMALIZED AREA DIFFERENCE IS -0.0051  
 CONSISTENCY INDEX IS 0.51

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	-103.17	874.94	C.3729E-10	4.65	0.00284
2	-84.38	813.98	0.8011E-04	1.16	0.00537
3	-116.24	902.28	0.6222E-01	6.27	0.00290
4	-110.41	888.00	0.1216E-01	5.33	0.00276
5	-53.11	803.77	0.7498E-03	1.67	0.00339
6	-54.66	836.34	C.2993E-03	5.58	0.00261
7	-45.41	798.04	0.7293E-03	1.78	0.00322
8	-57.31	795.81	0.4989E-04	0.66	0.00443
9	-57.23	795.77	C.4988E-04	0.66	0.00442
10	-117.51	903.48	0.5224E-02	6.27	0.00290

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2OL	PH11	PH12	G1	G2	LN(G1/G2)	B11	B22	B12
1	750.00	96.1	0.0033	0.0600	1189.75	672.11	0.9727	0.9487	11.2601	1.0064	2.4149	-854.36	-1551.76	-1192.81
2	750.00	93.7	0.0270	0.1410	1113.91	627.07	0.9719	0.9475	3.4544	1.0084	1.2313	-869.97	-1578.22	-1212.14
3	750.00	89.4	0.0740	0.2850	984.81	552.10	0.9705	0.9453	2.8749	0.9994	1.0566	-898.86	-1627.49	-1248.08
4	760.00	86.4	0.1220	0.3755	902.17	503.96	0.9654	0.9438	2.5052	1.0069	0.9115	-919.76	-1663.35	-1274.19
5	760.00	82.3	0.2300	0.4950	796.62	442.72	0.9679	0.9416	1.9807	1.0543	0.6306	-949.75	-1715.11	-1311.80
6	760.00	79.9	0.3540	0.5720	742.32	411.33	0.9670	0.9403	1.5943	1.1448	0.3312	-966.93	-1744.95	-1333.44
7	760.00	80.0	0.3690	0.5780	744.62	412.66	0.9670	0.9404	1.5408	1.1520	0.2908	-966.17	-1743.64	-1332.49
8	760.00	78.3	0.4750	0.6320	706.24	390.53	0.9663	0.9395	1.3789	1.2746	0.0787	-979.13	-1766.21	-1348.85
9	760.00	78.2	0.5070	0.6450	702.93	388.63	0.9662	0.9394	1.3246	1.3157	0.0067	-980.29	-1768.23	-1350.31
10	760.00	77.4	0.6115	0.6910	686.55	379.20	0.9659	0.9391	1.2042	1.4888	-0.2122	-986.09	-1778.36	-1357.64
11	750.00	77.1	0.7060	0.7360	680.08	375.48	0.9657	0.9391	1.1213	1.6574	-0.4146	-988.42	-1782.44	-1360.60
12	760.00	77.0	0.7650	0.7685	676.86	373.63	0.9657	0.9391	1.0656	1.8714	-0.5446	-989.59	-1784.48	-1362.08
13	750.00	77.3	0.8640	0.8320	682.23	376.71	0.9657	0.9394	1.0324	2.3284	-0.8132	-987.64	-1781.08	-1359.61
14	760.00	78.1	0.9320	0.9080	700.73	387.36	0.9660	0.9402	1.0173	2.4821	-0.8920	-981.06	-1769.57	-1351.28
15	760.00	78.7	0.9730	0.9540	714.02	395.01	0.9662	0.9407	1.0049	3.0667	-1.1157	-976.44	-1761.52	-1345.45
16	760.00	79.0	0.9940	0.9870	721.86	399.53	0.9663	0.9411	1.0068	3.8573	-1.3432	-973.77	-1756.86	-1342.07

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 533.20 P = 39.50 V = 288.40  $\Omega$ MFGA = 0.337  $\Omega$ MEGAH = 0.215 DIPOLE = 2.70 ETA = 0.0  
 2 T = 540.20 P = 27.00 V = 431.90  $\Omega$ MEGA = 0.349  $\Omega$ MEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69742E 01 B = 0.12096E 04 C = 0.21600E 03  
 2 A = 0.69024E 01 B = 0.12681E 04 C = 0.21690E 03  
 VAPOR PRESSURE AT NBP  
 P = 762.4 AT T = 79.6  
 P = 759.4 AT T = 98.4

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.71193E 02 B = 0.96599E 02 C = 0.18100E 03  
 2 A = 0.12880E 03 B = 0.60277E 01 C = 0.41160E 03  
 COMPONENT ID ECHO CHECK  
 ID NUMBER = 28  
 ID NUMBER = 16

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.16234E 01 B = -0.38836E 01 C = 0.11566E 01  
 STANDARD DEVIATION = 0.28228E 00

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 5.0703 G2INF = 3.0151  
 T1INF = 98.43 T2INF = 79.50

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.3746  
 AREA BELOW THE X-AXIS IS -0.3075  
 CROSS-OVER POINT IS X = 0.49  
 NORMALIZED AREA DIFFERENCE IS 0.0984  
 HERINGTON J-FACTOR IS 5.18  
 CONSISTENCY INDEX IS 0.66

SUMMARY OF WILSON PARAMETERS

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES			OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)	
					PRESSURE	COMPOSITION
1	1342.81	-103.15		0.4457E-10	23.65	0.02226
2	740.97	195.54		0.5275E-03	9.70	0.01012
3	2621.82	-696.41		0.1560E-02	58.04	0.04484
4	1080.01	-3.08		0.5342E-00	13.38	0.01293
5	922.92	59.84		0.9935E-02	7.59	0.01030
6	891.57	116.53		0.5671E-02	10.05	0.00931
7	864.72	116.29		0.4643E-02	8.21	0.00968
8	960.81	20.41		0.3860E-02	7.84	0.01083
9	961.84	15.62		0.3861E-02	7.85	0.01084
10	1850.53	193.62		0.2483E-00	45.08	0.03826

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	110.2	0.0045	0.0140	1721.98	719.72	0.9751	0.9616	1.3345	1.0020	0.2866	-765.42	-1206.06	-996.96
2	750.00	109.9	0.0085	0.0290	1708.26	713.38	0.9750	0.9615	1.4752	0.9994	0.3894	-771.23	-1208.55	-998.94
3	760.00	109.3	0.0175	0.0555	1681.51	701.02	0.9749	0.9613	1.3529	0.9981	0.3333	-774.81	-1213.49	-1002.84
4	760.00	107.2	0.0405	0.1281	1596.54	661.93	0.9745	0.9606	1.4625	0.9984	0.3818	-786.59	-1229.78	-1015.72
5	760.00	104.2	0.0850	0.2350	1477.87	607.74	0.9739	0.9595	1.3801	0.9993	0.3228	-804.23	-1254.30	-1035.06
6	760.00	102.3	0.1190	0.3043	1405.38	574.88	0.9734	0.9587	1.3417	0.9971	0.2969	-815.77	-1270.44	-1047.76
7	760.00	99.5	0.1800	0.3950	1306.86	530.53	0.9727	0.9577	1.2373	1.0083	0.2047	-832.54	-1294.00	-1066.26
8	760.00	98.7	0.1981	0.4200	1277.25	517.28	0.9725	0.9573	1.2229	1.0134	0.1879	-837.85	-1301.49	-1072.13
9	760.00	97.1	0.2359	0.4709	1222.86	493.02	0.9721	0.9567	1.2020	1.0173	0.1669	-847.96	-1315.80	-1083.33
10	760.00	94.3	0.3127	0.5521	1131.83	452.69	0.9713	0.9555	1.1478	1.0414	0.0972	-866.03	-1341.49	-1103.40
11	760.00	91.8	0.3982	0.6280	1056.41	419.55	0.9706	0.9545	1.0976	1.0647	0.0304	-882.25	-1364.70	-1121.48
12	760.00	89.9	0.4682	0.6854	999.12	394.56	0.9700	0.9537	1.0765	1.0825	-0.0056	-895.44	-1383.67	-1136.23
13	760.00	87.8	0.5479	0.7428	941.43	369.55	0.9693	0.9528	1.0574	1.1105	-0.0490	-909.58	-1404.12	-1152.10
14	760.00	86.8	0.5858	0.7708	911.54	356.65	0.9690	0.9524	1.0595	1.1186	-0.0543	-917.29	-1415.31	-1160.76
15	760.00	85.8	0.6420	0.8027	886.29	345.80	0.9686	0.9519	1.0351	1.1486	-0.1040	-924.02	-1425.11	-1168.34
16	760.00	84.8	0.6924	0.8342	861.58	335.21	0.9683	0.9515	1.0257	1.1583	-0.1217	-930.81	-1435.02	-1176.00
17	760.00	84.4	0.7012	0.8396	850.06	330.28	0.9682	0.9513	1.0330	1.1706	-0.1250	-934.05	-1439.76	-1179.66
18	760.00	83.1	0.7846	0.8858	818.67	316.89	0.9677	0.9508	1.0109	1.2043	-0.1751	-943.13	-1453.66	-1189.92
19	760.00	82.6	0.8015	0.8955	806.36	311.66	0.9676	0.9506	1.0155	1.2156	-0.1799	-946.80	-1458.45	-1194.07
20	760.00	81.8	0.8611	0.9281	785.76	302.52	0.9673	0.9502	1.0050	1.2293	-0.2015	-953.08	-1467.68	-1201.18
21	760.00	80.5	0.9350	0.9629	755.04	289.93	0.9668	0.9497	0.9988	1.4153	-0.3485	-962.78	-1482.00	-1212.20
22	760.00	79.8	0.9774	0.9878	740.02	283.60	0.9666	0.9494	0.9999	1.3681	-0.3135	-967.69	-1489.26	-1217.77

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 533.20 P = 39.50 V = 288.40 OMEGA = 0.337 OMEGAH = 0.215 DIPOLE = 2.70 ETA = 0.0  
 2 T = 594.00 P = 40.00 V = 331.10 OMEGA = 0.241 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69742E 01 B = 0.12096E 04 C = 0.21600E 03 P = 762.4 AT T = 79.6  
 2 A = 0.69533E 01 B = 0.13439E 04 C = 0.21938E 03 P = 759.4 AT T = 110.6

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.71193E 02 B = 0.96599E-02 C = 0.18100E-03 COMPONENT ID ECHO CHECK  
 2 A = 0.98864E 02 B = -0.55774E-01 C = 0.27703E-03 ID NUMBER = 28  
 ID NUMBER = 33

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.36076E 00 B = -0.80422E 00 C = 0.12360E 00  
 STANDARD DEVIATION = 0.33257E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.4344 G2INF = 1.3769  
 T1INF = 110.63 T2INF = 79.50

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0851  
 AREA BELOW THE X-AXIS IS -0.0852  
 CROSS-OVER POINT IS X = 0.48  
 AGRALIZED AREA DIFFERENCE IS -0.0009  
 HERINGTON J-FACTOR IS 13.24  
 CONSISTENCY INDEX IS -13.15



## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	395.65 -120.51	0.4547E-11
2	371.77 -79.74	0.1213E-03
3	390.82 -117.94	0.3558E-01
4	397.20 -126.99	0.1963E-01
5	495.16 -209.38	0.8189E-03
6	573.35 -255.91	0.2968E-03
7	467.69 -189.93	0.6647E-03
8	440.21 -173.13	0.3874E-03
9	440.21 -173.13	0.3875E-03
10	370.62 -101.50	0.4247E-01

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
3.89	0.00282
2.63	0.00297
3.81	0.00280
3.50	0.00264
2.63	0.00215
3.19	0.00219
2.63	0.00221
2.50	0.00226
2.50	0.00226
3.88	0.00288

\*\*DIAGNOSTIC\*\*

1 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
SEE INTRODUCTION FOR DETAILS CONCERNING DATA-BASE UPDATE

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	93.2	0.0040	0.1840	1097.49	584.58	0.9730	0.9823	30.8931	1.0456	3.3859	-873.27	-534.94	-657.96
2	760.00	92.0	0.0050	0.2070	1060.92	559.22	0.9726	0.9821	28.7486	1.0631	3.2974	-881.24	-538.90	-663.55
3	760.00	84.6	0.0110	0.3940	855.17	422.06	0.9655	0.9813	30.7578	1.0820	3.3473	-932.61	-564.04	-699.39
4	760.00	81.2	0.0170	0.5150	771.47	369.13	0.9679	0.9811	28.7889	0.9960	3.3640	-957.54	-576.01	-716.70
5	760.00	75.5	0.0360	0.6180	645.33	292.81	0.9655	0.9806	19.4545	1.0079	2.9602	-1001.39	-596.65	-747.00
6	760.00	74.4	0.1970	0.6450	622.92	279.72	0.9650	0.9805	3.8419	1.1770	1.1830	-1010.17	-600.78	-753.05
7	760.00	74.4	0.5500	0.6450	622.92	279.72	0.9650	0.9805	1.3761	2.1003	-0.4228	-1010.17	-600.78	-753.05
8	760.00	73.8	0.6350	0.6540	610.96	272.79	0.9648	0.9805	1.2319	2.5877	-0.7422	-1015.00	-603.02	-756.38
9	760.00	73.3	0.6550	0.6550	601.13	267.12	0.9646	0.9804	1.2154	2.7875	-0.8300	-1019.05	-604.90	-759.16
10	760.00	73.6	0.6650	0.6570	607.01	270.51	0.9647	0.9804	1.1893	2.8185	-0.8628	-1016.62	-603.77	-757.49
11	760.00	73.5	0.6670	0.6610	605.05	269.38	0.9647	0.9804	1.1967	2.8141	-0.8550	-1017.43	-604.14	-758.04
12	760.00	73.9	0.7090	0.6710	612.94	273.94	0.9648	0.9806	1.1283	3.0737	-1.0021	-1014.19	-602.65	-755.82
13	760.00	73.8	0.7210	0.6760	610.96	272.79	0.9647	0.9806	1.1214	3.1705	-1.0393	-1015.00	-603.02	-756.38
14	760.00	73.7	0.7290	0.6760	608.98	271.65	0.9647	0.9806	1.1126	3.2777	-1.0804	-1015.81	-603.39	-756.93
15	760.00	73.8	0.7440	0.6830	610.96	272.79	0.9647	0.9806	1.0979	3.3808	-1.1247	-1015.00	-603.02	-756.38
16	760.00	74.0	0.7750	0.6960	614.93	275.09	0.9648	0.9807	1.0672	3.6584	-1.2320	-1013.39	-602.27	-755.26
17	760.00	73.5	0.7840	0.6980	605.05	269.38	0.9646	0.9806	1.0750	3.8657	-1.2798	-1017.43	-604.14	-758.04
18	760.00	73.9	0.8090	0.7070	612.94	273.94	0.9647	0.9808	1.0535	3.9836	-1.3300	-1014.19	-602.65	-755.82
19	760.00	73.5	0.8030	0.7070	612.94	273.94	0.9647	0.9808	1.0456	4.0442	-1.3489	-1014.19	-602.65	-755.82
20	760.00	74.1	0.8360	0.7280	616.92	276.24	0.9647	0.9809	1.0315	4.4730	-1.4671	-1012.58	-601.50	-754.71
21	760.00	73.8	0.8480	0.7360	610.96	272.79	0.9646	0.9809	1.0379	4.7434	-1.5195	-1015.00	-603.02	-756.38
22	760.00	74.5	0.8800	0.7670	624.94	280.89	0.9648	0.9812	1.0152	5.1514	-1.6202	-1009.36	-600.41	-752.50
23	760.00	75.3	0.9120	0.8160	641.20	290.39	0.9650	0.9816	1.0200	5.3682	-1.6607	-1002.98	-597.43	-748.10
24	760.00	76.4	0.9580	0.8980	664.11	303.50	0.9654	0.9823	1.0321	5.9623	-1.7539	-994.29	-593.37	-742.11
25	760.00	77.0	0.9770	0.9290	676.86	311.49	0.9656	0.9827	1.0274	7.3965	-1.9739	-989.59	-591.17	-738.86
26	760.00	78.3	0.9930	0.9630	705.14	328.46	0.9660	0.9831	1.0063	12.0156	-2.4799	-979.52	-586.43	-731.91

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 533.20 P = 39.50 V = 288.40 CMFGA = 0.337 CMFGAH = 0.215 DIPOLE = 2.70 ETA = 0.0  
 2 T = 647.40 P = \*\*\*\*\* V = 55.20 CMFGA = 0.344 CMFGAH = 0.010 DIPOLE = 1.85 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69742E-01 B = 0.12096E-04 C = 0.21600E-03  
 2 A = 0.79668E-01 B = 0.16682E-04 C = 0.22800E-03

VAPOR PRESSURE AT NBP  
 P = 762.4 AT T = 75.6  
 P = 760.0 AT T = 100.0

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.71193E-02 B = 0.96599E-02 C = 0.18100E-03  
 2 A = 0.22887E-02 B = -0.36416E-01 C = 0.68556E-04

COMPONENT ID ECHO CHECK  
 ID NUMBER = 28  
 ID NUMBER = 34

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.33120E-01 B = -0.82386E-01 C = 0.29384E-01  
 STANDARD DEVIATION = 0.18480E-00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.7491  
 AREA BELOW THE X-AXIS IS -0.5769  
 CROSS-OVER POINT IS X = 0.49  
 NORMALIZED AREA DIFFERENCE IS 0.1298  
 HERRINGTON J-FACTOR IS 11.56  
 CONSISTENCY INDEX IS 1.42

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 27.4405 G2INF = 7.3022  
 T1INF = 100.00 T2INF = 79.50

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION
1	782.10	1895.69	0.4800E-07
2	10029.63	1840.47	0.1193E-01
3	898.56	2156.45	0.6879E-02
4	964.87	2016.90	0.3171E-00
5	1119.19	1983.00	0.4432E-01
6	980.90	2077.56	0.2603E-01
7	1129.61	1555.08	0.4109E-01
8	1200.35	1944.17	0.1148E-01
9	1200.23	1944.26	0.1147E-01
10	915.47	2105.47	0.5437E-01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

	PRESSURE	COMPOSITION
1	28.26	0.02951
2	68.93	0.05205
3	30.55	0.02009
4	18.21	0.02027
5	12.58	0.02129
6	22.16	0.01558
7	11.88	0.02185
8	11.18	0.02266
9	11.18	0.02265
10	26.29	0.01991

\*\*DIAGNOSTIC\*\*

1 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
 SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	112.5	0.0500	0.2070	580.10	610.54	0.9644	0.9674	3.0820	1.0019	1.1237	-1212.77	-1037.96	-1057.00
2	750.00	109.6	0.1000	0.3240	887.45	529.57	0.9625	0.9662	2.6585	1.0381	0.9404	-1242.75	-1073.54	-1083.20
3	760.00	104.0	0.2000	0.4730	786.62	445.26	0.9601	0.9651	2.1838	1.0815	0.7027	-1279.70	-1117.88	-1115.49
4	750.00	101.3	0.3000	0.5580	731.56	401.02	0.9587	0.9645	1.8441	1.1504	0.4719	-1302.25	-1145.17	-1135.20
5	750.00	99.4	0.4000	0.6190	694.56	372.05	0.9577	0.9642	1.6143	1.2465	0.2585	-1318.52	-1164.96	-1149.41
6	760.00	97.9	0.5000	0.6650	666.36	350.35	0.9569	0.9640	1.4449	1.3962	0.0343	-1331.60	-1180.94	-1160.84
7	760.00	96.9	0.6000	0.7060	648.04	336.52	0.9564	0.9640	1.3137	1.5947	-0.1939	-1340.45	-1191.77	-1168.57
8	750.00	96.6	0.7000	0.7330	642.62	332.45	0.9562	0.9641	1.1787	1.9550	-0.5060	-1343.12	-1195.04	-1170.91
9	760.00	96.6	0.8000	0.7560	642.62	332.45	0.9561	0.9643	1.0636	2.6805	-0.9243	-1343.12	-1195.04	-1170.91
10	750.00	97.6	0.9000	0.8240	660.83	346.18	0.9563	0.9654	1.0023	3.7176	-1.3108	-1334.24	-1184.17	-1163.15
11	750.00	98.6	0.9500	0.8950	679.41	360.37	0.9566	0.9665	1.0035	4.2662	-1.4473	-1325.47	-1173.44	-1155.48

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 572.30 P = 34.30 V = 372.40 OMEGA = 0.235 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 562.90 P = 43.60 V = 223.30 OMEGA = 0.667 OMEGAH = 0.252 DIPOLE = 1.65 ETA = 0.45

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.68269E 01 B = 0.12729E 04 C = 0.22163E 03  
 2 A = -0.73637E 01 B = 0.13052E 04 C = 0.17343E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = -0.11310E 03 B = -.38740E-01 C = 0.30202E-03  
 2 A = 0.87376E 02 B = -.73723E-01 C = 0.30337E-03

## VAPOR PRESSURE AT NBP

P = 759.3 AT T = 100.9  
 P = 767.4 AT T = 116.0

## COMPONENT ID ECHO CHECK

ID NUMBER = 26  
 ID NUMBER = 43

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.11327E 01 B = -.16620E 01 C = -.11104E 01  
 STANDARD DEVIATION = 0.57277E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 3.1042 G2INF = 5.1538  
 T1INF = 117.73 T2INF = 100.93

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.3125  
 AREA BELOW THE X-AXIS IS -0.3809  
 CROSS-OVER POINT IS X = 0.51  
 NORMALIZED AREA DIFFERENCE IS -0.0987  
 HERINGTON J-FACTOR IS 8.57  
 CONSISTENCY INDEX IS 1.30

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	85.75	1194.56	0.4547E-10	11.16	0.01424
2	254.54	1166.72	0.4050E-03	10.59	0.01395
3	142.39	1243.03	0.2079E 00	6.10	0.01395
4	152.11	1216.71	0.3666E-01	5.83	0.01341
5	157.62	1160.63	0.5830E-02	5.84	0.01305
6	196.13	1060.77	0.4587E-02	8.76	0.01209
7	176.79	1055.78	0.4692E-02	7.75	0.01251
8	117.57	1237.66	0.7159E-03	5.49	0.01395
9	117.90	1236.95	0.7157E-03	5.49	0.01395
10	124.70	1251.41	0.1240E-01	5.78	0.01416

METHYLCYCLOHEXANE(1) - PHENOL(2)

SYSTEM 106

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	150.0	0.1140	0.6775	2253.67	286.52	0.9706	0.9761	1.9368	0.9398	0.7232	-975.18	-629.36	-1021.13
2	750.00	130.0	0.2620	0.8710	1483.77	142.24	0.9667	0.9671	1.6389	0.9005	0.5988	-1091.68	-720.92	-1149.15
3	760.00	102.2	0.9611	0.9741	749.58	46.06	0.9579	0.9534	0.9799	10.4411	-2.3661	-1294.66	-908.83	-1379.16
4	750.00	101.7	0.9874	0.9914	739.53	45.05	0.9577	0.9525	0.9837	10.9336	-2.4082	-1298.86	-913.11	-1384.02
5	750.00	101.1	0.9952	0.9963	727.59	43.87	0.9575	0.9521	0.9967	12.6759	-2.5430	-1303.94	-918.30	-1389.90

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 572.30 P = 34.30 V = 372.40 OMEGA = 0.235 OMEGAH = 0.0 DIPOLF = 0.0 ETA = 0.0  
 2 T = 692.20 P = 60.50 V = 229.50 OMEGA = 0.449 OMEGAH = 0.241 DIPOLF = 1.45 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.68269E 01 B = 0.12729E 04 C = 0.22163E 03 P = 759.3 AT T = 100.9  
 2 A = 0.75789E 01 B = 0.18170E 04 C = 0.20500E 03 P = 763.2 AT T = 181.9

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.11310E 03 B = -0.38740E 01 C = 0.30202E 03 COMPONENT ID ECHO CHECK  
 2 A = 0.80964E 02 B = -0.20853E 01 C = 0.14800E 03 ID NUMBER = 26  
 ID NUMBER = 32

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = -0.73355E 00 B = 0.40601E 00 C = -0.37065E 01  
 STANDARD DEVIATION = 0.69823E 01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.0825 G2INF = 13.0254  
 T1INF = 181.75 T2INF = 100.93

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2631  
 AREA BELOW THE X-AXIS IS -0.5620  
 CROSS-OVER POINT IS X = 0.50  
 NORMALIZED AREA DIFFERENCE IS -0.3623  
 HERINGTON J-FACTOR IS 32.41  
 CONSISTENCY INDEX IS 3.82

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)
			PRESSURE COMPOSITION
1	-547.51 2501.18	0.1319E-08	13.12 0.00998
2	-970.43 3399.25	0.3591E-03	72.51 0.03745
3	196.12 1898.05	0.7325E 01	163.99 0.02383
4	-410.24 2474.37	0.2069E 00	43.20 0.00369
5	-167.48 1036.14	0.2794E 02	5.21 0.01374
6	-465.13 2920.02	0.2109E-03	41.08 0.00361
7	-136.42 1019.17	0.2322E 02	8.94 0.01265
8	-125.48 941.55	0.1258E 03	2.34 0.01476
9	-125.35 941.31	0.1256E 03	2.34 0.01476
10	-518.47 2626.80	0.7644E 01	22.40 0.00701

## \*\*DIAGNOSTIC\*\*

4 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
 SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	593.84	100.0	0.1002	0.1523	706.48	537.97	0.9665	0.9671	1.2304	1.0027	0.2046	-1313.17	-1289.89	-1301.59
2	624.22	100.0	0.2000	0.2775	706.48	537.97	0.9648	0.9654	1.1783	1.0085	0.1556	-1313.17	-1289.89	-1301.59
3	624.59	100.0	0.2000	0.2772	706.48	537.97	0.9647	0.9654	1.1777	1.0095	0.1541	-1313.17	-1289.89	-1301.59
4	648.85	100.0	0.2990	0.3800	706.48	537.97	0.9634	0.9640	1.1201	1.0250	0.0887	-1313.17	-1289.89	-1301.59
5	649.59	100.0	0.3005	0.3815	706.48	537.97	0.9633	0.9640	1.1201	1.0258	0.0879	-1313.17	-1289.89	-1301.59
6	671.34	100.0	0.4003	0.4775	706.48	537.97	0.9621	0.9628	1.0861	1.0433	0.0403	-1313.17	-1289.89	-1301.59
7	670.58	100.0	0.4003	0.4785	706.48	537.97	0.9621	0.9628	1.0872	1.0401	0.0443	-1313.17	-1289.89	-1301.59
8	689.36	100.0	0.4995	0.5655	706.48	537.97	0.9611	0.9618	1.0573	1.0662	-0.0084	-1313.17	-1289.89	-1301.59
9	705.29	100.0	0.5995	0.6505	706.48	537.97	0.9602	0.9609	1.0357	1.0954	-0.0561	-1313.17	-1289.89	-1301.59
10	705.59	100.0	0.6000	0.6500	706.48	537.97	0.9602	0.9609	1.0344	1.0988	-0.0604	-1313.17	-1289.89	-1301.59
11	717.89	100.0	0.6995	0.7360	706.48	537.97	0.9595	0.9602	1.0214	1.1216	-0.0936	-1313.17	-1289.89	-1301.59
12	719.13	100.0	0.7002	0.7365	706.48	537.97	0.9594	0.9601	1.0228	1.1246	-0.0944	-1313.17	-1289.89	-1301.59
13	727.49	100.0	0.7995	0.8205	706.48	537.97	0.9589	0.9597	1.0089	1.1576	-0.1374	-1313.17	-1289.89	-1301.59
14	727.55	100.0	0.7995	0.8195	706.48	537.97	0.9589	0.9596	1.0078	1.1641	-0.1442	-1313.17	-1289.89	-1301.59
15	735.61	100.0	0.9005	0.9080	706.48	537.97	0.9585	0.9592	1.0018	1.2083	-0.1873	-1313.17	-1289.89	-1301.59

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 572.30 P = 34.30 V = 372.40 OMEGA = 0.235 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 594.00 P = 40.00 V = 331.10 OMEGA = 0.241 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.68269E 01 B = 0.12729E 04 C = 0.22163E 03 VAPOR PRESSURE AT NBP  
 2 A = 0.69533E 01 B = 0.13439E 04 C = 0.21938E 03 P = 759.3 AT T = 100.9  
 P = 759.4 AT T = 110.6

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.11310E 03 B = -0.38740E 01 C = 0.30202E 03 COMPONENT ID ECHO CHECK  
 2 A = 0.98864E 02 B = -0.55774E 01 C = 0.27703E 03 ID NUMBER = 26  
 ID NUMBER = 33

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.26657E 00 B = -0.61235E 00 C = 0.12680E 00  
 STANDARD DEVIATION = 0.50406E 02

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.3055 G2INF = 1.2448  
 T1INF = 100.02 T2INF = 100.02

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0621  
 AREA BELOW THE X-AXIS IS -0.0594  
 CRGSS-OVER PCINT IS X = 0.48  
 NORMALIZED AREA DIFFERENCE IS 0.0220  
 CONSISTENCY INDEX IS 2.20

## SUMMARY OF WILSON PARAMETERS

MODEL NO. PARAMETER VALUES OBJECTIVE FUNCTION

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE COMPOSITION

1	107.59	91.65	C.9095E-12	0.53	0.00090
2	27.74	151.24	G.6668E-05	0.42	0.00091
3	83.40	113.22	0.3150E-03	0.47	C.00081
4	80.15	115.79	0.2481E-03	0.46	0.00080
5	62.54	130.16	0.3996E-04	C.41	C.00080
6	70.68	124.61	0.2999E-04	0.49	0.00078
7	51.84	139.44	C.3505E-04	0.42	0.00085
8	51.08	139.67	0.8514E-05	0.41	G.00086
9	51.08	139.67	0.8514E-05	0.41	0.00086
10	82.08	114.22	C.1966E-02	C.46	0.00080



## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	75.6	0.0297	0.0526	911.05	722.08	0.9628	0.9664	1.4164	0.9898	0.3584	-1075.90	-973.47	-1025.21
2	760.00	77.6	0.1080	0.1668	860.39	679.21	0.9621	0.9657	1.3069	1.0060	0.2617	-1090.92	-987.31	-1039.64
3	760.00	76.6	0.1751	0.2533	836.10	658.72	0.9617	0.9653	1.2592	1.0048	0.2257	-1098.49	-994.28	-1046.91
4	760.00	74.8	0.3017	0.3870	794.36	623.62	0.9610	0.9647	1.1744	1.0286	0.1325	-1112.10	-1006.84	-1059.99
5	760.00	74.0	0.3806	0.4598	774.88	607.27	0.9607	0.9644	1.1335	1.0491	0.0773	-1118.73	-1012.57	-1066.37
6	760.00	73.4	0.4450	0.5179	762.97	596.50	0.9605	0.9642	1.1101	1.0636	0.0428	-1123.22	-1017.12	-1070.69
7	760.00	72.8	0.5737	0.6255	748.87	585.51	0.9602	0.9640	1.0580	1.0956	-0.0349	-1127.89	-1021.44	-1075.19
8	760.00	72.1	0.6434	0.6795	731.75	571.21	0.9599	0.9637	1.0485	1.1486	-0.0912	-1134.12	-1027.21	-1081.19
9	760.00	72.0	0.7206	0.7442	725.80	565.57	0.9599	0.9637	1.0280	1.1733	-0.1322	-1134.85	-1027.87	-1081.88
10	760.00	71.5	0.8224	0.8299	720.50	561.82	0.9597	0.9635	1.0172	1.2442	-0.2014	-1138.31	-1031.08	-1085.22
11	760.00	71.5	0.9030	0.9034	719.00	560.57	0.9597	0.9635	1.0106	1.2965	-0.2492	-1138.88	-1031.60	-1085.76
12	760.00	71.5	0.9180	0.9174	720.29	561.65	0.9597	0.9635	1.0077	1.3089	-0.2616	-1138.39	-1031.16	-1085.30
13	760.00	71.6	0.9373	0.9360	722.87	563.80	0.9598	0.9635	1.0034	1.3213	-0.2753	-1137.42	-1030.26	-1084.36
14	760.00	71.7	0.9450	0.9442	723.52	564.34	0.9598	0.9636	1.0030	1.3121	-0.2686	-1137.18	-1030.03	-1084.13
15	760.00	71.8	0.9518	0.9503	726.11	566.50	0.9598	0.9636	0.9988	1.3285	-0.2853	-1136.21	-1029.14	-1083.20

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 532.80 P = 37.40 V = 319.00 OMEGA = 0.231 OMEGAH = 0.0 DIPCLE = 0.0 ETA = 0.0  
 2 T = 562.00 P = 48.60 V = 260.10 OMEGA = 0.211 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.68628E 01 B = 0.11861E 04 C = 0.22604E 03 VAPOR PRESSURE AT NBP P = 759.7 AT T = 71.8  
 2 A = 0.69056E 01 B = 0.12116E 04 C = 0.22079E 03 P = 760.0 AT T = 80.1

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.10427E 03 B = -.86757E-01 C = 0.39000E-03 COMPONENT ID ECHO CHECK ID NUMBER = 27  
 2 A = 0.70863E 02 B = 0.14907E-01 C = 0.15880E-03 ID NUMBER = 5

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.36087E 00 B = -.7655CF 00 C = 0.98438E-01  
 STANDARD DEVIATION = 0.96503E-02

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.4346 G2INF = 1.3582  
 T1INF = 80.10 T2INF = 71.81

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0889  
 AREA BELOW THE X-AXIS IS -0.0779  
 CROSS-OVER POINT IS X = 0.50  
 NORMALIZED AREA DIFFERENCE IS 0.0656  
 HERTINGTON J-FACTOR IS 3.76  
 CONSISTENCY INDEX IS 2.80

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION
1	94.55	158.87	0.9095E-12
2	136.63	377.27	0.2537E-03
3	83.24	167.78	0.2636E-02
4	67.27	180.08	0.1998E-02
5	-86.31	322.52	0.3431E-03
6	-70.81	305.72	0.8388E-04
7	-101.59	338.19	0.3341E-03
8	116.46	355.17	0.2538E-03
9	-116.42	355.17	0.2538E-03
10	89.35	163.61	0.5089E-02

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
3.23	0.00211
2.46	0.00173
3.12	0.00203
2.99	0.00192
2.40	0.00148
2.47	0.00145
2.41	0.00152
2.37	0.00159
2.37	0.00159
3.21	0.00208

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PH11	PH12	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	71.8	0.0250	0.0350	788.62	725.03	0.9546	0.9598	1.2815	0.9915	0.2565	-1282.86	-1136.62	-1210.65
2	760.00	71.5	0.0815	0.0980	783.97	720.72	0.9545	0.9597	1.1071	0.9896	0.1122	-1284.73	-1138.23	-1212.39
3	760.00	71.4	0.1230	0.1420	780.50	717.50	0.9544	0.9597	1.0676	0.9903	0.0752	-1286.13	-1139.44	-1213.70
4	760.00	71.2	0.1680	0.1880	775.89	713.22	0.9544	0.9596	1.0409	0.9937	0.0464	-1288.01	-1141.06	-1215.45
5	760.00	71.0	0.2220	0.2480	771.30	708.57	0.9543	0.9595	1.0452	0.9900	0.0543	-1289.89	-1142.69	-1217.20
6	760.00	70.8	0.2730	0.3000	767.87	705.78	0.9542	0.9594	1.0327	0.9905	0.0416	-1291.30	-1143.91	-1218.52
7	760.00	70.6	0.3260	0.3530	763.31	701.56	0.9541	0.9594	1.0235	0.9934	0.0299	-1293.19	-1145.54	-1220.28
8	760.00	70.6	0.3340	0.3590	762.18	700.50	0.9541	0.9593	1.0175	0.9975	0.0198	-1293.66	-1145.95	-1220.72
9	760.00	70.5	0.3590	0.3900	759.91	698.40	0.9540	0.9593	1.0314	0.9892	0.0418	-1294.61	-1146.76	-1221.60
10	760.00	70.4	0.3930	0.4240	757.65	696.30	0.9540	0.9593	1.0273	0.9893	0.0377	-1295.56	-1147.58	-1222.49
11	760.00	70.3	0.3960	0.4220	756.52	695.25	0.9540	0.9592	1.0162	0.9992	0.0169	-1296.03	-1147.99	-1222.93
12	760.00	70.3	0.4150	0.4380	755.39	694.21	0.9539	0.9592	1.0079	1.0045	0.0034	-1296.51	-1148.40	-1223.37
13	760.00	70.3	0.4300	0.4620	754.27	693.17	0.9539	0.9592	1.0276	0.9884	0.0388	-1296.98	-1148.81	-1223.81
14	760.00	70.2	0.4500	0.4720	753.14	692.12	0.9539	0.9592	1.0046	1.0068	-0.0022	-1297.45	-1149.22	-1224.25
15	760.00	70.1	0.4760	0.5020	750.89	690.03	0.9539	0.9591	1.0131	0.9997	0.0133	-1298.41	-1150.04	-1225.14
16	760.00	70.0	0.4930	0.5165	749.77	688.99	0.9538	0.9591	1.0079	1.0046	0.0033	-1298.88	-1150.45	-1225.59
17	760.00	69.9	0.5320	0.5625	747.53	686.92	0.9538	0.9591	1.0202	0.9877	0.0323	-1299.83	-1151.28	-1226.47
18	760.00	69.9	0.5470	0.5710	746.41	685.88	0.9538	0.9590	1.0087	1.0021	0.0066	-1300.31	-1151.69	-1226.92
19	760.00	69.8	0.6050	0.6230	743.06	682.78	0.9537	0.9590	0.9994	1.0144	-0.0149	-1301.74	-1152.92	-1228.25
20	760.00	69.7	0.6260	0.6480	741.95	681.75	0.9537	0.9590	1.0062	1.0019	0.0043	-1302.22	-1153.34	-1228.70
21	760.00	69.6	0.6660	0.6850	739.73	679.68	0.9536	0.9589	1.0027	1.0069	-0.0042	-1303.18	-1154.16	-1229.59
22	760.00	69.5	0.6790	0.6920	738.61	678.65	0.9536	0.9589	0.9950	1.0259	-0.0306	-1303.66	-1154.58	-1230.04
23	760.00	69.4	0.7400	0.7560	735.30	675.58	0.9535	0.9588	1.0018	1.0079	-0.0061	-1305.09	-1155.82	-1231.38
24	760.00	69.3	0.7580	0.7740	734.19	674.55	0.9535	0.9588	1.0028	1.0045	-0.0017	-1305.57	-1156.23	-1231.83
25	760.00	69.2	0.8110	0.8200	730.89	671.49	0.9534	0.9587	0.9974	1.0290	-0.0312	-1307.01	-1157.48	-1233.17
26	760.00	69.1	0.8330	0.8450	729.79	670.47	0.9534	0.9587	1.0022	1.0043	-0.0022	-1307.49	-1157.89	-1233.62
27	760.00	69.1	0.8450	0.8540	728.69	669.45	0.9534	0.9587	0.9999	1.0208	-0.0206	-1307.98	-1158.31	-1234.07
28	760.00	69.0	0.8820	0.8910	727.59	668.43	0.9534	0.9587	1.0010	1.0026	-0.0016	-1308.46	-1158.73	-1234.52
29	760.00	68.9	0.9250	0.9340	724.31	665.36	0.9533	0.9586	1.0050	0.9594	0.0464	-1309.90	-1159.98	-1235.86

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 507.90 P = 29.90 V = 372.40  $\Omega$ MFGA = 0.298  $\Omega$ MFGAH = 0.0 DIPCLE = 0.0 ETA = 0.0  
 2 T = 532.80 P = 37.40 V = 319.00  $\Omega$ MFGA = 0.231  $\Omega$ MFGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.68778E 01 B = 0.11715E 04 C = 0.22437E 03  
 2 A = 0.68628E 01 B = 0.11861E 04 C = 0.22604E 03

VAPOR PRESSURE AT NBP

P = 759.0 AT T = 68.7  
 P = 759.7 AT T = 71.8

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.12596E 03 B = -.14456E 00 C = 0.54720E-03  
 2 A = 0.10427E 03 B = -.86757E-01 C = 0.39000E-03

COMPONENT ID ECHO CHECK

ID NUMBER = 18  
 ID NUMBER = 27

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.18238E 00 B = -.59296E 00 C = 0.45061E 00  
 STANDARD DEVIATION = 0.27504E-01

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

EQUATION SOLVED FOR X-INTERCEPT  
 ROOTS ARE: X = 0.82577E 00 AND X = 0.49014E 00

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.2001 G2INF = 0.9608  
 T1INF = 71.81 T2INF = 68.74

BOTH ROOTS ARE IN THE RANGE 0 TO 1  
 THERMODYNAMIC CONSISTENCY TEST IS ABORTED

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)	
				PRESSURE	COMPOSITION
1	833.69	-430.17	0.9237E-12	4.96	0.00868
2	-292.75	338.18	0.3631E-04	0.60	0.00392
3	775.48	-388.14	0.3644E-01	5.52	0.00776
4	704.45	-365.52	0.3288E-01	4.85	0.00714
5	-366.99	453.84	0.1272E-02	1.19	0.00367
6	-360.84	472.71	0.8866E-03	6.06	0.00338
7	-396.92	503.52	0.1308E-02	1.38	0.00364
8	-226.83	254.38	0.2168E-04	0.56	0.00396
9	-214.79	239.86	0.2157E-04	0.56	0.00397
10	307.05	-202.41	0.1825E 01	1.70	0.00481

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	50.00	52.2	0.1100	0.1270	55.26	49.03	0.9923	0.9933	1.0362	0.9932	0.0423	-3108.71	-2736.15	-2935.87
2	50.00	52.0	0.1940	0.2150	54.71	48.55	0.9923	0.9932	1.0046	0.9959	0.0087	-3115.32	-2741.62	-2541.96
3	50.00	51.7	0.2890	0.3140	54.02	47.55	0.9923	0.9932	0.9974	0.9989	-0.0014	-3123.78	-2748.61	-2949.76
4	50.00	51.4	0.3840	0.4140	53.34	47.36	0.9922	0.9932	1.0024	0.9972	0.0052	-3132.27	-2755.63	-2957.59
5	50.00	51.2	0.4810	0.5080	52.66	46.77	0.9922	0.9932	0.9946	1.0062	-0.0116	-3140.80	-2762.69	-2965.46
6	50.00	50.9	0.5930	0.6160	52.02	46.21	0.9922	0.9931	0.9903	1.0136	-0.0232	-3149.07	-2769.52	-2973.08
7	50.00	50.7	0.6890	0.7090	51.49	45.75	0.9922	0.9931	0.9895	1.0186	-0.0290	-3155.83	-2775.11	-2979.32
8	50.00	50.4	0.7910	0.8040	50.84	45.18	0.9922	0.9931	0.9914	1.0303	-0.0384	-3164.47	-2782.26	-2987.29
9	50.00	50.2	0.8980	0.9050	50.33	44.73	0.9921	0.9930	0.9930	1.0334	-0.0399	-3171.30	-2787.89	-2993.58

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 568.80	P = 24.50	V = 493.10	OMEGA = 0.394	OMEGA H = 0.0	DIPCLE = 0.0	ETA = 0.0
2	T = 594.50	P = 27.50	V = 390.90	OMEGA = 0.243	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69238E 01	B = 7.13551E 04	C = 0.20952E 03
2	A = 0.68704E 01	B = 0.13840E 04	C = 0.21513E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.14244E 03	B = -.49197E-01	C = 0.40167E-03
2	A = 0.12682E 03	B = -.35352E-01	C = 0.30278E-03

VAPOR PRESSURE AT NBP

P = 760.0 AT T = 125.7

P = 760.0 AT T = 131.8

COMPONENT ID CHECK

ID NUMBER = 41

ID NUMBER = 42

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.50428E-01	B = -.17169E 00	C = 0.79118E-01
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INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.0517	G2INF = 1.0430
T1INF = 52.50	T2INF = 49.85

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0083

AREA BELOW THE X-AXIS IS -0.0173

CROSS-OVER POINT IS X = 0.35

NORMALIZED AREA DIFFERENCE IS -0.3537

HERINGTON J-FACTOR IS 1.23

CONSISTENCY INDEX IS 34.14

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	43.60 4.03	0.0
2	-1.12 3.49	0.1668E-04
3	224.25 -147.15	0.1753E-02
4	232.93 -153.06	0.1731E-02
5	274.41 -191.22	0.2893E-03
6	363.25 -220.75	0.5671E-04
7	303.64 -207.25	0.3298E-03
8	82.06 -65.78	0.1567E-04
9	76.99 -61.76	0.1567E-04
10	324.33 -209.30	0.8499E 00

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
0.51	0.00214
0.05	0.00376
0.35	0.00218
0.34	0.00218
0.12	0.00303
0.51	0.00155
0.14	0.00287
0.05	0.00383
0.05	0.00382
0.32	0.00208

OCTANE(1) ETHYLCYCLOHEXANE(2)

SYSTEM 11CB

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	100.00	68.7	0.0990	0.1170	111.10	57.34	0.9874	0.9888	1.0454	0.9948	0.0534	-2675.36	-2377.14	-2536.14
2	100.00	68.3	0.1930	0.2170	109.65	96.09	0.9873	0.9888	1.0116	0.9977	0.0138	-2683.02	-2383.50	-2543.21
3	100.00	68.1	0.2960	0.3230	108.47	55.07	0.9873	0.9888	0.9924	0.9994	-0.0070	-2689.32	-2388.73	-2549.02
4	100.00	67.7	0.3850	0.4130	106.79	93.62	0.9873	0.9887	0.9910	1.0073	-0.0163	-2698.45	-2396.31	-2557.45
5	100.00	67.3	0.4920	0.5220	105.25	92.30	0.9872	0.9887	0.9944	1.0072	-0.0128	-2706.94	-2403.35	-2565.28
6	100.00	67.0	0.5990	0.6270	103.82	91.06	0.9872	0.9886	0.9945	1.0051	-0.0146	-2714.58	-2410.03	-2572.70
7	100.00	66.6	0.6890	0.7120	102.44	89.87	0.9871	0.9885	0.9950	1.0179	-0.0227	-2722.84	-2416.55	-2579.95
8	100.00	66.3	0.7830	0.7970	101.08	88.70	0.9871	0.9885	0.9932	1.0418	-0.0478	-2730.74	-2423.10	-2587.23
9	100.00	65.9	0.8890	0.8970	99.57	87.40	0.9870	0.9884	0.9994	1.0487	-0.0482	-2739.63	-2430.48	-2595.44

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 568.80	P = 24.50	V = 493.10	OMEGA = -0.394	CMEGAH = 0.0	DIPOLE = 0.0	ETA = 0.0
2	T = 594.50	P = 27.50	V = 390.90	OMEGA = 0.243	CMEGAH = 0.0	DIPOLE = 0.0	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69238E 01	B = 0.13551E 04	C = 0.20952E 03	P = 760.0 AT T = 125.7
2	A = 0.68704E 01	B = 0.13840E 04	C = 0.21513E 03	P = 760.0 AT T = 131.8

MCLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.14244E 03	B = -.49197E-01	C = 0.40167E-03	COMPONENT ID CHECK
2	A = 0.12682E 03	B = -.35352E-01	C = 0.30278E-03	ID NUMBER = 41
				ID NUMBER = 42

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.58311E-01	B = -.20665E-00	C = -0.10409E 00
STANDARD DEVIATION = 0.13005E-01		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.0600	G2INF = 1.0452
T1INF = 69.04	T2INF = 65.70

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.0092
AREA BELOW THE X-AXIS IS	-0.0196
CROSS-OVER POINT IS X =	0.34
NORMALIZED AREA DIFFERENCE IS	-0.3582
HERINGTON J-FACTOR IS	1.48
CONSISTENCY INDEX IS	34.34

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	58.90	-44.07
2	-479.32	644.22
3	297.59	-187.45
4	316.24	-159.14
5	339.37	-226.58
6	486.45	-284.91
7	386.52	-252.19
8	-82.35	84.19
9	-82.35	84.19
10	423.23	-259.34

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
0.87	0.00255
0.15	0.00529
0.67	0.00213
0.65	0.00207
0.28	0.00288
0.81	0.00170
0.30	0.00267
0.14	0.00396
0.14	0.00396
0.61	0.00178

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	400.00	106.7	0.0950	0.1130	443.73	382.41	0.9669	0.9701	1.0336	0.9919	0.0412	-1959.64	-1780.03	-1875.26
2	400.00	108.2	0.1910	0.2150	436.45	376.21	0.9668	0.9699	0.9942	0.9980	-0.0038	-1967.26	-1786.42	-1882.30
3	400.00	107.7	0.2890	0.3170	429.98	370.64	0.9667	0.9698	0.9833	1.0027	-0.0195	-1974.22	-1792.27	-1888.74
4	400.00	107.1	0.3940	0.4240	422.79	364.48	0.9665	0.9696	0.9810	1.0087	-0.0279	-1982.07	-1798.85	-1896.00
5	400.00	106.6	0.4810	0.5130	416.44	359.05	0.9663	0.9695	0.9869	1.0108	-0.0239	-1989.11	-1804.76	-1902.51
6	400.00	106.1	0.5930	0.6230	409.54	353.15	0.9662	0.9693	0.9884	1.0143	-0.0259	-1996.91	-1811.30	-1909.73
7	400.00	105.5	0.6880	0.7100	402.61	347.21	0.9660	0.9691	0.9874	1.0350	-0.0470	-2004.91	-1818.00	-1917.11
8	400.00	105.0	0.7950	0.8110	396.50	341.98	0.9659	0.9689	0.9909	1.0421	-0.0503	-2012.09	-1824.02	-1923.75
9	400.00	104.6	0.8980	0.9080	391.66	337.84	0.9657	0.9688	0.9942	1.0318	-0.0371	-2017.86	-1828.87	-1929.09

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 568.80	P = 24.50	V = 493.10	OMEGA = 0.394	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0
2	T = 594.50	P = 27.50	V = 390.90	OMEGA = 0.243	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69238E 01	B = 0.13551E 04	C = 0.20952E 03	VAPOR PRESSURE AT NBP
2	A = 0.68704E 01	B = 0.13840E 04	C = 0.21513E 03	P = 760.0 AT T = 125.7
				P = 760.0 AT T = 131.8

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.14244E 03	B = -0.49197E 01	C = 0.40167E 03	COMPONENT ID ECHO CHECK
2	A = 0.12682E 03	B = -0.35352E 01	C = 0.30278E 03	ID NUMBER = 41
				ID NUMBER = 42

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.51747E 01	B = -0.26269E 00	C = 0.18072E 00
STANDARD DEVIATION = 0.11520E 01		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.0531	G2INF = 1.0307
T1INF = 109.13	T2INF = 104.05

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.0057
AREA BELOW THE X-AXIS IS	-0.0250
CROSS-OVER POINT IS X =	0.23
NORMALIZED AREA DIFFERENCE IS	-0.6298
HERINGTON J-FACTOR IS	2.02
CONSISTENCY INDEX IS	60.96

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	204.66 -124.71	0.0
2	-17.27 18.25	0.3817E-04
3	441.15 -275.56	0.4243E-02
4	462.94 -287.66	0.4164E-02
5	532.25 -336.06	0.5575E-03
6	740.66 -398.72	0.1601E-03
7	600.65 -366.19	0.4764E-03
8	10.35 -8.44	0.2533E-04
9	7.27 -5.87	0.2532E-04
10	576.18 -346.57	0.1267E 01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
3.84	0.00439
0.65	0.00541
2.83	0.00377
2.73	0.00370
1.35	0.00394
4.35	0.00259
1.54	0.00352
0.59	0.00555
0.59	0.00555
2.24	0.00327

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	500.00	116.1	0.1120	0.1320	550.25	473.61	0.9615	0.9650	1.0258	0.9926	0.0329	-1861.72	-1697.78	-1784.71
2	500.00	115.6	0.1900	0.2150	541.71	466.30	0.9613	0.9648	1.0002	0.9994	0.0009	-1868.74	-1703.68	-1791.20
3	500.00	115.0	0.2900	0.3180	533.12	458.94	0.9611	0.9646	0.9847	1.0062	-0.0216	-1875.92	-1709.72	-1797.85
4	500.00	114.5	0.3830	0.4160	525.54	452.45	0.9610	0.9645	0.9893	1.0055	-0.0163	-1882.38	-1715.14	-1803.82
5	500.00	114.0	0.4800	0.5120	518.04	446.03	0.9608	0.9643	0.9854	1.0111	-0.0258	-1888.87	-1720.60	-1809.82
6	500.00	113.5	0.5910	0.6210	510.62	439.66	0.9606	0.9641	0.9847	1.0126	-0.0280	-1895.40	-1726.08	-1815.86
7	500.00	112.9	0.6920	0.7160	501.69	432.02	0.9604	0.9639	0.9866	1.0252	-0.0384	-1903.41	-1732.82	-1823.27
8	500.00	112.3	0.7910	0.8150	493.59	425.09	0.9602	0.9637	0.9984	1.0000	-0.0016	-1910.81	-1739.03	-1830.11
9	500.00	111.8	0.9060	0.9100	486.16	418.73	0.9600	0.9635	0.9880	1.0579	-0.1055	-1917.72	-1744.84	-1836.51

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1	T = 568.80	P = 24.50	V = 493.10	OMEGA = 0.394	OMEGA H = 0.0	DIPCLE = 0.0	ETA = 0.0
2	T = 594.50	P = 27.50	V = 390.90	OMEGA = 0.243	OMEGA H = 0.0	DIPOLF = 0.0	ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69238E 01	B = 0.13551E 04	C = 0.20952E 03	P = 760.0 AT T = 125.7
2	A = 0.68704E 01	B = 0.13840E 04	C = 0.21513E 03	P = 760.0 AT T = 131.8

## MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.14244E 03	B = -.49197E-01	C = 0.40167E-03	CCMPONENT ID CHECK
2	A = 0.12682E 03	B = -.35352E-01	C = 0.30278E-03	ID NUMBER = 41
				ID NUMBER = 42

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.19239E-01	B = -.57490E-01	C = -.43662E-01
STANDARD DEVIATION = 0.29009E-01		

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.0194	G2INF = 1.0854
T1INF = 116.66	T2INF = 111.24

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.0028
AREA BELOW THE X-AXIS IS	-0.0269
CROSS-OVER POINT IS X =	0.28
NORMALIZED AREA DIFFERENCE IS	-0.8104
HERINGTON J-FACTOR IS	-2.12
CONSISTENCY INDEX IS	78.93

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	504.30 687.44	0.9095E-12
2	-244.34 249.83	0.1994E-04
3	-515.00 701.29	0.8552E-02
4	-465.69 605.52	0.8074E-02
5	-178.99 178.30	0.5866E-03
6	716.49 -395.79	0.1929E-03
7	613.24 -373.41	0.4692E-03
8	313.12 -226.24	0.2051E-04
9	313.25 -226.32	0.2049E-04
10	650.57 -384.47	0.1446E 01

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
5.10	0.00621
0.66	0.00490
4.53	0.00614
4.13	0.00573
0.78	0.00479
4.80	0.00249
1.47	0.00309
0.63	0.00466
0.63	0.00466
2.21	0.00258



SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	131.2	0.1190	0.1430	826.76	710.86	0.9490	0.9533	1.0424	0.9866	0.0550	-1683.96	-1547.99	-1620.17
2	760.00	130.9	0.1920	0.2200	819.81	704.88	0.9489	0.9532	1.0023	0.9873	0.0151	-1687.56	-1551.02	-1623.51
3	760.00	130.1	0.2860	0.3150	802.50	690.01	0.9486	0.9528	0.9838	1.0019	-0.0183	-1696.66	-1558.71	-1631.93
4	760.00	129.4	0.3880	0.4240	788.12	677.65	0.9483	0.9525	0.9936	1.0005	-0.0069	-1704.39	-1565.23	-1639.09
5	760.00	128.8	0.4890	0.5250	775.73	667.02	0.9480	0.9523	0.9915	1.0036	-0.0122	-1711.17	-1570.96	-1645.37
6	760.00	128.0	0.5890	0.6240	761.31	654.63	0.9477	0.9519	0.9950	1.0088	-0.0138	-1719.23	-1577.76	-1652.84
7	760.00	127.4	0.6890	0.7150	749.63	644.60	0.9474	0.9517	0.9911	1.0232	-0.0319	-1725.88	-1583.37	-1658.99
8	760.00	126.9	0.7850	0.8060	738.87	635.36	0.9472	0.9514	0.9946	1.0219	-0.0270	-1732.11	-1588.62	-1664.76
9	760.00	126.3	0.8940	0.9020	728.03	626.05	0.9469	0.9511	0.9917	1.0622	-0.0688	-1738.49	-1594.01	-1670.67

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 568.80	P = 24.50	V = 493.10	OMEGA = 0.394	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0
2	T = 594.50	P = 27.50	V = 390.90	OMEGA = 0.243	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69238E 01	B = 0.13551E 04	C = 0.20952E 03	VAPOR PRESSURE AT NBP
2	A = 0.68704E 01	B = 0.13840E 04	C = 0.21513E 03	P = 760.C AT T = 125.7
				P = 760.0 AT T = 131.8

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.14244E 03	B = -.49197E-01	C = 0.40167E-03	COMPONENT ID CHECK
2	A = 0.12682E 03	B = -.35352E-01	C = 0.30278E-03	ID NUMBER = 41
				ID NUMBER = 42

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.51832E-01	B = -.16224E-00	C = 0.52082E-01
STANDARD DEVIATION = 0.18486E-01		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.0532	G2INF = 1.0601
T1INF = 131.78	T2INF = 125.66

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.0090
AREA BELOW THE X-AXIS IS	-0.0209
CROSS-OVER POINT IS X =	0.36
NORMALIZED AREA DIFFERENCE IS	-0.3996
HERINGTON J-FACTOR IS	2.30
CONSISTENCY INDEX IS	37.66

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	-181.09	0.9095E-12
2	-631.77	0.8473E-04
3	-6.38	0.4509E-02
4	115.58	0.4373E-02
5	106.77	0.5313E-03
6	569.50	0.1089E-03
7	302.70	0.5772E-03
8	15.98	0.1044E-03
9	15.93	0.1037E-03
10	528.56	0.1243E 01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
10.70	0.00327
1.70	0.00624
7.23	0.00313
6.98	0.00298
2.23	0.00422
8.88	0.00207
2.54	0.00390
2.02	0.00468
2.03	0.00469
6.16	0.00223

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	185.00	40.0	0.0857	0.0477	50.58	186.02	0.9839	0.9817	2.0017	1.0160	0.6782	-1699.87	-1927.30	-1813.65
2	178.00	40.0	0.1476	0.0825	50.58	186.02	0.9845	0.9824	1.9354	1.0109	0.6494	-1699.87	-1927.30	-1813.65
3	176.50	40.0	0.1799	0.1000	50.58	186.02	0.9846	0.9826	1.9088	1.0222	0.6245	-1699.87	-1927.30	-1813.65
4	171.00	40.0	0.2550	0.1300	50.58	186.02	0.9851	0.9831	1.6969	1.0544	0.4758	-1699.87	-1927.30	-1813.65
5	170.00	40.0	0.2777	0.1416	50.58	186.02	0.9852	0.9832	1.6875	1.0669	0.4585	-1699.87	-1927.30	-1813.65
6	165.00	40.0	0.3519	0.1695	50.58	186.02	0.9856	0.9837	1.5475	1.1172	0.3261	-1699.87	-1927.30	-1813.65
7	161.50	40.0	0.3851	0.1802	50.58	186.02	0.9859	0.9841	1.4723	1.1381	0.2575	-1699.87	-1927.30	-1813.65
8	154.00	40.0	0.4874	0.2295	50.58	186.02	0.9866	0.9848	1.4075	1.2261	0.1380	-1699.87	-1927.30	-1813.65
9	127.50	40.0	0.6913	0.3344	50.58	186.02	0.9889	0.9874	1.2053	1.4583	-0.1905	-1699.87	-1927.30	-1813.65
10	109.00	40.0	0.7998	0.4130	50.58	186.02	0.9905	0.9892	1.1033	1.6902	-0.4266	-1699.87	-1927.30	-1813.65
11	95.00	40.0	0.8530	0.4869	50.58	186.02	0.9917	0.9906	1.0667	1.7297	-0.4834	-1699.87	-1927.30	-1813.65
12	84.00	40.0	0.8990	0.5715	50.58	186.02	0.9927	0.9917	1.0478	1.8991	-0.5947	-1699.87	-1927.30	-1813.65

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 540.70 P = 51.00 V = 220.00 OMEGA = 0.612 OMEGAH = 0.201 DIPCLE = 1.68 ETA = 0.57  
 2 T = 523.30 P = 37.80 V = 286.00 OMEGA = 0.373 OMEGAH = 0.278 DIPCLE = 1.78 ETA = 0.50

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.79973E 01 B = 0.15697E 04 C = 0.20950E 03  
 2 A = 0.70981E 01 B = 0.12387E 04 C = 0.21700E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.77979E 02 B = -.91570E-01 C = 0.27520F-03  
 2 A = 0.13612E 03 B = -.37001E 00 C = 0.80775F-03

VAPOR PRESSURE AT NBP

P = 757.4 AT T = 97.2  
 P = 769.5 AT T = 77.1

COMPONENT ID ECHO CHECK

ID NUMBER = 37  
 ID NUMBER = 12

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.81993E 00 B = -.12331E 01 C = -.37382F 00  
 STANDARD DEVIATION = 0.24898E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1 INF = 2.2703 G2 INF = 2.1967  
 T1 INF = 40.00 T2 INF = 40.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2440  
 AREA BELOW THE X-AXIS IS -0.1652  
 CROSS-OVER POINT IS X = 0.57  
 NORMALIZED AREA DIFFERENCE IS -0.1925  
 CONSISTENCY INDEX IS 19.25

SUMMARY OF WILSON PARAMETERS

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)	
				PRESSURE	COMPOSITION
1	470.51	83.30	0.3365E-10	2.78	0.01229
2	310.39	511.61	0.7823E-03	3.62	0.02041
3	484.39	127.40	0.1489E 00	1.32	0.01429
4	444.30	173.67	0.6289E-01	1.51	0.01424
5	533.17	72.05	0.8113E-02	1.29	0.01422
6	163.48	396.83	0.2610E-02	6.24	0.00973
7	468.01	103.62	0.5289E-02	2.23	0.01284
8	585.39	49.46	0.7799E-03	0.96	0.01532
9	585.41	49.52	0.7799E-03	0.96	0.01532
10	521.40	77.26	0.3902E-01	1.43	0.01396

SUMMARY VLF DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	402.00	60.0	0.0843	0.0560	147.34	408.70	0.9736	0.9701	1.7619	0.9817	0.5849	-1365.57	-1546.48	-1455.52
2	393.00	60.0	0.1860	0.1120	147.34	408.70	0.9742	0.9707	1.5623	1.0163	0.4300	-1365.57	-1546.48	-1455.52
3	379.00	60.0	0.2977	0.1660	147.34	408.70	0.9751	0.9718	1.3566	1.0682	0.2681	-1365.57	-1546.48	-1455.52
4	362.50	60.0	0.3738	0.2122	147.34	408.70	0.9762	0.9730	1.3615	1.0838	0.2281	-1365.57	-1546.48	-1455.52
5	343.00	60.0	0.4716	0.2500	147.34	408.70	0.9775	0.9745	1.2047	1.1588	0.0388	-1365.57	-1546.48	-1455.52
6	324.50	60.0	0.5842	0.3109	147.34	408.70	0.9787	0.9758	1.1457	1.2820	-0.1125	-1365.57	-1546.48	-1455.52
7	305.50	60.0	0.6375	0.3528	147.34	408.70	0.9799	0.9773	1.1231	1.3023	-0.1480	-1365.57	-1546.48	-1455.52
8	285.50	60.0	0.7230	0.4097	147.34	408.70	0.9812	0.9787	1.0763	1.4550	-0.3015	-1365.57	-1546.48	-1455.52
9	262.00	60.0	0.7811	0.4768	147.34	408.70	0.9828	0.9805	1.0657	1.5004	-0.3421	-1365.57	-1546.48	-1455.52
10	239.50	60.0	0.8404	0.5405	147.34	408.70	0.9843	0.9822	1.0280	1.6551	-0.4762	-1365.57	-1546.48	-1455.52
11	222.00	60.0	0.8825	0.6235	147.34	408.70	0.9854	0.9835	1.0481	1.7099	-0.4894	-1365.57	-1546.48	-1455.52
12	205.00	60.0	0.9095	0.6900	147.34	408.70	0.9865	0.9847	1.0405	1.6902	-0.4852	-1365.57	-1546.48	-1455.52
13	189.00	60.0	0.9362	0.7575	147.34	408.70	0.9876	0.9859	1.0243	1.7314	-0.5250	-1365.57	-1546.48	-1455.52
14	179.00	60.0	0.9520	0.8050	147.34	408.70	0.9882	0.9867	1.0145	1.7540	-0.5475	-1365.57	-1546.48	-1455.52

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 540.70 P = 51.00 V = 220.00 OMEGA = 0.612 OMEGAH = 0.201 DIPOLE = 1.68 ETA = 0.57  
 2 T = 523.30 P = 37.80 V = 286.00 OMEGA = 0.373 OMEGAH = 0.278 DIPOLE = 1.78 ETA = 0.50

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.79973E 01 B = 0.15697E 04 C = 0.20950E 03 VAPOR PRESSURE AT NBP  
 2 A = 0.70981E 01 B = 0.12387E 04 C = 0.21700E 03 P = 757.4 AT T = 97.2  
 P = 769.5 AT T = 77.1

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.77979E 02 B = -.91570E-01 C = 0.27520E-03 COMPONENT ID CHECK  
 2 A = 0.13612E 03 B = -.37001E 00 C = -0.80775E-03 ID NUMBER = 37  
 ID NUMBER = 12

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.71104E 00 B = -.14838E 01 C = 0.15729E 00

STANDARD DEVIATION = 0.26661E-01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.0361 G2INF = 1.8505  
 T1INF = 60.00 T2INF = 60.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.1766  
 AREA BELOW THE X-AXIS IS -0.1551  
 CROSS-OVER POINT IS X = 0.51  
 NORMALIZED AREA DIFFERENCE IS 0.0650  
 CONSISTENCY INDEX IS 6.50

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	527.05	-42.93	0.0	4.94	0.00488
2	143.11	492.01	0.9604E-03	5.05	0.01719
3	485.03	4.68	0.2714E-01	4.05	0.00521
4	466.25	22.79	0.1528E-01	3.65	0.00529
5	424.55	77.98	0.4216E-02	2.88	0.00632
6	428.21	32.24	0.9101E-03	5.37	0.00460
7	419.22	76.67	0.3702E-02	3.11	0.00594
8	376.31	145.26	0.1379E-02	2.48	0.00861
9	376.64	144.97	0.1379E-02	2.48	0.00861
10	458.52	29.51	0.1438E-01	3.81	0.00528

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PH11	PH12	G1	G2	LN(G1/G2)	B11	B22	B12
1	750.00	78.0	0.0926	0.0699	338.17	752.79	0.9607	0.9553	1.6253	0.9850	0.5008	-1134.36	-1286.52	-1209.55
2	760.00	78.5	0.1667	0.1209	345.52	764.78	0.9609	0.9556	1.5287	0.9982	0.4263	-1128.70	-1280.20	-1203.55
3	760.00	79.5	0.2680	0.1764	360.63	789.21	0.9614	0.9562	1.3299	1.0322	0.2534	-1117.50	-1267.68	-1191.67
4	750.00	80.4	0.3623	0.2381	374.37	811.18	0.9618	0.9567	1.2797	1.0669	0.1818	-1107.76	-1256.81	-1181.35
5	760.00	82.8	0.5316	0.3373	414.41	874.02	0.9630	0.9580	1.1175	1.1742	-0.0495	-1081.56	-1227.59	-1153.60
6	750.00	84.1	0.6178	0.4130	438.24	910.64	0.9636	0.9587	1.1141	1.2243	-0.0944	-1067.31	-1211.70	-1138.50
7	750.00	85.5	0.6779	0.4566	462.62	947.56	0.9642	0.9593	1.0640	1.2934	-0.1952	-1053.61	-1196.45	-1124.01
8	750.00	87.5	0.7560	0.5392	502.27	1006.51	0.9651	0.9603	1.0387	1.3645	-0.2728	-1033.00	-1173.53	-1102.21
9	760.00	89.2	0.8198	0.6116	537.57	1057.95	0.9658	0.9612	1.0159	1.4828	-0.3782	-1016.16	-1154.82	-1084.41
10	760.00	91.9	0.8863	0.7269	598.96	1145.29	0.9670	0.9625	1.0035	1.5285	-0.4207	-989.70	-1125.45	-1056.45
11	760.00	93.3	0.9062	0.7678	629.91	1188.40	0.9675	0.9630	0.9863	1.5191	-0.4319	-977.51	-1111.95	-1043.59
12	750.00	94.9	0.9477	0.8669	671.04	1244.82	0.9681	0.9638	1.0003	1.4921	-0.3999	-962.34	-1095.14	-1027.58
13	750.00	96.0	0.9762	0.9237	699.66	1283.52	0.9685	0.9643	0.9928	1.8238	-0.6081	-952.41	-1084.15	-1017.10

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 540.70 P = 51.00 V = 220.00 OMEGA = 0.612 OMEGAH = 0.201 DIPOLE = 1.68 ETA = 0.57  
 2 T = 523.30 P = 37.80 V = 286.00 OMEGA = 0.373 OMEGAH = 0.278 DIPOLE = 1.78 ETA = 0.50

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.79973F 01 B = 0.15697E 04 C = 0.20950F 03  
 2 A = 0.70981F 01 B = 0.12387E 04 C = 0.21700E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.77979E 02 B = -.91570E 01 C = 0.27520F 03  
 2 A = 0.13612F 03 B = -.37001E 00 C = 0.80775F 03

VAPOR PRESSURE AT NBP

P = 757.4 AT T = 97.2  
 P = 769.5 AT T = 77.1

COMPONENT ID CHECK

ID NUMBER = 37  
 IC NUMBER = 12

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.61321E 00 B = -.12466E 01 C = 0.86354E 01  
 STANDARD DEVIATION = 0.44365E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.8463 G2INF = 1.7281  
 T1INF = 76.72 T2INF = 97.29

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.1544  
 AREA BELOW THE X-AXIS IS -0.1357  
 CROSS-OVER POINT IS X = 0.51  
 NORMALIZED AREA DIFFERENCE IS 0.0645  
 HERINGTON J-FACTOR IS 7.69  
 CONSISTENCY INDEX IS -1.24

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	477.79	-33.99	0.0	7.52	0.00450
2	305.67	119.12	0.1031E-02	6.87	0.00472
3	447.21	-13.77	0.4960E-01	6.68	0.00427
4	460.29	-30.22	0.2041E-01	6.56	0.00415
5	401.36	16.81	0.2101E-02	6.25	0.00416
6	404.12	20.73	0.6894E-03	6.25	0.00413
7	365.88	57.53	0.1665E-02	6.23	0.00430
8	404.96	10.76	0.1392E-02	6.30	0.00418
9	405.05	10.96	0.1392E-02	6.30	0.00417
10	460.19	-22.92	0.2719E-01	6.90	0.00435

\*\*DIAGNOSTIC\*\*

1 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
SEE INTRODUCTION FOR DETAILS CONCERNING DATA-BASE UPDATE

1 PROPANOL(1) HEPTANE(2)

SYSTEM 112A

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PH11	PH12	G1	G2	LN(G1/G2)	B11	B22	B12
1	63.49	30.0	0.0050	0.0790	27.67	57.86	0.9963	0.9910	36.1128	1.0059	3.5807	-1906.89	-2700.54	-1826.42
2	66.59	30.0	0.0100	0.1250	27.67	57.86	0.9959	0.9905	29.9511	1.0070	3.3926	-1906.89	-2700.54	-1826.42
3	69.56	30.0	0.0200	0.1660	27.67	57.86	0.9954	0.9902	20.7653	1.0124	3.0210	-1906.89	-2700.54	-1826.42
4	72.02	30.0	0.0400	0.1990	27.67	57.86	0.9951	0.9899	12.8821	1.0274	2.5288	-1906.89	-2700.54	-1826.42
5	74.63	30.0	0.1000	0.2390	27.67	57.86	0.9947	0.9896	6.3833	1.0799	1.7768	-1906.89	-2700.54	-1826.42
6	76.04	30.0	0.2000	0.2700	27.67	57.86	0.9944	0.9894	3.6881	1.1857	1.1348	-1906.89	-2700.54	-1826.42
7	76.13	30.0	0.3000	0.2810	27.67	57.86	0.9943	0.9894	2.5618	1.3363	0.6508	-1906.89	-2700.54	-1826.42
8	75.81	30.0	0.4000	0.2960	27.67	57.86	0.9943	0.9895	2.0153	1.5202	0.2819	-1906.89	-2700.54	-1826.42
9	75.15	30.0	0.5000	0.3080	27.67	57.86	0.9942	0.9896	1.6629	1.7777	-0.0667	-1906.89	-2700.54	-1826.42
10	73.96	30.0	0.6000	0.3220	27.67	57.86	0.9943	0.9898	1.4259	2.1432	-0.4075	-1906.89	-2700.54	-1826.42
11	71.81	30.0	0.7000	0.3430	27.67	57.86	0.9943	0.9902	1.2641	2.6895	-0.7550	-1906.89	-2700.54	-1826.42
12	67.10	30.0	0.8000	0.3820	27.67	57.86	0.9945	0.9909	1.1513	3.5487	-1.1257	-1906.89	-2700.54	-1826.42
13	62.83	30.0	0.8500	0.4190	27.67	57.86	0.9947	0.9916	1.1132	4.1682	-1.3203	-1906.89	-2700.54	-1826.42
14	56.34	30.0	0.9000	0.4820	27.67	57.86	0.9951	0.9926	1.0849	5.0040	-1.5288	-1906.89	-2700.54	-1826.42
15	52.76	30.0	0.9200	0.5220	27.67	57.86	0.9953	0.9932	1.0766	5.4085	-1.6142	-1906.89	-2700.54	-1826.42
16	48.44	30.0	0.9400	0.5770	27.67	57.86	0.9956	0.9939	1.0696	5.8635	-1.7014	-1906.89	-2700.54	-1826.42
17	43.27	30.0	0.9600	0.6570	27.67	57.86	0.9959	0.9948	1.0657	6.3764	-1.7890	-1906.89	-2700.54	-1826.42
18	37.03	30.0	0.9800	0.7810	27.67	57.86	0.9964	0.9959	1.0625	6.9762	-1.8819	-1906.89	-2700.54	-1826.42
19	33.42	30.0	0.9900	0.8730	27.67	57.86	0.9967	0.9965	1.0614	7.3074	-1.9293	-1906.89	-2700.54	-1826.42

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 540.70 P = 51.00 V = 220.00 OMEGA = 0.612 OMEGAH = 0.201 DIPCLE = 1.68 ETA = 0.57  
 2 T = 540.20 P = 27.00 V = 431.90 OMEGA = 0.349 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.79973E 01 B = 0.15697E 04 C = 0.20950E 03  
 2 A = 0.69024E 01 B = 0.12681E 04 C = 0.21690E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.77979E 02 B = .51570E 01 C = 0.27520E-03  
 2 A = 0.12880E 03 B = -.60277E-01 C = 0.41160E-03

VAPOR PRESSURE AT NBP

P = 757.4 AT T = 97.2  
 P = 759.4 AT T = 98.4

COMPONENT ID ECHO CHECK

ID NUMBER = 37  
 ID NUMBER = 16

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.30968E 01 B = -.82923E 01 C = 0.34427E 01  
 STANDARD DEVIATION = 0.28606E 00

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 22.1261 G2INF = 5.7713  
 T1INF = 30.00 T2INF = 30.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.6589  
 AREA BELOW THE X-AXIS IS -0.5607  
 CROSS-OVER POINT IS X = 0.46  
 NORMALIZED AREA DIFFERENCE IS 0.0805  
 CONSISTENCY INDEX IS 8.05



## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES			OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)	
					PRESSURE	COMPOSITION
1	1932.01	94.63		0.4599E-08	4.22	0.02584
2	1659.51	664.01		0.1011E-01	3.60	0.04985
3	2301.09	204.01		0.4949E-01	1.22	0.01029
4	2249.35	245.38		0.7476E-01	0.88	0.01346
5	2169.22	276.86		0.1649E-01	0.69	0.01528
6	2186.64	202.96		0.5526E-02	1.49	0.00969
7	2115.08	257.77		0.1411E-01	0.98	0.01363
8	2140.28	320.21		0.3501E-02	0.64	0.01871
9	2139.92	320.31		0.3501E-02	0.64	0.01871
10	2282.20	241.05		0.2233E-02	0.92	0.01341

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	123.08	45.0	0.0050	0.0670	67.15	113.27	0.9942	0.9855	24.4054	1.0032	3.1916	-1607.19	-2333.07	-1591.23
2	129.10	45.0	0.0100	0.1140	67.15	113.27	0.9934	0.9849	21.7622	1.0036	3.0766	-1607.19	-2333.07	-1591.23
3	137.20	45.0	0.0200	0.1710	67.15	113.27	0.9925	0.9840	17.3289	1.0072	2.8452	-1607.19	-2333.07	-1591.23
4	143.96	45.0	0.0400	0.2160	67.15	113.27	0.9917	0.9833	11.4746	1.0195	2.4208	-1607.19	-2333.07	-1591.23
5	151.38	45.0	0.1000	0.2660	67.15	113.27	0.9909	0.9826	5.9383	1.0697	1.7140	-1607.19	-2333.07	-1591.23
6	155.57	45.0	0.2000	0.3050	67.15	113.27	0.9903	0.9823	3.4566	1.1706	1.0943	-1607.19	-2333.07	-1591.23
7	156.26	45.0	0.3000	0.3200	67.15	113.27	0.9901	0.9822	2.4561	1.3147	0.6250	-1607.19	-2333.07	-1591.23
8	156.02	45.0	0.4000	0.3380	67.15	113.27	0.9900	0.9823	1.9425	1.4911	0.2644	-1607.19	-2333.07	-1591.23
9	154.92	45.0	0.5000	0.3530	67.15	113.27	0.9899	0.9825	1.6114	1.7368	-0.0749	-1607.19	-2333.07	-1591.23
10	152.73	45.0	0.6000	0.3700	67.15	113.27	0.9900	0.9828	1.3876	2.0848	-0.4070	-1607.19	-2333.07	-1591.23
11	148.70	45.0	0.7000	0.3930	67.15	113.27	0.9901	0.9834	1.2302	2.6091	-0.7519	-1607.19	-2333.07	-1591.23
12	139.85	45.0	0.8000	0.4360	67.15	113.27	0.9904	0.9846	1.1235	3.4243	-1.1145	-1607.19	-2333.07	-1591.23
13	131.89	45.0	0.8500	0.4750	67.15	113.27	0.9907	0.9856	1.0868	4.0127	-1.3062	-1607.19	-2333.07	-1591.23
14	119.78	45.0	0.9000	0.5400	67.15	113.27	0.9913	0.9873	1.0604	4.7979	-1.5095	-1607.19	-2333.07	-1591.23
15	113.14	45.0	0.9200	0.5800	67.15	113.27	0.9916	0.9882	1.0528	5.1772	-1.5928	-1607.19	-2333.07	-1591.23
16	105.13	45.0	0.9400	0.6330	67.15	113.27	0.9920	0.9892	1.0454	5.6114	-1.6804	-1607.19	-2333.07	-1591.23
17	95.55	45.0	0.9600	0.7080	67.15	113.27	0.9926	0.9906	1.0412	6.0955	-1.7672	-1607.19	-2333.07	-1591.23
18	84.03	45.0	0.9800	0.8190	67.15	113.27	0.9933	0.9923	1.0384	6.6575	-1.8580	-1607.19	-2333.07	-1591.23
19	77.38	45.0	0.9900	0.8970	67.15	113.27	0.9938	0.9933	1.0373	6.9848	-1.9072	-1607.19	-2333.07	-1591.23

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 540.70 P = 51.00 V = 220.00 OMEGA = 0.612 OMEGAH = 0.201 DIPOLE = 1.68 ETA = 0.57  
 2 T = 540.20 P = 27.00 V = 431.90 OMEGA = 0.349 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.79973E 01 B = 0.15697E 04 C = 0.20950E 03  
 2 A = 0.69024E 01 B = 0.12681E 04 C = 0.21690E 03

VAPOR PRESSURE AT NBP

P = 757.4 AT T = 97.2  
 P = 759.4 AT T = 98.4

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.77979E 02 B = -0.91570E 01 C = 0.27520E 03  
 2 A = 0.12880E 03 B = -0.60277E 01 C = 0.41160E 03

COMPONENT ID CHECK

ID NUMBER = 37  
 ID NUMBER = 16

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.28630E 01 B = -0.75278E 01 C = 0.29095E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 17.5146 G2INF = 5.7849  
 T1INF = 45.00 T2INF = 45.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.6150  
 AREA BELOW THE X-AXIS IS -0.5460  
 CROSS-OVER POINT IS X = 0.46  
 NORMALIZED AREA DIFFERENCE IS 0.0594  
 CONSISTENCY INDEX IS 5.94

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	1875.70	112.23	0.4957E-09	6.55	0.02079
2	1705.45	499.38	0.4348E-02	3.93	0.02970
3	2124.17	223.47	0.1283E 01	1.65	0.00850
4	2101.37	235.10	0.3715E-01	1.55	0.00915
5	2028.38	261.11	0.8769E-02	1.31	0.01082
6	2046.94	210.68	0.3436E-02	1.96	0.00756
7	1990.08	249.71	0.7401E-02	1.47	0.00955
8	1995.61	296.41	0.2446E-02	1.19	0.01355
9	1995.61	296.41	0.2446E-02	1.19	0.01355
10	2118.21	235.74	0.1121E-02	1.56	0.00941

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	222.79	60.0	0.0050	0.0560	147.34	205.57	0.9912	0.9781	16.7716	1.0040	2.8157	-1365.57	-2044.65	-1404.79
2	232.66	60.0	0.0100	0.0990	147.34	205.57	0.9902	0.9772	15.4665	1.0048	2.7339	-1365.57	-2044.65	-1404.79
3	248.25	60.0	0.0200	0.1620	147.34	205.57	0.9888	0.9758	13.4817	1.0058	2.5956	-1365.57	-2044.65	-1404.79
4	266.09	60.0	0.0400	0.2260	147.34	205.57	0.9872	0.9742	10.0626	1.0147	2.2942	-1365.57	-2044.65	-1404.79
5	284.32	60.0	0.1000	0.2890	147.34	205.57	0.9855	0.9727	5.4901	1.0606	1.6441	-1365.57	-2044.65	-1404.79
6	295.79	60.0	0.2000	0.3370	147.34	205.57	0.9844	0.9719	3.3260	1.1564	1.0565	-1365.57	-2044.65	-1404.79
7	298.30	60.0	0.3000	0.3570	147.34	205.57	0.9840	0.9717	2.3680	1.2924	0.6055	-1365.57	-2044.65	-1404.79
8	298.86	60.0	0.4000	0.3790	147.34	205.57	0.9837	0.9718	1.8884	1.4591	0.2579	-1365.57	-2044.65	-1404.79
9	297.42	60.0	0.5000	0.3970	147.34	205.57	0.9836	0.9721	1.5747	1.6924	-0.0721	-1365.57	-2044.65	-1404.79
10	293.83	60.0	0.6000	0.4170	147.34	205.57	0.9836	0.9726	1.3617	2.0217	-0.3952	-1365.57	-2044.65	-1404.79
11	286.86	60.0	0.7000	0.4430	147.34	205.57	0.9837	0.9734	1.2108	2.5166	-0.7317	-1365.57	-2044.65	-1404.79
12	271.61	60.0	0.8000	0.4890	147.34	205.57	0.9842	0.9752	1.1079	3.2853	-1.0870	-1365.57	-2044.65	-1404.79
13	257.93	60.0	0.8500	0.5290	147.34	205.57	0.9847	0.9767	1.0718	3.8407	-1.2764	-1365.57	-2044.65	-1404.79
14	237.10	60.0	0.9000	0.5940	147.34	205.57	0.9855	0.9791	1.0458	4.5768	-1.4762	-1365.57	-2044.65	-1404.79
15	225.72	60.0	0.9200	0.6330	147.34	205.57	0.9860	0.9804	1.0385	4.9303	-1.5577	-1365.57	-2044.65	-1404.79
16	212.04	60.0	0.9400	0.6840	147.34	205.57	0.9867	0.9820	1.0324	5.3264	-1.6408	-1365.57	-2044.65	-1404.79
17	195.70	60.0	0.9600	0.7530	147.34	205.57	0.9875	0.9840	1.0280	5.7759	-1.7261	-1365.57	-2044.65	-1404.79
18	176.12	60.0	0.9800	0.8510	147.34	205.57	0.9885	0.9864	1.0254	6.2875	-1.8135	-1365.57	-2044.65	-1404.79
19	164.82	60.0	0.9900	0.9170	147.34	205.57	0.9892	0.9878	1.0243	6.5655	-1.8578	-1365.57	-2044.65	-1404.79

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 540.70 P = 51.00 V = 220.00  $\Omega$ MEGA = 0.612  $\Omega$ MEGAH = 0.201 DIPOLE = 1.68 ETA = 0.57  
 2 T = 540.20 P = 27.00 V = 431.90  $\Omega$ MEGA = 0.349  $\Omega$ MEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.79973E C1 B = 0.15697E 04 C = 0.20950E 03 VAPOR PRESSURE AT NBP  
 2 A = 0.69024E C1 B = 0.12681E C4 C = 0.21690E 03 P = 757.4 AT T = 97.2  
 P = 759.4 AT T = 98.4

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.77979E C2 B = -0.91570E 01 C = 0.27520E 03 COMPONENT ID ECHO CHECK  
 2 A = 0.12880E C3 B = -0.60277E 01 C = 0.41160E 03 ID NUMBER = 37  
 ID NUMBER = 16

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.26047E C1 B = -0.66574E 01 C = 0.23124E 01  
 STANDARD DEVIATION = 0.17714E 00

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 13.5276 G2INF = 5.6991  
 T1INF = 60.00 T2INF = 60.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.5690  
 AREA BELOW THE X-AXIS IS -0.5221  
 CROSS-OVER POINT IS X = 0.47  
 NORMALIZED AREA DIFFERENCE IS 0.0429  
 CONSISTENCY INDEX IS 4.29

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	1790.96	125.77	0.7276F-10	9.67	0.01587
2	1696.19	397.87	0.2171F-02	4.43	0.01861
3	1951.90	224.59	0.3251F 00	2.45	0.00663
4	1943.59	226.16	0.1975E-01	2.40	0.00658
5	1891.82	247.46	0.5151F-02	2.22	0.00786
6	1900.57	211.13	0.2164E-02	2.86	0.00573
7	1863.53	240.83	0.4269E-02	2.38	0.00733
8	1869.85	275.63	0.1711E-02	2.09	0.00991
9	1869.87	275.65	0.1711F-02	2.09	0.00991
10	1951.90	228.31	0.5757E-03	2.41	0.00691

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	338.90	75.0	0.0370	0.1450	349.62	296.71	0.9738	0.9792	4.2328	1.1379	1.3137	-1812.14	-1169.11	-1253.14
2	398.40	75.0	0.0450	0.1800	349.62	296.71	0.9726	0.9788	4.4204	1.1269	1.3668	-1812.14	-1169.11	-1253.14
3	424.40	75.0	0.0600	0.2180	349.62	296.71	0.9703	0.9776	4.2661	1.1615	1.3010	-1812.14	-1169.11	-1253.14
4	442.60	75.0	0.0780	0.2750	349.62	296.71	0.9682	0.9769	4.3072	1.1440	1.3257	-1812.14	-1169.11	-1253.14
5	467.90	75.0	0.0940	0.3050	349.62	296.71	0.9659	0.9758	4.1800	1.1784	1.2662	-1812.14	-1169.11	-1253.14
6	486.50	75.0	0.1080	0.3380	349.62	296.71	0.9641	0.9750	4.1836	1.1844	1.2620	-1812.14	-1169.11	-1253.14
7	502.40	75.0	0.1380	0.3700	349.62	296.71	0.9624	0.9745	3.6945	1.2037	1.1215	-1812.14	-1169.11	-1253.14
8	517.20	75.0	0.1630	0.4020	349.62	296.71	0.9609	0.9740	3.4925	1.2107	1.0594	-1812.14	-1169.11	-1253.14
9	541.60	75.0	0.2070	0.4200	349.62	296.71	0.9588	0.9729	3.0017	1.2964	0.8396	-1812.14	-1169.11	-1253.14
10	549.20	75.0	0.3200	0.4700	349.62	296.71	0.9575	0.9731	2.2004	1.4010	0.4514	-1812.14	-1169.11	-1253.14
11	552.30	75.0	0.3560	0.4630	349.62	296.71	0.9574	0.9729	1.9591	1.5070	0.2624	-1812.14	-1169.11	-1253.14
12	550.60	75.0	0.3750	0.4800	349.62	296.71	0.9574	0.9732	1.9200	1.4579	0.2483	-1812.14	-1169.11	-1253.14
13	548.80	75.0	0.5170	0.5400	349.62	296.71	0.9567	0.9740	1.5838	1.6878	-0.0636	-1812.14	-1169.11	-1253.14
14	547.40	75.0	0.5650	0.5500	349.62	296.71	0.9567	0.9742	1.4524	1.8555	-0.2450	-1812.14	-1169.11	-1253.14
15	538.90	75.0	0.6670	0.5700	349.62	296.71	0.9572	0.9749	1.2692	2.2349	-0.5658	-1812.14	-1169.11	-1253.14
16	516.60	75.0	0.8200	0.6400	349.62	296.71	0.9583	0.9769	1.1011	3.3953	-1.1261	-1812.14	-1169.11	-1253.14
17	506.60	75.0	0.8670	0.6550	349.62	296.71	0.9590	0.9776	1.0545	4.1054	-1.3593	-1812.14	-1169.11	-1253.14
18	497.40	75.0	0.8800	0.6850	349.62	296.71	0.9586	0.9784	1.0588	4.2977	-1.4009	-1812.14	-1169.11	-1253.14
19	483.10	75.0	0.9050	0.7100	349.62	296.71	0.9606	0.9794	1.0376	4.8593	-1.5440	-1812.14	-1169.11	-1253.14
20	446.10	75.0	0.9700	0.7850	349.62	296.71	0.9632	0.9821	0.9914	10.5650	-2.3662	-1812.14	-1169.11	-1253.14

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 540.20 P = 27.00 V = 431.90 OMFGA = 0.349 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 540.70 P = 51.00 V = 220.00 OMEGA = 0.612 OMEGAH = 0.201 DIPOLE = 1.68 ETA = -0.57

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69024E 01 B = 0.12681E 04 C = 0.21690E 03  
 2 A = 0.79973E 01 B = 0.15697E 04 C = 0.20950E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.12880E 03 B = -.60277E-01 C = 0.41160E-03  
 2 A = 0.77979E 02 B = -.51570E-01 C = 0.27520E-03

## VAPOR PRESSURE AT NBP

P = 759.4 AT T = 98.4  
 P = 757.4 AT T = 97.2

## COMPONENT ID. CHECK

ID NUMBER = 16  
 ID NUMBER = 37

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.14568E 01 B = -.24697E 01 C = -.10742E 01

STANDARD DEVIATION = 0.14069E 00

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 4.2921 G2INF = 8.0617  
 T1INF = 75.00 T2INF = 75.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.3752

AREA BELOW THE X-AXIS IS -0.5114

CROSS-OVER POINT IS X = 0.49

NORMALIZED AREA DIFFERENCE IS -0.1536

CONSISTENCY INDEX IS 15.36

SUMMARY OF WILSON PARAMETERS

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	-19.31 1584.82	0.3729F-10	54.94	0.02850
2	8160.98 1055.48	0.6604F-02	45.09	0.08199
3	8939.41 273.71	0.1200E 03	84.79	0.08489
4	8939.85 273.71	0.3947E 01	84.79	0.08489
5	8943.53 614.40	0.5948E 00	52.23	0.07327
6	106.22 1521.17	0.3963E-01	44.90	0.02539
7	343.95 1469.52	0.1135E 00	23.81	0.03564
8	560.38 1502.21	0.8241F-02	8.41	0.05250
9	560.63 1502.22	0.8243F-02	8.41	0.05252
10	44.57 2041.91	0.1705F-01	32.66	0.03164

\*\*DIAGNOSTIC\*\*

1 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
 SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	88.8	0.1000	0.3150	529.09	542.20	0.9719	0.9462	4.3855	1.0040	1.4743	-1020.09	-1634.56	-1136.43
2	760.00	86.1	0.2000	0.4000	474.63	499.32	0.9695	0.9456	3.0962	1.0736	1.0591	-1047.16	-1667.00	-1157.82
3	760.00	85.2	0.3000	0.4250	457.54	485.62	0.9687	0.9454	2.2733	1.2088	0.6316	-1056.39	-1678.05	-1165.09
4	760.00	84.7	0.4000	0.4500	448.26	478.14	0.9681	0.9455	1.8415	1.3701	0.2957	-1061.57	-1684.24	-1169.16
5	760.00	84.6	0.5000	0.4750	446.43	476.65	0.9677	0.9457	1.5608	1.5747	-0.0089	-1062.61	-1685.48	-1169.98
6	760.00	84.8	0.6000	0.5100	456.10	475.63	0.9673	0.9463	1.3844	1.8269	-0.2773	-1060.53	-1683.00	-1168.35
7	760.00	85.7	0.7000	0.5550	466.97	493.20	0.9670	0.9474	1.2444	2.1538	-0.5486	-1051.25	-1671.90	-1161.04
8	760.00	87.1	0.8000	0.6100	494.24	514.89	0.9670	0.9490	1.1307	2.7166	-0.8766	-1037.02	-1654.87	-1149.82
9	760.00	89.5	0.9000	0.7200	544.01	553.76	0.9669	0.9520	1.0777	3.6384	-1.2167	-1013.23	-1626.31	-1130.99

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 540.70 P = 51.00 V = 220.00 OMEGA = 0.612 OMEGAH = 0.201 DIPOLE = 1.68 ETA = -0.57  
 2 T = 540.20 P = 27.00 V = 431.90 OMEGA = 0.349 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.79973E 01 B = 0.15697E 04 C = 0.20950E 03 P = 757.4 AT T = 97.2  
 2 A = 6.69024E 01 B = 0.12681E 04 C = 0.21690E 03 P = 759.4 AT T = 98.4

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.77979E 02 B = -.91570E-01 C = 0.27520E-03 COMPONENT ID CHECK  
 2 A = 0.12880E 03 B = -.60277E-01 C = 0.41160E-03 ID NUMBER = 37  
 ID NUMBER = 16

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.18371E 01 B = -.40831E 01 C = 0.83235E 00  
 STANDARD DEVIATION = 0.50071E-01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 6.2786 G2INF = 4.1107  
 T1INF = 98.43 T2INF = 97.29

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.4429  
 AREA BELOW THE X-AXIS IS -0.3668  
 CROSS-OVER POINT IS X = 0.50  
 NORMALIZED AREA DIFFERENCE IS 0.0899  
 HERRINGTON J-FACTOR IS 5.80  
 CONSISTENCY INDEX IS 3.19

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	1504.07	-12.66
2	1260.62	585.42
3	1582.00	129.82
4	1459.46	222.33
5	1414.97	300.38
6	1350.85	244.17
7	1376.39	321.22
8	1431.89	322.01
9	1431.57	322.18
10	1586.42	118.00

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
46.22	0.02275
10.68	0.02102
15.81	0.01944
12.73	0.01672
7.66	0.01524
22.79	0.01488
8.94	0.01500
5.95	0.01581
5.95	0.01581
17.17	0.01962



SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	93.0	0.0500	0.2420	623.86	580.20	0.9737	0.9548	5.7253	0.9933	1.7516	-979.84	-1375.91	-1016.74
2	760.00	88.9	0.1000	0.3250	531.20	514.82	0.9711	0.9536	4.5030	1.0509	1.4551	-1019.11	-1414.95	-1044.57
3	760.00	88.1	0.2000	0.4040	514.50	502.75	0.9696	0.9539	2.8852	1.0693	0.9926	-1027.02	-1422.79	-1050.15
4	760.00	87.4	0.3000	0.4310	500.25	492.36	0.9690	0.9539	2.1091	1.1913	0.5713	-1034.00	-1429.70	-1055.08
5	760.00	87.1	0.4000	0.4550	494.24	487.97	0.9685	0.9540	1.6855	1.3434	0.2292	-1037.02	-1432.69	-1057.20
6	760.00	87.0	0.5000	0.4800	492.25	486.50	0.9681	0.9543	1.4310	1.5431	-0.0754	-1038.03	-1433.68	-1057.91
7	760.00	87.2	0.6000	0.4920	496.24	489.43	0.9681	0.9545	1.2124	1.8735	-0.4352	-1036.01	-1431.69	-1056.49
8	760.00	87.7	0.7000	0.5250	506.32	496.79	0.9679	0.9551	1.0866	2.3026	-0.7510	-1031.00	-1426.73	-1052.96
9	760.00	88.3	0.8000	0.5750	518.63	505.75	0.9676	0.9560	1.0163	3.0385	-1.0552	-1025.03	-1420.82	-1048.76
10	760.00	91.4	0.9000	0.7200	586.25	553.98	0.9676	0.9592	1.0008	3.6676	-1.2988	-994.92	-1390.92	-1027.45
11	760.00	93.7	0.9500	0.8320	640.92	591.96	0.9680	0.9618	1.0025	4.1299	-1.4158	-973.35	-1369.43	-1012.11

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 540.70 P = 51.00 V = 220.00 OMEGA = 0.612 OMEGAH = 0.201 DIPCLE = 1.68 ETA = 0.57  
 2 T = 572.30 P = 34.30 V = 372.40 OMEGA = 0.235 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.79973E 01 B = 0.15697E 04 C = 0.20950F 03  
 2 A = 0.68269E 01 B = 0.12729E 04 C = 0.22163F 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.77979E 02 B = -.91570E-01 C = 0.27520F-03  
 2 A = 0.11310E 03 B = -.3874CE-01 C = 0.30202E-03

VAPOR PRESSURE AT NBP

P = 757.4 AT T = 97.2  
 P = 759.3 AT T = 100.9

COMPONENT ID CHECK

ID NUMBER = 37  
 ID NUMBER = 26

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.19377E 01 B = -.47959E 01 C = 0.13291F 01  
 STANDARD DEVIATION = 0.39579E-01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 6.9430 G2INF = 4.6136  
 T1INF = 100.93 T2INF = 97.29

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.4271  
 AREA BELOW THE X-AXIS IS -0.4443  
 CROSS-OVER POINT IS X = 0.46  
 NORMALIZED AREA DIFFERENCE IS -0.0197  
 HERINGTON J-FACTOR IS 5.80  
 CONSISTENCY INDEX IS -3.83

## SUMMARY OF WILSON PARAMETERS

MODEL NO. PARAMETER VALUES

OBJECTIVE FUNCTION

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE

COMPOSITION

1	1442.08	170.86	0.3638E-11	8.11	0.01442
2	1504.09	87.11	0.1186E-02	11.53	0.01967
3	1527.25	200.16	0.8931E-01	13.86	0.00778
4	1533.43	192.07	0.1979E-01	13.37	0.00808
5	1519.50	178.22	0.6714E-02	11.05	0.00982
6	1555.98	238.02	0.2170E-02	20.99	0.00766
7	1518.55	188.47	0.5456E-02	12.09	0.00894
8	1521.20	142.52	0.2225E-02	9.11	0.01325
9	1520.94	142.73	0.2220E-02	9.11	0.01324
10	1528.68	200.17	0.3319E-02	13.95	0.00772

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	85.75	40.0	0.0805	0.3410	50.58	55.11	0.9934	0.9970	7.1324	1.1117	1.8587	-1699.87	-746.44	-998.53
2	86.50	40.0	0.1295	0.3555	50.58	55.11	0.9933	0.9969	4.6621	1.1585	1.3923	-1699.87	-746.44	-998.53
3	86.50	40.0	0.1525	0.3615	50.58	55.11	0.9933	0.9970	4.0257	1.1789	1.2281	-1699.87	-746.44	-998.53
4	86.50	40.0	0.3050	0.3870	50.58	55.11	0.9932	0.9970	2.1547	1.3802	0.4454	-1699.87	-746.44	-998.53
5	86.75	40.0	0.3980	0.3995	50.58	55.11	0.9932	0.9970	1.7094	1.5655	0.0880	-1699.87	-746.44	-998.53
6	86.50	40.0	0.4700	0.4225	50.58	55.11	0.9931	0.9971	1.5264	1.7052	-0.1107	-1699.87	-746.44	-998.53
7	86.00	40.0	0.5755	0.4540	50.58	55.11	0.9931	0.9971	1.3318	2.0013	-0.4073	-1699.87	-746.44	-998.53
8	83.50	40.0	0.6660	0.4995	50.58	55.11	0.9932	0.9973	1.2295	2.2643	-0.6107	-1699.87	-746.44	-998.53
9	81.50	40.0	0.7385	0.5405	50.58	55.11	0.9933	0.9974	1.1711	2.5919	-0.7944	-1699.87	-746.44	-998.53
10	72.50	40.0	0.8440	0.6625	50.58	55.11	0.9939	0.9980	1.1180	2.8403	-0.9323	-1699.87	-746.44	-998.53
11	69.00	40.0	0.8975	0.7535	50.58	55.11	0.9941	0.9983	1.1383	3.0058	-0.9710	-1699.87	-746.44	-998.53

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 540.70 P = 51.00 V = 220.00 OMEGA = 0.612 OMEGAH = 0.201 DIPOLE = 1.68 ETA = 0.57  
 2 T = 647.40 P = \*\*\*\*\* V = 55.20 OMEGA = 0.344 OMEGAH = 0.010 DIPOLE = 1.85 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.79973E 01 B = 0.15697E 04 C = 0.20950E 03  
 2 A = 0.79668E 01 B = 0.16682E 04 C = 0.22800E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.77979E 02 B = -.91570E-01 C = 0.27520E-03  
 2 A = 0.22887E 02 B = -.36416E-01 C = 0.68556E-04

VAPOR PRESSURE AT NBP

P = 757.4 AT T = 97.2  
 P = 760.0 AT T = 100.0

COMPONENT ID ECHO CHECK

ID NUMBER = 37  
 ID NUMBER = 34

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.22516E 01 B = -.67744E 01 C = 0.35840E 01  
 STANDARD DEVIATION = 0.69841E-01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 9.5033 G2INF = 2.5567  
 T1INF = 40.00 T2INF = 40.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.4369  
 AREA BELOW THE X-AXIS IS -0.3778  
 CROSS-OVER POINT IS X = 0.43  
 NORMALIZED AREA DIFFERENCE IS 0.0726  
 CONSISTENCY INDEX IS 7.26

SUMMARY OF WILSON PARAMETERS

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	479.74 922.17	0.4729E-10	13.69	0.04326
2	1766.81 1376.33	0.6994E-02	1.91	0.03225
3	1741.31 1204.35	0.6493E 00	2.33	0.02017
4	1520.41 1188.77	0.9502E-01	3.03	0.01925
5	1955.78 1234.10	0.2191E-01	1.38	0.02157
6	821.11 1162.08	0.7500E-02	5.73	0.01537
7	1629.91 1216.81	0.2066E-01	2.15	0.01986
8	7545.23 1268.60	0.7000E-03	0.52	0.02469
9	7618.68 1268.52	0.6999E-03	0.52	0.02469
10	7723.94 1134.35	0.2403E-01	3.48	0.02394

\*\*DIAGNOSTIC\*\*

1 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
 SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	232.50	60.0	0.0390	0.2800	147.34	148.70	0.9886	0.9939	9.7471	1.0139	2.2632	-1365.57	-657.27	-825.09
2	223.00	60.0	0.0650	0.3575	147.34	148.70	0.9870	0.9935	8.2091	1.0236	2.0819	-1365.57	-657.27	-825.09
3	228.50	60.0	0.1545	0.3670	147.34	148.70	0.9866	0.9933	3.6315	1.1426	1.1564	-1365.57	-657.27	-825.09
4	230.50	60.0	0.1790	0.3735	147.34	148.70	0.9865	0.9933	3.2173	1.1747	1.0075	-1365.57	-657.27	-825.09
5	228.50	60.0	0.1960	0.3750	147.34	148.70	0.9866	0.9934	2.9248	1.1864	0.9023	-1365.57	-657.27	-825.09
6	229.00	60.0	0.2620	0.3920	147.34	148.70	0.9865	0.9934	2.2920	1.2601	0.5982	-1365.57	-657.27	-825.09
7	229.50	60.0	0.3000	0.3940	147.34	148.70	0.9864	0.9934	2.0162	1.3271	0.4182	-1365.57	-657.27	-825.09
8	231.00	60.0	0.4090	0.4120	147.34	148.70	0.9863	0.9934	1.5562	1.5351	0.0137	-1365.57	-657.27	-825.09
9	231.00	60.0	0.4260	0.4175	147.34	148.70	0.9862	0.9934	1.5140	1.5658	-0.0336	-1365.57	-657.27	-825.09
10	230.00	60.0	0.4895	0.4455	147.34	148.70	0.9862	0.9935	1.3998	1.6689	-0.1758	-1365.57	-657.27	-825.09
11	229.00	60.0	0.5660	0.5030	147.34	148.70	0.9860	0.9938	1.3607	1.7523	-0.2530	-1365.57	-657.27	-825.09
12	216.00	60.0	0.7050	0.5530	147.34	148.70	0.9866	0.9944	1.1336	2.1883	-0.6578	-1365.57	-657.27	-825.09
13	215.00	60.0	0.7350	0.5575	147.34	148.70	0.9866	0.9944	1.0911	2.4004	-0.7884	-1365.57	-657.27	-825.09
14	204.50	60.0	0.7960	0.6210	147.34	148.70	0.9871	0.9950	1.0680	2.5417	-0.8671	-1365.57	-657.27	-825.09
15	184.50	60.0	0.8800	0.7460	147.34	148.70	0.9881	0.9960	1.0481	2.6155	-0.9144	-1365.57	-657.27	-825.09
16	178.50	60.0	0.8940	0.7600	147.34	148.70	0.9885	0.9962	1.0173	2.7073	-0.9788	-1365.57	-657.27	-825.09
17	182.50	60.0	0.9250	0.7850	147.34	148.70	0.9882	0.9963	1.0380	3.5047	-1.2168	-1365.57	-657.27	-825.09
18	169.50	60.0	0.9500	0.8500	147.34	148.70	0.9889	0.9969	1.0172	3.4085	-1.2092	-1365.57	-657.27	-825.09

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1	T = 540.70	P = 51.00	V = 220.00	OMEGA = 0.612	OMEGA H = 0.201	DIPOLE = 1.68	ETA = 0.57
2	T = 647.40	P = *****	V = 55.20	OMEGA = 0.344	OMEGA H = 0.010	DIPOLE = 1.85	ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.79973E-01	B = 0.15697E-04	C = 0.20950E-03
2	A = 0.79668E-01	B = 0.16682E-04	C = 0.22800E-03

## VAPOR PRESSURE AT NBP

P = 757.4 AT T = 97.2  
P = 760.0 AT T = 100.0

## MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.77979E-02	B = -0.91570E-01	C = 0.27520E-03
2	A = 0.22887E-02	B = -0.36416E-01	C = 0.68556E-04

## COMPONENT ID ECHO CHECK

ID NUMBER = 37  
ID NUMBER = 34

## MIXTURE PROPERTIES

## ACTIVITY-RATIO EQUATION COEFFICIENTS

A = 0.22948E-01	B = -0.69286E-01	C = 0.35974E-01
STANDARD DEVIATION = 0.15805E-00		

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 9.9223	G2INF = 2.8189
T1INF = 60.00	T2INF = 60.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.4416  
AREA BELOW THE X-AXIS IS 0.4119  
CROSS-OVER POINT IS X = 0.42  
NORMALIZED AREA DIFFERENCE IS 0.0347  
CONSISTENCY INDEX IS 3.47

## SUMMARY OF WILSON PARAMETERS

MODEL NO. PARAMETER VALUES

OBJECTIVE FUNCTION

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE

COMPOSITION

1	467.97	1058.57	0.5275E-09	19.58	0.03236
2	1035.30	1272.79	0.1860E-02	3.06	0.01576
3	938.61	1242.66	0.2001E 01	3.42	0.01371
4	1016.71	1202.18	0.1078E 00	4.37	0.01422
5	1020.98	1230.00	0.2017E-01	3.40	0.01427
6	928.47	1211.02	0.1239E-01	4.51	0.01342
7	985.79	1228.09	0.1391E-01	3.60	0.01399
8	1055.07	1239.06	0.6446E-02	3.02	0.01470
9	1067.31	1238.02	0.6442E-02	3.00	0.01478
10	1044.40	1189.14	0.2671E-01	4.80	0.01465

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	750.00	92.3	0.0390	0.2810	608.35	608.35	0.9671	0.9671	8.6817	0.9015	2.2649	-985.93	-985.93	-985.87
2	750.00	88.8	0.0720	0.3600	530.14	530.14	0.9657	0.9657	6.9030	0.9521	1.9810	-1019.60	-1019.60	-1019.54
3	750.00	85.0	0.0750	0.3750	534.38	534.38	0.9657	0.9657	6.8489	0.9255	2.0015	-1017.63	-1017.63	-1017.57
4	750.00	87.9	0.1790	0.3880	511.42	511.42	0.9653	0.9653	3.1008	1.0664	1.0674	-1028.51	-1028.51	-1028.45
5	750.00	88.0	0.2000	0.3790	512.45	512.45	0.9653	0.9653	2.7055	1.1083	0.8925	-1028.01	-1028.01	-1027.95
6	750.00	87.5	0.4250	0.4260	502.27	502.27	0.9651	0.9651	1.4597	1.4538	0.0041	-1033.00	-1033.00	-1032.94
7	750.00	87.8	0.4820	0.4380	508.35	508.35	0.9652	0.9652	1.3077	1.5613	-0.1773	-1030.01	-1030.01	-1029.94
8	760.00	89.2	0.7120	0.5600	537.57	537.57	0.9658	0.9658	1.0710	2.0804	-0.6640	-1016.16	-1016.16	-1016.10
9	760.00	91.7	0.8500	0.6850	593.16	593.16	0.9669	0.9669	0.9956	2.5944	-0.9578	-992.07	-992.07	-992.01
10	750.00	95.0	0.9400	0.8550	673.61	673.61	0.9682	0.9682	0.9909	2.6327	-0.9772	-961.44	-961.44	-961.38

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 540.70	P = 51.00	V = 220.00	OMEGA = 0.612	OMEGA H = 0.201	DIPOLE = 1.68	ETA = 0.57
2	T = 540.70	P = 51.00	V = 220.00	OMEGA = 0.612	OMEGA H = 0.201	DIPOLE = 1.68	ETA = 0.57

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.79973E 01	B = 0.15697E 04	C = 0.20950E 03	P = 757.4 AT T = 97.2
2	A = 0.79973E 01	B = 0.15697E 04	C = 0.20950E 03	P = 757.4 AT T = 97.2

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.77979E 02	B = -0.91570E 01	C = 0.27520E 03	COMPONENT ID ECHO CHECK
2	A = 0.77979E 02	B = -0.91570E 01	C = 0.27520E 03	ID NUMBER = 37

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.24676E 01	B = -0.77287E 01	C = 0.43954E 01
STANDARD DEVIATION = 0.12832E 00		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 11.7938	G2INF = 2.3769
T1INF = 97.29	T2INF = 97.29

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.4633
AREA BELOW THE X-AXIS IS	-0.3949
CROSS-OVER POINT IS X =	0.42
NORMALIZED AREA DIFFERENCE IS	0.0796
HERINGTON J-FACTOR IS	4.07
CONSISTENCY INDEX IS	3.89

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION
1	1857.31	-39.74	0.4547E-10
2	998.74	379.43	0.1212E-01
3	1903.69	297.45	0.2028E 01
4	2084.40	191.19	0.1373E 00
5	1864.95	220.34	0.3412E-01
6	2149.93	316.75	0.1092E-01
7	1829.08	260.64	0.3189E-01
8	1726.17	177.49	0.4639E-02
9	1725.81	177.55	0.4639E-02
10	2252.83	122.32	0.3907E-01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

	PRESSURE	COMPOSITION
	41.80	0.05941
	35.04	0.05299
	38.51	0.02108
	23.92	0.02440
	19.53	0.02553
	56.10	0.02000
	25.75	0.02408
	12.80	0.03205
	12.80	0.03206
	14.64	0.02910

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	75.7	0.8960	0.7170	572.85	711.26	0.9857	0.9589	1.0435	2.7726	-0.9772	-386.16	-1022.65	-857.84
2	760.00	74.9	0.8620	0.6900	553.36	694.32	0.9854	0.9590	1.0803	2.3448	-0.7750	-387.86	-1028.39	-862.51
3	760.00	71.6	0.7640	0.5620	479.60	628.82	0.9840	0.9594	1.1437	2.1400	-0.6265	-395.02	-1052.24	-881.83
4	760.00	69.3	0.1530	0.2580	431.80	585.04	0.9795	0.9612	2.8990	1.0878	0.9802	-400.36	-1069.86	-896.06
5	760.00	69.0	0.2110	0.2920	426.33	579.96	0.9801	0.9608	2.4109	1.1236	0.7635	-401.02	-1072.00	-897.79
6	760.00	69.8	0.3070	0.3710	421.56	575.46	0.9812	0.9601	2.1320	1.1446	0.6220	-401.61	-1073.91	-899.34
7	760.00	69.1	0.5780	0.4160	429.25	582.68	0.9819	0.9599	1.2477	1.7231	-0.3228	-400.67	-1070.85	-896.87
8	760.00	71.8	0.7750	0.5670	483.01	631.90	0.9840	0.9594	1.1296	2.2082	-0.6703	-394.66	-1051.06	-880.87
9	760.00	70.1	0.6830	0.5030	448.51	600.48	0.9831	0.9594	1.2234	1.8933	-0.4367	-398.42	-1063.47	-890.91
10	760.00	70.6	0.7110	0.5270	458.90	610.00	0.9835	0.9594	1.2038	1.9454	-0.4800	-397.25	-1059.63	-888.80
11	760.00	70.5	0.7060	0.5170	456.44	607.75	0.9833	0.9594	1.1956	1.9601	-0.4944	-397.53	-1060.53	-888.53
12	760.00	72.5	0.8190	0.6010	499.47	646.65	0.9844	0.9592	1.1083	2.3542	-0.7534	-392.97	-1045.46	-876.34
13	760.00	74.3	0.8600	0.6040	538.56	681.35	0.9847	0.9599	0.9732	3.0116	-1.1297	-389.21	-1032.90	-866.16
14	760.00	69.5	0.6570	0.5000	436.92	589.78	0.9830	0.9592	1.2976	1.7919	-0.3228	-399.76	-1067.87	-894.46
15	760.00	71.4	0.0540	0.1580	474.94	624.60	0.9782	0.9624	4.5668	1.0365	1.4829	-395.51	-1053.88	-883.15
16	760.00	74.5	0.8680	0.6040	543.46	685.65	0.9847	0.9600	0.9555	3.1743	-1.2006	-388.76	-1031.39	-864.94
17	760.00	73.7	0.8420	0.6550	525.66	669.98	0.9850	0.9590	1.1047	2.3621	-0.7600	-390.41	-1036.94	-869.43
18	760.00	70.9	0.7290	0.5370	463.85	614.52	0.9836	0.9593	1.1985	1.9510	-0.4872	-396.71	-1057.83	-886.35
19	760.00	69.7	0.6230	0.4690	440.05	592.72	0.9827	0.9596	1.2739	1.7235	-0.3023	-399.39	-1066.66	-893.48
20	760.00	68.9	0.4880	0.4110	423.62	577.44	0.9819	0.9598	1.4792	1.4453	0.0232	-401.35	-1073.07	-898.66
21	760.00	68.5	0.5060	0.4120	415.95	570.27	0.9817	0.9597	1.4564	1.5139	-0.0387	-402.29	-1076.15	-901.14
22	760.00	68.3	0.4130	0.3810	413.10	567.59	0.9813	0.9599	1.6607	1.3479	0.2087	-402.65	-1077.31	-902.08
23	760.00	68.6	0.3390	0.3590	417.86	572.05	0.9810	0.9602	1.8842	1.2302	0.4263	-402.05	-1075.38	-900.52
24	760.00	68.9	0.3190	0.3510	421.65	575.64	0.9809	0.9603	1.9397	1.2016	0.4788	-401.58	-1073.84	-899.28
25	760.00	68.9	0.2590	0.3300	424.55	578.34	0.9806	0.9605	2.2301	1.1350	0.6754	-401.23	-1072.69	-898.35
26	760.00	69.9	0.2420	0.3250	424.01	577.80	0.9806	0.9606	2.3536	1.1189	0.7436	-401.30	-1072.92	-898.54
27	760.00	69.1	0.2110	0.3050	427.89	581.41	0.9803	0.9608	2.5096	1.1002	0.8247	-400.83	-1071.38	-897.30
28	760.00	69.3	0.1760	0.2890	431.80	585.04	0.9801	0.9610	2.8245	1.0712	0.9695	-400.36	-1069.86	-896.06
29	760.00	69.6	0.1460	0.2650	437.91	590.70	0.9797	0.9612	3.0774	1.0585	1.0672	-399.64	-1067.49	-894.16
30	760.00	69.4	0.5380	0.4420	434.74	587.78	0.9823	0.9598	1.4068	1.4906	-0.0579	-400.02	-1066.71	-895.14
31	760.00	68.9	0.2580	0.3320	424.40	578.16	0.9807	0.9605	2.2534	1.1204	0.6899	-401.25	-1072.76	-898.41



PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 508.50 P = 47.00 V = 218.50 OMEGA = 0.663 OMEGAH = 0.187 DIPOLF = 1.60 ETA = 0.0  
 2 T = 556.40 P = 45.00 V = 279.60 OMEGA = 0.193 OMEGAH = 0.0 DIPOLF = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.66604E 01 B = 0.81305E 03 C = 0.13293E 03  
 2 A = 0.69339E 01 B = 0.12424E 04 C = 0.23000E 03

MOLECULAR VOLUME EQUATION COEFFICIENTS

1 A = 0.14178E 03 B = -.49807E 00 C = 0.92870E-03  
 2 A = 0.61938E 02 B = .29977E 00 C = 0.16761E 02

VAPOR PRESSURE AT NBP

P = 769.7 AT T = 82.5

P = 766.0 AT T = 76.8

COMPONENT ID CHECK

ID NUMBER = 22

ID NUMBER = 6

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.15259E 01 B = -.33322E 01 C = 0.58394E 00

STANDARD DEVIATION = 0.92348E-01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 4.5995 G2INF = 3.3949

T1INF = 76.54 T2INF = 82.19

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.3708

AREA BELOW THE X-AXIS IS -0.3163

CROSS-OVER POINT IS X = 0.50

NORMALIZED AREA DIFFERENCE IS 0.0793

HERINGTON J-FACTOR IS 3.61

CONSISTENCY INDEX IS 4.32

SUMMARY OF WILSON PARAMETERS

MODEL NO. PARAMETER VALUES OBJECTIVE FUNCTION

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION
1	1247.53	-99.37	0.9095E-11
2	1283.59	120.46	0.1063E-01
3	1359.27	-60.46	0.9044E 00
4	1271.77	7.62	0.2104E 00
5	1263.08	37.19	0.4607E-01
6	1015.69	152.70	0.2700E-01
7	1177.87	81.17	0.3889E-01
8	1512.25	-84.41	0.2327E-02
9	1512.55	-84.65	0.2327E-02
10	1403.04	70.07	0.3107E-01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

	PRESSURE	COMPOSITION
1	35.63	0.02122
2	14.01	0.02239
3	9.08	0.02292
4	12.87	0.02048
5	10.54	0.02025
6	27.17	0.01665
7	15.03	0.01851
8	4.98	0.02580
9	4.98	0.02581
10	10.41	0.02295

\*\*DIAGNOSTIC\*\*

4 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
 SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	118.00	40.0	0.9620	0.8653	90.70	186.02	0.9971	0.9854	1.1662	2.2233	-0.6452	-489.85	-1927.30	-1099.18
2	120.50	40.0	0.9500	0.8340	90.70	186.02	0.9970	0.9891	1.1623	2.1258	-0.6037	-489.85	-1927.30	-1099.18
3	126.00	40.0	0.9300	0.7825	90.70	186.02	0.9969	0.9885	1.1647	2.0789	-0.5794	-489.85	-1927.30	-1099.18
4	137.00	40.0	0.8945	0.6935	90.70	186.02	0.9967	0.9872	1.1798	1.9281	-0.4912	-489.85	-1927.30	-1099.18
5	148.50	40.0	0.8500	0.6270	90.70	186.02	0.9965	0.9860	1.2028	1.9559	-0.4862	-489.85	-1927.30	-1099.18
6	152.50	40.0	0.8010	0.5770	90.70	186.02	0.9965	0.9855	1.2062	1.7160	-0.3526	-489.85	-1927.30	-1099.18
7	161.50	40.0	0.7300	0.5050	90.70	186.02	0.9964	0.9845	1.2266	1.5658	-0.2441	-489.85	-1927.30	-1099.18
8	164.00	40.0	0.7100	0.4960	90.70	186.02	0.9964	0.9843	1.2578	1.5068	-0.1807	-489.85	-1927.30	-1099.18
9	174.00	40.0	0.6150	0.4220	90.70	186.02	0.9963	0.9832	1.3106	1.3794	-0.0512	-489.85	-1927.30	-1099.18
10	178.00	40.0	0.5385	0.3775	90.70	186.02	0.9963	0.9827	1.3698	1.2672	0.0778	-489.85	-1927.30	-1099.18
11	183.50	40.0	0.4600	0.3335	90.70	186.02	0.9964	0.9821	1.4604	1.1946	0.2008	-489.85	-1927.30	-1099.18
12	191.00	40.0	0.3995	0.2880	90.70	186.02	0.9964	0.9813	1.6796	1.1190	0.4061	-489.85	-1927.30	-1099.18
13	194.00	40.0	0.1860	0.1850	90.70	186.02	0.9967	0.9809	2.1187	1.0232	0.7278	-489.85	-1927.30	-1099.18
14	192.00	40.0	0.0915	0.1014	90.70	186.02	0.9970	0.9811	2.3372	1.0006	0.8484	-489.85	-1927.30	-1099.18

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 508.50 P = 47.00 V = 218.50 CMFCA = 0.663 CMFCAH = 0.187 DIPOLE = 1.60 ETA = 0.0  
 2 T = 523.30 P = 37.80 V = 286.00 CMFCA = 0.373 CMFCAH = 0.278 DIPOLE = 1.78 ETA = 0.50

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.66604E 01 B = 0.81305E 03 C = 0.13293E 03  
 2 A = 0.70981E 01 B = 0.12387E 04 C = 0.21700E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.14178E 03 B = -.49807E 00 C = 0.92870E-03  
 2 A = 0.13612E 03 B = -.37001E 00 C = 0.80775E-03

## COMPONENT ID CHECK

ID NUMBER = 22

ID NUMBER = 12

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.10290E 01 B = -.17760E 01 C = 0.47001E-01

STANDARD DEVIATION = 0.20488E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.7982 G2INF = 2.0137

T1INF = 40.00 T2INF = 40.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.3012

AREA BELOW THE X-AXIS IS -0.1445

CROSS-OVER POINT IS X = 0.59

NORMALIZED AREA DIFFERENCE IS 0.3515

CONSISTENCY INDEX IS 35.15

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	747.51	-104.78	0.1182E-10	11.66	0.02744
2	6.06	8864.51	0.1094E-01	9.80	0.07153
3	-369.48	8906.75	0.5288E-01	22.44	0.05104
4	-350.18	9213.89	0.1448E-01	21.09	0.05079
5	-196.24	9252.79	0.2126E-00	12.56	0.05241
6	-315.45	9113.02	0.8512E-01	18.62	0.05040
7	-214.10	9077.46	0.1446E-00	13.25	0.05171
8	251.28	656.40	0.3221E-02	1.90	0.04906
9	251.20	656.50	0.3220E-02	1.91	0.04906
10	659.22	45.61	0.1123E-00	7.18	0.03670

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	425.00	60.0	0.0775	0.1068	277.47	408.70	0.9944	0.9684	2.0957	0.9730	0.7672	-423.82	-1546.48	-899.25
2	432.00	60.0	0.0805	0.1009	277.47	408.70	0.9944	0.9679	1.9201	0.9992	0.6531	-423.82	-1546.48	-899.25
3	430.50	60.0	0.1650	0.1795	277.47	408.70	0.9935	0.9681	1.6748	0.9999	0.5158	-423.82	-1546.48	-899.25
4	434.00	60.0	0.2475	0.2555	277.47	408.70	0.9933	0.9679	1.6013	1.0148	0.4562	-423.82	-1546.48	-899.25
5	432.00	60.0	0.3200	0.3023	277.47	408.70	0.9931	0.9682	1.4583	1.0478	0.3306	-423.82	-1546.48	-899.25
6	430.50	60.0	0.4095	0.3578	277.47	408.70	0.9928	0.9684	1.3437	1.1071	0.1937	-423.82	-1546.48	-899.25
7	420.00	60.0	0.5085	0.4168	277.47	408.70	0.9927	0.9694	1.2297	1.1796	0.0416	-423.82	-1546.48	-899.25
8	413.00	60.0	0.5680	0.4587	277.47	408.70	0.9927	0.9700	1.1913	1.2257	-0.0285	-423.82	-1546.48	-899.25
9	411.50	60.0	0.5725	0.4631	277.47	408.70	0.9927	0.9701	1.1850	1.2243	-0.0292	-423.82	-1546.48	-899.25
10	404.50	60.0	0.6400	0.5119	277.47	408.70	0.9926	0.9708	1.1556	1.3002	-0.1178	-423.82	-1546.48	-899.25
11	394.00	60.0	0.6865	0.5337	277.47	408.70	0.9927	0.9717	1.1045	1.3757	-0.2196	-423.82	-1546.48	-899.25
12	385.00	60.0	0.7335	0.5787	277.47	408.70	0.9927	0.9725	1.0852	1.4455	-0.2867	-423.82	-1546.48	-899.25
13	358.50	60.0	0.8245	0.6795	277.47	408.70	0.9930	0.9748	1.0555	1.5587	-0.3894	-423.82	-1546.48	-899.25
14	355.00	60.0	0.8410	0.7020	277.47	408.70	0.9930	0.9751	1.0591	1.5847	-0.4029	-423.82	-1546.48	-899.25
15	343.00	60.0	0.8705	0.7372	277.47	408.70	0.9932	0.9761	1.0384	1.6596	-0.4689	-423.82	-1546.48	-899.25
16	330.50	60.0	0.9065	0.7824	277.47	408.70	0.9934	0.9772	1.0200	1.8360	-0.5878	-423.82	-1546.48	-899.25
17	329.50	60.0	0.9145	0.8100	277.47	408.70	0.9934	0.9773	1.0436	1.7482	-0.5159	-423.82	-1546.48	-899.25
18	321.50	60.0	0.9260	0.8415	277.47	408.70	0.9935	0.9780	1.0449	1.6453	-0.4540	-423.82	-1546.48	-899.25
19	312.50	60.0	0.9545	0.8746	277.47	408.70	0.9937	0.9788	1.0242	2.0595	-0.6985	-423.82	-1546.48	-899.25

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 508.50 P = 47.00 V = 218.50 OMEGA = 0.663 OMEGAH = 0.187 DIPCLE = 1.60 ETA = 0.0  
 2 T = 523.30 P = 37.80 V = 286.00 OMEGA = 0.373 OMEGAH = 0.278 DIPCLE = 1.78 ETA = 0.50

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.66604E 01 B = 0.81305E 03 C = 0.13293E 03 P = 769.7 AT T = 82.5  
 2 A = -0.70981E 01 B = 0.12387E 04 C = 0.21700E 03 P = 769.5 AT T = 77.1

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.14178E 03 B = -0.49807E 00 C = 0.92870E -03 COMPONENT ID ECHO CHECK  
 2 A = 0.13612E 03 B = -0.37001E 00 C = 0.80775E -03 ID NUMBER = 22  
 ID NUMBER = 12

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.80911E 00 B = -0.14840E 01 C = 0.91386E -02  
 STANDARD DEVIATION = 0.47619E -01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.2459 G2INF = 1.9459  
 T1INF = 60.00 T2INF = 60.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2211  
 AREA BELOW THE X-AXIS IS -0.1509  
 CROSS-OVER POINT IS X = 0.55  
 NORMALIZED AREA DIFFERENCE IS 0.1886  
 CONSISTENCY INDEX IS 18.86

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION
1	585.25	-41.30	C.1819F-11
2	142.97	526.24	C.1000E-02
3	568.82	-13.73	0.1699E 00
4	497.35	35.00	C.7281F-01
5	279.80	262.21	0.8250E-C2
6	255.99	236.04	0.5250F-02
7	230.61	315.58	C.8212F-C2
8	267.65	303.15	0.7431F-03
9	267.65	303.15	0.7430E-03
10	575.97	-15.66	C.4259E-C1

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
5.29	0.01494
3.51	0.01482
4.51	0.01501
4.13	0.01395
2.79	0.01149
7.65	0.00981
3.57	0.01055
1.79	0.01250
1.79	0.01250
4.98	0.01523

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	76.8	0.0960	0.1114	601.16	725.75	0.9911	0.9547	1.4498	0.9792	0.3925	-383.79	-1301.24	-772.16
2	760.00	75.9	0.3850	0.3538	577.98	704.43	0.9889	0.9548	1.1915	1.0784	0.0997	-385.72	-1313.30	-778.38
3	760.00	76.4	0.5390	0.4662	585.36	715.37	0.9882	0.9556	1.0981	1.1712	-0.0644	-384.72	-1307.06	-775.16
4	760.00	76.8	0.5985	0.5240	601.16	725.75	0.9879	0.9562	1.0903	1.1827	-0.0813	-383.79	-1301.24	-772.16
5	760.00	77.3	0.6555	0.5750	611.34	735.07	0.9877	0.9567	1.0740	1.2158	-0.1240	-382.97	-1256.09	-769.50
6	760.00	78.7	0.7710	0.6750	649.36	765.62	0.9874	0.9581	1.0089	1.3378	-0.2822	-380.05	-1277.68	-760.02
7	760.00	79.4	0.8295	0.7410	667.80	786.24	0.9873	0.9589	1.0009	1.4029	-0.3377	-378.70	-1269.18	-755.64
8	760.00	80.3	0.8815	0.8068	693.37	809.16	0.9872	0.9599	0.9876	1.4645	-0.3941	-376.90	-1257.80	-749.78

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 508.50 P = 47.00 V = 218.50 OMEGA = 0.663 OMEGAH = 0.187 DIPCLE = 1.60 ETA = 0.0  
 2 T = 523.30 P = 37.80 V = 286.00 OMEGA = 0.373 OMEGAH = 0.278 DIPOLF = 1.78 ETA = 0.50

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.66604E 01 B = 0.81305E 03 C = 0.13293E 03 P = 769.7 AT T = 82.5  
 2 A = 0.70981E 01 B = 0.12387E 04 C = 0.21700E 03 P = 769.5 AT T = 77.1

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.14178E 03 B = -.49807E 00 C = 0.92870E-03 COMPONENT ID ECHO CHECK  
 2 A = -0.13612E 03 B = -.37001E-00 C = 0.80775E-03 ID NUMBER = 22  
 ID NUMBER = 12

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.47535E 00 B = -.91174E 00 C = -.78313E-01  
 STANDARD DEVIATION = 0.21273E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.6086 G2INF = 1.6731  
 T1INF = 76.72 T2INF = 82.19

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.1204  
 AREA BELOW THE X-AXIS IS -0.1271  
 CROSS-COVER POINT IS X = 0.50  
 NORMALIZED AREA DIFFERENCE IS -0.0267  
 HERINGTON J-FACTOR IS 1.88  
 CONSISTENCY INDEX IS 0.79

## SUMMARY OF WILSON PARAMETERS

## MODEL NO. PARAMETER VALUES OBJECTIVE FUNCTION

1	299.02	73.15	0.0
2	354.24	8.15	0.1097E-02
3	294.45	65.46	0.3476E-02
4	312.57	45.69	0.2920E-02
5	366.64	-14.58	0.1417E-02
6	357.12	15.17	0.2880E-03
7	389.05	-29.14	0.1385E-02
8	363.29	-16.80	0.1029E-02
9	362.99	-16.55	0.1028E-02
10	293.16	62.81	0.9236E-02

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

## PRESSURE COMPOSITION

7.50	0.00362
7.05	0.00462
7.20	0.00416
7.04	0.00416
6.76	0.00436
7.64	0.00368
6.54	0.00409
6.97	0.00460
6.98	0.00460
7.33	0.00433

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	92.75	30.0	0.0300	0.3020	46.72	57.86	0.9974	0.9881	17.7772	1.0162	2.8619	-533.65	-2700.54	-1673.95
2	95.61	30.0	0.0500	0.3280	46.72	57.86	0.9974	0.9877	11.9840	1.0330	2.4511	-533.65	-2700.54	-1673.95
3	90.61	30.0	0.1000	0.3740	46.72	57.86	0.9973	0.9870	7.2304	1.0742	1.9067	-533.65	-2700.54	-1673.95
4	93.23	30.0	0.1500	0.3990	46.72	57.86	0.9972	0.9866	5.2908	1.1231	1.5499	-533.65	-2700.54	-1673.95
5	94.64	30.0	0.2000	0.4140	46.72	57.86	0.9972	0.9864	4.1793	1.1809	1.2639	-533.65	-2700.54	-1673.95
6	96.38	30.0	0.3000	0.4400	46.72	57.86	0.9971	0.9861	3.0155	1.3130	0.8315	-533.65	-2700.54	-1673.95
7	97.18	30.0	0.4000	0.4590	46.72	57.86	0.9971	0.9860	2.3789	1.4920	0.4665	-533.65	-2700.54	-1673.95
8	97.28	30.0	0.5000	0.4760	46.72	57.86	0.9971	0.9860	1.9756	1.7358	0.1294	-533.65	-2700.54	-1673.95
9	96.81	30.0	0.6000	0.4960	46.72	57.86	0.9971	0.9860	1.7073	2.0770	-0.1960	-533.65	-2700.54	-1673.95
10	95.30	30.0	0.7000	0.5230	46.72	57.86	0.9972	0.9862	1.5191	2.5807	-0.5300	-533.65	-2700.54	-1673.95
11	91.80	30.0	0.8000	0.5670	46.72	57.86	0.9973	0.9867	1.3883	3.3866	-0.8518	-533.65	-2700.54	-1673.95
12	88.80	30.0	0.8500	0.6000	46.72	57.86	0.9974	0.9871	1.3376	4.0369	-1.1046	-533.65	-2700.54	-1673.95
13	83.94	30.0	0.9000	0.6520	46.72	57.86	0.9976	0.9878	1.2979	4.9834	-1.3454	-533.65	-2700.54	-1673.95

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 508.50 P = 47.60 V = 218.50 OMEGA = 0.663 OMEGAH = 0.187 DIPOLE = 1.60 ETA = 0.0  
 2 T = 540.20 P = 27.00 V = 431.90 OMEGA = 0.349 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.66604E 01 B = 0.81305E 03 C = 0.13253E 03  
 2 A = 0.69024E 01 B = 0.12681E 04 C = 0.21690E 03

## VAPOR PRESSURE AT NBP

P = 769.7 AT T = 82.5  
 P = 759.4 AT T = 98.4

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.14178E 03 B = .49807E 00 C = 0.92870E 03  
 2 A = 0.12880E 03 B = -.60277E 01 C = 0.41160E 03

## COMPONENT ID CHECK

ID NUMBER = 22  
 ID NUMBER = 16

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.27021E 01 B = .66535E 01 C = 0.26100E 01  
 STANDARD DEVIATION = 0.18715E 00

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 14.9114 G2INF = 3.8243  
 T1INF = 30.00 T2INF = 30.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.6282  
 AREA BELOW THE X-AXIS IS -0.3828  
 CROSS-OVER POINT IS X = 0.51  
 NORMALIZED AREA DIFFERENCE IS 0.2427  
 CONSISTENCY INDEX IS 24.27

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)	
				PRESSURE	COMPOSITION
1	1816.45	-139.67	0.2474E-09	17.27	0.07206
2	1683.31	10843.15	0.1212E-01	4.66	0.05007
3	2233.03	297.36	0.2161E 01	5.12	0.04958
4	2057.09	401.34	0.3751E 00	4.30	0.04821
5	1934.26	601.24	0.1084E 00	2.25	0.04738
6	1909.16	269.22	0.7720E-01	7.84	0.05194
7	1866.80	525.82	0.9752E-01	3.93	0.04769
8	1990.33	719.08	0.2557E-02	1.15	0.04970
9	1990.33	719.08	0.2557E-02	1.15	0.04970
10	2302.79	220.85	0.8208E-02	6.20	0.05015

\*\*DIAGNOSTIC\*\*

5 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
 SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE



## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	127.75	45.0	0.0050	0.1010	122.86	113.27	0.9963	0.9850	20.9175	1.0027	3.0379	-470.97	-2333.07	-1466.76
2	138.51	45.0	0.0100	0.1730	122.86	113.27	0.9961	0.9837	19.4187	1.0037	2.9625	-470.97	-2333.07	-1466.76
3	153.45	45.0	0.0300	0.3070	122.86	113.27	0.9957	0.9807	13.5465	1.0097	2.5965	-470.97	-2333.07	-1466.76
4	172.33	45.0	0.0500	0.3470	122.86	113.27	0.9955	0.9796	9.6843	1.0231	2.2477	-470.97	-2333.07	-1466.76
5	194.57	45.0	0.1000	0.3990	122.86	113.27	0.9952	0.9781	5.9615	1.0628	1.7244	-470.97	-2333.07	-1466.76
6	191.31	45.0	0.1500	0.4290	122.86	113.27	0.9951	0.9773	4.4285	1.1072	1.3862	-470.97	-2333.07	-1466.76
7	195.59	45.0	0.2000	0.4490	122.86	113.27	0.9950	0.9768	3.5536	1.1599	1.1196	-470.97	-2333.07	-1466.76
8	200.09	45.0	0.3000	0.4760	122.86	113.27	0.9949	0.9762	2.5691	1.2889	0.6898	-470.97	-2333.07	-1466.76
9	202.93	45.0	0.4000	0.5000	122.86	113.27	0.9949	0.9758	2.0526	1.4546	0.3443	-470.97	-2333.07	-1466.76
10	203.84	45.0	0.5000	0.5200	122.86	113.27	0.9949	0.9757	1.7154	1.6830	0.0191	-470.97	-2333.07	-1466.76
11	203.50	45.0	0.6000	0.5420	122.86	113.27	0.9949	0.9757	1.4875	2.0040	-0.2980	-470.97	-2333.07	-1466.76
12	201.47	45.0	0.7000	0.5710	122.86	113.27	0.9950	0.9760	1.3280	2.4748	-0.6225	-470.97	-2333.07	-1466.76
13	195.17	45.0	0.8000	0.6170	122.86	113.27	0.9952	0.9766	1.2184	3.2177	-0.9711	-470.97	-2333.07	-1466.76
14	189.85	45.0	0.8500	0.6500	122.86	113.27	0.9954	0.9772	1.1754	3.8162	-1.1777	-470.97	-2333.07	-1466.76
15	181.21	45.0	0.9000	0.7000	122.86	113.27	0.9956	0.9782	1.1414	4.6881	-1.4128	-470.97	-2333.07	-1466.76
16	165.59	45.0	0.9500	0.7930	122.86	113.27	0.9960	0.9799	1.1199	5.9232	-1.6656	-470.97	-2333.07	-1466.76
17	150.53	45.0	0.9800	0.8940	122.86	113.27	0.9964	0.9816	1.1131	6.9057	-1.8252	-470.97	-2333.07	-1466.76
18	144.16	45.0	0.9900	0.9410	122.86	113.27	0.9966	0.9823	1.1109	7.3678	-1.8920	-470.97	-2333.07	-1466.76

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1	T = 508.50	P = 47.00	V = 218.50	OMEGA = 0.663	OMEGA H = 0.187	DIPOLE = 1.60	ETA = 0.0
2	T = 540.20	P = 27.00	V = 431.50	OMEGA = 0.349	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.66604E 01	B = 0.81305E 03	C = 0.13293E 03
2	A = 0.69024E 01	B = 0.12681E 04	C = 0.21690E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.14178E 03	B = -.49807E 00	C = 0.92870E -03
2	A = 0.12880E 03	B = -.60277E -01	C = 0.41160E -03

## VAPOR PRESSURE AT NBP

P = 769.7 AT T = 82.5  
P = 759.4 AT T = 98.4

## COMPONENT IC CHECK

ID NUMBER = 22  
ID NUMBER = 16

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.26828E 01	B = -.66705E 01	C = 0.22931E 01
STANDARD DEVIATION = 0.24766E 00		

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 14.6267	G2INF = 5.4443
T1INF = 45.00	T2INF = 45.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.6039  
AREA BELOW THE X-AXIS IS 0.4919  
CROSS-OVER POINT IS X = 0.48  
NORMALIZED AREA DIFFERENCE IS 0.1022  
CONSISTENCY INDEX IS 10.22

## SUMMARY OF WILSON PARAMETERS

MODEL NO. PARAMETER VALUES OBJECTIVE FUNCTION

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE COMPOSITION

1	1768.49	90.18	0.2956E-05	14.82	0.02985
2	1291.71	1467.58	0.2302E-01	12.24	0.06938
3	2002.35	264.91	0.1291E-01	5.67	0.07102
4	1978.84	268.80	0.1475E-00	5.70	0.02108
5	1870.13	371.72	0.5481E-01	4.35	0.02544
6	1947.10	189.63	0.2186E-01	8.08	0.01927
7	1851.19	332.03	0.5491E-01	5.23	0.02339
8	1767.40	535.23	0.1458E-01	3.75	0.03281
9	1766.65	535.59	0.1457E-01	3.74	0.03283
10	1997.84	272.16	0.3462E-02	5.55	0.02128

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	229.10	60.0	0.0050	0.0820	277.47	205.57	0.9942	0.9774	13.4513	1.0033	2.5958	-423.82	-2044.65	-1300.55
2	245.78	60.0	0.0130	0.1470	277.47	205.57	0.9940	0.9758	12.9308	1.0034	2.5562	-423.82	-2044.65	-1300.55
3	294.64	60.0	0.0300	0.2970	277.47	205.57	0.9932	0.9709	10.4295	1.0063	2.3384	-423.82	-2044.65	-1300.55
4	318.61	60.0	0.0500	0.3560	277.47	205.57	0.9928	0.9684	8.1070	1.0151	2.0778	-423.82	-2044.65	-1300.55
5	347.43	60.0	0.1000	0.4190	277.47	205.57	0.9923	0.9655	5.1992	1.0507	1.5991	-423.82	-2044.65	-1300.55
6	362.44	60.0	0.1500	0.4520	277.47	205.57	0.9920	0.9639	3.8995	1.0928	1.2721	-423.82	-2044.65	-1300.55
7	373.32	60.0	0.2000	0.4740	277.47	205.57	0.9918	0.9628	3.1583	1.1465	1.0133	-423.82	-2044.65	-1300.55
8	384.23	60.0	0.3000	0.5070	277.47	205.57	0.9917	0.9617	2.3174	1.2623	0.6075	-423.82	-2044.65	-1300.55
9	391.83	60.0	0.4000	0.5340	277.47	205.57	0.9916	0.9608	1.8666	1.4183	0.2746	-423.82	-2044.65	-1300.55
10	395.30	60.0	0.5000	0.5540	277.47	205.57	0.9915	0.9605	1.5741	1.6279	-0.0336	-423.82	-2044.65	-1300.55
11	396.17	60.0	0.6000	0.5830	277.47	205.57	0.9916	0.9603	1.3736	1.9237	-0.3368	-423.82	-2044.65	-1300.55
12	393.29	60.0	0.7000	0.6140	277.47	205.57	0.9917	0.9605	1.2311	2.3576	-0.6497	-423.82	-2044.65	-1300.55
13	384.11	60.0	0.8000	0.6610	277.47	205.57	0.9919	0.9613	1.1329	3.0360	-0.9857	-423.82	-2044.65	-1300.55
14	375.54	60.0	0.8500	0.6930	277.47	205.57	0.9922	0.9621	1.0933	3.5872	-1.1882	-423.82	-2044.65	-1300.55
15	361.39	60.0	0.9000	0.7410	277.47	205.57	0.9925	0.9634	1.0629	4.3749	-1.4149	-423.82	-2044.65	-1300.55
16	335.93	60.0	0.9500	0.8260	277.47	205.57	0.9931	0.9657	1.0441	5.4783	-1.6577	-423.82	-2044.65	-1300.55
17	311.31	60.0	0.9800	0.9130	277.47	205.57	0.9936	0.9680	1.0374	6.3620	-1.8136	-423.82	-2044.65	-1300.55
18	300.92	60.0	0.9900	0.9520	277.47	205.57	0.9939	0.9689	1.0353	6.7930	-1.8812	-423.82	-2044.65	-1300.55

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1	T = 508.50	P = 47.00	V = 218.50	OMEGA = 0.663	OMEGA H = 0.187	DIPOLE = 1.60	ETA = 0.0
2	T = 540.20	P = 27.60	V = 431.50	OMEGA = 0.349	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.66604E 01	B = 0.81305E 03	C = 0.13293E 03
2	A = 0.69024E 01	B = 0.12681E 04	C = 0.21690E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.14178E 03	B = -0.49807E 00	C = 0.92870E -03
2	A = 0.12880E 03	B = -0.60277E -01	C = 0.41160E -03

## VAPOR PRESSURE AT NBP

P = 769.7 AT T = 82.5  
P = 759.4 AT T = 98.4

## COMPONENT ID ECHO CHECK

ID NUMBER = 22  
ID NUMBER = 16

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.23807E 01	B = -0.58334E 01	C = 0.17374E 01
STANDARD DEVIATION = 0.19105E 00		

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 10.8129	G2INF = 5.5582
T1INF = 60.00	T2INF = 60.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.5348  
AREA BELOW THE X-AXIS IS -0.4917  
CROSS-OVER POINT IS X = 0.48  
NORMALIZED AREA DIFFERENCE IS 0.0421  
CONSISTENCY INDEX IS 4.21

## SUMMARY OF WILSON PARAMETERS

MODEL NO. PARAMETER VALUES OBJECTIVE FUNCTION

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE COMPOSITION

1	1632.63	139.21	0.7731E-10	13.62	0.01591
2	1491.11	460.49	0.4452E-02	7.56	0.02240
3	1786.70	255.15	0.8398E-00	5.82	0.01287
4	1775.65	237.69	0.5798E-01	5.49	0.01187
5	1749.47	233.47	0.1510E-01	5.60	0.01186
6	1779.98	171.86	0.6686E-02	6.89	0.01140
7	1733.24	224.07	0.1255E-01	5.93	0.01189
8	1714.08	279.66	0.6918E-02	5.58	0.01366
9	1713.89	279.64	0.6918E-02	5.58	0.01366
10	1792.50	260.69	0.3786E-02	5.84	0.01309

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	750.00	80.6	0.9750	0.9230	701.87	1161.60	0.9870	0.9495	1.0069	1.9042	-0.6352	-376.32	-1251.76	-949.52
2	760.00	78.9	0.9400	0.8300	654.74	1104.65	0.9866	0.9501	1.0083	1.8430	-0.6031	-379.65	-1267.24	-960.64
3	750.00	77.2	0.9100	0.7400	610.06	1049.85	0.9861	0.9504	0.9961	1.9779	-0.6859	-383.07	-1283.02	-971.98
4	750.00	74.3	0.8400	0.6100	539.26	961.20	0.9849	0.9505	1.0052	1.8229	-0.5953	-389.14	-1310.67	-991.81
5	750.00	72.3	0.7780	0.5300	464.23	903.50	0.9840	0.9503	1.0279	1.6841	-0.4937	-393.50	-1330.28	-1005.86
6	750.00	70.5	0.7050	0.4500	456.23	853.91	0.9830	0.9502	1.0422	1.5688	-0.4090	-397.55	-1348.33	-1018.79
7	750.00	68.9	0.6000	0.3850	424.40	811.62	0.9819	0.9499	1.1251	1.3607	-0.1901	-401.25	-1364.70	-1030.50
8	760.00	69.2	0.5450	0.3550	411.02	793.64	0.9814	0.9497	1.1787	1.2928	-0.0846	-402.91	-1371.97	-1035.70
9	750.00	67.0	0.3830	0.2790	388.85	763.55	0.9802	0.9496	1.3915	1.0589	0.2361	-405.79	-1384.56	-1044.70
10	750.00	66.6	0.3100	0.2450	381.68	753.72	0.9796	0.9495	1.5371	1.0424	0.3884	-406.76	-1388.80	-1047.74
11	750.00	66.5	0.2950	0.2400	379.90	751.28	0.9795	0.9495	1.5896	1.0302	0.4337	-407.00	-1389.87	-1048.49
12	750.00	66.2	0.2770	0.2000	374.60	743.59	0.9787	0.9495	1.4667	1.0576	0.3270	-407.74	-1393.06	-1050.78
13	750.00	66.2	0.1600	0.1700	374.60	743.99	0.9782	0.9496	2.1027	0.9537	0.7906	-407.74	-1393.06	-1050.78
14	750.00	66.4	0.1350	0.1600	378.13	748.84	0.9781	0.9498	2.3233	0.9313	0.9141	-407.25	-1390.93	-1049.26
15	750.00	66.6	0.0600	0.0850	381.68	753.72	0.9767	0.9501	2.7474	0.9278	1.0856	-406.76	-1388.80	-1047.74
16	750.00	66.8	0.0300	0.0550	385.25	758.62	0.9762	0.9502	3.5205	0.9227	1.3390	-406.27	-1386.68	-1046.22
17	750.00	67.3	0.0100	0.0200	394.31	770.98	0.9756	0.9505	3.7500	0.9228	1.4021	-405.06	-1381.40	-1042.44

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 508.50 P = 47.00 V = 218.50 CMEGA = 0.663 CMEGAH = 0.187 DIPOLE = 1.60 ETA = 0.0  
 2 T = 500.10 P = 28.40 V = 382.00 OMEGA = 0.350 CMEGAH = 0.306 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.66664E 01 B = 0.81305E 03 C = 0.13293E 03  
 2 A = 0.79047E 01 B = 0.16993E 04 C = 0.27315E 03

VAPOR PRESSURE AT NBP

P = 769.7 AT T = 82.5  
 P = 846.9 AT T = 68.3

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.14178E 03 B = -0.49807E 00 C = 0.92870E 03  
 2 A = 0.14077E 03 B = 0.0 C = 0.0

COMPONENT ID ECHO CHECK

ID NUMBER = 22  
 ID NUMBER = 46

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.13787E 01 B = -0.37375E 01 C = 0.16996E 01  
 STANDARD DEVIATION = 0.65896E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 3.9696 G2INF = 1.9334  
 T1INF = 65.10 T2INF = 82.19

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2940  
 AREA BELOW THE X-AXIS IS -0.2176  
 GROSS-OVER POINT IS X = 0.47  
 NORMALIZED AREA DIFFERENCE IS 0.1494  
 HERINGTON J-FACTOR IS 6.37  
 CONSISTENCY INDEX IS 8.57

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	1380.28 -450.16	0.1546E-10	37.20	0.01486
2	433.12 195.94	0.1300E-01	18.36	0.02081
3	1345.55 -406.48	0.2418E 00	38.89	0.01299
4	1294.12 -389.09	0.1325E 00	37.23	0.01284
5	638.37 -10.69	0.2891E-01	17.50	0.01569
6	989.69 -207.27	0.5989E-02	35.98	0.01176
7	613.14 33.70	0.3984E-01	18.01	0.01556
8	495.63 134.85	0.1562E-01	16.50	0.01877
9	495.52 134.86	0.1563E-01	16.50	0.01878
10	1343.97 -414.55	0.3736E-01	37.82	0.01318

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	500.00	75.4	0.0300	0.3440	565.33	338.58	0.9894	0.9637	10.0155	0.9594	2.3456	-386.81	-1558.02	-1065.77
2	500.00	71.0	0.0770	0.4340	466.55	292.71	0.9895	0.9617	5.9656	1.0042	1.7818	-396.41	-1610.20	-1098.93
3	500.00	64.8	0.1800	0.4910	350.64	236.50	0.9892	0.9589	3.8402	1.2544	1.1189	-411.22	-1689.18	-1148.75
4	500.00	68.0	0.2500	0.5110	407.26	264.34	0.9895	0.9602	2.4785	1.1804	0.7418	-403.38	-1647.58	-1122.57
5	500.00	67.0	0.3310	0.5400	388.85	255.37	0.9856	0.9596	2.0719	1.2878	0.4755	-405.79	-1660.38	-1130.64
6	500.00	66.8	0.4270	0.5580	395.25	253.61	0.9896	0.9595	1.6752	1.4545	0.1413	-406.27	-1662.96	-1132.27
7	500.00	66.7	0.5090	0.5810	383.46	252.73	0.9897	0.9593	1.4702	1.6145	-0.0936	-406.51	-1664.26	-1133.08
8	500.00	66.6	0.5810	0.6000	381.68	251.86	0.9897	0.9592	1.3365	1.8121	-0.3045	-406.76	-1665.55	-1133.90
9	500.00	66.5	0.6680	0.6230	379.90	250.98	0.9898	0.9590	1.2127	2.1626	-0.5785	-407.00	-1666.85	-1134.71
10	500.00	66.5	0.7350	0.6500	379.90	250.98	0.9899	0.9589	1.1500	2.5150	-0.7825	-407.00	-1666.85	-1134.71
11	500.00	67.0	0.7880	0.6820	388.85	255.37	0.9900	0.9589	1.0957	2.8073	-0.9372	-405.79	-1660.38	-1130.64
12	500.00	67.5	0.8430	0.7190	397.97	259.82	0.9902	0.9590	1.0590	3.2924	-1.1343	-404.58	-1653.96	-1126.59
13	500.00	68.1	0.8870	0.7580	409.14	265.25	0.9903	0.9589	1.0459	3.6994	-1.2633	-403.14	-1646.31	-1121.77
14	500.00	69.2	0.9350	0.8350	430.23	275.41	0.9905	0.9590	1.0261	4.4054	-1.4571	-400.55	-1632.45	-1113.01
15	500.00	70.3	0.9650	0.8990	452.16	285.89	0.9907	0.9590	1.0187	4.8248	-1.5553	-398.01	-1618.79	-1104.37

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 508.50 P = 47.00 V = 218.50 OMEGA = 0.663 OMEGAH = 0.187 DIPOLE = 1.60 ETA = 0.0  
 2 T = 572.30 P = 34.30 V = 372.40 OMEGA = 0.235 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.66604E 01 B = 0.81305E 03 C = 0.13293E 03  
 2 A = 0.68269E 01 B = 0.12729E 04 C = 0.22163E 03  
 P = 769.7 AT T = 82.5  
 P = 759.3 AT T = 100.9

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.14178E 03 B = -0.49807E 00 C = 0.92870E-03  
 2 A = 0.11310E 03 B = -0.38740E-01 C = 0.30202E-03  
 COMPONENT ID FCHO CHECK  
 ID NUMBER = 22  
 ID NUMBER = 26

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.22388E 01 B = -0.56531E 01 C = -0.19161E 01

STANDARD DEVIATION = 0.13527E 00

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 9.3820 G2INF = 4.4735  
 T1INF = 86.72 T2INF = 72.31

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.4942  
 AREA BELOW THE X-AXIS IS -0.4432  
 CROSS-OVER POINT IS X = 0.47  
 NORMALIZED AREA DIFFERENCE IS 0.0544  
 HERINGTON J-FACTOR IS 9.73  
 CONSISTENCY INDEX IS -4.30

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	1629.50	91.35	0.1404E-08	21.24	0.01785
2	1759.53	205.66	0.1824E-01	9.67	0.01151
3	1864.43	172.29	0.4861E-00	11.44	0.01176
4	1800.91	181.73	0.5921E-01	10.17	0.01125
5	1764.62	202.14	0.2162E-01	9.69	0.01143
6	1812.02	176.58	0.5781E-02	10.34	0.01134
7	1755.42	208.74	0.1442E-01	9.65	0.01160
8	1727.30	221.05	0.1551E-01	9.57	0.01187
9	1727.26	221.23	0.1551E-01	9.57	0.01188
10	1860.18	173.56	0.5857E-02	11.37	0.01173



## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	750.00	95.0	0.0080	0.1600	1210.53	624.39	0.9935	0.9877	12.4398	1.0122	2.5088	-351.48	-529.05	-331.79
2	760.00	91.3	0.0160	0.2850	1059.81	544.84	0.9918	0.9825	12.6336	0.9952	2.5412	-357.33	-541.23	-339.79
3	760.00	89.8	0.0250	0.3250	1002.84	515.07	0.9913	0.9824	9.7390	1.0029	2.2732	-359.80	-546.25	-343.13
4	760.00	88.2	0.0320	0.3650	944.62	484.81	0.9908	0.9824	9.0670	1.0096	2.1951	-362.50	-551.66	-346.75
5	750.00	84.9	0.0650	0.4350	832.55	427.02	0.9859	0.9823	6.0304	1.0557	1.7426	-368.29	-563.00	-354.41
6	750.00	83.0	0.1100	0.4900	772.73	396.42	0.9853	0.9823	4.3220	1.0785	1.3881	-371.77	-569.64	-358.95
7	750.00	81.6	0.2350	0.5460	730.77	375.06	0.9887	0.9826	2.3824	1.1808	0.7019	-374.40	-574.59	-362.35
8	750.00	81.1	0.3400	0.5700	716.21	367.66	0.9885	0.9827	1.7536	1.3226	0.2821	-375.36	-576.36	-363.58
9	750.00	80.7	0.4200	0.5900	704.72	361.84	0.9883	0.9828	1.4931	1.4583	0.0236	-376.13	-577.79	-364.57
10	760.00	80.3	0.5500	0.6250	693.37	356.09	0.9881	0.9831	1.2273	1.7474	-0.3523	-376.90	-579.22	-365.56
11	750.00	80.2	0.5600	0.6350	690.56	354.66	0.9880	0.9831	1.2295	1.7465	-0.3510	-377.10	-579.58	-365.81
12	750.00	80.1	0.5900	0.6500	687.75	353.24	0.9879	0.9833	1.1994	1.8048	-0.4087	-377.29	-579.94	-366.06
13	750.00	80.0	0.7200	0.7000	684.95	351.83	0.9877	0.9838	1.0624	2.2755	-0.7616	-377.48	-580.30	-366.31
14	750.00	80.0	0.7500	0.7300	684.95	351.83	0.9875	0.9841	1.0635	2.2944	-0.7689	-377.48	-580.30	-366.31
15	760.00	80.1	0.7800	0.7500	687.75	353.24	0.9875	0.9844	1.0463	2.4051	-0.8324	-377.29	-579.94	-366.06
16	760.00	80.2	0.8300	0.7900	690.56	354.66	0.9873	0.9849	1.0313	2.6053	-0.9267	-377.10	-579.58	-365.81
17	750.00	80.9	0.8700	0.8200	710.45	364.74	0.9873	0.9853	0.9927	2.8410	-1.0515	-375.74	-577.08	-364.08
18	750.00	80.6	0.9000	0.8500	701.97	360.39	0.9872	0.9857	1.0067	3.1159	-1.1298	-376.32	-578.15	-364.82
19	750.00	81.0	0.9450	0.9000	713.32	366.20	0.9872	0.9864	0.9988	3.7197	-1.3148	-375.55	-576.72	-363.83
20	750.00	81.2	0.9600	0.9200	719.10	369.13	0.9871	0.9867	0.9970	4.0605	-1.4043	-375.17	-576.01	-363.34

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 508.50 P = 47.00 V = 218.50  $\omega_{MGA} = 0.663$   $\omega_{MGAH} = 0.187$  DIPOLE = 1.60 ETA = 0.0  
 2 T = 647.40 P = \*\*\*\*\* V = 55.20  $\omega_{MGA} = 0.344$   $\omega_{MGAH} = 0.010$  DIPOLE = 1.85 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.66604E 01 B = 0.81305E 03 C = 0.13293E 03  
 2 A = 0.75668E 01 B = 0.16682E 04 C = 0.22800E 03  
 P = 769.7 AT T = 82.5  
 P = 760.0 AT T = 100.0

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.14178E 03 B = -0.49807E 00 C = 0.92870E 03  
 2 A = 0.22887E 02 B = -0.36416E 01 C = 0.68556E 04  
 COMPONENT ID ECHO CHECK  
 ID NUMBER = 22  
 ID NUMBER = 34

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.23711E 01 B = -0.68001E 01 C = 0.32348E 01  
 STANDARD DEVIATION = 0.16760E 00

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 10.7093 G2INF = 3.3008  
 T1INF = 100.00 T2INF = 82.19

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.4769  
 AREA BELOW THE X-AXIS IS -0.4276  
 CROSS-OVER POINT IS X = 0.44  
 NORMALIZED AREA DIFFERENCE IS 0.0545  
 HERINGTON J-FACTOR IS 8.50  
 CONSISTENCY INDEX IS -3.04

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	508.42	1262.86	0.5463F-06	21.41	0.01756
2	940.99	1227.60	0.1135F-02	8.71	0.01154
3	670.94	1362.84	0.2238F 01	13.31	0.00711
4	680.99	1338.22	0.5876E-01	10.10	0.00638
5	758.94	1284.82	0.4797F-02	6.06	0.00739
6	708.17	1318.40	0.2653E-02	7.69	0.00645
7	742.67	1292.97	0.3233F-02	6.47	0.00705
8	789.75	1276.32	0.1604F-02	5.59	0.00804
9	789.74	1270.32	0.1604E-02	5.59	0.00804
10	649.17	1381.54	0.1554F-01	15.44	0.00785

\*\*DIAGNOSTIC\*\*

2 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
SEE INTRODUCTION FOR DETAILS CONCERNING DATA-BASE UPDATE

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	750.00	97.6	0.0045	0.0815	1224.09	685.06	0.9946	0.9829	10.3106	1.0055	2.3277	-347.60	-520.76	-326.40
2	750.00	96.2	0.0069	0.1405	1262.63	652.14	0.9938	0.9828	12.1463	0.9907	2.5064	-349.65	-525.16	-329.25
3	750.00	93.7	0.0127	0.2185	1154.23	594.55	0.9927	0.9826	11.2143	0.9936	2.4236	-353.56	-533.43	-334.65
4	750.00	87.8	0.0357	0.3692	931.88	478.21	0.9907	0.9824	8.3326	1.0206	2.0998	-363.12	-552.88	-347.57
5	750.00	84.3	0.0678	0.4647	812.66	416.82	0.9896	0.9824	6.3253	1.0279	1.8170	-369.42	-565.16	-355.88
6	750.00	82.8	0.1330	0.5036	767.94	393.93	0.9852	0.9824	3.6967	1.0845	1.2263	-372.07	-570.20	-359.33
7	750.00	82.5	0.1651	0.5153	758.14	388.98	0.9890	0.9825	3.0858	1.1137	1.0191	-372.67	-571.33	-360.11
8	750.00	81.5	0.3204	0.5456	728.42	373.86	0.9887	0.9825	1.7517	1.3346	0.2719	-374.56	-574.87	-362.55
9	750.00	81.4	0.3336	0.5489	726.38	372.83	0.9887	0.9826	1.6973	1.3550	0.2253	-374.69	-575.12	-362.72
10	750.00	81.2	0.3752	0.5615	718.81	368.99	0.9886	0.9826	1.5598	1.4195	0.0943	-375.19	-576.04	-363.36
11	750.00	80.8	0.4720	0.5860	706.72	362.85	0.9884	0.9828	1.3159	1.6130	-0.2036	-375.99	-577.54	-364.40
12	750.00	80.7	0.4756	0.5886	705.58	362.77	0.9884	0.9828	1.3138	1.6165	-0.2073	-376.07	-577.68	-364.50
13	750.00	80.6	0.5197	0.6033	701.30	360.10	0.9883	0.9829	1.2398	1.7123	-0.3229	-376.36	-578.22	-364.87
14	750.00	80.5	0.5945	0.6330	699.60	359.24	0.9881	0.9832	1.1397	1.8813	-0.5012	-376.48	-578.43	-365.02
15	750.00	80.5	0.7880	0.7546	657.85	358.38	0.9875	0.9845	1.0269	2.4151	-0.8552	-376.59	-578.65	-365.17
16	750.00	80.5	0.8020	0.7680	700.45	359.67	0.9874	0.9846	1.0231	2.4363	-0.8677	-376.42	-578.33	-364.94
17	750.00	81.3	0.9303	0.9010	722.59	370.90	0.9872	0.9865	1.0028	2.8692	-1.0513	-374.94	-575.58	-363.04
18	750.00	81.8	0.9660	0.9525	738.13	378.80	0.9872	0.9873	0.9994	2.7656	-1.0178	-373.93	-573.70	-361.74

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 508.50	P = 47.00	V = 218.50	OMEGA = 0.663	OMEGA H = 0.187	DIPOLE = 1.60	ETA = 0.0
2	T = 647.40	P = *****	V = 55.20	OMEGA = 0.344	OMEGA H = 0.010	DIPOLE = 1.85	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.66604E 01	B = 0.81305E 03	C = 0.13293E 03
2	A = 0.79668E 01	B = 0.16682E 04	C = 0.22800E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.14178E 03	B = -.49807E 00	C = 0.92870E -03
2	A = 0.22887E 02	B = -.36416E 01	C = 0.68556E -04

VAPOR PRESSURE AT NBP

P = 769.7 AT T = 82.5  
P = 760.0 AT T = 100.0

COMPONENT ID CHECK

ID NUMBER = 22  
ID NUMBER = 34

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.23612E 01	B = -.75931E 01	C = 0.43288E 01
STANDARD DEVIATION = 0.12284E 00		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 10.6038	G2INF = 2.4673
T1INF = 100.00	T2INF = 82.19

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.4294  
AREA BELOW THE X-AXIS IS -0.4218  
CROSS-OVER POINT IS X = 0.40  
NORMALIZED AREA DIFFERENCE IS 0.0089  
HERINGTON J-FACTOR IS 8.29  
CONSISTENCY INDEX IS -7.40

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	PRFSSURF	COMPOSITION
1	718.14	1037.42	0.9860E-08	47.13	0.02865
2	918.85	1268.68	0.5298E-03	16.50	0.01114
3	587.32	1316.04	0.4297E-01	12.85	0.01146
4	666.72	1237.51	0.8152E-01	9.32	0.01081
5	736.76	1257.58	0.7332E-02	8.62	0.00862
6	721.13	1267.23	0.3841E-02	9.88	0.00856
7	765.56	1250.49	0.5051E-02	9.11	0.00886
8	745.27	1252.40	0.3664E-02	8.99	0.00854
9	745.25	1252.39	0.3664E-02	8.99	0.00854
10	656.01	1205.26	0.1833E-01	12.30	0.01140

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	114.3	0.0870	0.6900	2655.58	259.20	0.9794	0.9678	2.2166	0.9610	0.8358	-652.81	-1020.79	-841.96
2	760.00	109.0	0.1340	0.7540	2354.50	216.67	0.9785	0.9664	1.7720	0.9604	0.6125	-673.75	-1045.81	-866.86
3	750.00	96.0	0.2120	0.8100	1718.17	135.72	0.9759	0.9628	1.6444	1.2965	0.2377	-729.93	-1111.39	-933.53
4	760.00	77.6	0.6790	0.9390	1042.85	64.82	0.9714	0.9563	0.9760	2.1250	-0.7780	-823.61	-1215.92	-1044.42
5	750.00	74.0	0.8850	0.9580	538.21	55.43	0.9703	0.9548	0.8483	4.7681	-1.7265	-844.30	-1238.19	-1068.88
6	760.00	70.2	0.9600	0.9740	836.54	46.78	0.9652	0.9532	0.8907	10.0381	-2.4222	-867.12	-1262.41	-1095.83

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 541.20	P = 51.20	V = 223.90	OMEGA = 0.211	OMEGAH = 0.192	DIPOLE = 0.0	ETA = 0.0
2	T = 647.20	P = 44.20	V = 264.80	OMEGA = 0.0	OMEGAH = 0.227	DIPOLE = 0.0	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69951E 01	B = 0.12023E 04	C = 0.22625E 03	P = 760.0 AT T = 66.0
2	A = 0.69961E 01	B = 0.14378E 04	C = 0.19983E 03	P = 760.0 AT T = 149.6

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.12384E 03	B = -0.36498E 00	C = 0.73600E 03	COMPONENT ID CHECK
2	A = 0.62966E 02	B = -0.86833E 02	C = 0.15300E 03	ID NUMBER = 53

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.72524E 00	B = -0.50428E 00	C = -0.27281E 01
STANDARD DEVIATION = 0.22069E 00		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.0652	G2INF = 12.2696
T1INF = 149.56	T2INF = 65.97

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.1929
AREA BELOW THE X-AXIS IS	-0.6292
CROSS-OVER POINT IS X =	0.43
NORMALIZED AREA DIFFERENCE IS	-0.5306
HERRINGTON J-FACTOR IS	36.98
CONSISTENCY INDEX IS	16.09

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	-269.14 1995.14	0.9095E-10
2	861.87 140.93	0.3308E-01
3	30.70 2676.12	0.2626E 01
4	-112.25 2300.45	0.6263E 00
5	1002.45 -95.53	0.4999E-01
6	1779.29 -263.08	0.3875E-02
7	1142.95 -148.69	0.6212E-01
8	928.29 -67.11	0.4455E-01
9	928.28 -67.10	0.4455E-01
10	-269.48 3103.47	0.2563E 00

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
96.17	0.02613
96.92	0.02500
214.06	0.03413
143.56	0.02413
55.31	0.01965
71.61	0.01498
55.76	0.01884
56.15	0.02035
56.15	0.02035
129.54	0.02477

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	303.20	50.0	0.0280	0.7000	429.12	92.18	0.9855	0.9929	17.3853	1.0078	2.8479	-1008.67	-700.14	-622.05
2	359.80	50.0	0.0380	0.7450	429.12	92.18	0.9825	0.9921	16.1271	1.0262	2.7546	-1008.67	-700.14	-622.05
3	383.40	50.0	0.0460	0.7670	429.12	92.18	0.9813	0.9919	14.5956	1.0073	2.6734	-1008.67	-700.14	-622.05
4	420.50	50.0	0.0750	0.7810	429.12	92.18	0.9794	0.9914	9.9768	1.0703	2.2323	-1008.67	-700.14	-622.05
5	440.40	50.0	0.1165	0.7970	429.12	92.18	0.9784	0.9912	6.8567	1.0877	1.8412	-1008.67	-700.14	-622.05
6	445.40	50.0	0.1830	0.8000	429.12	92.18	0.9781	0.9912	4.4300	1.1719	1.3297	-1008.67	-700.14	-622.05
7	447.00	50.0	0.2280	0.8020	429.12	92.18	0.9780	0.9912	3.5770	1.2323	1.0657	-1008.67	-700.14	-622.05
8	447.80	50.0	0.2640	0.8000	429.12	92.18	0.9780	0.9911	3.0869	1.3079	0.8588	-1008.67	-700.14	-622.05
9	449.40	50.0	0.3540	0.8020	429.12	92.18	0.9779	0.9911	2.3159	1.4804	0.4475	-1008.67	-700.14	-622.05
10	451.10	50.0	0.4410	0.8030	429.12	92.18	0.9778	0.9911	1.8682	1.7086	0.0893	-1008.67	-700.14	-622.05
11	453.50	50.0	0.5310	0.8050	429.12	92.18	0.9777	0.9911	1.5635	2.0265	-0.2594	-1008.67	-700.14	-622.05
12	456.20	50.0	0.6110	0.8100	429.12	92.18	0.9775	0.9911	1.3751	2.3949	-0.5548	-1008.67	-700.14	-622.05
13	459.80	50.0	0.6980	0.8200	429.12	92.18	0.9773	0.9912	1.2279	2.9458	-0.8751	-1008.67	-700.14	-622.05
14	463.40	50.0	0.7650	0.8320	429.12	92.18	0.9771	0.9914	1.1454	3.5615	-1.1344	-1008.67	-700.14	-622.05
15	464.80	50.0	0.7980	0.8400	429.12	92.18	0.9770	0.9915	1.1118	3.9584	-1.2699	-1008.67	-700.14	-622.05
16	465.40	50.0	0.8680	0.8650	429.12	92.18	0.9769	0.9919	1.0538	5.1200	-1.5808	-1008.67	-700.14	-622.05
17	464.30	50.0	0.8880	0.8700	429.12	92.18	0.9769	0.9921	1.0336	5.7978	-1.7244	-1008.67	-700.14	-622.05
18	462.10	50.0	0.9220	0.9010	429.12	92.18	0.9770	0.9927	1.0261	6.3138	-1.8169	-1008.67	-700.14	-622.05
19	456.40	50.0	0.9560	0.9360	429.12	92.18	0.9772	0.9935	1.0157	7.1521	-1.9519	-1008.67	-700.14	-622.05
20	450.00	50.0	0.9790	0.9650	429.12	92.18	0.9775	0.9942	1.0085	8.0858	-2.0816	-1008.67	-700.14	-622.05

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 541.20 P = 51.20 V = 223.90 OMEGA = 0.211 OMEGAH = 0.192 DIPOLE = 0.0 ETA = 0.0

2 T = 647.40 P = \*\*\*\*\* V = 55.20 OMEGA = 0.344 OMEGAH = 0.010 DIPOLE = 1.85 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69951E 01 B = 0.12023E 04 C = 0.22625E 03

2 A = 0.79668E 01 B = 0.16682E 04 C = 0.22800E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.12384E 03 B = -.36498E 00 C = 0.73600E-03

2 A = 0.22887E 02 B = -.36416E-01 C = 0.68556E-04

## VAPOR PRESSURE AT NBP

P = 760.0 AT T = 66.0

P = 760.0 AT T = 100.0

## COMPONENT ID ECHO CHECK

ID NUMBER = 53

ID NUMBER = 34

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.28317E 01 B = -.73686E 01 C = 0.25805E 01

STANDARD DEVIATION = 0.16511E 00

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 16.9741 G2INF = 7.0740

T1INF = 50.00 T2INF = 50.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.6067

AREA BELOW THE X-AXIS IS -0.5992

CROSS-OVER POINT IS X = 0.46

NORMALIZED AREA DIFFERENCE IS 0.0063

CONSISTENCY INDEX IS 0.63

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	426.71	1656.95	0.4375E-09	45.71	0.02955
2	1081.84	1915.39	0.9467E-03	5.80	0.00569
3	919.08	1827.78	0.4650E 01	11.87	0.00606
4	956.33	1835.35	0.5006E-01	10.63	0.00567
5	857.03	1978.56	0.1024E-01	5.90	0.00567
6	885.42	1906.80	0.1687E-02	6.48	0.00510
7	853.55	1985.80	0.8752E-02	6.01	0.00578
8	851.10	1991.18	0.8047E-02	6.05	0.00586
9	851.10	1991.18	0.8047E-02	6.09	0.00586
10	937.04	1807.41	0.7819E-02	13.20	0.00649

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	756.00	91.1	0.0666	0.4478	409.28	1158.89	0.9617	0.9708	11.8985	0.3739	3.4603	-1372.33	-1023.59	-833.07
2	756.00	88.2	0.0908	0.5083	373.73	1047.72	0.9592	0.9712	10.8198	0.3782	3.3538	-1400.59	-1055.32	-848.63
3	756.00	87.4	0.0985	0.5224	364.82	1020.02	0.9585	0.9713	10.4541	0.3806	3.3169	-1408.17	-1063.83	-852.79
4	756.00	85.6	0.1191	0.5570	343.55	954.16	0.9570	0.9716	9.8108	0.3863	3.2346	-1427.18	-1085.18	-863.20
5	756.00	83.4	0.1576	0.5991	319.54	880.31	0.9551	0.9722	8.5568	0.3965	3.0719	-1450.38	-1111.23	-875.86
6	756.00	80.6	0.2523	0.6536	290.91	793.00	0.9527	0.9732	6.3888	0.4289	2.7011	-1480.89	-1145.46	-892.44
7	756.00	79.1	0.3469	0.6830	276.44	749.18	0.9514	0.9738	5.1029	0.4760	2.3722	-1497.71	-1164.31	-901.54
8	756.00	78.4	0.4283	0.7018	269.88	729.41	0.9507	0.9744	4.3468	0.5257	2.1126	-1505.67	-1173.23	-905.84
9	756.00	77.9	0.4890	0.7141	265.73	716.92	0.9503	0.9748	3.9326	0.5739	1.9246	-1510.83	-1179.01	-908.63
10	756.00	77.3	0.6330	0.7444	259.82	699.19	0.9494	0.9760	3.2360	0.7334	1.4844	-1518.34	-1187.41	-912.68
11	756.00	77.0	0.7310	0.7751	257.49	692.20	0.9489	0.9774	2.9423	0.8906	1.1951	-1521.36	-1190.79	-914.30
12	756.00	77.0	0.8082	0.8094	257.14	691.12	0.9484	0.9792	2.7816	1.0621	0.9628	-1521.82	-1191.31	-914.55
13	756.00	77.1	0.8794	0.8554	258.48	695.14	0.9480	0.9816	2.6865	1.2773	0.7435	-1520.08	-1189.36	-913.61
14	756.00	77.4	0.9262	0.8575	260.73	701.89	0.9478	0.9841	2.6527	1.4689	0.5910	-1517.18	-1186.11	-912.05
15	756.00	77.4	0.9382	0.9099	261.18	703.25	0.9478	0.9848	2.6502	1.5401	0.5428	-1516.60	-1185.46	-911.74
16	756.00	77.6	0.9545	0.9304	262.54	707.32	0.9477	0.9860	2.6498	1.6086	0.4991	-1514.86	-1183.52	-910.80

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 594.00 P = 40.00 V = 331.10 OMFGA = 0.241 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 516.00 P = 63.00 V = 161.30 OMFGA = 0.637 OMEGAH = 0.152 DIPOLE = 1.69 ETA = 1.10

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69533E 01 B = 0.13439E 04 C = 0.21938E 03  
 2 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265E 03

MOLEAR VOLUME EQUATION COEFFICIENTS

1 A = 0.98864E 02 B = -0.55774E-01 C = 0.27703E-03  
 2 A = 0.53701E 02 B = -0.31109E-01 C = 0.16000E-03

VAPOR PRESSURE AT NBP

P = 759.4 AT T = 110.6  
 P = 762.1 AT T = 78.4

COMPONENT ID ECHO CHECK

ID NUMBER = 33  
 ID NUMBER = 11

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.36910E 01 B = -0.39292E 01 C = 0.63897E 00  
 STANDARD DEVIATION = 0.25119E-01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 40.0847 G2INF = 0.6698  
 T1INF = 78.20 T2INF = 110.44

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

EQUATION SOLVED FOR X-INTERCEPT  
 ROOTS ARE: X = 0.49922E 01 AND X = -0.11571E 01  
 NEITHER ROOT IS IN THE RANGE 0 TO 1  
 THERMODYNAMIC CONSISTENCY TEST IS ABORTED



## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	4516.66	-614.20	0.2474E-09	336.31	0.32970
2	434.57	10123.03	0.5493E 01	188.58	0.40757
3	2943.15	993.03	0.1954E 03	301.76	0.41449
4	1947.97	-2061.90	0.1940E 02	466.05	0.27913
5	-538.53	10100.31	0.6689E 01	203.24	0.40035
6	4609.54	-9348.09	0.2191E 01	647.42	0.23334
7	2174.79	-2321.25	0.5629E 01	505.50	0.27062
8	-210.28	5051.61	0.1240E 01	162.66	0.41977
9	-203.84	5166.63	0.1203E 01	162.07	0.42001
10	-1051.78	2236.23	0.1724E 01	289.55	0.35167

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1C1	F2C1	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	135.00	80.0	0.0550	0.3120	290.77	90.18	1.0000	1.0000	2.6319	1.0892	0.8823	0.0	0.0	0.0
2	143.00	80.0	0.0740	0.3450	290.77	90.18	1.0000	1.0000	2.2911	1.1209	0.7149	0.0	0.0	0.0
3	162.00	80.0	0.1120	0.4550	290.77	90.18	1.0000	1.0000	2.2615	1.1017	0.7192	0.0	0.0	0.0
4	201.00	80.0	0.2360	0.6050	290.77	90.18	1.0000	1.0000	1.7703	1.1513	0.4303	0.0	0.0	0.0
5	210.00	80.0	0.2410	0.6100	290.77	90.18	1.0000	1.0000	1.8260	1.1954	0.4237	0.0	0.0	0.0
6	217.00	80.0	0.2560	0.6300	290.77	90.18	1.0000	1.0000	1.7923	1.1679	0.4283	0.0	0.0	0.0
7	246.00	80.0	0.4320	0.7210	290.77	90.18	1.0000	1.0000	1.4102	1.3384	0.0523	0.0	0.0	0.0
8	258.00	80.0	0.5200	0.7550	290.77	90.18	1.0000	1.0000	1.2866	1.4585	-0.1254	0.0	0.0	0.0
9	264.00	80.0	0.5660	0.7860	290.77	90.18	1.0000	1.0000	1.2591	1.4417	-0.1354	0.0	0.0	0.0
10	258.00	80.0	0.5780	0.7780	290.77	90.18	1.0000	1.0000	1.2389	1.5614	-0.2314	0.0	0.0	0.0
11	280.00	80.0	0.7300	0.8320	290.77	90.18	1.0000	1.0000	1.0959	1.9294	-0.5656	0.0	0.0	0.0
12	232.00	80.0	0.8130	0.8640	290.77	90.18	1.0000	1.0000	1.0292	2.2712	-0.7916	0.0	0.0	0.0
13	285.00	80.0	0.8200	0.8720	290.77	90.18	1.0000	1.0000	1.0408	2.2443	-0.7684	0.0	0.0	0.0
14	295.00	80.0	0.9140	0.9280	290.77	90.18	1.0000	1.0000	1.0285	2.7348	-0.9780	0.0	0.0	0.0

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 594.00 P = 40.00 V = 331.10 CMEGA = 0.241 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 0.0 P = 0.0 V = 0.0 CMEGA = 0.0 OMEGAH = 0.279 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69533E 01 B = 0.13439E 04 C = 0.21938E 03  
 2 A = 0.96879E 01 B = 0.27308E 04 C = 0.27315E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.98864E 02 B = -.55774E-01 C = 0.27703E-03  
 2 A = 0.10896E 03 B = 0.0 C = 0.0

## VAPOR PRESSURE AT NBP

P = 759.4 AT T = 110.6  
 P = 886.6 AT T = 132.0

## COMPONENT ID ECHO CHECK

ID NUMBER = 33  
 ID NUMBER = 47

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.91190E 00 B = -.18418E 01 C = -.25468E 00  
 STANDARD DEVIATION = 0.4134CF-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.4891 G2INF = 3.2691  
 T1INF = 80.00 T2INF = 80.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2164  
 AREA BELOW THE X-AXIS IS -0.3102  
 CROSS-OVER POINT IS X = 0.47  
 NORMALIZED AREA DIFFERENCE IS -0.1782  
 CONSISTENCY INDEX IS 17.82

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	188.79	673.31	C.1819F-11	7.98	0.01704
2	1236.09	179.05	0.6818E-02	11.60	0.04248
3	277.31	686.50	0.2580F 00	3.05	0.02092
4	335.04	606.77	0.1098E-00	3.35	0.02051
5	375.30	553.35	C.2287E-01	3.75	0.02022
6	449.64	281.66	0.5293F-02	14.85	0.01126
7	354.09	524.22	0.1788F-01	5.56	0.01783
8	439.35	540.24	C.2815E-02	2.18	0.02288
9	439.35	540.23	C.2815E-02	2.18	0.02288
10	278.28	685.95	C.3203F-01	3.04	0.02095

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	415.00	107.0	0.1100	0.3000	682.50	319.05	1.0000	1.0000	1.6549	1.0211	0.4829	0.0	0.0	0.0
2	470.00	107.0	0.1910	0.4360	682.50	319.05	1.0000	1.0000	1.5683	1.0248	0.4255	0.0	0.0	0.0
3	525.00	107.0	0.2510	0.5120	682.50	319.05	1.0000	1.0000	1.5650	1.0695	0.3807	0.0	0.0	0.0
4	536.00	107.0	0.2890	0.5510	682.50	319.05	1.0000	1.0000	1.4934	1.0583	0.3443	0.0	0.0	0.0
5	547.00	107.0	0.2960	0.5610	682.50	319.05	1.0000	1.0000	1.5149	1.0664	0.3510	0.0	0.0	0.0
6	594.00	107.0	0.3980	0.6440	682.50	319.05	1.0000	1.0000	1.4041	1.0980	0.2459	0.0	0.0	0.0
7	643.00	107.0	0.5110	0.7090	682.50	319.05	1.0000	1.0000	1.3030	1.1958	0.0859	0.0	0.0	0.0
8	659.00	107.0	0.6290	0.7630	682.50	319.05	1.0000	1.0000	1.1851	1.3354	-0.1194	0.0	0.0	0.0
9	630.00	107.0	0.6940	0.7930	682.50	319.05	1.0000	1.0000	1.1346	1.4373	-0.2365	0.0	0.0	0.0
10	690.00	107.0	0.9640	0.9640	682.50	319.05	1.0000	1.0000	1.0075	2.1558	-0.7607	0.0	0.0	0.0
11	633.00	107.0	0.9800	0.9760	682.50	319.05	1.0000	1.0000	0.9933	2.5609	-0.9471	0.0	0.0	0.0

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 594.00 P = 40.00 V = 331.10 OMEGA = 0.241 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 0.0 P = 0.0 V = 0.0 OMEGA = 0.0 OMEGAH = 0.279 DIPOLE = 0.0 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69533E 01 B = 0.13439E 04 C = 0.21938E 03  
 2 A = 0.96879E 01 B = 0.27308E 04 C = 0.27315E 03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.98864E 02 B = -0.55774E-01 C = 0.27703E-03  
 2 A = 0.10856E 03 B = 0.0 C = 0.0

## VAPOR PRESSURE AT ABP

P = 759.4 AT T = 110.6  
 P = 886.6 AT T = 132.0

## COMPONENT ID CHECK

ID NUMBER = 33  
 ID NUMBER = 47

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = -0.52067E 00 B = -0.23713E 00 C = -0.12149E 01  
 STANDARD DEVIATION = 0.37047E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.6832 G2INF = 2.5381  
 T1INF = 107.00 T2INF = 107.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.1833  
 AREA BELOW THE X-AXIS IS -0.1862  
 CROSS-OVER POINT IS X = 0.56  
 NORMALIZED AREA DIFFERENCE IS -0.0078  
 CONSISTENCY INDEX IS 0.78

SUMMARY OF WILSON PARAMETERS

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)	
				PRFSSURE	COMPOSITION
1	-164.40	875.83	0.9095F-11	21.66	0.00720
2	-3.12	855.33	0.6543F-03	6.00	0.00967
3	-24.84	742.85	0.7021F-01	11.50	0.00406
4	-7.00	723.24	0.2171F-01	11.11	0.00461
5	-125.34	1026.81	0.2604F-02	5.41	0.00658
6	-122.20	904.82	0.2630F-03	12.35	0.00289
7	-138.74	1042.78	0.1621F-02	5.96	0.00621
8	-139.96	1097.65	0.1018F-02	4.59	0.00863
9	-129.96	1097.65	0.1018F-02	4.59	0.00863
10	-35.87	759.97	0.2244F-01	11.47	0.00375

## SUMMARY VLF DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PH11	PH12	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	124.4	0.0350	0.0590	1046.41	691.57	0.9676	0.9460	1.1803	1.0079	0.1579	-1103.51	-1760.77	-1409.33
2	760.00	124.4	0.0350	0.0580	1046.41	691.57	0.9676	0.9460	1.1603	1.0090	0.1397	-1103.51	-1760.77	-1409.33
3	760.00	122.3	0.1180	0.1840	992.24	653.46	0.9667	0.9450	1.1503	1.0110	0.1291	-1117.74	-1785.52	-1426.40
4	760.00	121.3	0.1590	0.2500	967.19	635.88	0.9662	0.9445	1.1893	1.0010	0.1724	-1124.63	-1797.49	-1437.62
5	760.00	121.2	0.1640	0.2510	964.71	634.14	0.9662	0.9445	1.1606	1.0083	0.1407	-1125.32	-1798.70	-1438.55
6	760.00	121.1	0.1690	0.2620	962.24	632.41	0.9661	0.9444	1.1786	1.0022	0.1621	-1126.01	-1799.56	-1439.48
7	760.00	119.4	0.2520	0.3660	920.89	603.45	0.9654	0.9436	1.1528	1.0016	0.1407	-1137.91	-1820.60	-1455.42
8	760.00	119.4	0.2520	0.3600	920.89	603.45	0.9654	0.9436	1.1339	1.0110	0.1147	-1137.91	-1820.60	-1455.42
9	760.00	119.3	0.2560	0.3660	918.50	601.77	0.9653	0.9436	1.1377	1.0097	0.1194	-1138.61	-1821.83	-1456.37
10	760.00	119.2	0.2600	0.3690	916.12	600.10	0.9653	0.9435	1.1323	1.0131	0.1112	-1139.32	-1823.05	-1457.31
11	760.00	117.5	0.3560	0.4670	876.27	572.27	0.9646	0.9428	1.0934	1.0303	0.0594	-1151.45	-1844.17	-1473.57
12	760.00	117.4	0.3570	0.4710	873.96	570.67	0.9645	0.9427	1.1025	1.0270	0.0709	-1152.17	-1845.42	-1474.54
13	760.00	117.4	0.3600	0.4830	873.96	570.67	0.9645	0.9428	1.1211	1.0084	0.1059	-1152.17	-1845.42	-1474.54
14	760.00	116.3	0.4270	0.5420	848.92	553.22	0.9641	0.9423	1.0914	1.0287	0.0592	-1160.14	-1859.31	-1485.23
15	760.00	116.2	0.4290	0.5460	846.68	551.65	0.9640	0.9422	1.0972	1.0262	0.0669	-1160.87	-1860.58	-1486.21
16	760.00	114.6	0.5390	0.6400	811.29	527.05	0.9634	0.9416	1.0676	1.0541	0.0127	-1172.64	-1881.09	-1502.00
17	760.00	114.5	0.5390	0.6410	809.12	525.54	0.9633	0.9415	1.0721	1.0542	0.0168	-1173.38	-1882.38	-1503.00
18	760.00	113.0	0.6700	0.7450	777.04	503.29	0.9627	0.9409	1.0431	1.0916	-0.0455	-1184.61	-1901.96	-1518.07
19	760.00	113.0	0.6700	0.7480	777.04	503.29	0.9627	0.9409	1.0473	1.0788	-0.0296	-1184.61	-1901.96	-1518.07
20	760.00	112.8	0.6930	0.7600	772.33	500.38	0.9626	0.9409	1.0343	1.1107	-0.0713	-1186.12	-1904.60	-1520.10
21	760.00	112.3	0.7400	0.7970	762.39	493.16	0.9624	0.9407	1.0295	1.1253	-0.0891	-1189.91	-1911.21	-1525.19
22	760.00	111.7	0.8070	0.8480	750.01	484.59	0.9622	0.9405	1.0207	1.1550	-0.1236	-1194.49	-1919.19	-1531.34
23	760.00	111.6	0.8210	0.8570	747.96	483.18	0.9622	0.9405	1.0167	1.1750	-0.1447	-1195.25	-1920.53	-1532.37
24	760.00	111.1	0.8790	0.9020	737.78	476.15	0.9620	0.9403	1.0131	1.2086	-0.1765	-1199.09	-1927.23	-1537.52
25	760.00	110.9	0.9160	0.9300	733.74	473.36	0.9619	0.9403	1.0078	1.2508	-0.2161	-1200.64	-1929.92	-1539.59
26	760.00	110.9	0.9150	0.9290	733.74	473.36	0.9619	0.9403	1.0078	1.2538	-0.2184	-1200.64	-1929.92	-1539.59

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 594.00 P = 40.00 V = 331.10 CMCA = 0.241 DMFGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 568.80 P = 24.50 V = 493.10 CMCA = 0.394 DMFGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69533E 01 B = 0.13439E 04 C = 0.21938E 03  
 2 A = 0.69238E 01 B = 0.13551E 04 C = 0.20952E 03

MOLEAR VOLUME EQUATION COEFFICIENTS

1 A = 0.98864E 02 B = -.55774E-01 C = 0.27703E-03  
 2 A = 0.14244E 03 B = -.49197E-01 C = 0.40167E-03

VAPOR PRESSURE AT NBP

P = 759.4 AT T = 110.6  
 P = 760.C AT T = 125.7

COMPONENT ID ECHO CHECK

ID NUMBER = 33  
 ID NUMBER = 41

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.15884E 00 B = -.55912E-01 C = -.37950E 00  
 STANDARD DEVIATION = 0.14924E-01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.1721 G2INF = 1.3186  
 T1INF = 125.66 T2INF = 110.63

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0580  
 AREA BELOW THE X-AXIS IS 0.6537  
 CROSS-OVER POINT IS X = 0.58  
 NORMALIZED AREA DIFFERENCE IS -0.0392  
 HERINGTON J-FACTOR IS 5.88  
 CONSISTENCY INDEX IS -1.96

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION
1	111.42	134.64	0.1819F-11
2	124.60	149.01	0.2285E-03
3	117.75	146.33	0.5676E-02
4	111.92	155.96	0.4437F-02
5	107.13	176.99	0.6987F-03
6	85.64	205.25	0.4517F-03
7	79.52	223.23	0.7156E-03
8	131.07	140.83	0.2109F-03
9	131.08	140.79	0.2100F-03
10	119.02	143.70	0.1840F-01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

	PRESSURE	COMPOSITION
1	5.85	0.00257
2	1.66	0.00252
3	2.85	0.00225
4	2.82	0.00223
5	1.61	0.00243
6	2.17	0.00224
7	1.77	0.00237
8	1.68	0.00262
9	1.68	0.00262
10	2.93	0.00225

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	172.7	0.0435	0.3410	2565.48	578.38	0.9725	0.9837	1.9469	0.8881	0.7849	-841.95	-553.15	-887.72
2	760.00	159.4	0.0872	0.5120	2297.53	387.49	0.9718	0.9802	1.8807	1.0250	0.6070	-903.42	-594.85	-954.32
3	760.00	153.8	0.1186	0.6210	2049.75	324.34	0.9717	0.9778	1.8797	0.9824	0.6488	-931.39	-614.85	-984.83
4	760.00	149.4	0.1248	0.6250	1868.39	280.89	0.9707	0.9769	1.9703	1.1293	0.5566	-954.32	-631.73	-1009.95
5	760.00	142.2	0.2190	0.7850	1596.29	220.19	0.9702	0.9724	1.6498	0.9213	0.5826	-993.81	-661.81	-1053.42
6	760.00	133.8	0.2750	0.8070	1315.86	163.54	0.9682	0.9698	1.6350	1.1962	0.3125	-1043.27	-701.30	-1108.26
7	760.00	128.3	0.4080	0.8725	1152.74	133.49	0.9670	0.9666	1.3584	1.1817	0.1393	-1077.84	-730.09	-1146.86
8	760.00	126.7	0.4800	0.8901	1108.20	125.68	0.9666	0.9656	1.2248	1.2305	-0.0047	-1088.25	-738.95	-1158.52
9	760.00	122.2	0.5898	0.9159	989.72	105.72	0.9654	0.9634	1.1470	1.4158	-0.2106	-1118.43	-765.13	-1192.46
10	760.00	120.2	0.6349	0.9280	940.18	97.74	0.9648	0.9624	1.1359	1.4709	-0.2585	-1132.28	-777.40	-1208.10
11	760.00	120.0	0.6512	0.9260	935.33	96.97	0.9648	0.9624	1.1106	1.5954	-0.3622	-1133.68	-778.65	-1209.68
12	760.00	119.7	0.7400	0.9463	928.09	95.83	0.9647	0.9617	1.0065	1.5705	-0.4450	-1135.79	-780.53	-1212.07
13	760.00	119.4	0.7730	0.9536	920.89	94.70	0.9646	0.9613	0.9784	1.5724	-0.4744	-1137.91	-782.42	-1214.46
14	760.00	115.6	0.8012	0.9545	833.27	81.30	0.9634	0.9599	1.0429	2.0475	-0.6746	-1165.26	-807.22	-1245.47
15	760.00	112.7	0.8840	0.9750	770.74	72.19	0.9625	0.9581	1.0429	2.1672	-0.7315	-1186.88	-827.25	-1270.08
16	760.00	112.2	0.9108	0.9796	760.32	70.71	0.9623	0.9577	1.0307	2.3470	-0.8229	-1190.67	-830.80	-1274.41
17	760.00	113.3	0.9394	0.9861	783.37	74.00	0.9627	0.9579	0.9767	2.2498	-0.8344	-1182.35	-823.02	-1264.92
18	760.00	111.1	0.9770	0.9948	737.78	67.55	0.9619	0.9567	1.0052	2.4265	-0.8813	-1199.09	-838.73	-1284.03
19	760.00	111.1	0.9910	0.9980	737.78	67.55	0.9620	0.9566	0.9942	2.3848	-0.8749	-1199.09	-838.73	-1284.03
20	760.00	110.5	0.9939	0.9986	725.71	65.87	0.9617	0.9564	1.0082	2.5249	-0.9181	-1203.73	-843.12	-1289.33
21	760.00	110.5	0.9973	0.9993	725.71	65.87	0.9617	0.9563	1.0054	2.8523	-1.0427	-1203.73	-843.12	-1289.33

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 594.00 P = 40.00 V = 331.10 OMEGA = 0.241 OMEGAH = 0.0 DIPOLF = 0.0 ETA = 0.0  
 2 T = 692.20 P = 60.50 V = 229.50 OMEGA = 0.449 OMEGAH = 0.241 DIPOLF = 1.45 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69533E 01 B = 0.13439E 04 C = 0.21938E 03  
 2 A = 0.75789E 01 B = 0.18176E 04 C = 0.20500E 03

MOLECULAR VOLUME EQUATION COEFFICIENTS

1 A = 0.98864E 02 B = -0.55774E 01 C = 0.27703E 03  
 2 A = 0.80964E 02 B = -0.20853E 01 C = 0.14800E 03

VAPOR PRESSURE AT NBP

P = 759.4 AT T = 110.6  
 P = 763.2 AT T = 181.9

COMPONENT ID CHECK

ID NUMBER = 33  
 ID NUMBER = 32

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.82498E 00 B = -0.16710E 01 C = -0.11157E 00  
 STANDARD DEVIATION = 0.57729E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.2818 G2INF = 2.6053  
 T1INF = 181.75 T2INF = 110.63

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.1994  
 AREA BELOW THE X-AXIS IS -0.2471  
 CROSS-OVER POINT IS X = 0.48  
 NORMALIZED AREA DIFFERENCE IS -0.1068  
 HERINGTON J-FACTOR IS 27.86  
 CONSISTENCY INDEX IS -17.18



SUMMARY OF WILSON PARAMETERS

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	216.27	596.79	0.1182E-10	23.53	0.00495
2	317.88	495.70	0.5595E-01	24.17	0.00471
3	156.82	644.35	0.3754E 00	22.73	0.00529
4	170.37	627.77	0.1417E 00	22.58	0.00523
5	199.04	563.23	0.3695E-01	21.89	0.00525
6	234.70	532.98	0.2533E-02	22.34	0.00506
7	261.60	509.46	0.2678E-01	22.71	0.00493
8	192.21	567.37	0.3436E-01	21.76	0.00530
9	190.79	569.46	0.3435E-01	21.76	0.00530
10	120.45	669.78	0.2979E-01	21.97	0.00552

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PH11	PH12	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	112.6	0.9080	0.2470	203.31	2224.35	0.9466	0.9700	0.9591	2.6996	-1.0349	-1920.88	-974.88	-1246.97
2	760.00	99.3	0.8370	0.1460	128.47	1642.59	0.9416	0.9656	0.9680	2.3294	-0.8782	-2138.36	-1061.38	-1361.71
3	760.00	88.7	0.7130	0.0890	86.43	1261.02	0.9367	0.9618	1.0242	1.8309	-0.5810	-2343.67	-1138.96	-1466.24
4	760.00	82.6	0.5530	0.0620	67.88	1072.41	0.9334	0.9594	1.1672	1.4197	-0.1959	-2477.72	-1187.67	-1532.69
5	760.00	79.7	0.4270	0.0520	60.30	990.27	0.9317	0.9582	1.4246	1.2106	0.1628	-2546.15	-1211.98	-1566.11
6	760.00	76.4	0.3390	0.0420	52.53	902.47	0.9297	0.9568	1.7051	1.1464	0.3971	-2628.08	-1240.62	-1605.68
7	760.00	76.3	0.3080	0.0400	52.31	899.90	0.9297	0.9567	1.7473	1.1154	0.4489	-2630.63	-1241.51	-1606.90
8	760.00	73.8	0.2030	0.0330	47.92	837.41	0.9280	0.9556	2.4291	1.0470	0.8416	-2695.88	-1263.96	-1638.08
9	760.00	73.4	0.2020	0.0320	46.21	827.72	0.9278	0.9554	2.4076	1.0588	0.8215	-2706.58	-1267.61	-1643.17
10	760.00	70.7	0.1050	0.0200	41.08	764.45	0.9261	0.9542	3.2509	1.0335	1.1459	-2780.75	-1292.72	-1678.23

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1	T = 632.10	P = 38.10	V = 347.60	OMEGA = 0.446	OMEGA H = 0.275	DIPOLE = 0.0	ETA = 0.0
2	T = 507.90	P = 29.90	V = 372.40	OMEGA = 0.298	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69872E 01	B = 0.15023E 04	C = 0.20900E 03	P = 760.0 AT T = 156.8
2	A = 0.68778E 01	B = 0.11715E 04	C = 0.22437E 03	P = 759.0 AT T = 68.7

## MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.10272E 03	B = -.66397E-01	C = 0.26726E-03	COMPONENT ID CHECK
2	A = 0.12596E 03	B = -.14456E 00	C = 0.54720E-03	ID NUMBER = 39
				ID NUMBER = 18

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.15036E 01	B = -.35541E 01	C = 0.84834E 00
STANDARD DEVIATION = 0.23730E-01		

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 4.4979	G2INF = 3.3272
T1INF = 68.74	T2INF = 156.85

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.3436
AREA BELOW THE X-AXIS IS	-0.3342
CROSS-OVER POINT IS X =	0.48
NORMALIZED AREA DIFFERENCE IS	0.0138
HERINGTON J-FACTOR IS	18.28
CONSISTENCY INDEX IS	-16.90

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	814.89	0.6776E-09
2	1607.10	0.4948E-03
3	1003.97	0.9218E-01
4	937.82	0.4638E-01
5	585.43	0.2224E-02
6	963.84	0.8668E-05
7	588.23	0.1645E-02
8	583.97	0.1328E-02
9	583.97	0.1324E-02
10	958.11	0.1265E-01

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
32.02	0.00163
65.38	0.01649
33.99	0.00283
27.38	0.00366
6.79	0.00529
45.95	0.00054
7.87	0.00495
6.82	0.00544
6.82	0.00544
31.52	0.00273

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	750.00	117.1	0.9030	0.2690	235.38	2784.40	0.9491	0.9743	0.9096	1.9548	-0.7853	-1855.62	-852.87	-1146.99
2	750.00	101.1	0.8320	0.1600	137.03	1970.71	0.9432	0.9697	1.0022	1.8611	-0.6189	-2106.54	-942.76	-1272.45
3	750.00	90.3	0.7260	0.0970	91.93	1522.41	0.9387	0.9662	1.0329	1.5822	-0.4264	-2310.56	-1011.76	-1370.44
4	750.00	83.6	0.6220	0.0670	70.67	1283.07	0.9354	0.9639	1.0794	1.4027	-0.2620	-2454.85	-1058.55	-1437.77
5	750.00	81.3	0.5710	0.0580	64.39	1207.44	0.9342	0.9631	1.1157	1.3248	-0.1718	-2508.00	-1075.39	-1462.19
6	750.00	77.4	0.4820	0.0470	54.79	1086.59	0.9319	0.9616	1.2555	1.2316	0.0192	-2602.78	-1104.94	-1505.26
7	750.00	77.2	0.4730	0.0450	54.33	1080.64	0.9318	0.9615	1.2352	1.2197	0.0127	-2607.80	-1106.49	-1507.53
8	750.00	75.6	0.4220	0.0390	50.78	1033.86	0.9309	0.9609	1.2826	1.1689	0.0928	-2648.63	-1119.01	-1525.88
9	750.00	72.8	0.3210	0.0310	45.03	955.56	0.9292	0.9598	1.5086	1.0842	0.3303	-2722.77	-1141.48	-1558.94
10	750.00	68.4	0.1700	0.0170	37.09	841.41	0.9264	0.9579	1.8907	1.0199	0.6172	-2846.73	-1178.27	-1613.46
11	750.00	67.7	0.1570	0.0160	35.94	824.23	0.9258	0.9576	1.9872	1.0258	0.6612	-2867.35	-1184.30	-1622.44
12	750.00	66.1	0.0840	0.0090	33.43	785.51	0.9249	0.9569	2.2438	0.9964	0.8118	-2915.46	-1198.28	-1643.30

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 632.10 P = 38.10 V = 347.60 OMEGA = 0.446 OMEGAH = 0.275 DIPOLE = 0.0 ETA = 0.0  
 2 T = 564.60 P = 32.10 V = 350.70 OMEGA = 0.285 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = -0.69872E 01 B = 0.15023E 04 C = 0.20900E 03  
 2 A = 0.68657E 01 B = 0.11530E 04 C = 0.22600E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.10272E 03 B = -0.66397E-01 C = 0.26726E-03  
 2 A = 0.20978E 03 B = -0.71344E 00 C = 0.14350E-02

VAPOR PRESSURE AT NBP

P = 760.0 AT T = 156.8  
 P = 763.6 AT T = 63.5

COMPONENT ID CHECK

ID NUMBER = 39  
 ID NUMBER = 38

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.98649E 00 B = -0.21557E 01 C = 0.24439E 00  
 STANDARD DEVIATION = 0.17946E-01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.6818 G2INF = 2.5215  
 T1INF = 63.33 T2INF = 156.85

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2342  
 AREA BELOW THE X-AXIS IS -0.2441  
 CROSS-OVER POINT IS X = 0.48  
 NORMALIZED AREA DIFFERENCE IS -0.0207  
 HERINGTON J-FACTOR IS 22.55  
 CONSISTENCY INDEX IS -20.48

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION
1	428.69	376.49	0.9095E-12
2	806.15	162.24	0.6844E-02
3	565.49	162.26	C.3005F-C1
4	603.52	118.05	0.2347E-01
5	448.63	269.14	C.2778F-C2
6	580.75	266.92	0.8154E-04
7	437.52	295.07	0.1755E-02
8	458.25	252.21	0.1556E-02
9	458.25	252.21	0.1556E-02
10	546.36	182.93	0.8694E-02

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
17.48	0.00220
22.02	0.00708
11.47	0.00338
11.67	0.00371
6.10	0.00391
34.52	0.00162
6.70	0.00361
6.28	0.00406
6.28	0.00406
10.99	0.00379

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PH11	PH12	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	75.0	0.0730	0.1870	320.51	610.81	0.9706	0.9470	2.2951	1.0277	0.8034	-604.26	-1499.08	-1234.50
2	760.00	79.8	0.1880	0.3810	708.70	537.23	0.9730	0.9433	2.1074	1.0116	0.7339	-621.48	-1546.28	-1273.07
3	760.00	67.7	0.4210	0.5130	634.47	487.37	0.9742	0.9399	1.4170	1.2258	0.1449	-635.00	-1582.70	-1302.84
4	760.00	67.4	0.4700	0.5410	627.64	482.74	0.9744	0.9393	1.3535	1.2735	0.0609	-636.35	-1586.30	-1305.78
5	760.00	67.2	0.6060	0.6060	623.12	475.67	0.9751	0.9382	1.1853	1.4782	-0.2208	-637.25	-1588.71	-1307.75
6	760.00	67.4	0.7090	0.6620	626.96	482.28	0.9757	0.9374	1.1006	1.7062	-0.4384	-636.48	-1586.66	-1306.08
7	760.00	68.9	0.9790	0.7920	662.41	506.24	0.9770	0.9360	1.0065	2.4021	-0.8658	-629.68	-1568.43	-1291.18
8	760.00	71.9	0.9650	0.9220	713.73	540.58	0.9779	0.9348	0.9915	2.9125	-1.0775	-620.63	-1543.97	-1271.19

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 525.20 P = 41.40 V = 265.70 CMEGA = 0.0 CMEGAH = 0.278 DIPOLE = 1.35 ETA = 0.0  
 2 T = 520.30 P = 27.40 V = 420.00 CMEGA = 0.306 CMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.87421E 01 B = -0.18508E 04 C = 0.27315E 03  
 2 A = 0.68262E 01 B = 0.11920E 04 C = 0.22163E 03  
 P = 777.5 AT T = 72.7  
 P = 760.0 AT T = 80.5

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.12340E 03 B = -.32214E 00 C = 0.71150E 03  
 2 A = 0.74588E 02 B = 0.32866E 00 C = -.25601E 03  
 COMPONENT ID ECHO CHECK  
 ID NUMBER = 49  
 ID NUMBER = 50

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.98242E 00 B = -.17214E 01 C = -.43215E 00  
 STANDARD DEVIATION = 0.50407E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.6709 G2INF = 3.2255  
 T1INF = 80.50 T2INF = 72.06

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2581  
 AREA BELOW THE X-AXIS IS -0.2804  
 CROSS-OVER POINT IS X = 0.51  
 NORMALIZED AREA DIFFERENCE IS -0.0414  
 HERINGTON J-FACTOR IS 5.86  
 CONSISTENCY INDEX IS -1.72

SUMMARY OF WILSON PARAMETERS

MODEL NO. PARAMETER VALUES OBJECTIVE FUNCTION

1	641.18	222.19	0.5822E-C8
2	760.86	98.71	0.4884E-03
3	646.34	273.74	0.3229E-01
4	664.81	206.19	0.9391E-02
5	737.40	130.40	0.1380E-02
6	726.77	157.26	0.1269E-02
7	749.36	120.37	0.1458E-02
8	762.56	100.33	0.3878E-04
9	762.85	100.08	0.3884E-04
10	638.38	230.52	0.8864E-02

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	641.18	222.19	4.92	0.00894
2	760.86	98.71	1.33	0.00668
3	646.34	273.74	4.71	0.00866
4	664.81	206.19	4.01	0.00819
5	737.40	130.40	1.68	0.00678
6	726.77	157.26	3.91	0.00667
7	749.36	120.37	1.66	0.00664
8	762.56	100.33	1.08	0.00668
9	762.85	100.08	1.09	0.00668
10	638.38	230.52	5.01	0.00888

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	125.00	64.3	0.0390	0.0710	180.37	109.55	0.9973	0.9964	1.2581	1.0987	0.1355	-639.99	-605.88	-513.56
2	125.00	61.5	0.1070	0.1700	159.51	97.35	0.9970	0.9963	1.2412	1.1886	0.0433	-650.99	-621.41	-524.72
3	125.00	59.8	0.2140	0.2930	147.53	90.32	0.9967	0.9963	1.1758	1.2310	-0.0459	-657.98	-631.53	-531.91
4	125.00	58.6	0.3560	0.4470	139.42	85.54	0.9964	0.9964	1.1216	1.2458	-0.1082	-663.04	-639.00	-537.18
5	125.00	58.1	0.4570	0.5380	136.14	83.61	0.9963	0.9965	1.0768	1.2672	-0.1628	-665.18	-642.17	-539.41
6	125.00	57.6	0.6010	0.6620	132.86	81.67	0.9961	0.9967	1.0322	1.2918	-0.2243	-667.36	-645.44	-541.70
7	125.00	57.3	0.7130	0.7560	131.00	80.57	0.9960	0.9969	1.0076	1.3144	-0.2658	-668.62	-647.35	-543.03
8	125.00	56.9	0.8220	0.8540	128.80	79.27	0.9960	0.9971	1.0041	1.2892	-0.2499	-670.14	-646.64	-544.63
9	125.00	56.7	0.9020	0.9250	127.35	78.41	0.9959	0.9972	1.0024	1.2162	-0.1934	-671.15	-651.18	-545.70
10	125.00	56.6	0.9480	0.9630	126.69	78.02	0.9959	0.9973	0.9981	1.1366	-0.1299	-671.62	-651.89	-546.19

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 647.40	P = *****	V = 55.20	OMEGA = 0.344	OMEGA H = 0.010	DIPOLE = 1.85	ETA = 0.0
2	T = 594.80	P = 57.10	V = 171.30	OMEGA = 0.444	OMEGA H = 0.187	DIPOLE = 1.75	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.79668E 01	B = -0.16682E 04	C = 0.22800E 03	VAPOR PRESSURE AT NBP
2	A = 0.71881E 01	B = 0.14167E 04	C = 0.21100E 03	P = 760.0 AT T = 100.0

MOLECULAR VOLUME EQUATION COEFFICIENTS

1	A = 0.22887E 02	B = -0.36416E 01	C = 0.68556E 04	COMPONENT ID ECHO CHECK
2	A = 0.58702E 02	B = -0.61178E 01	C = 0.19158E 03	ID NUMBER = 34
				ID NUMBER = 1

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.17905E 00	B = -0.12056E 01	C = 0.88387E 00
STANDARD DEVIATION = 0.28924E 01		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1 INF = 1.1961	G2 INF = 1.1534
T1 INF = 67.27	T2 INF = 56.20

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.0145
AREA BELOW THE X-AXIS IS	-0.1436
CROSS-OVER POINT IS X =	0.17
NORMALIZED AREA DIFFERENCE IS	-0.8170
HERRINGTON J-FACTOR IS	5.04
CONSISTENCY INDEX IS	76.66

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	977.59 -854.18	0.1819F-11
2	10706.72 -1211.00	0.9871F-03
3	1157.45 -908.95	0.2544E 00
4	1178.81 -926.56	0.1655F 00
5	2044.30 -1155.10	0.3625F-C1
6	2081.13 -1325.00	0.9251F-C2
7	10031.06 -1342.42	0.3127F-01
8	2112.87 -1092.06	0.1241E-02
9	2113.20 -1092.16	0.1241E-02
10	1015.92 -818.23	0.4739F 00

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
5.19	0.02194
2.75	0.03462
7.01	0.02379
7.13	0.02352
3.12	0.02499
9.33	0.01917
5.11	0.02080
1.33	0.03322
1.33	0.03321
7.35	0.02385

WATER(1) ACETIC ACID(2)

SYSTEM-13CB

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	250.00	80.4	0.0460	0.0830	357.80	210.98	0.9953	0.9940	1.2545	1.1314	0.1033	-578.79	-528.05	-454.89
2	250.00	75.9	0.1650	0.2550	297.21	176.71	0.9945	0.9939	1.2925	1.2536	0.0305	-595.36	-547.77	-470.23
3	250.00	75.1	0.2080	0.3070	288.23	171.61	0.9942	0.9939	1.2725	1.2660	0.0051	-598.10	-551.12	-472.80
4	250.00	73.8	0.3420	0.4460	272.33	162.54	0.9938	0.9940	1.1894	1.2863	-0.0783	-603.17	-557.39	-477.60
5	250.00	73.1	0.4500	0.5500	264.77	158.23	0.9935	0.9942	1.1462	1.2844	-0.1138	-605.69	-560.54	-479.99
6	250.00	72.5	0.6100	0.6820	259.37	154.56	0.9932	0.9946	1.0742	1.3108	-0.1990	-607.87	-563.29	-482.07
7	250.00	72.3	0.7080	0.7610	256.41	153.44	0.9931	0.9948	1.0405	1.3257	-0.2423	-608.55	-564.16	-482.72
8	250.00	71.9	0.8390	0.8750	251.46	150.61	0.9929	0.9953	1.0293	1.2818	-0.2194	-610.29	-566.37	-484.39
9	250.00	71.6	0.9570	0.9380	248.91	149.14	0.9929	0.9955	0.9772	2.4044	-0.9003	-611.21	-567.53	-485.27

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 647.40 P = \*\*\*\*\* V = 55.20 OMEGA = 0.344 OMEGAH = 0.010 DIPOLF = 1.85 ETA = 0.0  
 2 T = 594.80 P = 57.10 V = 171.30 OMEGA = 0.444 OMEGAH = 0.187 DIPCLE = 1.75 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.79668E 01 B = 0.16682E 04 C = 0.22800E 03 P = 760.C AT T = 100.0  
 2 A = 0.71881E 01 B = 0.14167E 04 C = 0.21100E 03 P = 764.4 AT T = 118.1

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.22887E 02 B = -0.36416E -01 C = 0.68556E -04 COMPONENT ID ECHO CHECK  
 2 A = 0.58702E 02 B = -0.61178E -01 C = 0.19158E -03 ID NUMBER = 34  
 ID NUMBER = 1

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.70554E -02 B = -0.39862E 00 C = -0.11790E 01  
 STANDARD DEVIATION = 0.15180E 00

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.0071 G2INF = 2.1670  
 T1INF = 84.75 T2INF = 71.56

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0100  
 AREA BELOW THE X-AXIS IS -0.1967  
 CROSS-OVER POINT IS X = 0.35  
 NORMALIZED AREA DIFFERENCE IS -0.9029  
 HERINGTON J-FACTOR IS 5.74  
 CONSISTENCY INDEX IS 84.55

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	229.83 633.89	0.9095E -12
2	9568.44 -1184.88	0.1462E -02
3	9406.73 -1534.62	0.3283E 01
4	449.94 375.13	0.2582E 00
5	2076.55 -1132.63	0.5138E -01
6	2004.16 -1347.45	0.8006E -02
7	2773.88 -1291.43	0.4907E -01
8	2035.86 -1017.12	0.1094E -02
9	2037.37 -1017.41	0.1094E -02
10	405.53 505.84	0.2337E 00

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
26.56	0.02846
5.88	0.04913
26.73	0.02862
17.29	0.03866
8.31	0.03362
27.10	0.01893
11.93	0.02682
2.48	0.04800
2.48	0.04801
18.30	0.03768

\*\*DIAGNOSTIC\*\*

1 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
 SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	500.00	99.5	0.0500	0.0910	735.02	418.81	0.9921	0.9901	1.2278	1.1295	0.0834	-514.46	-460.10	-398.75
2	500.00	92.5	0.2280	0.3480	570.51	329.12	0.9899	0.9899	1.3237	1.2684	0.0427	-537.11	-482.56	-417.93
3	500.00	91.4	0.3160	0.4540	547.49	316.47	0.9893	0.9901	1.2975	1.2471	0.0397	-540.80	-486.35	-421.11
4	500.00	90.7	0.4070	0.5500	531.57	308.80	0.9889	0.9905	1.2517	1.2153	0.0295	-543.10	-488.74	-423.10
5	500.00	89.9	0.5180	0.6540	517.80	300.10	0.9884	0.9909	1.2046	1.1835	0.0176	-545.78	-491.55	-425.43
6	500.00	89.5	0.6340	0.7400	509.86	295.72	0.9882	0.9914	1.1306	1.1891	-0.0504	-547.16	-493.01	-426.63
7	500.00	89.2	0.7490	0.8220	503.55	292.23	0.9880	0.9919	1.0762	1.2019	-0.1104	-548.27	-494.19	-427.61
8	500.00	89.0	0.8660	0.9080	499.38	289.93	0.9879	0.9925	1.0367	1.1735	-0.1240	-549.01	-494.98	-428.26
9	500.00	88.8	0.9550	0.9700	496.55	288.36	0.9878	0.9929	1.0099	1.1462	-0.1266	-549.52	-495.52	-428.70

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 647.40 P = \*\*\*\*\* V = 55.20 CMFGA = 0.344 CMFGAH = 0.010 DIPOLE = 1.85 ETA = 0.0  
 2 T = 594.80 P = 57.10 V = 171.30 CMFGA = 0.444 CMFGAH = 0.187 DIPCLE = 1.75 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.79668E 01 B = 0.16682E 04 C = 0.22800E 03  
 2 A = 0.71891E 01 B = 0.14167E 04 C = 0.21100E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.22887E 02 B = -.36416E-01 C = 0.66556E-04  
 2 A = 0.58702E 02 B = -.61178E-01 C = 0.19158E-03

VAPOR PRESSURE AT NBP  
 P = 760.0 AT T = 100.0  
 P = 764.4 AT T = 118.1  
 COMPONENT ID ECHO CHECK  
 IC NUMBER = 34  
 ID NUMBER = 1

MIXTURE PROPERTIES

ACTIVITY RATIO SOLUTION COEFFICIENTS

A = 0.91829E-01 B = -.13384E 00 C = -.12231E 00  
 STANDARD DEVIATION = 0.21529E-01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.0962 G2INF = 1.1786  
 T1INF = 104.55 T2INF = 88.68

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0242  
 AREA BELOW THE X-AXIS IS -0.0400  
 CROSS-OVER POINT IS X = 0.48  
 NORMALIZED AREA DIFFERENCE IS -0.2472  
 HERINGTON J-FACTOR IS 6.60  
 CONSISTENCY INDEX IS 18.12

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	691.99 -553.04	0.0
2	7539.20 -1256.09	0.1026E-02
3	1169.58 -912.23	0.2892E 00
4	1186.45 -930.40	0.1926E 00
5	1504.59 -891.04	0.4186E-01
6	767.29 -662.52	0.2481E-03
7	1243.89 -744.14	0.4183E-01
8	1904.43 -971.54	0.1189E-02
9	1904.49 -971.57	0.1189E-02
10	1183.61 -923.40	0.7943E 00

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
56.40	0.00313
14.89	0.05564
43.04	0.01175
43.65	0.01125
14.21	0.03546
57.42	0.00291
17.90	0.03244
5.10	0.04735
5.10	0.04735
43.11	0.01170

\*\*DIAGNOSTIC\*\*

1 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION

SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE



## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1C1	F2C1	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	117.5	0.0045	0.0115	1338.13	739.64	0.9906	0.9871	1.4369	1.0052	0.3574	-460.73	-412.64	-355.57
2	750.00	103.0	0.3285	0.4760	829.18	469.64	0.9852	0.9867	1.3077	1.2435	0.0504	-503.67	-449.94	-389.83
3	750.00	101.6	0.4740	0.6240	789.85	448.45	0.9843	0.9875	1.2460	1.1938	0.0428	-508.02	-454.00	-393.41
4	760.00	101.2	0.5575	0.6850	778.90	442.54	0.9840	0.9879	1.1790	1.2052	-0.0220	-509.27	-455.17	-394.44
5	750.00	100.9	0.6360	0.7450	770.77	438.14	0.9837	0.9883	1.1356	1.1985	-0.0540	-510.21	-456.06	-395.22
6	760.00	100.6	0.7430	0.8170	762.44	433.64	0.9835	0.9889	1.0774	1.2316	-0.1338	-511.18	-456.98	-396.03
7	750.00	100.4	0.8400	0.8860	756.57	430.47	0.9834	0.9896	1.0413	1.2423	-0.1765	-511.87	-457.64	-396.60
8	760.00	100.1	0.9540	0.9680	749.95	426.89	0.9833	0.9965	1.0105	1.2242	-0.1919	-512.66	-458.38	-397.25

## PUFF COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 647.40 P = \*\*\*\*\* V = 55.20 OMEGA = 0.344 OMEGAH = 0.010 DIPOLE = 1.85 ETA = 0.0  
 2 T = 594.80 P = 57.10 V = 171.30 OMEGA = 0.444 OMEGAH = 0.187 DIPOLF = 1.75 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.79669E-01 B = 0.16682E-04 C = 0.22800E-03 P = 760.0 AT T = 100.0  
 2 A = 0.71831E-01 B = 0.14167E-04 C = 0.21100E-03 P = 764.4 AT T = 118.1

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.22887E-02 B = -0.36416E-01 C = 0.68556E-04 COMPONENT ID CHECK  
 2 A = -0.58702E-02 B = -0.61178E-01 C = 0.19158E-03 ID NUMBER = 34  
 ID NUMBER = 1

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.35055E-00 B = -0.85455E-00 C = 0.29399E-00  
 STANDARD DEVIATION = 0.30702E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.4199 G2INF = 1.2337  
 T1INF = 117.91 T2INF = 100.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0807  
 AREA BELOW THE X-AXIS IS -0.0594  
 CROSS-OVER POINT IS X = 0.49  
 NORMALIZED AREA DIFFERENCE IS 0.1518  
 HERINGTON J-FACTOR IS 7.20  
 CONSISTENCY INDEX IS 7.98

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES			OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)	
	PARAMETER	VALUE	UNIT		PRESSURE	COMPOSITION
1	1383.41	-1094.44		0.9095E-12	57.68	0.00447
2	4312.33	-1285.02		0.2309E-03	29.47	0.05665
3	1227.50	-918.71		0.1429E-00	45.82	0.00800
4	1246.89	-931.88		0.9507E-01	45.73	0.00818
5	1231.83	-669.54		0.1454E-01	12.43	0.02168
6	875.30	-702.29		0.2274E-03	60.11	0.00292
7	914.49	-338.42		0.1059E-01	15.76	0.01859
8	2126.87	-1042.27		0.6763E-03	6.24	0.03479
9	2123.86	-1041.34		0.6757E-03	6.24	0.03477
10	1255.72	-942.92		0.3655E-00	46.48	0.00795

\*\*DIAGNOSTIC\*\*

2 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
 SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

WATER(1) ACETIC ACID(2)

SYSTEM 130F

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	115.4	0.0500	0.0920	1251.88	694.35	0.9896	0.9869	1.1048	1.0304	0.0697	-466.72	-417.55	-360.24
2	750.00	113.9	0.1000	0.1670	1189.20	661.34	0.9888	0.9869	1.0546	1.0476	0.0067	-471.33	-421.40	-363.85
3	760.00	110.1	0.2000	0.3020	1053.92	589.74	0.9873	0.9868	1.0744	1.1073	-0.0302	-482.17	-430.65	-372.44
4	760.00	107.5	0.3000	0.4250	966.53	543.22	0.9861	0.9870	1.0978	1.1320	-0.0306	-489.54	-437.47	-378.66
5	760.00	105.8	0.4000	0.5300	912.62	514.41	0.9853	0.9873	1.0865	1.1403	-0.0483	-495.08	-442.08	-382.82
6	760.00	104.4	0.5000	0.6260	870.69	491.62	0.9847	0.9878	1.0762	1.1399	-0.0576	-499.36	-445.57	-386.30
7	760.00	103.2	0.6000	0.7160	834.93	472.73	0.9842	0.9883	1.0684	1.1259	-0.0524	-503.05	-449.36	-389.32
8	760.00	102.1	0.7000	0.7950	803.72	455.52	0.9838	0.9889	1.0559	1.1241	-0.0626	-506.46	-452.54	-392.13
9	760.00	101.3	0.8000	0.8640	781.62	444.01	0.9835	0.9895	1.0322	1.1493	-0.1075	-508.96	-454.88	-394.19
10	760.00	100.6	0.9000	0.9300	762.70	433.79	0.9834	0.9901	1.0119	1.2118	-0.1802	-511.15	-456.95	-396.00
11	760.00	100.3	0.9500	0.9630	754.71	429.46	0.9833	0.9904	1.0031	1.2944	-0.2549	-512.09	-457.85	-396.78

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 647.40 P = \*\*\*\*\* V = 55.20 OMEGA = 0.344 OMEGAH = 0.010 DIPOLE = 1.85 ETA = 0.0  
 2 T = 594.80 P = 57.10 V = 171.30 OMEGA = 0.444 OMEGAH = 0.187 DIPOLE = 1.75 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.79668E 01 B = 0.16682E 04 C = 0.22800E 03 P = 760.0 AT T = 100.0  
 2 A = 0.71881E 01 B = 0.14167E 04 C = 0.21100E 03 P = 764.4 AT T = 110.1

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.22887E 02 B = -0.36416E 01 C = 0.68556E 04 COMPONENT ID CHECK  
 2 A = 0.58702E 02 B = -0.61178E 01 C = 0.19158E 03 ID NUMBER = 34  
 ID NUMBER = 1

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.20221E 01 B = -0.19018E 01 C = -0.23058E 00  
 STANDARD DEVIATION = 0.37693E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.0204 G2INF = 1.2578  
 T1INF = 117.91 T2INF = 100.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0033  
 AREA BELOW THE X-AXIS IS -0.0654  
 CROSS-OVER POINT IS X = 0.26  
 NORMALIZED AREA DIFFERENCE IS -0.9102  
 HERINGTON J-FACTOR IS 7.20  
 CONSISTENCY INDEX IS 83.82

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	446.11	-112.43	0.8185E-11	36.12	0.01099
2	1843.77	-1217.62	0.2379E-03	12.01	0.02709
3	624.02	-351.75	0.6997E-01	23.30	0.01277
4	612.80	-334.65	0.5603E-01	23.63	0.01269
5	1022.49	-791.66	0.1515E-01	11.49	0.01777
6	825.09	-810.54	0.1960E-02	46.74	0.00874
7	1180.97	-956.47	0.1459E-01	15.73	0.01576
8	1044.76	-741.22	0.2399E-03	2.51	0.02398
9	1044.76	-741.21	0.2399E-03	2.51	0.02398
10	500.26	-122.74	0.3402E-00	25.22	0.01270

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1DL	F2DL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	117.9	0.0002	0.0003	1355.93	748.97	0.9907	0.9872	0.8325	0.9996	-0.1830	-459.54	-411.67	-354.65
2	750.00	117.9	0.0002	0.0004	1355.51	748.75	0.9907	0.9872	1.1103	0.9998	0.1048	-459.57	-411.69	-354.67
3	760.00	117.6	0.0034	0.0069	1344.04	742.74	0.9906	0.9871	1.1361	1.0045	0.1231	-460.33	-412.31	-355.27
4	750.00	117.5	0.0055	0.0112	1338.54	739.66	0.9906	0.9871	1.1446	1.0062	0.1289	-460.70	-412.61	-355.55
5	750.00	115.0	0.0474	0.0979	1237.15	686.60	0.9895	0.9869	1.2547	1.0324	0.1950	-467.78	-418.43	-361.07
6	750.00	113.8	0.0812	0.1446	1189.59	661.54	0.9890	0.9868	1.1245	1.0534	0.0653	-471.31	-421.37	-363.63
7	750.00	111.5	0.1497	0.2382	1103.92	616.26	0.9879	0.9868	1.0816	1.0881	-0.0060	-478.02	-427.06	-369.13
8	750.00	109.8	0.2198	0.3273	1044.90	584.95	0.9871	0.9868	1.0684	1.1033	-0.0321	-482.95	-431.32	-373.05
9	750.00	108.2	0.2917	0.4071	988.13	554.74	0.9863	0.9870	1.0581	1.1296	-0.0654	-487.56	-435.71	-377.06
10	750.00	107.4	0.3378	0.4573	961.95	540.80	0.9859	0.9871	1.0538	1.1346	-0.0739	-490.36	-437.85	-379.00
11	750.00	105.8	0.4198	0.5496	914.17	515.24	0.9852	0.9875	1.0716	1.1284	-0.0516	-494.93	-441.94	-382.70
12	750.00	104.2	0.5359	0.6591	863.26	487.95	0.9845	0.9880	1.0653	1.1281	-0.0572	-500.06	-446.61	-386.87
13	750.00	102.9	0.6463	0.7524	825.18	467.48	0.9840	0.9896	1.0544	1.1228	-0.0628	-504.10	-450.34	-390.18
14	750.00	101.9	0.7338	0.8217	798.71	453.22	0.9837	0.9891	1.0404	1.1299	-0.0825	-507.02	-453.06	-392.59
15	750.00	101.2	0.8251	0.8793	779.99	443.13	0.9835	0.9896	1.0195	1.1786	-0.1450	-509.14	-455.05	-394.34
16	750.00	100.5	0.9210	0.9429	761.10	432.92	0.9833	0.9902	1.0047	1.2539	-0.2216	-511.34	-457.13	-396.16
17	750.00	100.2	0.9676	0.9761	753.12	428.61	0.9833	0.9906	1.0004	1.2930	-0.2566	-512.28	-458.02	-396.94
18	760.00	100.1	0.9891	0.9921	748.63	426.17	0.9833	0.9907	1.0006	1.2779	-0.2446	-512.82	-458.53	-397.39

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 647.40	P = *****	V = 55.20	OMEGA = 0.344	OMEGA H = 0.010	DIPOLE = 1.85	ETA = 0.0
2	T = 594.00	P = 57.10	V = 171.30	OMEGA = 0.444	OMEGA H = 0.187	DIPOLE = 1.75	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.79668E 01	B = 0.16682E 04	C = 0.22800E 03
2	A = 0.71881E 01	B = 0.14167E 04	C = 0.21100E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.22887E 02	B = -.36416E-01	C = 0.68556E-04
2	A = 0.58792E 02	B = -.61178E-01	C = 0.19158E-03

VAPOR PRESSURE AT NBP

P = 760.0 AT T = 100.0  
P = 764.4 AT T = 118.1

COMPONENT ID CHECK

ID NUMBER = 34  
ID NUMBER = 1

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.59356E-01	B = -.20686E 00	C = -.87052E-01
STANDARD DEVIATION = 0.85270E-01		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.0612	G2INF = 1.2644
T1INF = 117.91	T2INF = 100.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0079  
AREA BELOW THE X-AXIS IS 0.6810  
CROSS-COVER POINT IS X = 0.26  
NORMALIZED AREA DIFFERENCE IS -0.8217  
HERINGTON J-FACTOR IS 7.20  
CONSISTENCY INDEX IS 74.97

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES			OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)	
					PRESSURE	COMPOSITION
1	528.86	-251.01	C.9095E-12	23.12	0.00981	
2	2039.51	-1304.56	0.2448E-03	9.54	0.01964	
3	597.50	-324.79	0.1847E 00	18.44	0.01050	
4	528.46	-210.37	0.1883E 00	20.16	0.01042	
5	1733.29	-1279.51	0.1781E-01	9.83	0.01256	
6	2122.43	-1540.37	0.1861E-02	31.38	0.00541	
7	2164.84	-1437.43	0.1639E-01	12.63	0.01163	
8	1342.48	-1008.59	0.3503E-03	2.48	0.01731	
9	1342.53	-1008.63	0.3499E-03	2.48	0.01731	
10	573.92	-287.89	0.7507E 00	19.06	0.01046	

\*\*DIAGNOSTIC\*\*

1 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
 SEE INTRODUCTION FOR DETAILS CONCERNING DATA-BASE UPDATE

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	42.70	25.0	0.0500	0.1545	23.58	37.20	0.9954	0.9955	5.5911	1.0169	1.7044	-823.37	-1966.55	-989.33
2	45.20	25.0	0.1000	0.2410	23.58	37.20	0.9951	0.9953	4.6146	1.0198	1.5096	-823.37	-1966.55	-989.33
3	47.50	25.0	0.2400	0.3100	23.58	37.20	0.9989	0.9952	2.5984	1.1536	0.8120	-823.37	-1966.55	-989.33
4	47.70	25.0	0.4500	0.3500	23.58	37.20	0.9988	0.9952	1.5710	1.5080	0.0410	-823.37	-1966.55	-989.33
5	45.50	25.0	0.7200	0.4050	23.58	37.20	0.9987	0.9955	1.0837	2.5872	-0.8702	-823.37	-1966.55	-989.33
6	43.90	25.0	0.7790	0.4400	23.58	37.20	0.9987	0.9957	1.0622	2.8608	-0.9908	-823.37	-1966.55	-989.33
7	37.50	25.0	0.8900	0.5600	23.58	37.20	0.9987	0.9965	0.9991	4.0181	-1.3917	-823.37	-1966.55	-989.33
8	30.00	25.0	0.9600	0.7700	23.58	37.20	0.9987	0.9976	1.0189	4.6259	-1.5129	-823.37	-1966.55	-989.33

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 647.40 P = \*\*\*\*\* V = 55.20 OMEGA = 0.344 OMEGAH = 0.010 DIPOLE = 1.85 ETA = 0.0  
 2 T = 585.20 P = 50.70 V = 244.70 OMEGA = 0.288 OMEGAH = 0.0 DIPOLE = 0.0 ETA = -0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.79668E 01 B = 0.16682E 04 C = 0.22800E 03 P = 760.0 AT T = 100.0  
 2 A = 0.74315E 01 B = 0.15547E 04 C = 0.24034E 03 P = 755.4 AT T = 101.1

MOLEAR VOLUME EQUATION COEFFICIENTS

1 A = 0.22887E 02 B = -.36416E-01 C = 0.68556E-04 COMPONENT ID. CHECK  
 2 A = 0.71966E 02 B = -.41898E-02 C = 0.16875E-03 ID NUMBER = 34  
 ID NUMBER = 10

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.19471E 01 R = -.48312E 01 C = 0.12652E 01

STANDARD DEVIATION = 0.36010E-01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 7.0082 G2INF = 5.0475

T1INF = 25.00 T2INF = 25.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.4256

AREA BELCW THE X-AXIS IS -0.4724

CROSS-OVER POINT IS X = 0.46

NORMALIZED AREA DIFFERENCE IS -0.0521

CONSISTENCY INDEX IS 5.21

SUMMARY OF WILSON PARAMETERS

MODEL NO. PARAMETER VALUES OBJECTIVE FUNCTION

1	1728.87	-402.51	0.5275E-10
2	1873.37	-424.94	0.4954E-03
3	1785.79	-350.12	0.2348E 00
4	1810.43	-355.38	0.2260E-01
5	1846.62	-343.62	0.4123E-02
6	1896.46	-363.28	0.3516E-02
7	1889.48	-350.06	0.3504E-02
8	1801.65	-320.27	0.3123E-03
9	1801.58	-320.25	0.3123E-03
10	1788.59	-351.51	0.7053E-02

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE COMPOSITION

1.39	0.02078
0.69	0.01429
0.42	0.01446
0.32	0.01396
0.30	0.01329
0.41	0.01300
0.41	0.01330
0.21	0.01420
0.21	0.01420
0.41	0.01440

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	723.00	135.2	0.9620	0.9540	667.37	323.36	0.9583	0.9572	1.0254	2.5841	-0.9242	-1465.64	-883.19	-1516.78
2	723.00	134.8	0.9460	0.9420	660.36	318.89	0.9582	0.9575	1.0404	2.3256	-0.8044	-1469.37	-885.55	-1520.65
3	723.00	134.6	0.9330	0.9250	656.88	316.68	0.9580	0.9580	1.0412	2.4420	-0.8524	-1471.24	-886.73	-1522.59
4	723.00	134.4	0.9170	0.9110	653.41	314.48	0.9579	0.9585	1.0488	2.3567	-0.8096	-1473.12	-887.92	-1524.54
5	723.00	134.2	0.8990	0.8970	649.95	312.30	0.9578	0.9589	1.0588	2.2580	-0.7573	-1475.00	-889.12	-1526.48
6	723.00	134.4	0.8530	0.8590	653.41	314.48	0.9577	0.9603	1.0666	2.0698	-0.6630	-1473.12	-887.92	-1524.54
7	723.00	134.6	0.7650	0.8000	656.88	316.68	0.9574	0.9623	1.0975	1.8648	-0.5301	-1471.24	-886.73	-1522.59
8	723.00	135.3	0.6860	0.7520	665.14	324.48	0.9572	0.9640	1.1292	1.6920	-0.4044	-1464.71	-882.60	-1515.82
9	723.00	136.2	0.6040	0.7140	685.15	334.75	0.9572	0.9653	1.1892	1.5019	-0.2334	-1456.38	-877.34	-1507.18
10	723.00	136.8	0.5420	0.6840	695.98	341.74	0.9570	0.9663	1.2496	1.4069	-0.1185	-1450.87	-873.88	-1501.47
11	723.00	137.6	0.4730	0.6340	710.63	351.26	0.9567	0.9678	1.2994	1.3799	-0.0601	-1443.58	-869.31	-1493.90
12	723.00	138.8	0.4160	0.6320	723.04	365.96	0.9571	0.9682	1.4284	1.2022	0.1724	-1432.75	-862.56	-1482.68
13	723.00	140.0	0.3450	0.5620	755.97	381.19	0.9565	0.9701	1.4842	1.2272	0.1902	-1422.05	-855.93	-1471.60
14	723.00	141.3	0.2950	0.5260	781.43	398.28	0.9564	0.9712	1.5715	1.1823	0.2846	-1410.61	-848.89	-1459.75
15	723.00	144.8	0.1950	0.4600	853.15	447.56	0.9565	0.9732	1.9046	1.0519	0.5937	-1380.52	-830.58	-1428.61
16	723.00	148.0	0.1250	0.3520	922.93	497.04	0.9555	0.9754	2.0994	1.0481	0.6947	-1353.91	-814.64	-1401.09
17	723.00	149.5	0.0930	0.2890	957.07	521.77	0.9546	0.9764	2.2321	1.0579	0.7466	-1341.72	-807.42	-1388.49
18	723.00	151.5	0.0640	0.2320	1004.02	556.35	0.9540	0.9773	2.4804	1.0394	0.8697	-1325.74	-798.03	-1371.98
19	723.00	153.2	0.0440	0.1640	1045.24	587.24	0.9529	0.9781	2.4470	1.0504	0.8457	-1312.39	-790.27	-1358.20
20	723.00	155.8	0.0220	0.0960	1110.69	637.25	0.9520	0.9788	2.6936	1.0239	0.9673	-1292.38	-778.75	-1337.55

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 616.30 P = 34.60 V = 369.40 OMEGA = 0.324 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 656.00 P = 39.40 V = 375.20 OMEGA = 0.292 OMEGAH = 0.270 DIPOLE = 2.00 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69905E 01 B = 0.14534E 04 C = 0.21531E 03  
 2 A = 0.87299E 01 B = 0.25378E 04 C = 0.27315E 03  
 VAPOR PRESSURE AT NBP  
 P = 760.0 AT T = 138.3  
 P = 785.6 AT T = 161.8

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.12940E 03 B = -.14187E 00 C = 0.41800E-03  
 2 A = 0.63207E 02 B = 0.58328E-01 C = 0.29602E-04  
 COMPONENT ID CHECK  
 ID NUMBER = 36  
 ID NUMBER = 15

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.97823E 00 B = -.22450E 01 C = 0.33404E 00  
 STANDARD DEVIATION = 0.40222E-01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.6598 G2INF = 2.5415  
 T1INF = 159.13 T2INF = 136.50

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2234  
 AREA BELOW THE X-AXIS IS -0.2563  
 CROSS-OVER POINT IS X = 0.47  
 NORMALIZED AREA DIFFERENCE IS -0.0686  
 HERINGTON J-FACTOR IS 9.18  
 CONSISTENCY INDEX IS -2.31

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	179.97	719.50	0.4547E-11	27.12	0.00655
2	155.06	1004.02	0.6958E-02	14.25	0.02151
3	183.48	775.93	0.1144E 00	19.40	0.00767
4	199.94	765.10	0.5190E-01	18.90	0.00788
5	154.95	865.52	0.1748E-01	12.54	0.01178
6	296.91	599.21	0.2526E-02	30.64	0.00655
7	157.02	826.56	0.1841E-01	16.09	0.00942
8	60.15	1027.71	0.5634E-02	11.10	0.01662
9	60.15	1027.70	0.5640E-02	11.10	0.01662
10	182.43	776.44	0.9192E-02	19.46	0.00764



## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	67.0	0.9940	0.9290	763.55	203.77	0.9504	0.9855	0.8787	44.0804	-3.9153	-1384.56	-629.09	-885.46
2	760.00	66.0	0.9880	0.9000	739.16	194.98	0.9499	0.9849	0.8852	31.9689	-3.5867	-1395.20	-633.03	-892.74
3	760.00	65.0	0.9760	0.8700	715.35	186.52	0.9454	0.9842	0.8946	21.7074	-3.1891	-1405.97	-637.00	-900.13
4	760.00	64.0	0.9600	0.8460	692.22	178.37	0.9450	0.9836	0.9135	16.1244	-2.8708	-1416.88	-640.99	-907.62
5	760.00	63.0	0.9360	0.8200	669.65	170.52	0.9485	0.9830	0.9383	12.3138	-2.5745	-1427.92	-645.02	-915.23
6	760.00	62.2	0.9000	0.7800	652.01	164.45	0.9482	0.9822	0.9530	9.9796	-2.3487	-1436.85	-648.26	-921.39
7	760.00	62.2	0.8500	0.7800	652.01	164.45	0.9482	0.9822	1.0090	6.6531	-1.8861	-1436.85	-648.26	-921.39
8	760.00	62.2	0.7900	0.7800	652.01	164.45	0.9482	0.9822	1.0596	4.5362	-1.4171	-1436.85	-648.26	-921.39
9	760.00	62.2	0.7000	0.7800	652.01	164.45	0.9482	0.9822	1.2253	3.3265	-0.5588	-1436.85	-648.26	-921.39
10	760.00	62.2	0.6000	0.7800	652.01	164.45	0.9482	0.9822	1.4295	2.4949	-0.5569	-1436.85	-648.26	-921.39
11	760.00	62.2	0.5000	0.7800	652.01	164.45	0.9482	0.9822	1.7154	1.9959	-0.1515	-1436.85	-648.26	-921.39
12	760.00	62.2	0.4000	0.7800	652.01	164.45	0.9482	0.9822	2.1442	1.6633	0.2540	-1436.85	-648.26	-921.39
13	760.00	62.2	0.3000	0.7800	652.01	164.45	0.9482	0.9822	2.8585	1.4257	0.6558	-1436.85	-648.26	-921.39
14	760.00	62.2	0.2000	0.7800	652.01	164.45	0.9482	0.9822	4.2884	1.2474	1.2348	-1436.85	-648.26	-921.39
15	760.00	62.2	0.1000	0.7800	652.01	164.45	0.9482	0.9822	8.5768	1.1088	2.0457	-1436.85	-648.26	-921.39
16	760.00	62.2	0.0500	0.7800	652.01	164.45	0.9482	0.9822	17.1536	1.0505	2.7930	-1436.85	-648.26	-921.39
17	760.00	62.2	0.0100	0.7800	652.01	164.45	0.9482	0.9822	85.7682	1.0080	4.4436	-1436.85	-648.26	-921.39
18	760.00	64.0	0.8050	0.7620	692.22	178.37	0.9493	0.9823	*****	1.0005	5.0623	-1416.88	-640.99	-907.62
19	760.00	68.0	0.0040	0.7350	788.57	212.88	0.9515	0.9826	*****	0.9328	5.1916	-1374.05	-625.18	-878.29

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 500.10 P = 29.40 V = 382.00 OMEGA = 0.350 OMEGAH = 0.306 DIPOLE = 0.0 ETA = 0.0  
 2 T = 647.40 P = \*\*\*\*\* V = 55.20 OMEGA = 0.344 OMEGAH = 0.010 DIPOLF = 1.85 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.79047E 01 B = 0.16993E 04 C = 0.27315E 03  
 2 A = -0.79668E 01 B = 0.16682E 04 C = 0.22800E 03

## MLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.14077E 03 B = 0.0 C = 0.0  
 2 A = 0.22887E 02 B = -0.36416E 01 C = 0.68556E 04

## VAPOR PRESSURE AT NBP

P = 846.9 AT T = 68.3

P = 760.0 AT T = 100.0

## COMPONENT ID ECHO CHECK

ID NUMBER = 46

ID NUMBER = 34

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = -0.41484E 01 B = -0.10475E 02 C = 0.32464E 01  
 STANDARD DEVIATION = 0.70346E 00

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 63.3345 G2INF = 21.7690  
 T1INF = 100.00 T2INF = 65.10

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.9053

AREA BELOW THE X-AXIS IS -0.9124

CROSS-OVER POINT IS X = 0.46

NORMALIZED AREA DIFFERENCE IS -0.0039

HERINGTON J-FACTOR IS 16.91

CONSISTENCY INDEX IS -16.52

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	972.76	2786.40	0.5960E-07	81.13	0.05326
2	3031.39	2352.63	0.4984F-01	27.97	0.03068
3	2090.26	3334.55	0.1325F 03	69.18	0.01478
4	2111.14	3216.60	0.2840F 00	62.96	0.01490
5	2341.65	2621.27	0.6561F-01	24.24	0.02271
6	2195.64	3299.09	0.1024F-01	68.51	0.01410
7	2380.54	2600.27	0.9558F-01	22.80	0.02279
8	2416.61	2506.57	0.2407E-01	20.79	0.02546
9	2418.83	2505.65	0.2403E-01	20.80	0.02548
10	2089.25	3333.52	0.1439F-01	69.11	0.01479

\*\*DIAGNOSTIC\*\*

4 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	29.60	25.0	0.0012	0.1990	107.39	23.61	1.0000	1.0000	45.7046	1.0054	3.8168	0.0	0.0	0.0
2	34.20	25.0	0.0026	0.3100	107.39	23.61	1.0000	1.0000	37.9668	1.0021	3.6346	0.0	0.0	0.0
3	39.40	25.0	0.0035	0.4010	107.39	23.61	1.0000	1.0000	42.0295	1.0031	3.7353	0.0	0.0	0.0
4	48.20	25.0	0.0064	0.5100	107.39	23.61	1.0000	1.0000	35.7606	1.0068	3.5701	0.0	0.0	0.0
5	55.30	25.0	0.0089	0.5750	107.39	23.61	1.0000	1.0000	33.2629	1.0044	3.5001	0.0	0.0	0.0
6	67.40	25.0	0.0108	0.6530	107.39	23.61	1.0000	1.0000	37.9392	1.0014	3.6346	0.0	0.0	0.0
7	74.30	25.0	0.0132	0.6850	107.39	23.61	1.0000	1.0000	35.8949	1.0045	3.5761	0.0	0.0	0.0
8	81.40	25.0	0.0154	0.7130	107.39	23.61	1.0000	1.0000	35.0641	1.0049	3.5528	0.0	0.0	0.0
9	86.60	25.0	0.0172	0.7320	107.39	23.61	1.0000	1.0000	34.3091	1.0002	3.5353	0.0	0.0	0.0
10	94.20	25.0	0.0198	0.7540	107.39	23.61	1.0000	1.0000	33.3929	1.0013	3.5071	0.0	0.0	0.0
11	97.60	25.0	0.0201	0.7620	107.39	23.61	1.0000	1.0000	34.4420	1.0040	3.5353	0.0	0.0	0.0
12	96.90	25.0	0.0207	0.7600	107.39	23.61	1.0000	1.0000	33.1177	1.0058	3.4943	0.0	0.0	0.0
13	103.60	25.0	0.0233	0.7770	107.39	23.61	1.0000	1.0000	32.1593	1.0018	3.4689	0.0	0.0	0.0
14	103.80	25.0	0.0244	0.7770	107.39	23.61	1.0000	1.0000	30.7688	1.0049	3.4217	0.0	0.0	0.0

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 0.0 P = 0.0 V = 0.0 CMEGA = 0.0 CMFGAH = 0.0 DIPOLE = 3.83 ETA = 0.0  
 2 T = 647.40 P = \*\*\*\*\* V = 55.20 CMEGA = 0.344 CMFGAH = 0.010 DIPOLE = 1.85 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = -0.78510E-01 B = 0.17352E-04 C = 0.27315E-03  
 2 A = 0.79668E-01 B = 0.16682E-04 C = 0.27800E-03

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.38860E-02 B = 0.92001E-01 C = 0.0  
 2 A = 0.72887E-02 B = -0.36416E-01 C = 0.68556E-04

## VAPOR PRESSURE AT NBP

P = 793.7 AT T = 77.3  
 P = 760.0 AT T = 100.0

## COMPONENT ID CHECK

ID NUMBER = 40  
 IC NUMBER = 34

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.37531E-01 B = -0.19273E-02 C = 0.31642E-03  
 STANDARD DEVIATION = 0.60072E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 42.6518 G2INF = 1.0000  
 T1INF = 25.00 T2INF = 25.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

SQUARE ROOT OF NEGATIVE ARGUMENT REQUIRED  
 TO OBTAIN X-INTERCEPT  
 VALUE OF REQUIRED ARGUMENT IS -0.43788E-04  
 THERMODYNAMIC CONSISTENCY TEST IS ABORTED

SUMMARY OF WILSON PARAMETERS

MODEL NO.    PARAMETER VALUES    OBJECTIVE FUNCTION

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE    COMPOSITION

1	3535.92	-124.50	0.3654E 00	47.25	0.55408
2	1796.41	950.29	C.6687F-04	15.79	0.08226
3	948.15	10563.45	0.3049F 03	6.94	0.02736
4	957.19	9338.96	C.2585F 00	6.72	0.02726
5	1005.42	9345.20	C.1203F 00	5.56	0.02692
6	963.14	9264.09	0.2366F-01	6.58	0.02720
7	1016.96	9745.23	C.5489F-01	5.32	0.02705
8	1018.00	9766.80	0.9238F-01	5.30	0.02709
9	1018.00	9866.80	C.9238F-01	5.30	0.02709
10	806.68	8060.20	C.6601E 00	11.67	0.04706

\*\*DIAGNOSTIC\*\*

4 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION

SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	67.00	40.0	0.0013	0.1760	203.98	55.22	1.0000	1.0000	44.4582	1.0010	3.7936	0.0	0.0	0.0
2	77.20	40.0	0.0025	0.2850	203.98	55.22	1.0000	1.0000	43.1334	1.0020	3.7623	0.0	0.0	0.0
3	95.30	40.0	0.0049	0.4220	203.98	55.22	1.0000	1.0000	40.2230	1.0023	3.6922	0.0	0.0	0.0
4	133.90	40.0	0.0113	0.5520	203.98	55.22	1.0000	1.0000	34.3741	1.0005	3.5368	0.0	0.0	0.0
5	171.50	40.0	0.0172	0.6830	203.98	55.22	1.0000	1.0000	33.3662	1.0015	3.5060	0.0	0.0	0.0
6	146.40	40.0	0.0224	0.7090	203.98	55.22	1.0000	1.0000	28.9050	1.0046	3.3595	0.0	0.0	0.0
7	194.20	40.0	0.0241	0.7220	203.98	55.22	1.0000	1.0000	28.5027	1.0016	3.3484	0.0	0.0	0.0
8	199.90	40.0	0.0258	0.7310	203.98	55.22	1.0000	1.0000	27.7471	0.9993	3.3238	0.0	0.0	0.0
9	191.90	40.0	0.0273	0.7200	203.98	55.22	1.0000	1.0000	24.7950	1.0001	3.2105	0.0	0.0	0.0

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1	T = 0.0	P = 0.0	V = 0.0	OMEGA = 0.0	OMEGA H = 0.0	DIPOLE = 3.83	ETA = 0.0
2	T = 647.40	P = *****	V = 55.20	OMEGA = 0.344	OMEGA H = 0.010	DIPOLE = 1.85	ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.78510E 01	B = 0.17352E 04	C = 0.27315E 03
2	A = 0.79668E 01	B = 0.16682E 04	C = 0.22800E 03

## VAPOR PRESSURE AT NBP

P = 793.7 AT T = 77.3  
P = 760.0 AT T = 100.0

## MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.38860E 02	B = 0.92001E 01	C = 0.0
2	A = 0.22887E 02	B = -.36416E 01	C = 0.68556E 04

## COMPONENT ID ECHO CHECK

ID NUMBER = 40  
ID NUMBER = 34

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.38015E 01	B = -.18770E 02	C = -.38101E 02
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## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 44.7669	G2INF = *****
T1INF = 40.00	T2INF = 40.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.3165  
AREA BELOW THE X-AXIS IS -18.6002  
CROSS-OVER POINT IS X = 0.15  
NORMALIZED AREA DIFFERENCE IS -0.9665  
CONSISTENCY INDEX IS 96.65

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION
1	2089.01	-488.91	0.1246E 47
2	1883.82	864.43	0.2296E 04
3	976.06	10535.05	0.4845E 02
4	991.84	10137.15	0.4837E 01
5	1028.27	10356.29	0.1917E 01
6	1001.83	10731.55	0.4734E 02
7	1039.31	10629.47	0.1425E 01
8	1038.18	10931.79	0.1352E 01
9	1038.18	10316.54	0.1352E 01
10	2031.87	-488.91	0.1596E 01

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

	PRESSURE	COMPOSITION
1	91.76	0.55740
2	36.24	0.09882
3	7.03	0.01437
4	6.53	0.01485
5	5.41	0.01619
6	6.22	0.01520
7	5.27	0.01663
8	5.28	0.01659
9	5.28	0.01659
10	91.78	0.55743

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2OL	PH11	PH12	G1	G2	LN(G1/G2)	B11	B22	B12
1	126.10	70.0	0.0680	0.2410	534.74	87.46	0.9917	0.9935	0.8284	1.1657	-0.3416	-1042.71	-1074.51	-1373.72
2	128.80	70.0	0.0787	0.2720	534.74	87.46	0.9917	0.9933	0.8251	1.1551	-0.3364	-1042.71	-1074.51	-1373.72
3	166.90	70.0	0.1628	0.4860	534.74	87.46	0.9906	0.9905	0.9223	1.1594	-0.2288	-1042.71	-1074.51	-1373.72
4	169.70	70.0	0.1839	0.5030	534.74	87.46	0.9905	0.9902	0.8591	1.1690	-0.3080	-1042.71	-1074.51	-1373.72
5	206.70	70.0	0.2728	0.6320	534.74	87.46	0.9891	0.9872	0.8850	1.1794	-0.2872	-1042.71	-1074.51	-1373.72
6	251.30	70.0	0.3758	0.7400	534.74	87.46	0.9873	0.9833	0.9126	1.1754	-0.2530	-1042.71	-1074.51	-1373.72
7	315.50	70.0	0.4948	0.8321	534.74	87.46	0.9844	0.9777	0.9753	1.1703	-0.1822	-1042.71	-1074.51	-1373.72
8	347.20	70.0	0.5862	0.8675	534.74	87.46	0.9829	0.9749	0.9430	1.2370	-0.2714	-1042.71	-1074.51	-1373.72
9	357.10	70.0	0.6062	0.8849	534.74	87.46	0.9820	0.9731	0.9825	1.1916	-0.1930	-1042.71	-1074.51	-1373.72
10	435.00	70.0	0.7744	0.9395	534.74	87.46	0.9788	0.9669	0.9641	1.2868	-0.2887	-1042.71	-1074.51	-1373.72
11	493.50	70.0	0.8885	0.9734	534.74	87.46	0.9759	0.9615	0.9846	1.2911	-0.2710	-1042.71	-1074.51	-1373.72
12	525.20	70.0	0.9503	0.9893	534.74	87.46	0.9744	0.9586	0.9940	1.2360	-0.2179	-1042.71	-1074.51	-1373.72
13	535.20	70.0	0.9715	0.9933	534.74	87.46	0.9739	0.9577	0.9943	1.3740	-0.3235	-1042.71	-1074.51	-1373.72

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 562.00 P = 48.60 V = 260.10 OMEGA = 0.211 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 632.40 P = 44.60 V = 307.80 OMEGA = 0.252 OMEGAH = 0.241 DIPOLE = 1.70 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03  
 2 A = 0.77175E 01 B = 0.19812E 04 C = 0.27315E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.70863E 02 B = 0.14907E 01 C = 0.15880E 03  
 2 A = 0.85745E 02 B = 0.10559E 01 C = 0.14959E 03

VAPOR PRESSURE AT NBP

P = 760.0 AT T = 80.1  
 P = 674.0 AT T = 132.1

COMPONENT ID CHECK

ID NUMBER = 5  
 ID NUMBER = 56

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.35629E 00 B = 0.44705E 00 C = 0.38817E 00  
 STANDARD DEVIATION = 0.43124E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 0.7003 G2INF = 1.3464  
 T1INF = 70.00 T2INF = 70.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

SQUARE ROOT OF NEGATIVE ARGUMENT REQUIRED  
 TO OBTAIN X-INTERCEPT  
 VALUE OF REQUIRED ARGUMENT IS -0.35335E 00  
 THERMODYNAMIC CONSISTENCY TEST IS ABORTED

## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	-807.00	1954.69	0.1587E-07	18.86	0.01535
2	9557.63	712.59	0.2945E-02	11.26	0.04336
3	9478.18	-940.63	0.9569E-00	5.31	0.02579
4	9444.72	-884.14	0.7147E-00	7.27	0.02045
5	9385.80	-875.51	0.4184E-01	6.81	0.02109
6	9424.90	-958.80	0.9572E-02	13.14	0.01659
7	9644.27	-988.19	0.3098E-01	7.60	0.02014
8	9648.94	-839.46	0.9849E-02	5.27	0.02595
9	9708.63	-839.51	0.9855E-02	5.27	0.02594
10	-637.12	1548.72	0.1305E-01	8.99	0.03028

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PH11	PH12	G1	G2	LN(G1/G2)	B11	B22	B12
1	758.00	79.8	0.9499	0.9613	725.56	206.02	0.9665	0.9677	1.0184	2.7446	-0.9914	-972.39	-530.64	-971.01
2	758.00	80.0	0.8823	0.9309	729.92	207.61	0.9665	0.9687	1.0555	2.0720	-0.6745	-971.04	-529.80	-969.65
3	758.00	82.8	0.5325	0.7932	793.21	230.91	0.9668	0.9730	1.3717	1.4100	-0.0275	-952.49	-518.37	-950.94
4	758.00	85.8	0.3407	0.7032	865.51	258.19	0.9671	0.9758	1.7425	1.2865	0.3031	-933.28	-506.71	-931.58
5	758.00	91.5	0.1731	0.5924	1016.37	317.25	0.9678	0.9790	2.4621	1.1507	0.7607	-898.54	-486.11	-896.62
6	758.00	109.0	0.0738	0.3948	1276.44	425.18	0.9677	0.9831	3.0644	1.1429	0.9863	-850.62	-458.74	-848.51
7	758.00	109.0	0.0279	0.2407	1601.47	569.69	0.9678	0.9855	3.9393	1.0222	1.3491	-804.33	-433.50	-802.15

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 562.00 P = 48.60 V = 260.10 OMEGA = 0.211 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 594.80 P = 57.10 V = 171.30 OMEGA = 0.444 OMEGAH = 0.187 DIPOLE = 1.75 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69056E C1 B = 0.12110E C4 C = 0.22079E C3 VAPOR PRESSURE AT NBP  
 P = 760.0 AT T = 80.1  
 2 A = 0.71881E C1 B = 0.14167E C4 C = 0.21100E C3 P = 764.4 AT T = 118.1

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.70863E C2 B = 0.14907E C1 C = 0.15880E C3 COMPONENT ID FCHO CHECK  
 ID NUMBER = 5  
 2 A = 0.58702E C2 B = -.61178E C1 C = 0.19158E C3 ID NUMBER = 1

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.13029E C1 B = -.30189E C1 C = 0.74749E C0  
 STANDARD DEVIATION = 0.11928E C0

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 3.6801 G2INF = 2.6340  
 T1INF = 117.82 T2INF = 80.01

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.3053  
 AREA BELOW THE X-AXIS IS -0.2627  
 CROSS-OVER POINT IS X = 0.49  
 NORMALIZED AREA DIFFERENCE IS 0.0750  
 HERINGTON J-FACTOR IS 16.16  
 CONSISTENCY INDEX IS -8.65

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION
1	517.80	509.11	0.0
2	2322.48	351.49	0.2690E-02
3	629.31	529.26	0.2302E-00
4	626.45	526.62	0.7255E-C1
5	406.94	825.40	0.1177E-C1
6	444.22	599.31	0.2926E-02
7	318.66	884.16	0.1049E-C1
8	475.83	828.82	0.1257E-03
9	475.86	828.76	0.1253E-C3
10	640.14	515.24	0.3527E-01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
55.40	0.01335
97.46	0.07271
37.05	0.01308
37.96	0.01295
12.35	0.02095
47.75	0.01135
17.02	0.02056
2.74	0.02750
2.74	0.02750
38.62	0.01294

\*\*DIAGNOSTIC\*\*

1 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
 SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE



METHYLCYCLOPENTANE(1) - CYCLOHEXANE(2) SYSTEM 137

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	79.7	0.1020	0.1310	912.07	705.79	0.9628	0.9613	1.0261	0.9977	0.0280	-1075.61	-1118.79	-1097.20
2	760.00	76.2	0.4770	0.5410	825.34	635.83	0.9615	0.9600	1.0000	1.0030	-0.0030	-1101.92	-1146.29	-1124.10
3	750.00	73.6	0.7710	0.8140	766.96	588.93	0.9606	0.9590	1.0007	1.0011	-0.0004	-1121.48	-1166.77	-1144.11

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 532.80 P = 37.40 V = 319.00 OMEGA = 0.231 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 553.20 P = 40.00 V = 311.20 OMEGA = 0.210 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.68628E 01 B = 0.11861E 04 C = 0.22604E 03 P = 759.7 AT T = 71.8  
 2 A = 0.68450E 01 B = 0.12035E 04 C = 0.22286E 03 P = 759.1 AT T = 66.7

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.10427E 03 B = -0.86757E-01 C = 0.39000E-03 COMPONENT ID CHECK  
 2 A = 0.92914E 02 B = -0.24859E-01 C = 0.26157E-03 ID NUMBER = 27  
 ID NUMBER = 9

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.43104E-01 B = -0.16196E 00 C = 0.13686E 00  
 STANDARD DEVIATION = 0.0

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.0440 G2INF = 0.9822  
 T1INF = 80.74 T2INF = 71.81

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

EQUATION SOLVED FOR X-INTERCEPT  
 ROOTS ARE: X = 0.77917E 00 AND X = 0.40421E 00  
 BOTH ROOTS ARE IN THE RANGE 0 TO 1  
 THERMODYNAMIC CONSISTENCY TEST IS ACCEPTED

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	536.80 -367.61	0.6004E-12
2	147.95 -123.75	0.2591E-07
3	487.58 -336.78	0.6790E-04
4	485.73 -335.84	0.6732E-04
5	342.53 -256.95	0.8551E-05
6	350.59 -258.13	0.5688E-05
7	288.08 -222.27	0.1025E-04
8	239.96 -191.35	0.8456E-07
9	239.84 -191.26	0.8603E-07
10	349.29 -263.73	0.9361E 00

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
1.75	0.00141
0.16	0.00118
1.21	0.00113
1.20	0.00113
0.47	0.00094
1.20	0.00094
0.34	0.00088
0.13	0.00100
0.13	0.00100
0.47	0.00095

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	108.8	0.0230	0.0680	1906.68	692.29	0.9724	0.9612	1.1413	1.0028	0.1294	-891.74	-1217.03	-1039.36
2	760.00	107.2	0.0400	0.1270	1838.13	661.93	0.9719	0.9606	1.2707	0.9992	0.2404	-900.50	-1229.78	-1049.84
3	760.00	105.3	0.0635	0.1930	1761.00	628.09	0.9714	0.9599	1.2689	0.9971	0.2410	-910.80	-1244.81	-1062.18
4	760.00	103.4	0.0920	0.2375	1682.16	593.88	0.9708	0.9592	1.1276	1.0269	0.0935	-921.85	-1260.98	-1075.44
5	760.00	102.3	0.1060	0.2900	1638.78	575.22	0.9704	0.9588	1.2262	1.0023	0.2016	-928.19	-1270.27	-1083.04
6	760.00	102.0	0.1100	0.2560	1627.10	570.21	0.9703	0.9587	1.2146	1.0070	0.1875	-929.92	-1272.82	-1085.13
7	760.00	99.3	0.1510	0.3725	1524.48	526.60	0.9695	0.9577	1.1874	1.0177	0.1542	-945.80	-1296.20	-1104.24
8	760.00	96.8	0.1910	0.4460	1433.60	488.57	0.9687	0.9568	1.1942	1.0153	0.1623	-960.90	-1318.51	-1122.43
9	760.00	95.3	0.2200	0.4880	1380.96	466.79	0.9682	0.9562	1.1771	1.0180	0.1452	-970.14	-1332.22	-1133.58
10	760.00	92.9	0.2670	0.5490	1299.62	433.52	0.9674	0.9553	1.1585	1.0264	0.1210	-985.22	-1354.67	-1151.82
11	760.00	90.8	0.3125	0.6020	1229.71	405.31	0.9667	0.9544	1.1462	1.0320	0.1049	-999.06	-1375.34	-1168.58
12	760.00	89.9	0.3335	0.6250	1201.26	393.93	0.9664	0.9540	1.1411	1.0316	0.1009	-1004.95	-1384.16	-1175.72
13	760.00	88.5	0.3710	0.6570	1159.50	377.34	0.9660	0.9535	1.1166	1.0432	0.0680	-1013.88	-1397.58	-1186.56
14	760.00	87.0	0.4125	0.6950	1114.33	359.55	0.9655	0.9528	1.1048	1.0415	0.0590	-1023.96	-1412.75	-1198.81
15	760.00	85.3	0.4550	0.7250	1066.13	340.75	0.9649	0.9521	1.0914	1.0674	0.0223	-1035.25	-1429.79	-1212.54
16	760.00	84.1	0.4980	0.7480	1030.64	327.03	0.9645	0.9516	1.0638	1.1058	-0.0388	-1043.93	-1442.93	-1223.12
17	760.00	83.0	0.5310	0.7770	1001.51	315.84	0.9641	0.9511	1.0661	1.0840	-0.0167	-1051.31	-1454.14	-1232.13
18	760.00	82.3	0.5525	0.7920	981.07	308.04	0.9638	0.9508	1.0658	1.0861	-0.0188	-1056.64	-1462.24	-1238.63
19	760.00	81.8	0.5680	0.8020	967.62	302.92	0.9636	0.9506	1.0642	1.0888	-0.0228	-1060.22	-1467.68	-1243.00
20	760.00	80.3	0.6220	0.8310	928.07	287.97	0.9631	0.9499	1.0493	1.1164	-0.0620	-1071.07	-1484.23	-1256.27
21	760.00	78.9	0.6750	0.8570	893.51	275.02	0.9626	0.9492	1.0352	1.1497	-0.1049	-1080.99	-1499.41	-1268.41
22	760.00	77.7	0.7270	0.8825	862.36	263.45	0.9621	0.9487	1.0249	1.1733	-0.1351	-1090.32	-1513.71	-1279.84
23	760.00	76.0	0.7960	0.9150	822.49	248.76	0.9615	0.9479	1.0170	1.2018	-0.1670	-1102.84	-1532.97	-1295.21
24	760.00	74.9	0.8460	0.9360	793.21	238.08	0.9610	0.9472	1.0144	1.2517	-0.2102	-1112.48	-1547.85	-1307.06
25	760.00	73.7	0.8920	0.9540	768.09	228.59	0.9606	0.9467	1.0122	1.3330	-0.2753	-1121.09	-1561.15	-1317.65
26	760.00	72.9	0.9290	0.9690	750.20	222.55	0.9603	0.9463	1.0104	1.4054	-0.3300	-1127.41	-1570.96	-1325.44
27	760.00	72.2	0.9660	0.9825	734.80	217.03	0.9600	0.9459	1.0056	1.6982	-0.5240	-1133.00	-1579.63	-1332.32

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 532.80 P = 37.40 V = 319.00  $\Omega$ MFGA = 0.231  $\Omega$ MFGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 594.00 P = 40.00 V = 331.10  $\Omega$ MFGA = 0.241  $\Omega$ MFGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.6862E 01 C1 = 0.11861E 04 C = 0.22604E 03  
 2 A = 0.69533E 01 C1 = 0.13435E 04 C = 0.21938E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.10427E 03 B = -.86757E-01 C = 0.39000E-03  
 2 A = 0.98864E 02 B = -.55774E-01 C = 0.27703E 03

VAPOR PRESSURE AT NBP

P = 759.7 AT T = 71.8  
 P = 759.4 AT T = 110.6

COMPONENT ID ECHO CHECK

ID NUMBER = 27  
 ID NUMBER = 33

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.18485E 00 B = -.62528E-01 C = -.55737E 00  
 STANDARD DEVIATION = 0.44210E-01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.2030 G2INF = 1.5450  
 T1INF = 110.63 T2INF = 71.81

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0615  
 AREA BELOW THE X-AXIS IS -0.0938  
 CROSS-OVER POINT IS X = 0.52  
 NORMALIZED AREA DIFFERENCE IS -0.2074  
 HERINGTON J-FACTOR IS 16.88  
 CONSISTENCY INDEX IS 3.86

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION
1	-391.27	791.81	0.1819E-11
2	-97.31	343.20	0.7375E-03
3	-470.05	928.38	0.6857E-01
4	-372.50	803.55	0.4646E-01
5	-106.65	333.36	0.2006E-02
6	-47.41	238.62	0.1178E-02
7	-82.56	299.73	0.1652E-02
8	-108.89	342.33	0.4628E-03
9	-108.91	342.35	0.4630E-03
10	-415.54	907.21	0.1019E 00

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

	PRESSURE	COMPOSITION
	6.54	0.00580
	3.99	0.00406
	7.90	0.00704
	6.36	0.00615
	2.56	0.00310
	6.53	0.00312
	3.00	0.00290
	2.25	0.00335
	2.25	0.00335
	7.52	0.00676

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PH11	PH12	G1	G2	LN(G1/G2)	B11	B22	B12
1	750.00	108.3	0.0410	0.1020	1506.81	681.74	0.9709	0.9610	1.2136	0.9994	0.1942	-930.67	-1221.39	-1064.20
2	750.00	105.4	0.0910	0.2120	1498.16	629.89	0.9700	0.9600	1.2149	1.0003	0.1944	-946.73	-1243.99	-1083.16
3	750.00	103.8	0.1180	0.2640	1353.89	601.64	0.9695	0.9594	1.2129	1.0075	0.1856	-956.11	-1257.22	-1094.25
4	750.00	102.8	0.1430	0.3090	1320.74	584.49	0.9692	0.9590	1.1966	1.0031	0.1764	-962.04	-1265.61	-1101.28
5	750.00	101.8	0.1640	0.3480	1284.95	566.06	0.9689	0.9586	1.2112	1.0000	0.1917	-968.64	-1274.96	-1109.09
6	750.00	100.5	0.1920	0.3860	1246.71	546.46	0.9685	0.9582	1.1823	1.0088	0.1587	-975.93	-1285.29	-1117.73
7	750.00	99.5	0.2170	0.4220	1213.93	529.75	0.9682	0.9578	1.1741	1.0105	0.1501	-982.38	-1294.44	-1125.38
8	750.00	98.3	0.2450	0.4570	1178.75	511.89	0.9678	0.9574	1.1594	1.0184	0.1297	-989.52	-1304.60	-1133.85
9	750.00	98.3	0.2430	0.4600	1178.75	511.89	0.9678	0.9574	1.1766	1.0101	0.1526	-989.52	-1304.60	-1133.85
10	750.00	97.4	0.2730	0.4920	1150.25	497.50	0.9675	0.9570	1.1475	1.0177	0.1201	-995.49	-1313.09	-1140.94
11	750.00	96.9	0.2830	0.5040	1136.93	490.79	0.9673	0.9568	1.1471	1.0211	0.1164	-998.33	-1317.15	-1144.32
12	750.00	96.3	0.3040	0.5230	1119.33	481.95	0.9672	0.9566	1.1253	1.0299	0.0886	-1002.15	-1322.60	-1148.86
13	750.00	95.5	0.3230	0.5470	1094.74	469.65	0.9669	0.9563	1.1323	1.0315	0.0932	-1007.60	-1330.37	-1155.33
14	750.00	95.3	0.3360	0.5600	1087.59	466.08	0.9668	0.9562	1.1215	1.0292	0.0859	-1009.21	-1332.68	-1157.25
15	750.00	94.2	0.3680	0.5960	1057.92	451.30	0.9664	0.9558	1.1200	1.0249	0.0887	-1016.03	-1342.42	-1165.36
16	750.00	93.8	0.3790	0.5990	1046.76	445.77	0.9663	0.9556	1.1045	1.0480	0.0525	-1018.64	-1346.17	-1168.48
17	750.00	92.8	0.4160	0.6330	1017.91	431.50	0.9660	0.9552	1.0931	1.0532	0.0372	-1025.56	-1356.09	-1176.72
18	750.00	91.8	0.4520	0.6620	993.64	419.55	0.9657	0.9548	1.0775	1.0627	0.0138	-1031.56	-1364.70	-1183.87
19	750.00	90.5	0.5040	0.7020	959.34	402.76	0.9652	0.9543	1.0608	1.0778	-0.0158	-1040.33	-1377.30	-1194.32
20	750.00	89.8	0.5330	0.7240	938.67	392.68	0.9649	0.9540	1.0570	1.0870	-0.0280	-1045.78	-1385.15	-1200.83
21	750.00	88.8	0.5590	0.7490	915.82	381.59	0.9646	0.9536	1.0683	1.0768	-0.0079	-1051.97	-1394.08	-1208.23
22	750.00	87.9	0.5990	0.7740	893.38	370.74	0.9643	0.9533	1.0558	1.0971	-0.0383	-1058.23	-1403.11	-1215.70
23	750.00	88.0	0.6020	0.7770	894.61	371.33	0.9643	0.9533	1.0532	1.0890	-0.0334	-1057.88	-1402.60	-1215.29
24	750.00	87.3	0.6340	0.7940	878.64	363.64	0.9641	0.9530	1.0402	1.1167	-0.0709	-1062.44	-1409.19	-1220.74
25	750.00	86.5	0.6720	0.8110	859.27	354.34	0.9638	0.9527	1.0247	1.1728	-0.1350	-1068.09	-1417.36	-1227.50
26	750.00	85.3	0.7270	0.8520	828.48	339.64	0.9634	0.9521	1.0316	1.1505	-0.1092	-1077.38	-1430.83	-1238.62
27	750.00	84.8	0.7630	0.8640	818.02	334.66	0.9632	0.9519	1.0093	1.2357	-0.2024	-1080.63	-1435.54	-1242.51
28	750.00	84.4	0.7800	0.8770	809.95	330.82	0.9631	0.9518	1.0120	1.2177	-0.1850	-1083.17	-1439.23	-1245.55
29	750.00	83.8	0.8140	0.8950	793.99	323.27	0.9628	0.9515	1.0093	1.2579	-0.2202	-1088.27	-1446.65	-1251.68
30	750.00	82.7	0.8740	0.9260	770.45	312.18	0.9625	0.9510	1.0018	1.3545	-0.3016	-1096.01	-1457.91	-1260.96
31	750.00	81.1	0.9640	0.9730	735.68	295.87	0.9619	0.9503	0.9989	1.8237	-0.6019	-1107.98	-1475.36	-1275.33

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 553.20 P = 40.00 V = 311.20 OMEGA = 0.210 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 594.00 P = 40.00 V = 331.10 OMEGA = 0.241 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.68450E 01 B = 0.12035E 04 C = 0.22286E 03  
 2 A = 0.69533E 01 B = 0.13439E 04 C = 0.21938E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.92914E 02 B = -.24859E-01 C = 0.26157E-03  
 2 A = 0.98864E 02 B = -.55774E-01 C = 0.27703E-03

VAPOR PRESSURE AT NBP  
 P = 759.1 AT T = 80.7  
 P = 759.4 AT T = 110.6  
 COMPONENT ID CHECK  
 ID NUMBER = 9  
 ID NUMBER = 33

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.17345E 00 B = 0.56979E-01 C = -.74386E 00  
 STANDARD DEVIATION = 0.39156E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.1894 G2INF = 1.6710  
 T1INF = 110.63 T2INF = 80.74

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0630  
 AREA BELOW THE X-AXIS IS -0.1090  
 CROSS-OVER POINT IS X = 0.52  
 NORMALIZED AREA DIFFERENCE IS -0.2674  
 HERINGTON J-FACTOR IS 12.67  
 CONSISTENCY INDEX IS 14.07

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION
1	-416.64	914.96	0.0
2	-148.37	407.18	0.2510E-03
3	-429.14	1055.73	0.8530E-01
4	-347.04	810.01	0.5625E-01
5	-4.13	211.93	0.1142E-02
6	61.80	141.02	0.7858E-03
7	32.34	170.61	0.9197E-03
8	-65.17	284.10	0.2770E-03
9	-65.17	284.10	0.2770E-03
10	-416.58	907.34	0.1250E 00

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
7.40	0.00798
2.80	0.00382
13.30	0.00970
9.62	0.00751
1.94	0.00307
2.30	0.00296
2.14	0.00297
1.90	0.00317
1.90	0.00317
10.41	0.00864

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	750.00	99.5	0.0350	0.0720	1259.91	656.47	0.9733	0.9569	1.2039	0.9995	0.1861	-853.32	-1317.65	-1065.76
2	750.00	98.6	0.0520	0.1095	1232.19	680.35	0.9730	0.9566	1.2597	0.9991	0.2318	-857.94	-1325.03	-1071.63
3	750.00	97.6	0.0830	0.1635	1158.56	660.83	0.9726	0.9562	1.2110	0.9985	0.1929	-863.71	-1334.24	-1078.95
4	750.00	96.5	0.1095	0.2075	1164.06	640.82	0.9722	0.9557	1.1990	1.0041	0.1774	-869.82	-1344.01	-1086.72
5	750.00	94.5	0.1670	0.2970	1103.20	605.62	0.9715	0.9550	1.1864	1.0067	0.1643	-881.12	-1362.08	-1101.08
6	750.00	93.2	0.2035	0.3520	1064.93	583.54	0.9711	0.9544	1.1948	1.0066	0.1714	-888.60	-1374.05	-1110.59
7	750.00	92.4	0.2310	0.3855	1041.97	570.26	0.9708	0.9541	1.1780	1.0114	0.1524	-893.25	-1381.51	-1116.51
8	750.00	91.3	0.2690	0.4360	1010.77	552.37	0.9704	0.9537	1.1788	1.0077	0.1568	-899.72	-1391.87	-1124.73
9	750.00	90.3	0.3070	0.4830	981.73	535.70	0.9700	0.9533	1.1776	1.0043	0.1592	-905.57	-1401.89	-1132.68
10	750.00	89.5	0.3370	0.5115	961.37	524.02	0.9698	0.9530	1.1598	1.0137	0.1347	-910.47	-1409.12	-1138.42
11	750.00	89.9	0.3610	0.5320	945.31	514.82	0.9696	0.9528	1.1450	1.0253	0.1104	-914.11	-1414.95	-1143.04
12	750.00	88.3	0.3885	0.5550	930.77	506.50	0.9694	0.9526	1.1271	1.0353	0.0849	-917.46	-1420.33	-1147.31
13	750.00	87.7	0.4200	0.5820	913.80	496.79	0.9692	0.9523	1.1133	1.0451	0.0632	-921.45	-1426.73	-1152.39
14	750.00	87.1	0.4480	0.6085	899.62	488.69	0.9690	0.9521	1.1082	1.0453	0.0585	-924.85	-1432.19	-1156.72
15	750.00	86.5	0.4830	0.6370	893.07	479.25	0.9687	0.9519	1.0959	1.0549	0.0382	-928.89	-1438.69	-1161.87
16	750.00	85.9	0.5100	0.6550	869.26	471.37	0.9685	0.9517	1.0840	1.0753	0.0081	-932.33	-1444.22	-1166.26
17	750.00	85.5	0.5315	0.6750	858.06	465.00	0.9684	0.9515	1.0857	1.0737	0.0111	-935.17	-1448.78	-1169.87
18	750.00	84.9	0.5730	0.7025	843.32	456.61	0.9682	0.9513	1.0662	1.0980	-0.0294	-938.97	-1454.90	-1174.72
19	750.00	82.3	0.6170	0.7330	780.46	420.91	0.9673	0.9500	1.1154	1.1902	-0.0650	-956.09	-1482.44	-1196.54
20	750.00	83.5	0.6650	0.7670	809.65	437.47	0.9677	0.9507	1.0442	1.1434	-0.0907	-947.95	-1469.34	-1186.16
21	750.00	83.0	0.7050	0.7895	799.05	431.45	0.9675	0.9506	1.0272	1.1892	-0.1465	-950.86	-1474.03	-1189.88
22	750.00	82.5	0.7390	0.8150	787.39	424.84	0.9674	0.9504	1.0263	1.1994	-0.1559	-954.12	-1479.28	-1194.03
23	750.00	82.1	0.7770	0.8380	777.01	418.96	0.9672	0.9503	1.0169	1.2464	-0.2034	-957.07	-1484.03	-1197.80
24	750.00	81.6	0.8210	0.8670	766.73	413.14	0.9670	0.9501	1.0089	1.2925	-0.2477	-960.04	-1488.81	-1201.58
25	750.00	81.2	0.8605	0.8960	756.56	407.38	0.9669	0.9500	1.0080	1.3150	-0.2659	-963.02	-1493.61	-1205.38
26	750.00	80.9	0.9030	0.9230	746.82	403.58	0.9668	0.9499	1.0016	1.3709	-0.3139	-965.01	-1496.83	-1207.93
27	750.00	80.6	0.9335	0.9480	743.15	399.80	0.9667	0.9498	1.0006	1.4052	-0.3396	-967.02	-1500.06	-1210.48
28	750.00	80.3	0.9650	0.9730	737.62	396.68	0.9666	0.9498	1.0009	1.3972	-0.3336	-968.69	-1502.76	-1212.62

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 562.00 P = 48.60 V = 260.10 OMEGA = 0.211 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 572.30 P = 34.30 V = 372.40 OMEGA = 0.235 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69056E 01 B = 0.12110E 04 C = 0.22079E 03  
 2 A = 0.68269E 01 B = 0.12729E 04 C = 0.22163E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.70863E 02 B = 0.14907E-01 C = 0.15880E-03  
 2 A = 0.11310E 03 B = -.38740E-01 C = -0.30202E-03

VAPOR PRESSURE AT NBP

P = 760.0 AT T = 80.1  
 P = 759.3 AT T = 100.9

COMPONENT ID ECHO CHECK

ID NUMBER = 5  
 IC NUMBER = 26

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.21575E 00 B = -.14164E 00 C = -.48591E 00  
 STANDARD DEVIATION = 0.16353E-01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.240E G2INF = 1.509E  
 T1INF = 100.93 T2INF = 80.10

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0704  
 AREA BELOW THE X-AXIS IS -0.0874  
 CROSS-OVER POINT IS X = 0.54  
 NORMALIZED AREA DIFFERENCE IS -0.1080  
 HERINGTON J-FACTOR IS 8.85  
 CONSISTENCY INDEX IS 1.95

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)	
				PRESSURE	COMPOSITION
1	31.74	295.29	0.1819E-11	2.94	0.00365
2	13.40	355.46	0.3183E-02	4.80	0.00386
3	86.06	222.43	0.2584E-01	3.84	0.00308
4	84.21	224.90	0.1785E-01	3.77	0.00310
5	81.63	226.20	0.3952E-02	3.38	0.00312
6	138.42	144.57	0.6473E-03	4.14	0.00280
7	112.02	177.62	0.2591E-02	3.26	0.00291
8	14.75	340.12	0.3100E-02	3.58	0.00375
9	14.75	340.12	0.3100E-02	3.58	0.00375
10	67.00	240.52	0.3765E-01	3.19	0.00323

\*\*DIAGNOSTIC\*\*

1 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
 SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	64.9	0.9689	0.9781	730.62	214.68	0.9575	0.9863	1.0039	2.4507	-0.8925	-1179.06	-1326.20	-764.82
2	760.00	65.0	0.9472	0.9689	732.28	215.17	0.9575	0.9856	1.0150	2.0439	-0.6999	-1178.27	-1325.53	-764.48
3	760.00	65.1	0.9302	0.9587	736.16	216.32	0.9576	0.9849	1.0174	2.0408	-0.6961	-1176.42	-1323.96	-763.71
4	760.00	65.3	0.9070	0.9454	740.90	217.72	0.9578	0.9840	1.0225	2.0100	-0.6759	-1174.19	-1322.05	-762.77
5	760.00	65.3	0.8955	0.9406	742.86	218.30	0.9579	0.9836	1.0278	1.9403	-0.6355	-1173.26	-1321.27	-762.39
6	760.00	65.5	0.8635	0.9247	748.76	220.04	0.9581	0.9826	1.0358	1.8661	-0.5848	-1170.51	-1318.93	-761.23
7	760.00	65.8	0.8158	0.9065	755.26	221.97	0.9583	0.9814	1.0699	1.7001	-0.4632	-1167.50	-1316.37	-759.97
8	760.00	66.5	0.7678	0.8955	775.93	228.07	0.9588	0.9807	1.0936	1.4660	-0.2930	-1158.14	-1308.42	-756.04
9	760.00	66.9	0.7206	0.8793	788.78	231.87	0.9592	0.9798	1.1260	1.3828	-0.2054	-1152.46	-1303.60	-753.66
10	760.00	67.1	0.6355	0.8772	793.49	233.26	0.9593	0.9796	1.2663	1.0718	0.1667	-1150.40	-1301.86	-752.79
11	760.00	67.9	0.5290	0.8533	817.09	240.25	0.9600	0.9783	1.4381	0.9608	0.4033	-1140.30	-1293.31	-748.56
12	760.00	82.8	0.0956	0.5503	1377.27	407.48	0.9722	0.9686	3.0834	0.8954	1.2365	-967.25	-1148.78	-675.68
13	760.00	89.2	0.0633	0.3936	1694.17	503.30	0.9784	0.9668	2.7250	0.9422	1.0620	-902.25	-1095.13	-648.01
14	760.00	93.5	0.0428	0.2556	1936.71	577.20	0.9837	0.9662	2.3018	0.9863	0.8475	-861.37	-1061.46	-630.46
15	760.00	96.0	0.0190	0.2076	2091.90	624.74	0.9857	0.9665	3.9071	0.9468	1.4175	-838.22	-1042.40	-620.46
16	760.00	100.4	0.0082	0.0506	2378.68	713.06	0.9919	0.9670	1.9528	0.9836	0.6858	-800.29	-1011.13	-603.96
17	760.00	100.5	0.0082	0.0480	2389.78	716.50	0.9920	0.9671	1.8441	0.9816	0.6305	-798.93	-1010.01	-603.36

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 513.20 P = 73.50 V = 118.00 CMFGA = 0.557 DMFGAH = 0.105 DIPOLE = 1.66 ETA = -1.21  
 2 T = 585.20 P = 50.70 V = 244.70 CMFGA = 0.288 DMFGAH = 0.0 DIPOLE = 0.0 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.78786E 01 B = 0.14731E 04 C = 0.23000E 03  
 2 A = 0.74315E 01 B = 0.15547E 04 C = 0.24034E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.64511E 02 B = -.19716E 00 C = 0.38735E-03  
 2 A = 0.71966E 02 B = -.41898E-02 C = 0.16875E-03

VAPOR PRESSURE AT NBP

P = 758.5 AT T = 64.7  
 P = 755.4 AT T = 101.1

COMPONENT ID ECHO CHECK

ID NUMBER = 23  
 ID NUMBER = 10

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.98067E 00 B = -.17828E 00 C = -.18190E 01  
 STANDARD DEVIATION = 0.19975E 00

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.6663 G2INF = 2.7639  
 T1INF = 101.30 T2INF = 64.75

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.4350  
 AREA BELOW THE X-AXIS IS -0.1499  
 CROSS-OVER POINT IS X = 0.69  
 NORMALIZED AREA DIFFERENCE IS 0.4876  
 HERRINGTON J-FACTOR IS 16.22  
 CONSISTENCY INDEX IS 32.53



## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	977.73 -163.51	0.1819E-11	17.15	0.02989
2	252.05 -667.92	0.3669E-02	32.75	0.03922
3	1107.85 -337.35	0.4348E 01	25.12	0.02829
4	846.57 -201.29	0.7677E 00	29.78	0.03048
5	968.05 -23.75	0.6315E-01	15.15	0.03244
6	1015.41 -39.15	0.5037E-01	15.57	0.03287
7	872.56 231.29	0.4473E-01	26.02	0.03554
8	927.26 -2.98	0.1156E-01	14.67	0.03219
9	928.59 -4.10	0.1159E-01	14.67	0.03219
10	1102.12 -349.04	0.2650E 00	26.43	0.02805

\*\*DIAGNOSTIC\*\*

8 DATA POINTS FROM ORIGINAL REFERENCE DELETED PRIOR TO CALCULATION  
SEE INTRODUCTION FOR DETAILS CONCERNING DATA BASE UPDATE

3 METHYL PYRIDINE(1) WATER(2) TASSICS DATA SYSTEM 142

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1OL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	547.80	89.8	0.0031	0.0426	138.47	522.24	1.0000	1.0000	54.9745	1.0069	4.0000	0.0	0.0	0.0
2	590.60	89.8	0.0167	0.1048	138.47	522.24	1.0000	1.0000	23.4356	1.0137	3.1406	0.0	0.0	0.0
3	534.10	89.8	0.0605	0.1119	138.47	522.24	1.0000	1.0000	7.7810	1.0568	1.9965	0.0	0.0	0.0
4	544.10	89.8	0.0941	0.1120	138.47	522.24	1.0000	1.0000	5.0071	1.0958	1.5194	0.0	0.0	0.0
5	534.00	89.8	0.1371	0.1123	138.47	522.24	1.0000	1.0000	3.4453	1.1498	1.0974	0.0	0.0	0.0
6	534.00	89.8	0.1990	0.1135	138.47	522.24	1.0000	1.0000	2.5126	1.2233	0.7158	0.0	0.0	0.0
7	532.30	89.8	0.2410	0.1157	138.47	522.24	1.0000	1.0000	2.0134	1.2985	0.4387	0.0	0.0	0.0
8	577.60	89.8	0.3019	0.1210	138.47	522.24	1.0000	1.0000	1.6679	1.3517	0.1810	0.0	0.0	0.0
9	566.80	89.8	0.3748	0.1309	138.47	522.24	1.0000	1.0000	1.4259	1.5080	-0.0560	0.0	0.0	0.0
10	553.30	89.8	0.4267	0.1403	138.47	522.24	1.0000	1.0000	1.3105	1.5880	-0.1921	0.0	0.0	0.0
11	542.00	89.8	0.4641	0.1488	138.47	522.24	1.0000	1.0000	1.2518	1.6477	-0.2748	0.0	0.0	0.0
12	512.80	89.8	0.5388	0.1635	138.47	522.24	1.0000	1.0000	1.1554	1.7656	-0.4263	0.0	0.0	0.0
13	432.40	89.8	0.5976	0.1900	138.47	522.24	1.0000	1.0000	1.1052	1.8586	-0.5198	0.0	0.0	0.0
14	417.40	89.8	0.7118	0.2508	138.47	522.24	1.0000	1.0000	1.0601	2.0770	-0.6726	0.0	0.0	0.0
15	368.90	89.8	0.7818	0.2948	138.47	522.24	1.0000	1.0000	1.0029	2.2823	-0.8223	0.0	0.0	0.0
16	171.40	89.8	0.9747	0.7947	138.47	522.24	1.0000	1.0000	1.0084	2.6629	-0.9710	0.0	0.0	0.0

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1 T = 0.0 P = 0.0 V = 0.0 OMEGA = 0.0 OMEGAH = 0.0 DIPCLE = 0.0 ETA = 0.0  
 2 T = 647.40 P = \*\*\*\*\* V = 55.20 OMEGA = 0.344 OMEGAH = 0.010 DIPCLE = 1.85 ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.69940E 01 B = 0.14626E 04 C = 0.21160E 03  
 2 A = 0.79668E 01 B = 0.16682E 04 C = 0.22800E 03  
 P = 760.0 AT T = 144.0  
 P = 760.0 AT T = 100.0

MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.68055E 02 B = 0.10000E 00 C = 0.0  
 2 A = 0.22887E 02 B = -0.36416E 01 C = 0.68556E 04  
 COMPONENT ID ECHO CHECK  
 ID NUMBER = 57  
 ID NUMBER = 34

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.29506E 01 B = -0.10745E 02 C = 0.73550E 01  
 STANDARD DEVIATION = 0.46611E 00

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 19.1179 G2INF = 1.5521  
 T1INF = 89.83 T2INF = 89.83

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.4804  
 AREA BELOW THE X-AXIS IS -0.4508  
 CROSS-OVER POINT IS X = 0.37  
 NORMALIZED AREA DIFFERENCE IS -0.0319  
 CONSISTENCY INDEX IS 3.19

## SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES		OBJECTIVE FUNCTION	QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)	
				PRESSURE	COMPOSITION
1	1398.00	854.49	0.3865F-09	68.88	0.04021
2	8570.12	1287.72	0.1402F-02	7.05	0.00917
3	8734.95	838.18	0.2233F-03	61.33	0.03778
4	8743.65	1089.68	0.1098F-C1	29.12	0.01927
5	8637.59	1286.27	C.1172F-C1	7.09	0.00918
6	8646.07	1261.82	0.6676F-02	8.75	0.00925
7	8905.36	1293.48	0.6283F-02	6.91	0.00916
8	9013.81	1291.83	C.4802F-02	6.95	0.00916
9	9110.75	1291.83	0.4802F-02	6.95	0.00916
10	9332.11	930.07	0.3343F-00	49.22	0.03083

METHYL ETHYL KETONE(1) BENZENE(2)

SYSTEM-143A

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	273.70	50.0	0.8450	0.8250	262.50	266.50	0.9822	0.9834	0.9996	1.1388	-0.1304	-1236.72	-1217.82	-1231.06
2	278.50	50.0	0.7000	0.6850	262.50	266.50	0.9829	0.9831	1.0192	1.0774	-0.0555	-1236.72	-1217.82	-1231.06
3	282.30	50.0	0.5070	0.4970	262.50	266.50	0.9826	0.9829	1.0491	1.0461	0.0029	-1236.72	-1217.82	-1231.06
4	282.10	50.0	0.3000	0.3090	262.50	266.50	0.9826	0.9829	1.0863	1.0258	0.0573	-1236.72	-1217.82	-1231.06
5	278.60	50.0	0.1550	0.1700	262.50	266.50	0.9828	0.9832	1.1426	1.0082	0.1251	-1236.72	-1217.82	-1231.06

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1	T = 533.20	P = 39.50	V = 288.40	OMEGA = 0.337	OMEGAH = 0.215	DIPCLE = 2.70	ETA = 0.0
2	T = 562.00	P = 48.60	V = 260.10	OMEGA = 0.211	OMEGAH = 0.0	DIPCLF = 0.0	ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69742E 01	B = 0.12096E 04	C = 0.21600E 03	P = 762.4 AT T = 79.6
2	A = 0.69056E 01	B = 0.12110E 04	C = 0.22079E 03	P = 760.0 AT T = 80.1

## MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.71193E 02	B = 0.96599E 02	C = 0.18100E 03	COMPONENT ID CHECK
2	A = 0.70863E 02	B = 0.14907E 01	C = 0.15880E 03	ID NUMBER = 28
				ID NUMBER = 5

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.16536E 00 B = -.30224E 00 C = -.45805E 01

STANDARD DEVIATION = 0.15236E 01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.1798 G2INF = 1.2004

T1INF = 50.00 T2INF = 50.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0430

AREA BELOW THE X-AXIS IS -0.0440

CROSS-OVER POINT IS X = 0.51

NORMALIZED AREA DIFFERENCE IS -0.0118

CONSISTENCY INDEX IS 1.18

## SUMMARY OF WILSON PARAMETERS

## MODEL NO. PARAMETER VALUES OBJECTIVE FUNCTION

1	-12.76	130.10	0.1919E-11
2	343.75	-166.89	0.2078E-05
3	72.60	44.95	0.4215E-03
4	74.62	42.74	0.3719E-03
5	166.83	-38.87	0.9266E-04
6	3.99	115.18	0.3238E-04
7	137.21	-13.86	0.8900E-04
8	345.13	-168.19	0.1760E-05
9	345.13	-168.19	0.1760E-05
10	72.53	44.93	0.1469E-01

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
1.18	0.00163
0.15	0.00305
0.89	0.00176
0.89	0.00177
0.62	0.00217
1.26	0.00162
0.71	0.00202
0.15	0.00303
0.15	0.00303
0.89	0.00176

METHYL ETHYL KETONE(1) - BENZENE(2) SYSTEM 143B

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2OL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	79.0	0.8450	0.8700	720.06	707.63	0.9662	0.9653	0.9984	1.1333	-0.1268	-974.38	-978.02	-993.40
2	760.00	78.6	0.7000	0.6900	711.57	699.54	0.9660	0.9654	1.0176	1.0803	-0.0637	-977.29	-980.62	-995.99
3	760.00	78.3	0.5000	0.4950	706.02	694.26	0.9657	0.9656	1.0257	1.0641	-0.0367	-979.21	-982.34	-997.70
4	760.00	78.5	0.3000	0.3150	710.45	698.49	0.9656	0.9659	1.0809	1.0250	0.0531	-977.67	-980.97	-996.33
5	760.00	79.0	0.1550	0.1770	720.96	708.49	0.9655	0.9661	1.1583	1.0060	0.1410	-974.07	-977.75	-993.13

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 533.20	P = 39.50	V = 288.40	OMEGA = 0.337	OMEGAH = 0.215	DIPCLE = 2.70	ETA = 0.0
2	T = 562.00	P = 48.60	V = 260.10	OMEGA = 0.211	OMEGAH = 0.0	DIPOLE = 0.0	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69742E 01	B = 0.12096E 04	C = 0.21600E 03
2	A = 0.69056E 01	B = 0.12110E 04	C = 0.22079E 03

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.71193E 02	B = 0.96555E 02	C = 0.18100E 03
2	A = 0.70863E 02	B = 0.14907E 01	C = 0.15880E 03

VAPOR PRESSURE AT NBP

P = 762.4 AT T = 79.6

P = 760.0 AT T = 80.1

COMPONENT ID ECHO CHECK

ID NUMBER = 28

ID NUMBER = 5

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.23086E 00 B = -0.66203E 00 C = 0.29820E 00

STANDARD DEVIATION = 0.20416E 01

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.2597 G2INF = 1.1422

T1INF = 80.10 T2INF = 79.50

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.0460

AREA BELOW THE X-AXIS IS -0.0467

GROSS OVER POINT IS X = 0.43

NORMALIZED AREA DIFFERENCE IS -0.0081

HERINGTON J-FACTOR IS 0.75

CONSISTENCY INDEX IS 0.06

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	427.83 -222.90	0.0
2	446.00 -231.94	0.1156E-05
3	460.60 -235.23	0.5087E-03
4	463.27 -237.13	0.4355E-03
5	477.99 -249.61	0.5748E-04
6	504.27 -261.13	0.5317E-04
7	468.98 -244.32	0.6030E-04
8	452.10 -235.45	0.8496E-06
9	452.19 -235.50	0.8478E-06
10	454.55 -231.72	0.1714E-01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
0.58	0.00229
0.26	0.00218
1.40	0.00193
1.31	0.00192
0.38	0.00214
1.13	0.00195
0.39	0.00213
0.24	0.00218
0.24	0.00218
1.38	0.00196

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	226.10	50.0	0.2000	0.3800	262.50	163.64	0.9875	0.9954	1.6144	1.0650	0.4160	-1236.72	-453.80	-686.77
2	253.20	50.0	0.4000	0.5500	262.50	163.64	0.9853	0.9955	1.3052	1.1541	0.1230	-1236.72	-453.80	-686.77
3	267.40	50.0	0.6000	0.6900	262.50	163.64	0.9840	0.9960	1.1513	1.2601	-0.0903	-1236.72	-453.80	-686.77
4	272.50	50.0	0.8000	0.8200	262.50	163.64	0.9834	0.9968	1.0451	1.4924	-0.3562	-1236.72	-453.80	-686.77
5	272.40	50.0	0.9200	0.9250	262.50	163.64	0.9833	0.9976	1.0247	1.5552	-0.4173	-1236.72	-453.80	-686.77

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 533.20	P = 39.50	V = 288.40	OMEGA = 0.337	OMEGA H = 0.215	DIPOLE = 2.70	ETA = 0.0
2	T = 508.50	P = 47.00	V = 218.50	OMEGA = 0.663	OMEGA H = 0.187	DIPOLE = 1.60	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69742E 01	B = 0.12096E 04	C = 0.21600E 03
2	A = 0.66604E 01	B = 0.81305E 03	C = 0.13293E 03

VAPOR PRESSURE AT NBP

P = 762.4	AT T = 79.6
P = 769.7	AT T = 82.5

MOULAR VOLUME EQUATION COEFFICIENTS

1	A = 0.71193E 02	B = 0.96599E 02	C = 0.18100E 03
2	A = 0.14178E 03	B = -0.49807E 00	C = 0.92870E 03

COMPONENT ID CHECK

ID NUMBER = 28
ID NUMBER = 22

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.73668E 00	B = -0.16950E 01	C = 0.46571E 00
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RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.1754
AREA BELOW THE X-AXIS IS	-0.1330
CROSS-OVER POINT IS X =	0.50
NORMALIZED AREA DIFFERENCE IS	0.1375
CONSISTENCY INDEX IS	13.75

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.0890	G2INF = 1.6432
T1INF = 50.00	T2INF = 50.00

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	388.11 85.68	0.3638E-11
2	485.08 153.56	0.1009E-03
3	505.82 65.23	0.2561E-01
4	430.46 104.49	0.1455E-01
5	220.09 320.83	0.1839E-02
6	84.77 360.28	6.4382E-03
7	117.50 412.22	0.1714E-02
8	342.97 250.26	0.1888E-04
9	343.27 250.04	0.1887E-04
10	493.47 75.90	0.4777E-01

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
10.27	0.00992
1.30	0.01538
6.92	0.01093
6.99	0.00987
1.72	0.01088
7.09	0.00591
2.09	0.01068
0.35	0.01386
0.35	0.01386
6.58	0.01077

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	760.00	79.6	0.2000	0.2800	734.77	674.40	0.9710	0.9876	1.4014	0.9989	0.3386	-969.43	-378.23	-549.64
2	760.00	78.1	0.4000	0.4780	700.73	633.42	0.9684	0.9888	1.2509	1.0293	0.1950	-981.06	-381.25	-555.38
3	760.00	77.4	0.6000	0.6500	685.68	615.45	0.9668	0.9905	1.1570	1.0673	0.0807	-986.40	-382.65	-558.02
4	760.00	77.8	0.8000	0.7850	694.31	626.34	0.9663	0.9924	1.0336	1.2908	-0.2222	-983.14	-381.79	-556.41
5	760.00	78.7	0.9200	0.9070	714.69	650.16	0.9663	0.9943	1.0096	1.3474	-0.2886	-976.21	-379.99	-552.98

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 533.20	P = 39.50	V = 288.40	OMEGA = 0.337	OMEGAH = 0.215	DIPCLE = 2.70	FTA = 0.0
2	T = 508.50	P = 47.00	V = 218.50	OMEGA = 0.663	OMEGAH = 0.187	DIPCLF = 1.60	FTA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69742E 01	B = 0.12096E 04	C = 0.21600E 03
2	A = 0.66604E 01	B = 0.81305E 03	C = 0.13293E 03

VAPOR PRESSURE AT NBP

P = 762.4	AT T = 79.6
P = 769.7	AT T = 82.5

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.71193E 02	B = 0.96599E 02	C = 0.18100E 03
2	A = 0.14178E 03	B = -0.49807E 00	C = 0.92870E 03

COMPONENT ID ECHO CHECK

ID NUMBER = 28
ID NUMBER = 22

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.42740E 00	B = -0.34715E 00	C = -0.49831E 00
STANDARD DEVIATION = 0.51518E-01		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.5333	G2INF = 1.5190
T1INF = 82.19	T2INF = 79.50

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.1589
AREA BELOW THE X-AXIS IS	-0.0712
CROSS-OVER POINT IS X =	0.64
NORMALIZED AREA DIFFERENCE IS	0.3813
HERINGTON J-FACTOR IS	2.04
CONSISTENCY INDEX IS	36.08

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	57.09	256.87
2	-89.95	443.89
3	8.27	294.30
4	-125.35	433.40
5	324.13	821.60
6	-452.52	1139.45
7	-408.04	1033.48
8	7.09	345.93
9	6.92	346.07
10	-6.95	303.69

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
6.78	0.01915
3.59	0.01799
8.71	0.01862
10.62	0.01734
8.11	0.01506
12.84	0.01260
11.36	0.01351
2.23	0.01906
2.23	0.01906
9.84	0.01844

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	626.79	55.0	0.0348	0.0592	273.77	590.44	0.9549	0.9705	3.7121	1.0016	1.3100	-1522.88	-963.12	-1216.56
2	644.24	55.0	0.0570	0.0850	273.77	590.44	0.9535	0.9697	3.3398	1.0239	1.1823	-1522.88	-963.12	-1216.56
3	650.38	55.0	0.0963	0.1202	273.77	590.44	0.9530	0.9694	2.8204	1.0368	1.0007	-1522.88	-963.12	-1216.56
4	653.11	55.0	0.1610	0.1583	273.77	590.44	0.9527	0.9693	2.2303	1.0728	0.7319	-1522.88	-963.12	-1216.56
5	650.96	55.0	0.2236	0.1819	273.77	590.44	0.9528	0.9694	1.8394	1.1232	0.4933	-1522.88	-963.12	-1216.56
6	646.79	55.0	0.2731	0.1990	273.77	590.44	0.9530	0.9696	1.6375	1.1673	0.3384	-1522.88	-963.12	-1216.56
7	641.49	55.0	0.3149	0.2143	273.77	590.44	0.9533	0.9699	1.5173	1.2053	0.2302	-1522.88	-963.12	-1216.56
8	632.14	55.0	0.3789	0.2361	273.77	590.44	0.9540	0.9703	1.3700	1.2744	0.0723	-1522.88	-963.12	-1216.56
9	623.67	55.0	0.4270	0.2473	273.77	590.44	0.9546	0.9707	1.2571	1.3435	-0.0665	-1522.88	-963.12	-1216.56
10	599.03	55.0	0.5206	0.2839	273.77	590.44	0.9563	0.9719	1.1390	1.4693	-0.2546	-1522.88	-963.12	-1216.56
11	569.02	55.0	0.6035	0.3240	273.77	590.44	0.9584	0.9734	1.0676	1.5956	-0.4018	-1522.88	-963.12	-1216.56
12	546.74	55.0	0.6096	0.3280	273.77	590.44	0.9585	0.9735	1.0659	1.6047	-0.4097	-1522.88	-963.12	-1216.56
13	560.25	55.0	0.6233	0.3359	273.77	590.44	0.9590	0.9738	1.0558	1.6252	-0.4313	-1522.88	-963.12	-1216.56
14	545.72	55.0	0.6555	0.3581	273.77	590.44	0.9600	0.9745	1.0437	1.6745	-0.4727	-1522.88	-963.12	-1216.56
15	543.53	55.0	0.6538	0.3593	273.77	590.44	0.9602	0.9746	1.0380	1.6810	-0.4821	-1522.88	-963.12	-1216.56
16	538.78	55.0	0.7194	0.4058	273.77	590.44	0.9626	0.9763	1.0076	1.7778	-0.5678	-1522.88	-963.12	-1216.56
17	469.41	55.0	0.7799	0.4729	273.77	590.44	0.9654	0.9782	1.0023	1.8588	-0.6176	-1522.88	-963.12	-1216.56
18	441.04	55.0	0.8131	0.5205	273.77	590.44	0.9674	0.9796	0.9964	1.8738	-0.6316	-1522.88	-963.12	-1216.56
19	407.90	55.0	0.8521	0.5965	273.77	590.44	0.9658	0.9812	1.0103	1.8462	-0.6029	-1522.88	-963.12	-1216.56
20	367.01	55.0	0.8971	0.6877	273.77	590.44	0.9728	0.9832	0.9986	1.8520	-0.6177	-1522.88	-963.12	-1216.56
21	346.89	55.0	0.9198	0.7467	273.77	590.44	0.9742	0.9842	1.0011	1.8237	-0.5997	-1522.88	-963.12	-1216.56
22	339.89	55.0	0.9288	0.7698	273.77	590.44	0.9749	0.9846	1.0020	1.8299	-0.6023	-1522.88	-963.12	-1216.56
23	336.38	55.0	0.9669	0.8838	273.77	590.44	0.9772	0.9862	0.9987	1.7943	-0.5859	-1522.88	-963.12	-1216.56

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 516.00 P = 63.00 V = 161.30 CMFGA = 0.637 CMFGAH = 0.152 DIPOLE = 1.69 ETA = -1.10  
 2 T = 536.60 P = 54.00 V = 276.00 CMFGA = 0.214 CMFGAH = 0.187 DIPOLE = 1.02 FTA = 0.28

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.80449E 01 B = 0.15543E 04 C = 0.22265E 03  
 2 A = 0.69033E 01 B = 0.11630E 04 C = 0.22740E 03

## VAPOR PRESSURE AT NBP

P = 762.1 AT T = 78.4  
 P = 749.5 AT T = 61.3

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.53701E 02 B = -0.31109E-01 C = 0.16000E-03  
 2 A = 0.61065E 02 B = 0.30264E-01 C = 0.11910E-03

## COMPONENT ID CHECK

ID NUMBER = 11  
 ID NUMBER = 8

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.14361E 01 B = -0.46693E 01 C = 0.26586E 01  
 STANDARD DEVIATION = 0.18724E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 4.2042 G2INF = 1.7764  
 T1INF = 55.00 T2INF = 55.00

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2576  
 AREA BELOW THE X-AXIS IS -0.2700  
 CROSS-OVER POINT IS X = 0.40  
 NORMALIZED AREA DIFFERENCE IS -0.0234  
 CONSISTENCY INDEX IS 2.34



## SUMMARY OF WILSON PARAMETERS

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION	PRESSURE	COMPOSITION
1	1327.96 -370.17	0.3365E-10	28.02	0.02132
2	1546.30 -297.28	6.7680E-03	5.90	0.01024
3	1314.79 -264.54	0.2439E 00	10.95	0.01085
4	1369.29 -276.20	0.7397E-01	10.17	0.01070
5	1550.89 -289.14	0.9813E-02	5.54	0.01018
6	1567.88 -294.26	0.5746E-02	5.73	0.01024
7	1534.36 -274.71	0.6736E-02	5.38	0.01011
8	1536.47 -285.18	0.4050E-02	5.42	0.01015
9	1536.70 -285.22	0.4050E-02	5.43	0.01015
10	1349.49 -280.21	0.2531E-01	11.36	0.01101

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F1CL	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	519.40	55.0	0.1035	0.1610	590.44	465.17	0.9787	0.9631	1.3364	1.0029	0.2870	-963.12	-1456.26	-1125.08
2	552.10	55.0	0.2035	0.2960	590.44	465.17	0.9763	0.9611	1.3249	1.0045	0.2769	-963.12	-1456.26	-1125.08
3	575.10	55.0	0.2905	0.3850	590.44	465.17	0.9748	0.9598	1.2553	1.0246	0.2031	-963.12	-1456.26	-1125.08
4	595.60	55.0	0.3964	0.4840	590.44	465.17	0.9733	0.9588	1.1959	1.0452	0.1346	-963.12	-1456.26	-1125.08
5	617.30	55.0	0.4992	0.5690	590.44	465.17	0.9719	0.9577	1.1553	1.0893	0.0588	-963.12	-1456.26	-1125.08
6	627.60	55.0	0.5965	0.6400	590.44	465.17	0.9711	0.9575	1.1047	1.1477	-0.0382	-963.12	-1456.26	-1125.08
7	635.10	55.0	0.6991	0.7200	590.44	465.17	0.9705	0.9575	1.0723	1.2114	-0.1219	-963.12	-1456.26	-1125.08
8	636.90	55.0	0.8000	0.7940	590.44	465.17	0.9702	0.9580	1.0360	1.3453	-0.2612	-963.12	-1456.26	-1125.08
9	631.20	55.0	0.9003	0.8830	590.44	465.17	0.9704	0.9592	1.0148	1.5209	-0.4046	-963.12	-1456.26	-1125.08

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 536.60	P = 54.00	V = 276.00	OMEGA = 0.214	OMEGAH = 0.187	DIPOLE = 1.02	ETA = 0.28
2	T = 507.90	P = 29.90	V = 372.40	OMEGA = 0.298	OMEGAH = 0.0	DIPOLE = 0.0	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.69033E 01	B = 0.11630E 04	C = 0.22740E 03
2	A = 0.68778E 01	B = 0.11715E 04	C = 0.22437E 03

VAPOR PRESSURE AT NBP

P = 749.5	AT T = 61.3
P = 759.0	AT T = 68.7

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.61065E 02	B = 0.30264E 01	C = 0.11910E 03
2	A = 0.12596E 03	B = -0.14456E 00	C = 0.54720E 03

COMPONENT ID CHECK

ID NUMBER = 8
ID NUMBER = 18

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.31940E 00	B = -0.16946E 00	C = -0.69743E 00
STANDARD DEVIATION = 0.13286E 01		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 1.3763	G2INF = 1.7289
T1INF = 55.00	T2INF = 55.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.1115
AREA BELOW THE X-AXIS IS	-0.1093
CROSS-OVER POINT IS X =	0.57
NORMALIZED AREA DIFFERENCE IS	0.0099
CONSISTENCY INDEX IS	0.99

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER	VALUES	OBJECTIVE FUNCTION
1	166.57	210.68	0.4547E-11
2	135.44	324.03	0.2475E-04
3	171.53	242.54	0.1453E-02
4	170.71	244.89	0.9106E-03
5	163.57	255.67	0.1427E-03
6	181.97	226.17	0.8212E-04
7	164.26	263.78	0.1240E-03
8	135.63	321.52	0.2938E-04
9	135.85	321.07	0.2988E-04
10	168.92	247.33	0.3783E-02

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

	PRESSURE	COMPOSITION
	6.24	0.00316
	0.91	0.00255
	1.86	0.00157
	1.78	0.00161
	1.12	0.00201
	1.78	0.00157
	1.18	0.00198
	0.87	0.00247
	0.87	0.00247
	1.83	0.00162

SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F2CL	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	659.80	55.0	0.0926	0.3300	687.37	465.17	0.9652	0.9541	3.3432	1.0099	1.1971	-1294.80	-1456.26	-1119.20
2	730.90	55.0	0.1846	0.4760	687.37	465.17	0.9559	0.9488	2.7921	1.0182	1.0087	-1294.80	-1456.26	-1119.20
3	851.80	55.0	0.2989	0.5400	687.37	465.17	0.9506	0.9456	2.1213	1.1295	0.6302	-1294.80	-1456.26	-1119.20
4	873.80	55.0	0.3933	0.5780	687.37	465.17	0.9486	0.9451	1.7663	1.2276	0.3638	-1294.80	-1456.26	-1119.20
5	873.40	55.0	0.4975	0.6020	687.37	465.17	0.9470	0.9445	1.4843	1.4281	0.0386	-1294.80	-1456.26	-1119.20
6	995.20	55.0	0.5598	0.6280	687.37	465.17	0.9458	0.9445	1.2956	1.6580	-0.2674	-1294.80	-1456.26	-1119.20
7	879.80	55.0	0.6993	0.6610	687.37	465.17	0.9456	0.9458	1.1661	2.0500	-0.5642	-1294.80	-1456.26	-1119.20
8	833.40	55.0	0.8021	0.7000	687.37	465.17	0.9460	0.9479	1.0575	2.7128	-0.9420	-1294.80	-1456.26	-1119.20
9	841.30	55.0	0.9090	0.7950	687.37	465.17	0.9476	0.9534	1.0111	3.8626	-1.3403	-1294.80	-1456.26	-1119.20

PURE COMPONENT PROPERTIES

CRITICAL PROPERTIES

1	T = 508.70	P = 46.60	V = 213.50	OMEGA = 0.309	OMEGA H = 0.187	DIPOLE = 2.88	ETA = -0.0
2	T = 507.90	P = 29.50	V = 372.40	OMEGA = 0.298	OMEGA H = 0.0	DIPOLE = 0.0	ETA = 0.0

VAPOR PRESSURE EQUATION COEFFICIENTS

1	A = 0.70200F 01	B = 0.11610E 04	C = 0.22400F 03	VAPOR PRESSURE AT NBP
2	A = 0.68778F 01	B = 0.11715F 04	C = 0.22437F 03	P = 760.3 AT T = 56.5
				P = 759.0 AT T = 68.7

MOLAR VOLUME EQUATION COEFFICIENTS

1	A = 0.56865F 02	B = 0.84265E -02	C = 0.16507E -03	COMPONENT ID ECHO CHECK
2	A = 0.12596F 03	B = -0.14456F 00	C = 0.54720F -03	ID NUMBER = 2
				ID NUMBER = 18

MIXTURE PROPERTIES

ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.14479F 01	B = -0.24859F 01	C = -0.62273E 00
STANDARD DEVIATION = 0.25416E -01		

INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 4.2540	G2INF = 5.2636
T1INF = 55.00	T2INF = 55.00

RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS	0.3876
AREA BELOW THE X-AXIS IS	-0.3903
CROSS-OVER POINT IS X =	0.52
NORMALIZED AREA DIFFERENCE IS	-0.0034
CONSISTENCY INDEX IS	0.34

SUMMARY OF WILSON PARAMETERS

MODEL NO.	PARAMETER VALUES	OBJECTIVE FUNCTION
1	878.77 357.39	0.8185F -11
2	876.82 466.39	0.4267F -03
3	893.29 441.70	0.2224F -01
4	906.71 425.07	0.5450F -02
5	915.72 396.87	0.1534F -02
6	933.74 439.08	0.7467F -03
7	932.16 384.72	0.1454F -02
8	909.15 385.60	0.1751F -03
9	908.57 386.36	0.1755F -03
10	892.15 442.52	0.1965F -02

QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE	COMPOSITION
11.14	0.01181
4.73	0.00941
6.45	0.00624
6.42	0.00620
3.96	0.00681
14.48	0.00512
4.77	0.00652
3.04	0.00754
3.04	0.00753
6.43	0.00625

## SUMMARY VLE DATA AND CALCULATED PROPERTIES

NO.	P	T	X1	Y1	F10L	F20L	PHI1	PHI2	G1	G2	LN(G1/G2)	B11	B22	B12
1	750.00	75.3	0.1240	0.2230	619.33	641.20	0.9550	0.9649	2.1079	1.0110	0.7348	-1153.29	-1002.98	-1092.38
2	750.00	74.0	0.1960	0.3020	619.33	641.20	0.9592	0.9648	1.8062	0.9895	0.6019	-1153.29	-1002.98	-1092.38
3	760.00	78.0	0.2640	0.3660	619.33	641.20	0.9592	0.9648	1.6253	0.9817	0.5042	-1153.29	-1002.98	-1092.38
4	750.00	72.1	0.3550	0.4260	619.33	641.20	0.9593	0.9647	1.4069	1.0142	0.3274	-1153.29	-1002.98	-1092.38
5	750.00	71.5	0.5200	0.5350	619.33	641.20	0.9594	0.9646	1.2064	1.1039	0.0888	-1153.29	-1002.98	-1092.38
6	750.00	71.8	0.6310	0.5800	619.33	641.20	0.9555	0.9646	1.0779	1.2969	-0.1850	-1153.29	-1002.98	-1092.38
7	750.00	72.6	0.7580	0.6440	619.33	641.20	0.9595	0.9645	0.9963	1.6760	-0.5201	-1153.29	-1002.98	-1092.38
8	760.00	73.7	0.8250	0.7010	619.33	641.20	0.9596	0.9644	0.9965	1.9465	-0.6696	-1153.29	-1002.98	-1092.38
9	760.00	74.7	0.8690	0.7470	619.33	641.20	0.9596	0.9644	1.0081	2.2001	-0.7804	-1153.29	-1002.98	-1092.38
10	750.00	77.0	0.9400	0.8360	619.33	641.20	0.9596	0.9642	1.0431	3.1133	-1.0935	-1153.29	-1002.98	-1092.38

## PURE COMPONENT PROPERTIES

## CRITICAL PROPERTIES

1 T = 553.20 P = 40.00 V = 311.20 OMEGA = 0.210 OMEGAH = 0.0 DIPOLE = 0.0 ETA = 0.0  
 2 T = 533.20 P = 39.50 V = 288.40 OMEGA = 0.337 OMEGAH = 0.215 DIPOLE = 2.70 ETA = 0.0

## VAPOR PRESSURE EQUATION COEFFICIENTS

1 A = 0.68450E 01 B = 0.12935E 04 C = 0.22286E 03 P = 759.1 AT T = 86.7  
 2 A = 0.69742E 01 B = 0.12096E 04 C = 0.21600E 03 P = 762.4 AT T = 79.6

## MOLAR VOLUME EQUATION COEFFICIENTS

1 A = 0.92914E 02 B = -.24859E-01 C = 0.26157E-03 COMPONENT ID CHECK  
 2 A = 0.71193E 02 B = 0.96599E-02 C = 0.18100E-03 ID NUMBER = 9  
 ID NUMBER = 28

## MIXTURE PROPERTIES

## ACTIVITY RATIO EQUATION COEFFICIENTS

A = 0.82030E 00 B = -.81677E 00 C = -.12374E 01

STANDARD DEVIATION = 0.37780E-01

## INFINITE DILUTION ACTIVITY COEFFICIENTS

G1INF = 2.2712 G2INF = 3.4346

T1INF = 75.30 T2INF = 75.30

## RESULTS OF THERMODYNAMIC CONSISTENCY TEST

AREA ABOVE THE X-AXIS IS 0.2590

AREA BELOW THE X-AXIS IS -0.2596

CROSS-OVER POINT IS X = 0.55

NORMALIZED AREA DIFFERENCE IS -0.0011

CONSISTENCY INDEX IS 0.11

## SUMMARY OF WILSON PARAMETERS

MODEL NO. PARAMETER VALUES

OBJECTIVE FUNCTION

## QUALITY OF FIT (MEAN ABSOLUTE DEVIATION)

PRESSURE

COMPOSITION

1	18.56	881.07	0.1637E-10	43.91	0.00813
2	-241.16	854.47	0.7046E-02	24.14	0.03723
3	-132.23	1130.52	0.1634E 00	45.48	0.00947
4	-116.63	1039.03	0.8633E-01	40.91	0.01071
5	-134.67	910.80	0.2906E-01	28.15	0.02113
6	24.62	900.22	0.4990E-03	53.50	0.00412
7	54.37	763.04	0.1922E-01	27.93	0.02183
8	-380.39	1398.72	0.1307E-01	22.95	0.03489
9	-381.08	1402.12	0.1306E-01	22.96	0.03489
10	-49.53	976.90	0.4984E-01	47.79	0.00651