C18/C19 Splitter Equipment Reports

Column and Trays (Unit #2010)

Condenser Heat Exchanger (Unit #20071)

Reflux Drum (Unit #20072)

Reflux Pump (Unit #20073)

Distillate Pump (Unit #20074)

Reboiler Heat Exchanger (Unit #20106)

Auxiliary Heater (Unit #20107)

Wax Pump (Unit #2012)

Diesel Cooler (Unit #2011)

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 15:47:27

EQUIPMENT SUMMARIES

TOWR Rigorous Distillation Summary

Equip. No.		2010
Name		
No. of stages		44
1st feed stage		28
Top pressure	psig	-12.0000
Condenser mode		2
Condenser spec.		-54.9700
Reboiler mode		2
Reboiler spec.		29.9000
Initial flag		6
Calc cond duty (MMBtu/h)		-54.9700
Calc rebr duty (MMBtu/h)		29.9000
Tray type		3
Column diameter	ft	16.5000
Tray space	ft	3.0000
Thickness (top)	ft	0.0755
Thickness (bot)	ft	0.0755
Install factor		3.0000
Column purchase	**$**	**1431056**
Column installed	$	4293169
Cost estimation flag		1
Shell weight	lb	273385
Cost of shell	$	389397
Cost of trays	$	236466
Platform & ladder	$	58359
No of sections		1
Condenser area	ft2	1200.0000
Cond P design	psig	100.0000
Reboiler area	ft2	797.0000
Rebr P design	psig	100.0000
Cond purchase	$	32418
Cond installed	$	64835
Rebr purchase	$	23711
Rebr installed	$	47423
Total purchase	$	1487186
Total installed	$	4405428
Calc Reflux ratio		0.5782
Calc Reflux mole (lbmol/h)		609.9633
Calc Reflux mass	lb/h	120388.8750
No of passes (S1)		1
Weir side width	ft	2.9583
Weir height	ft	0.1667
System factor		1.0000
Optimization flag		1

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:26:06
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 1	438.69 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	0.00000
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00000	0.00002	0.00000
Oxygen	0.00000	0.00000	0.00000
Methane	0.00000	0.00002	0.00000
Ethane	0.00000	0.00007	0.00000
Carbon Dioxide	0.00000	0.00000	0.00000
Propane	0.00000	0.00129	0.00000
I-Butane	0.00000	0.01119	0.00000
I-Pentane	0.00000	0.37941	0.00000
N-Hexane	0.00000	4.64924	0.00000
N-Heptane	0.00000	27.50207	0.00000
N-Octane	0.00000	154.24715	0.00000
N-Nonane	0.00000	850.27393	0.00000
N-Decane	0.00000	3902.89795	0.00000
Water	0.00000	0.00000	0.00000
N-Undecane	0.00000	10484.66113	0.00000
N-Dodecane	0.00000	15173.36035	0.00000
N-Tridecane	0.00000	16141.71777	0.00000
N-Tetradecane	0.00000	15919.12598	0.00000
N-Pentadecane	0.00000	15392.80859	0.00000
N-Hexadecane	0.00000	14772.07520	0.00000
N-Heptadecane	0.00000	14105.65234	0.00000
N-Octadecane	0.00000	12808.04199	0.00000
N-Nonadecane	0.00000	656.17273	0.00000
Total lb/h	0.0000	120393.5703	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:27:40
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 2 480.82 K -12.00 psig

	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2760.98926
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00006	0.00000	2289.15137
Oxygen	0.00000	0.00000	0.00000
Methane	0.00005	0.00000	1317.34998
Ethane	0.00018	0.00000	636.99731
Carbon Dioxide	0.00000	0.00000	825.68201
Propane	0.00352	0.00000	368.79977
I-Butane	0.03056	0.00005	243.90347
I-Pentane	1.03628	0.00274	139.85535
N-Hexane	12.69844	0.06201	75.69059
N-Heptane	75.11615	0.59484	46.67234
N-Octane	421.29382	5.43795	28.63337
N-Nonane	2322.34546	48.80693	17.58605
N-Decane	10659.95020	360.64139	10.92453
Water	0.00000	0.00000	955.85846
N-Undecane	28636.65820	1541.64807	6.86531
N-Dodecane	41442.85938	3605.23901	4.24853
N-Tridecane	44087.71875	6093.67871	2.67400
N-Tetradecane	43479.76563	9542.06641	1.68410
N-Pentadecane	42042.24219	14598.87500	1.06436
N-Hexadecane	40346.83203	23562.54492	0.63286
N-Heptadecane	38526.63672	33593.55469	0.42387
N-Octadecane	34982.48828	44426.27734	0.29103
N-Nonadecane	1792.19861	3327.44482	0.19907
Total lb/h	328830.0000	140707.0000	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:28:12
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 3 491.06 K -12.00 psig

	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2631.92773
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00004	0.00000	2223.76953
Oxygen	0.00000	0.00000	0.00000
Methane	0.00003	0.00000	1303.94617
Ethane	0.00012	0.00000	651.00745
Carbon Dioxide	0.00000	0.00000	840.15601
Propane	0.00223	0.00000	385.79855
I-Butane	0.01942	0.00003	259.32086
I-Pentane	0.65961	0.00162	152.30795
N-Hexane	8.11120	0.03582	84.66784
N-Heptane	48.20892	0.33778	53.36484
N-Octane	272.48462	3.04650	33.44298
N-Nonane	1520.87854	27.08977	20.99200
N-Decane	7117.69287	200.01295	13.30595
Water	0.00000	0.00000	1008.24866
N-Undecane	19693.64453	862.74347	8.53511
N-Dodecane	29874.74219	2072.11182	5.39083
N-Tridecane	34039.68359	3670.95850	3.46713
N-Tetradecane	37102.70313	6223.23926	2.22922
N-Pentadecane	41248.30859	10731.60547	1.43716
N-Hexadecane	49137.30469	21055.55664	0.87259
N-Heptadecane	58014.54297	36511.21094	0.59412
N-Octadecane	66600.71875	60149.31641	0.41401
N-Nonadecane	4463.47070	5805.80225	0.28746
Total lb/h	349143.1563	147313.0625	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:28:59
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 4	493.85 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2594.88281
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00004	0.00000	2203.32837
Oxygen	0.00000	0.00000	0.00000
Methane	0.00003	0.00000	1298.63550
Ethane	0.00012	0.00000	653.96118
Carbon Dioxide	0.00000	0.00000	842.98199
Propane	0.00223	0.00000	389.98004
I-Butane	0.01940	0.00003	263.27390
I-Pentane	0.65849	0.00157	155.62856
N-Hexane	8.08501	0.03439	87.13505
N-Heptane	47.95187	0.32169	55.24213
N-Octane	270.09317	2.87501	34.81634
N-Nonane	1499.16138	25.27590	21.98113
N-Decane	6957.06445	184.06081	14.00789
Water	0.00000	0.00000	1023.72046
N-Undecane	19014.74219	779.99298	9.03458
N-Dodecane	28341.61133	1830.72021	5.73734
N-Tridecane	31616.96484	3157.21777	3.71128
N-Tetradecane	33783.87891	5218.27832	2.39933
N-Pentadecane	37381.03906	8908.97656	1.55500
N-Hexadecane	46630.31641	18202.83398	0.94937
N-Heptadecane	60932.19531	34781.90234	0.64923
N-Octadecane	82323.74219	67173.11719	0.45419
N-Nonadecane	6941.82715	8125.73779	0.31661
Total lb/h	355749.3438	148391.3438	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:29:46
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 5	494.92 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2579.06616
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00004	0.00000	2194.05688
Oxygen	0.00000	0.00000	0.00000
Methane	0.00003	0.00000	1295.82825
Ethane	0.00012	0.00000	654.75305
Carbon Dioxide	0.00000	0.00000	843.61902
Propane	0.00223	0.00000	391.40549
I-Butane	0.01940	0.00003	264.68344
I-Pentane	0.65844	0.00155	156.85529
N-Hexane	8.08358	0.03389	88.06637
N-Heptane	47.93578	0.31628	55.95963
N-Octane	269.92163	2.81956	35.34608
N-Nonane	1497.34753	24.71857	22.36574
N-Decane	6941.11230	179.43425	14.28262
Water	0.00000	0.00000	1029.74011
N-Undecane	18932.00000	757.21484	9.23127
N-Dodecane	28100.22070	1766.12500	5.87452
N-Tridecane	31103.22656	3015.34155	3.80849
N-Tetradecane	32778.91797	4905.00000	2.46740
N-Pentadecane	35558.40625	8193.39941	1.60237
N-Hexadecane	43777.59766	16487.24023	0.98037
N-Heptadecane	59202.89453	32549.40625	0.67156
N-Octadecane	89347.53906	70112.71094	0.47051
N-Nonadecane	9261.76465	10410.42676	0.32848
Total lb/h	356827.6250	148404.1875	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:30:46
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 6	495.48 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2569.86450
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00004	0.00000	2188.37964
Oxygen	0.00000	0.00000	0.00000
Methane	0.00003	0.00000	1293.89392
Ethane	0.00012	0.00000	654.93958
Carbon Dioxide	0.00000	0.00000	843.65930
Propane	0.00223	0.00000	392.01889
I-Butane	0.01940	0.00003	265.33273
I-Pentane	0.65842	0.00154	157.44766
N-Hexane	8.08308	0.03363	88.52757
N-Heptane	47.93037	0.31342	56.31963
N-Octane	269.86621	2.79064	35.61428
N-Nonane	1496.79028	24.43234	22.56187
N-Decane	6936.48584	177.11287	14.42343
Water	0.00000	0.00000	1032.64673
N-Undecane	18909.21484	746.19391	9.33257
N-Dodecane	28035.62305	1736.62244	5.94544
N-Tridecane	30961.34766	2954.80908	3.85896
N-Tetradecane	32465.63281	4777.14355	2.50285
N-Pentadecane	34842.83203	7886.39551	1.62710
N-Hexadecane	42062.00000	15543.69043	0.99659
N-Heptadecane	56970.40234	30707.00000	0.68327
N-Octadecane	92287.14063	70942.72656	0.47909
N-Nonadecane	11546.45215	12703.89746	0.33473
Total lb/h	356840.4688	148203.1406	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:31:10
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 7	495.83 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2563.55078
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00004	0.00000	2184.38110
Oxygen	0.00000	0.00000	0.00000
Methane	0.00003	0.00000	1292.46130
Ethane	0.00012	0.00000	654.97095
Carbon Dioxide	0.00000	0.00000	843.57062
Propane	0.00223	0.00000	392.36316
I-Butane	0.01940	0.00003	265.71738
I-Pentane	0.65841	0.00153	157.81075
N-Hexane	8.08282	0.03344	88.81507
N-Heptane	47.92751	0.31147	56.54598
N-Octane	269.83728	2.77107	35.78382
N-Nonane	1496.50415	24.24067	22.68640
N-Decane	6934.16455	175.57600	14.51313
Water	0.00000	0.00000	1034.37646
N-Undecane	18898.19531	739.01013	9.39728
N-Dodecane	28006.12305	1717.89343	5.99086
N-Tridecane	30900.81836	2918.11694	3.89134
N-Tetradecane	32337.77539	4705.11182	2.52565
N-Pentadecane	34535.82813	7724.26611	1.64303
N-Hexadecane	41118.45313	15004.46289	1.00704
N-Heptadecane	55128.00000	29324.81836	0.69083
N-Octadecane	93117.14844	70608.53906	0.48462
N-Nonadecane	13839.92285	15013.00000	0.33877
Total lb/h	356639.4375	147958.1406	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:31:47
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 8	496.09 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2558.63818
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00004	0.00000	2181.22534
Oxygen	0.00000	0.00000	0.00000
Methane	0.00003	0.00000	1291.29944
Ethane	0.00012	0.00000	654.95221
Carbon Dioxide	0.00000	0.00000	843.44995
Propane	0.00223	0.00000	392.59720
I-Butane	0.01940	0.00003	265.98993
I-Pentane	0.65840	0.00153	158.07430
N-Hexane	8.08264	0.03330	89.02615
N-Heptane	47.92555	0.30992	56.71302
N-Octane	269.81775	2.75566	35.90943
N-Nonane	1496.31250	24.09082	22.77897
N-Decane	6932.62744	174.38379	14.57992
Water	0.00000	0.00000	1035.57104
N-Undecane	18891.00977	733.48401	9.44556
N-Dodecane	27987.39453	1703.66699	6.02478
N-Tridecane	30864.12500	2890.82935	3.91557
N-Tetradecane	32265.74023	4653.78369	2.54272
N-Pentadecane	34373.69922	7617.26465	1.65497
N-Hexadecane	40579.21875	14663.76758	1.01490
N-Heptadecane	53745.81641	28299.85156	0.69650
N-Octadecane	92783.00000	69616.75000	0.48878
N-Nonadecane	16149.01270	17327.45898	0.34180
Total lb/h	356394.4063	147708.4375	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:32:15
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 9	496.31 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2554.57495
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00004	0.00000	2178.60913
Oxygen	0.00000	0.00000	0.00000
Methane	0.00003	0.00000	1290.33789
Ethane	0.00012	0.00000	654.93707
Carbon Dioxide	0.00000	0.00000	843.35040
Propane	0.00223	0.00000	392.79080
I-Butane	0.01940	0.00003	266.21555
I-Pentane	0.65840	0.00152	158.29259
N-Hexane	8.08249	0.03317	89.20115
N-Heptane	47.92400	0.30857	56.85160
N-Octane	269.80234	2.74234	36.01366
N-Nonane	1496.16272	23.96218	22.85575
N-Decane	6931.43506	173.36540	14.63537
Water	0.00000	0.00000	1036.52222
N-Undecane	18885.48633	728.79236	9.48566
N-Dodecane	27973.16797	1691.67603	6.05296
N-Tridecane	30836.83594	2868.06812	3.93571
N-Tetradecane	32214.41406	4611.86133	2.55692
N-Pentadecane	34266.69922	7534.00000	1.66491
N-Hexadecane	40238.53125	14420.42480	1.02143
N-Heptadecane	52720.85547	27521.04492	0.70123
N-Octadecane	91791.16406	68258.68750	0.49225
N-Nonadecane	18463.48828	19628.22070	0.34433
Total lb/h	356145.0000	147463.1875	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:32:44
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 10	496.50 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2551.15015
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00004	0.00000	2176.42578
Oxygen	0.00000	0.00000	0.00000
Methane	0.00003	0.00000	1289.55920
Ethane	0.00012	0.00000	654.95618
Carbon Dioxide	0.00000	0.00000	843.30469
Propane	0.00223	0.00000	392.97974
I-Butane	0.01940	0.00003	266.42636
I-Pentane	0.65839	0.00152	158.49168
N-Hexane	8.08236	0.03305	89.35893
N-Heptane	47.92266	0.30734	56.97599
N-Octane	269.78903	2.73024	36.10686
N-Nonane	1496.03394	23.84584	22.92429
N-Decane	6930.41650	172.44838	14.68477
Water	0.00000	0.00000	1037.38159
N-Undecane	18880.79688	724.58472	9.52134
N-Dodecane	27961.17578	1680.97046	6.07802
N-Tridecane	30814.07617	2847.88403	3.95361
N-Tetradecane	32172.48828	4575.07080	2.56953
N-Pentadecane	34183.42188	7462.72559	1.67373
N-Hexadecane	39995.19141	14226.90039	1.02722
N-Heptadecane	51942.04688	26905.18945	0.70542
N-Octadecane	90433.09375	66712.21094	0.49532
N-Nonadecane	20764.25195	21892.13477	0.34657
Total lb/h	355899.4688	147227.0313	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:33:11
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 11	496.67 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2548.24707
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00004	0.00000	2174.61670
Oxygen	0.00000	0.00000	0.00000
Methane	0.00003	0.00000	1288.95129
Ethane	0.00012	0.00000	655.02087
Carbon Dioxide	0.00000	0.00000	843.32440
Propane	0.00223	0.00000	393.17896
I-Butane	0.01940	0.00003	266.63611
I-Pentane	0.65839	0.00151	158.68317
N-Hexane	8.08224	0.03294	89.50799
N-Heptane	47.92142	0.30618	57.09250
N-Octane	269.77695	2.71895	36.19381
N-Nonane	1495.91760	23.73768	22.98796
N-Decane	6929.49951	171.59871	14.73055
Water	0.00000	0.00000	1038.21533
N-Undecane	18876.58789	720.69812	9.55435
N-Dodecane	27950.47461	1671.11963	6.10117
N-Tridecane	30793.89063	2829.38647	3.97012
N-Tetradecane	32135.69922	4541.56885	2.58115
N-Pentadecane	34112.15625	7398.67334	1.68185
N-Hexadecane	39801.66797	14061.11914	1.03255
N-Heptadecane	51326.19141	26396.92773	0.70928
N-Octadecane	88886.61719	65089.04688	0.49815
N-Nonadecane	23028.16016	24094.61133	0.34863
Total lb/h	355663.3125	147001.5469	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:33:38
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 12	496.84 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2545.81909
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00004	0.00000	2173.15210
Oxygen	0.00000	0.00000	0.00000
Methane	0.00003	0.00000	1288.50696
Ethane	0.00012	0.00000	655.13708
Carbon Dioxide	0.00000	0.00000	843.41571
Propane	0.00223	0.00000	393.39557
I-Butane	0.01940	0.00003	266.85107
I-Pentane	0.65838	0.00151	158.87222
N-Hexane	8.08213	0.03283	89.65232
N-Heptane	47.92027	0.30509	57.20428
N-Octane	269.76566	2.70832	36.27660
N-Nonane	1495.80957	23.63610	23.04834
N-Decane	6928.65088	170.80298	14.77381
Water	0.00000	0.00000	1039.05933
N-Undecane	18872.70313	717.06891	9.58545
N-Dodecane	27940.61914	1661.94434	6.12292
N-Tridecane	30775.39648	2812.21533	3.98561
N-Tetradecane	32102.19922	4510.58203	2.59204
N-Pentadecane	34048.10547	7339.84424	1.68945
N-Hexadecane	39635.88672	13913.03027	1.03754
N-Heptadecane	50817.93359	25962.02148	0.71288
N-Octadecane	87263.45313	63462.37109	0.50079
N-Nonadecane	25230.63672	26212.30664	0.35056
Total lb/h	355438.0000	146789.0000	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:34:12
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 13 496.99 K -12.00 psig

	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2543.80811
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00004	0.00000	2171.99365
Oxygen	0.00000	0.00000	0.00000
Methane	0.00003	0.00000	1288.20947
Ethane	0.00012	0.00000	655.29913
Carbon Dioxide	0.00000	0.00000	843.57080
Propane	0.00223	0.00000	393.62762
I-Butane	0.01940	0.00003	267.07138
I-Pentane	0.65838	0.00151	159.05943
N-Hexane	8.08203	0.03273	89.79259
N-Heptane	47.91917	0.30406	57.31188
N-Octane	269.75500	2.69829	36.35588
N-Nonane	1495.70813	23.54066	23.10586
N-Decane	6927.85498	170.05679	14.81490
Water	0.00000	0.00000	1039.91821
N-Undecane	18869.07422	713.67322	9.61491
N-Dodecane	27931.44727	1653.37878	6.14349
N-Tridecane	30758.22461	2796.21362	4.00023
N-Tetradecane	32071.21289	4481.79443	2.60230
N-Pentadecane	33989.27344	7285.41992	1.69661
N-Hexadecane	39487.79688	13778.17383	1.04223
N-Heptadecane	50383.02734	25580.08398	0.71627
N-Octadecane	85636.78125	61880.46094	0.50327
N-Nonadecane	27348.33398	28224.71094	0.35237
Total lb/h	355225.1875	146590.5469	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:34:39
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 14	497.13 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2542.19580
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00004	0.00000	2171.12646
Oxygen	0.00000	0.00000	0.00000
Methane	0.00003	0.00000	1288.05127
Ethane	0.00012	0.00000	655.50549
Carbon Dioxide	0.00000	0.00000	843.78784
Propane	0.00223	0.00000	393.87515
I-Butane	0.01940	0.00003	267.29669
I-Pentane	0.65838	0.00150	159.24501
N-Hexane	8.08193	0.03264	89.92917
N-Heptane	47.91814	0.30309	57.41558
N-Octane	269.74500	2.68886	36.43179
N-Nonane	1495.61255	23.45114	23.16067
N-Decane	6927.10889	169.35858	14.85391
Water	0.00000	0.00000	1040.79395
N-Undecane	18865.67773	710.50201	9.64280
N-Dodecane	27922.88281	1645.39197	6.16292
N-Tridecane	30742.21875	2781.33447	4.01401
N-Tetradecane	32042.43164	4455.07764	2.61196
N-Pentadecane	33934.84766	7235.06738	1.70333
N-Hexadecane	39352.94141	13654.53027	1.04664
N-Heptadecane	50001.08203	25239.22070	0.71945
N-Octadecane	84054.87500	60374.90234	0.50559
N-Nonadecane	29360.73633	30115.19336	0.35406
Total lb/h	355027.0000	146407.0625	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:35:02
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 15	497.26 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2540.93018
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00004	0.00000	2170.51123
Oxygen	0.00000	0.00000	0.00000
Methane	0.00003	0.00000	1288.01050
Ethane	0.00012	0.00000	655.74585
Carbon Dioxide	0.00000	0.00000	844.05212
Propane	0.00223	0.00000	394.13174
I-Butane	0.01940	0.00003	267.52338
I-Pentane	0.65837	0.00150	159.42690
N-Hexane	8.08183	0.03255	90.06091
N-Heptane	47.91717	0.30218	57.51483
N-Octane	269.73557	2.68008	36.50395
N-Nonane	1495.52319	23.36792	23.21256
N-Decane	6926.41113	168.71074	14.89071
Water	0.00000	0.00000	1041.67517
N-Undecane	18862.50781	707.56458	9.66904
N-Dodecane	27914.89844	1638.00525	6.18117
N-Tridecane	30727.33789	2767.59277	4.02692
N-Tetradecane	32015.70898	4430.44434	2.62099
N-Pentadecane	33884.49609	7188.72461	1.70962
N-Hexadecane	39229.30078	13541.36719	1.05075
N-Heptadecane	49660.23047	24932.93945	0.72241
N-Octadecane	82549.30469	58966.16797	0.50776
N-Nonadecane	31251.22656	31871.88281	0.35564
Total lb/h	354843.3438	146239.7813	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:35:29
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 16	497.39 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2539.96655
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00004	0.00000	2170.10913
Oxygen	0.00000	0.00000	0.00000
Methane	0.00003	0.00000	1288.06433
Ethane	0.00012	0.00000	656.00995
Carbon Dioxide	0.00000	0.00000	844.35181
Propane	0.00223	0.00000	394.39221
I-Butane	0.01940	0.00003	267.74777
I-Pentane	0.65837	0.00149	159.60301
N-Hexane	8.08174	0.03247	90.18658
N-Heptane	47.91626	0.30133	57.60885
N-Octane	269.72681	2.67195	36.57202
N-Nonane	1495.44006	23.29107	23.26125
N-Decane	6925.76270	168.11313	14.92517
Water	0.00000	0.00000	1042.54541
N-Undecane	18859.57227	704.85913	9.69355
N-Dodecane	27907.51367	1631.21643	6.19816
N-Tridecane	30713.59766	2754.97778	4.03893
N-Tetradecane	31991.07813	4407.86133	2.62939
N-Pentadecane	33838.15625	7146.32080	1.71545
N-Hexadecane	39116.12891	13438.11133	1.05456
N-Heptadecane	49353.94922	24657.15039	0.72516
N-Octadecane	81140.56250	57665.79688	0.50977
N-Nonadecane	33007.91016	33487.51953	0.35710
Total lb/h	354676.0938	146088.2188	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:35:57
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 17	497.50 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2539.26392
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00004	0.00000	2169.88647
Oxygen	0.00000	0.00000	0.00000
Methane	0.00003	0.00000	1288.19421
Ethane	0.00012	0.00000	656.28870
Carbon Dioxide	0.00000	0.00000	844.67395
Propane	0.00223	0.00000	394.65161
I-Butane	0.01940	0.00003	267.96628
I-Pentane	0.65837	0.00149	159.77147
N-Hexane	8.08166	0.03239	90.30543
N-Heptane	47.91542	0.30056	57.69708
N-Octane	269.71866	2.66451	36.63556
N-Nonane	1495.36316	23.22079	23.30657
N-Decane	6925.16553	167.56770	14.95714
Water	0.00000	0.00000	1043.39429
N-Undecane	18856.86523	702.39349	9.71623
N-Dodecane	27900.72461	1625.03320	6.21387
N-Tridecane	30701.00000	2743.50317	4.05000
N-Tetradecane	31968.49414	4387.34814	2.63711
N-Pentadecane	33795.75391	7107.84033	1.72081
N-Hexadecane	39012.87500	13344.61523	1.05806
N-Heptadecane	49078.15625	24409.42383	0.72768
N-Octadecane	79840.19531	56479.49609	0.51161
N-Nonadecane	34623.54688	34959.49219	0.35844
Total lb/h	354524.5000	145953.0000	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:36:22
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 18	497.60 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2538.77637
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00004	0.00000	2169.80713
Oxygen	0.00000	0.00000	0.00000
Methane	0.00003	0.00000	1288.38171
Ethane	0.00012	0.00000	656.57355
Carbon Dioxide	0.00000	0.00000	845.00836
Propane	0.00223	0.00000	394.90469
I-Butane	0.01940	0.00003	268.17612
I-Pentane	0.65836	0.00149	159.93074
N-Hexane	8.08158	0.03232	90.41657
N-Heptane	47.91464	0.29985	57.77908
N-Octane	269.71121	2.65773	36.69437
N-Nonane	1495.29297	23.15691	23.34835
N-Decane	6924.62012	167.07271	14.98653
Water	0.00000	0.00000	1044.20996
N-Undecane	18854.40039	700.15814	9.73705
N-Dodecane	27894.54102	1619.43408	6.22826
N-Tridecane	30689.50977	2733.12842	4.06014
N-Tetradecane	31948.00000	4368.81934	2.64417
N-Pentadecane	33757.26953	7073.11670	1.72571
N-Hexadecane	38919.37891	13260.42285	1.06125
N-Heptadecane	48830.42578	24187.60938	0.72998
N-Octadecane	78653.89844	55407.63281	0.51329
N-Nonadecane	36095.51953	36288.94922	0.35966
Total lb/h	354389.2188	145832.5000	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:36:45
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 19	497.69 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2538.46582
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00004	0.00000	2169.83960
Oxygen	0.00000	0.00000	0.00000
Methane	0.00003	0.00000	1288.60938
Ethane	0.00012	0.00000	656.85742
Carbon Dioxide	0.00000	0.00000	845.34412
Propane	0.00223	0.00000	395.14758
I-Butane	0.01940	0.00003	268.37494
I-Pentane	0.65836	0.00149	160.07947
N-Hexane	8.08151	0.03226	90.51934
N-Heptane	47.91393	0.29921	57.85463
N-Octane	269.70444	2.65161	36.74825
N-Nonane	1495.22913	23.09941	23.38654
N-Decane	6924.12451	166.62767	15.01332
Water	0.00000	0.00000	1044.98242
N-Undecane	18852.16602	698.15125	9.75598
N-Dodecane	27888.94141	1614.41248	6.24132
N-Tridecane	30679.13867	2723.82935	4.06932
N-Tetradecane	31929.45313	4352.22754	2.65057
N-Pentadecane	33722.54688	7042.04736	1.73014
N-Hexadecane	38835.18750	13185.16699	1.06414
N-Heptadecane	48608.61328	23990.00781	0.73205
N-Octadecane	77582.04688	54447.67969	0.51480
N-Nonadecane	37425.00000	37480.33984	0.36076
Total lb/h	354269.0000	145726.5781	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:37:05
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 20	497.78 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2538.29468
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00004	0.00000	2169.95630
Oxygen	0.00000	0.00000	0.00000
Methane	0.00003	0.00000	1288.86133
Ethane	0.00012	0.00000	657.13373
Carbon Dioxide	0.00000	0.00000	845.67395
Propane	0.00223	0.00000	395.37744
I-Butane	0.01940	0.00003	268.56107
I-Pentane	0.65836	0.00148	160.21692
N-Hexane	8.08145	0.03220	90.61364
N-Heptane	47.91330	0.29864	57.92349
N-Octane	269.69830	2.64613	36.79728
N-Nonane	1495.17151	23.04793	23.42114
N-Decane	6923.68066	166.22964	15.03756
Water	0.00000	0.00000	1045.70593
N-Undecane	18850.16016	696.35907	9.77306
N-Dodecane	27883.92188	1609.93030	6.25310
N-Tridecane	30669.83398	2715.53760	4.07760
N-Tetradecane	31912.86328	4337.45020	2.65632
N-Pentadecane	33691.47266	7014.39844	1.73412
N-Hexadecane	38759.92969	13118.28711	1.06673
N-Heptadecane	48411.00391	23814.84766	0.73391
N-Octadecane	76622.08594	53594.06641	0.51616
N-Nonadecane	38616.36719	38540.45703	0.36175
Total lb/h	354163.0000	145633.5938	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:37:36
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 21	497.85 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2538.22388
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00004	0.00000	2170.12427
Oxygen	0.00000	0.00000	0.00000
Methane	0.00003	0.00000	1289.12170
Ethane	0.00012	0.00000	657.39606
Carbon Dioxide	0.00000	0.00000	845.98950
Propane	0.00223	0.00000	395.59125
I-Butane	0.01940	0.00003	268.73224
I-Pentane	0.65835	0.00148	160.34253
N-Hexane	8.08139	0.03215	90.69917
N-Heptane	47.91272	0.29813	57.98569
N-Octane	269.69284	2.64127	36.84144
N-Nonane	1495.12000	23.00230	23.45224
N-Decane	6923.28174	165.87718	15.05930
Water	0.00000	0.00000	1046.37256
N-Undecane	18848.36914	694.77264	9.78837
N-Dodecane	27879.43555	1605.96765	6.26364
N-Tridecane	30661.54102	2708.21362	4.08499
N-Tetradecane	31898.09180	4324.39014	2.66146
N-Pentadecane	33663.82813	6989.98926	1.73767
N-Hexadecane	38693.04688	13059.24219	1.06904
N-Heptadecane	48235.84375	23660.49023	0.73557
N-Octadecane	75768.46094	52840.33203	0.51737
N-Nonadecane	39676.49219	39478.05859	0.36262
Total lb/h	354070.0000	145553.3125	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:38:05
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 22	497.91 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2538.22485
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00004	0.00000	2170.32715
Oxygen	0.00000	0.00000	0.00000
Methane	0.00003	0.00000	1289.38025
Ethane	0.00012	0.00000	657.64166
Carbon Dioxide	0.00000	0.00000	846.28601
Propane	0.00223	0.00000	395.78793
I-Butane	0.01940	0.00003	268.88861
I-Pentane	0.65835	0.00148	160.45633
N-Hexane	8.08134	0.03210	90.77605
N-Heptane	47.91221	0.29768	58.04151
N-Octane	269.68796	2.63696	36.88093
N-Nonane	1495.07458	22.96196	23.48003
N-Decane	6922.92871	165.56581	15.07870
Water	0.00000	0.00000	1046.98071
N-Undecane	18846.78125	693.37256	9.80201
N-Dodecane	27875.47461	1602.47375	6.27301
N-Tridecane	30654.21875	2701.76318	4.09155
N-Tetradecane	31885.02930	4312.90283	2.66601
N-Pentadecane	33639.41406	6968.51416	1.74082
N-Hexadecane	38634.00000	13007.33984	1.07109
N-Heptadecane	48081.48438	23525.00781	0.73704
N-Octadecane	75014.73438	52178.28125	0.51844
N-Nonadecane	40614.09375	40302.71875	0.36340
Total lb/h	353989.5938	145484.0000	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:38:35
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 23	497.97 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2538.26636
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00004	0.00000	2170.53711
Oxygen	0.00000	0.00000	0.00000
Methane	0.00003	0.00000	1289.62732
Ethane	0.00012	0.00000	657.86615
Carbon Dioxide	0.00000	0.00000	846.55768
Propane	0.00223	0.00000	395.96558
I-Butane	0.01940	0.00003	269.02914
I-Pentane	0.65835	0.00148	160.55788
N-Hexane	8.08130	0.03206	90.84459
N-Heptane	47.91177	0.29729	58.09107
N-Octane	269.68365	2.63321	36.91595
N-Nonane	1495.03430	22.92677	23.50463
N-Decane	6922.61768	165.29453	15.09583
Water	0.00000	0.00000	1047.52844
N-Undecane	18845.38086	692.15167	9.81406
N-Dodecane	27872.00000	1599.42615	6.28129
N-Tridecane	30647.76758	2696.13501	4.09734
N-Tetradecane	31873.54297	4302.88232	2.67003
N-Pentadecane	33617.93359	6949.78857	1.74359
N-Hexadecane	38582.09375	12962.07227	1.07289
N-Heptadecane	47946.00000	23406.81445	0.73834
N-Octadecane	74352.69531	51600.12109	0.51939
N-Nonadecane	41438.75000	41024.85156	0.36409
Total lb/h	353920.1563	145425.4219	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:38:53
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 24	498.02 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2538.35742
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00004	0.00000	2170.76709
Oxygen	0.00000	0.00000	0.00000
Methane	0.00003	0.00000	1289.86865
Ethane	0.00012	0.00000	658.07458
Carbon Dioxide	0.00000	0.00000	846.81140
Propane	0.00223	0.00000	396.12769
I-Butane	0.01940	0.00003	269.15662
I-Pentane	0.65835	0.00148	160.64934
N-Hexane	8.08126	0.03203	90.90583
N-Heptane	47.91137	0.29694	58.13525
N-Octane	269.67990	2.62991	36.94704
N-Nonane	1495.00000	22.89588	23.52640
N-Decane	6922.34766	165.05637	15.11099
Water	0.00000	0.00000	1048.02393
N-Undecane	18844.16016	691.08270	9.82468
N-Dodecane	27868.93750	1596.76062	6.28858
N-Tridecane	30642.13867	2691.21606	4.10244
N-Tetradecane	31863.51758	4294.12500	2.67357
N-Pentadecane	33599.21484	6933.44189	1.74603
N-Hexadecane	38536.82813	12922.60840	1.07448
N-Heptadecane	47827.80469	23303.91406	0.73947
N-Octadecane	73774.53906	51097.02344	0.52021
N-Nonadecane	42160.87891	41654.36328	0.36469
Total lb/h	353862.0000	145375.4375	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:39:25
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 25 498.06 K -12.00 psig

	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2538.46069
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00004	0.00000	2170.98730
Oxygen	0.00000	0.00000	0.00000
Methane	0.00003	0.00000	1290.09045
Ethane	0.00012	0.00000	658.26111
Carbon Dioxide	0.00000	0.00000	847.03845
Propane	0.00223	0.00000	396.27209
I-Butane	0.01940	0.00003	269.26953
I-Pentane	0.65835	0.00148	160.73006
N-Hexane	8.08122	0.03200	90.95975
N-Heptane	47.91102	0.29664	58.17403
N-Octane	269.67664	2.62705	36.97436
N-Nonane	1494.96826	22.86912	23.54552
N-Decane	6922.10938	164.85010	15.12429
Water	0.00000	0.00000	1048.46326
N-Undecane	18843.08984	690.15576	9.83401
N-Dodecane	27866.27344	1594.45105	6.29497
N-Tridecane	30637.22070	2686.95337	4.10691
N-Tetradecane	31854.76367	4286.54736	2.67666
N-Pentadecane	33582.86328	6919.29053	1.74816
N-Hexadecane	38497.35547	12888.43262	1.07586
N-Heptadecane	47724.89844	23214.76953	0.74047
N-Octadecane	73271.44531	50661.10938	0.52094
N-Nonadecane	42790.39453	42201.42188	0.36521
Total lb/h	353812.0000	145333.8125	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:39:49
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 26	498.10 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2538.54980
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00004	0.00000	2171.17627
Oxygen	0.00000	0.00000	0.00000
Methane	0.00003	0.00000	1290.28149
Ethane	0.00012	0.00000	658.42297
Carbon Dioxide	0.00000	0.00000	847.23541
Propane	0.00223	0.00000	396.39716
I-Butane	0.01940	0.00003	269.36743
I-Pentane	0.65835	0.00147	160.80011
N-Hexane	8.08119	0.03197	91.00659
N-Heptane	47.91072	0.29638	58.20776
N-Octane	269.67374	2.62459	36.99805
N-Nonane	1494.94165	22.84609	23.56211
N-Decane	6921.90283	164.67256	15.13583
Water	0.00000	0.00000	1048.84412
N-Undecane	18842.16406	689.35809	9.84210
N-Dodecane	27863.96484	1592.46069	6.30052
N-Tridecane	30632.95898	2683.28076	4.11078
N-Tetradecane	31847.18359	4280.00391	2.67935
N-Pentadecane	33568.71484	6907.07764	1.75002
N-Hexadecane	38463.18750	12858.91113	1.07707
N-Heptadecane	47635.75391	23137.80664	0.74133
N-Octadecane	72835.52344	50284.51172	0.52157
N-Nonadecane	43337.44531	42675.36328	0.36567
Total lb/h	353770.0625	145299.2500	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:40:15
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 27	498.14 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2538.63062
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00004	0.00000	2171.34595
Oxygen	0.00000	0.00000	0.00000
Methane	0.00003	0.00000	1290.45056
Ethane	0.00012	0.00000	658.56458
Carbon Dioxide	0.00000	0.00000	847.40820
Propane	0.00223	0.00000	396.50650
I-Butane	0.01940	0.00003	269.45282
I-Pentane	0.65834	0.00147	160.86105
N-Hexane	8.08117	0.03195	91.04742
N-Heptane	47.91046	0.29616	58.23712
N-Octane	269.67126	2.62249	37.01871
N-Nonane	1494.91858	22.82639	23.57655
N-Decane	6921.72510	164.52037	15.14588
Water	0.00000	0.00000	1049.17639
N-Undecane	18841.36719	688.67438	9.84914
N-Dodecane	27862.00000	1590.75415	6.30534
N-Tridecane	30629.28711	2680.12720	4.11416
N-Tetradecane	31840.64063	4274.39111	2.68168
N-Pentadecane	33556.50391	6896.58008	1.75163
N-Hexadecane	38433.66406	12833.54883	1.07811
N-Heptadecane	47558.78906	23071.61523	0.74208
N-Octadecane	72458.92188	49960.33984	0.52212
N-Nonadecane	43811.39063	43085.21484	0.36607
Total lb/h	353735.5313	145271.5469	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:40:45
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 28	498.16 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2538.72949
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00004	0.00000	2171.51514
Oxygen	0.00000	0.00000	0.00000
Methane	0.00003	0.00000	1290.60962
Ethane	0.00012	0.00000	658.69354
Carbon Dioxide	0.00000	0.00000	847.56567
Propane	0.00223	0.00000	396.60440
I-Butane	0.01940	0.00003	269.52911
I-Pentane	0.65834	0.00147	160.91528
N-Hexane	8.08115	0.03195	91.08336
N-Heptane	47.91024	0.29608	58.26286
N-Octane	269.66916	2.62162	37.03682
N-Nonane	1494.89893	22.81763	23.58919
N-Decane	6921.57324	164.44876	15.15465
Water	0.00000	0.00000	1049.47229
N-Undecane	18840.68359	688.33441	9.85528
N-Dodecane	27860.27148	1589.85962	6.30955
N-Tridecane	30626.13086	2678.38403	4.11710
N-Tetradecane	31835.03125	4271.10889	2.68371
N-Pentadecane	33546.00781	6890.05371	1.75303
N-Hexadecane	38408.30078	12816.39355	1.07902
N-Heptadecane	47492.59766	23023.08203	0.74274
N-Octadecane	72134.75000	49699.90625	0.52259
N-Nonadecane	44221.23047	43454.55078	0.36641
Total lb/h	353708.0000	145302.0000	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:41:06
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 29	498.19 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	2539.05811
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00004	0.00000	2171.86890
Oxygen	0.00000	0.00000	0.00000
Methane	0.00003	0.00000	1290.87122
Ethane	0.00012	0.00000	658.86780
Carbon Dioxide	0.00000	0.00000	847.78259
Propane	0.00223	0.00000	396.72726
I-Butane	0.01940	0.00004	269.62097
I-Pentane	0.65834	0.00248	160.97745
N-Hexane	8.08114	0.05385	91.12314
N-Heptane	47.91016	0.49910	58.29078
N-Octane	269.66833	4.41911	37.05602
N-Nonane	1494.89026	38.46063	23.60239
N-Decane	6921.50244	277.17783	15.16369
Water	0.00000	0.00000	1049.82910
N-Undecane	18840.34375	1160.13098	9.86154
N-Dodecane	27859.37500	2679.43848	6.31380
N-Tridecane	30624.38867	4513.66943	4.12003
N-Tetradecane	31831.74805	7197.16357	2.68573
N-Pentadecane	33539.48047	11608.81152	1.75441
N-Hexadecane	38391.14453	21587.62695	1.07991
N-Heptadecane	47444.06250	38756.07813	0.74337
N-Octadecane	71874.31250	83443.64063	0.52305
N-Nonadecane	44590.57813	73831.89063	0.36674
Total lb/h	353738.1875	245099.0625	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:41:29
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 30	514.54 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	0.00000
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00000	0.00000	0.00000
Oxygen	0.00000	0.00000	0.00000
Methane	0.00000	0.00000	0.00000
Ethane	0.00000	0.00000	673.54907
Carbon Dioxide	0.00000	0.00000	0.00000
Propane	0.00000	0.00000	419.45493
I-Butane	0.00004	0.00000	291.91150
I-Pentane	0.00248	0.00002	180.42735
N-Hexane	0.05385	0.00061	106.16937
N-Heptane	0.49910	0.00851	70.09579
N-Octane	4.41911	0.11487	45.95697
N-Nonane	38.46063	1.52099	30.20851
N-Decane	277.17780	16.56737	19.98682
Water	0.00000	0.00000	0.00000
N-Undecane	1160.13110	103.50367	13.39030
N-Dodecane	2679.43848	362.41129	8.83245
N-Tridecane	4513.66943	906.84894	5.94612
N-Tetradecane	7197.16455	2152.66479	3.99415
N-Pentadecane	11608.81250	5163.44629	2.68588
N-Hexadecane	21587.60938	15124.85156	1.70511
N-Heptadecane	38750.73828	38501.26953	1.20239
N-Octadecane	82371.28125	113790.21875	0.86479
N-Nonadecane	52912.29297	101964.69531	0.61993
Total lb/h	223101.7500	278088.1250	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:41:55
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 31	519.84 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	0.00000
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00000	0.00000	0.00000
Oxygen	0.00000	0.00000	0.00000
Methane	0.00000	0.00000	0.00000
Ethane	0.00000	0.00000	0.00000
Carbon Dioxide	0.00000	0.00000	0.00000
Propane	0.00000	0.00000	0.00000
I-Butane	0.00000	0.00000	298.50571
I-Pentane	0.00002	0.00000	186.50168
N-Hexane	0.00061	0.00001	111.07092
N-Heptane	0.00851	0.00013	74.05296
N-Octane	0.11487	0.00260	49.01749
N-Nonane	1.52099	0.05183	32.53578
N-Decane	16.56738	0.84551	21.72339
Water	0.00000	0.00000	0.00000
N-Undecane	103.50368	7.81235	14.68816
N-Dodecane	362.41129	41.08994	9.77821
N-Tridecane	906.84894	151.26411	6.64649
N-Tetradecane	2152.66504	529.62170	4.50613
N-Pentadecane	5163.44678	1872.31653	3.05741
N-Hexadecane	15124.83203	8557.09180	1.95956
N-Heptadecane	38495.92188	30656.17969	1.39216
N-Octadecane	112717.88281	123961.86719	1.00809
N-Nonadecane	81045.10156	123485.66406	0.72762
Total lb/h	256091.0000	289264.0000	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:42:19
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 32	522.28 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	0.00000
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00000	0.00000	0.00000
Oxygen	0.00000	0.00000	0.00000
Methane	0.00000	0.00000	0.00000
Ethane	0.00000	0.00000	0.00000
Carbon Dioxide	0.00000	0.00000	0.00000
Propane	0.00000	0.00000	0.00000
I-Butane	0.00000	0.00000	0.00000
I-Pentane	0.00000	0.00000	189.23328
N-Hexane	0.00001	0.00000	113.31583
N-Heptane	0.00013	0.00000	75.88662
N-Octane	0.00260	0.00006	50.44984
N-Nonane	0.05183	0.00167	33.63498
N-Decane	0.84551	0.04074	22.55022
Water	0.00000	0.00000	0.00000
N-Undecane	7.81235	0.55440	15.31101
N-Dodecane	41.08994	4.36185	10.23551
N-Tridecane	151.26411	23.52021	6.98777
N-Tetradecane	529.62170	120.95869	4.75744
N-Pentadecane	1872.31653	627.68567	3.24102
N-Hexadecane	8557.07227	4456.71484	2.08619
N-Heptadecane	30650.83203	22393.90820	1.48716
N-Octadecane	122889.53906	123613.75000	1.08017
N-Nonadecane	102566.04688	142498.00000	0.78206
Total lb/h	267266.5000	293739.3750	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:42:42
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 33	523.81 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	0.00000
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00000	0.00000	0.00000
Oxygen	0.00000	0.00000	0.00000
Methane	0.00000	0.00000	0.00000
Ethane	0.00000	0.00000	0.00000
Carbon Dioxide	0.00000	0.00000	0.00000
Propane	0.00000	0.00000	0.00000
I-Butane	0.00000	0.00000	0.00000
I-Pentane	0.00000	0.00000	0.00000
N-Hexane	0.00000	0.00000	114.72897
N-Heptane	0.00000	0.00000	77.04659
N-Octane	0.00006	0.00000	51.35971
N-Nonane	0.00167	0.00005	34.33615
N-Decane	0.04074	0.00191	23.07959
Water	0.00000	0.00000	0.00000
N-Undecane	0.55440	0.03814	15.71126
N-Dodecane	4.36185	0.44765	10.53039
N-Tridecane	23.52021	3.52616	7.20868
N-Tetradecane	120.95869	26.56625	4.92066
N-Pentadecane	627.68573	201.85199	3.36067
N-Hexadecane	4456.69385	2220.60132	2.16899
N-Heptadecane	22388.55664	15615.90527	1.54944
N-Octadecane	122541.41406	117453.21094	1.12755
N-Nonadecane	121578.28125	160641.51563	0.81793
Total lb/h	271742.0625	296163.6563	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:43:03
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 34	524.96 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	0.00000
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00000	0.00000	0.00000
Oxygen	0.00000	0.00000	0.00000
Methane	0.00000	0.00000	0.00000
Ethane	0.00000	0.00000	0.00000
Carbon Dioxide	0.00000	0.00000	0.00000
Propane	0.00000	0.00000	0.00000
I-Butane	0.00000	0.00000	0.00000
I-Pentane	0.00000	0.00000	0.00000
N-Hexane	0.00000	0.00000	0.00000
N-Heptane	0.00000	0.00000	77.92717
N-Octane	0.00000	0.00000	52.05099
N-Nonane	0.00005	0.00000	34.86951
N-Decane	0.00191	0.00009	23.48280
Water	0.00000	0.00000	0.00000
N-Undecane	0.03814	0.00257	16.01660
N-Dodecane	0.44765	0.04490	10.75572
N-Tridecane	3.52616	0.51564	7.37778
N-Tetradecane	26.56625	5.68026	5.04584
N-Pentadecane	201.85199	63.07530	3.45259
N-Hexadecane	2220.58032	1073.00220	2.23273
N-Heptadecane	15610.55176	10542.88574	1.59746
N-Octadecane	116380.87500	107858.44531	1.16412
N-Nonadecane	139722.00000	178254.51563	0.84566
Total lb/h	274166.3125	297798.1875	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:43:30
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 35	525.90 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	0.00000
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00000	0.00000	0.00000
Oxygen	0.00000	0.00000	0.00000
Methane	0.00000	0.00000	0.00000
Ethane	0.00000	0.00000	0.00000
Carbon Dioxide	0.00000	0.00000	0.00000
Propane	0.00000	0.00000	0.00000
I-Butane	0.00000	0.00000	0.00000
I-Pentane	0.00000	0.00000	0.00000
N-Hexane	0.00000	0.00000	0.00000
N-Heptane	0.00000	0.00000	0.00000
N-Octane	0.00000	0.00000	52.62727
N-Nonane	0.00000	0.00000	35.31384
N-Decane	0.00009	0.00000	23.81870
Water	0.00000	0.00000	0.00000
N-Undecane	0.00257	0.00017	16.27106
N-Dodecane	0.04490	0.00442	10.94360
N-Tridecane	0.51564	0.07394	7.51889
N-Tetradecane	5.68026	1.18914	5.15038
N-Pentadecane	63.07529	19.26893	3.52944
N-Hexadecane	1072.98132	506.06357	2.28608
N-Heptadecane	10537.53125	6937.62988	1.63769
N-Octadecane	106786.12500	96366.51563	1.19479
N-Nonadecane	157335.00000	195227.78125	0.86894
Total lb/h	275801.0000	299058.5313	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:43:56
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 36	526.70 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	0.00000
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00000	0.00000	0.00000
Oxygen	0.00000	0.00000	0.00000
Methane	0.00000	0.00000	0.00000
Ethane	0.00000	0.00000	0.00000
Carbon Dioxide	0.00000	0.00000	0.00000
Propane	0.00000	0.00000	0.00000
I-Butane	0.00000	0.00000	0.00000
I-Pentane	0.00000	0.00000	0.00000
N-Hexane	0.00000	0.00000	0.00000
N-Heptane	0.00000	0.00000	0.00000
N-Octane	0.00000	0.00000	0.00000
N-Nonane	0.00000	0.00000	35.70052
N-Decane	0.00000	0.00000	24.11082
Water	0.00000	0.00000	0.00000
N-Undecane	0.00017	0.00001	16.49223
N-Dodecane	0.00442	0.00043	11.10691
N-Tridecane	0.07394	0.01043	7.64157
N-Tetradecane	1.18914	0.24457	5.24132
N-Pentadecane	19.26892	5.77589	3.59632
N-Hexadecane	506.04251	233.87175	2.33254
N-Heptadecane	6932.27539	4467.49512	1.67275
N-Octadecane	95294.18750	84096.74219	1.22154
N-Nonadecane	174308.15625	211308.00000	0.88924
Total lb/h	277061.1875	300112.0000	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:44:18
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 37	527.40 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	0.00000
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00000	0.00000	0.00000
Oxygen	0.00000	0.00000	0.00000
Methane	0.00000	0.00000	0.00000
Ethane	0.00000	0.00000	0.00000
Carbon Dioxide	0.00000	0.00000	0.00000
Propane	0.00000	0.00000	0.00000
I-Butane	0.00000	0.00000	0.00000
I-Pentane	0.00000	0.00000	0.00000
N-Hexane	0.00000	0.00000	0.00000
N-Heptane	0.00000	0.00000	0.00000
N-Octane	0.00000	0.00000	0.00000
N-Nonane	0.00000	0.00000	0.00000
N-Decane	0.00000	0.00000	24.36897
Water	0.00000	0.00000	0.00000
N-Undecane	0.00001	0.00000	16.68758
N-Dodecane	0.00043	0.00004	11.25109
N-Tridecane	0.01043	0.00145	7.74987
N-Tetradecane	0.24457	0.04954	5.32160
N-Pentadecane	5.77587	1.70331	3.65538
N-Hexadecane	233.85069	106.20444	2.37358
N-Heptadecane	4462.14063	2823.25073	1.70373
N-Octadecane	83024.41406	71875.36719	1.24518
N-Nonadecane	190388.25000	226225.00000	0.90721
Total lb/h	278114.6875	301031.5625	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:44:46
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 38	528.01 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	0.00000
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00000	0.00000	0.00000
Oxygen	0.00000	0.00000	0.00000
Methane	0.00000	0.00000	0.00000
Ethane	0.00000	0.00000	0.00000
Carbon Dioxide	0.00000	0.00000	0.00000
Propane	0.00000	0.00000	0.00000
I-Butane	0.00000	0.00000	0.00000
I-Pentane	0.00000	0.00000	0.00000
N-Hexane	0.00000	0.00000	0.00000
N-Heptane	0.00000	0.00000	0.00000
N-Octane	0.00000	0.00000	0.00000
N-Nonane	0.00000	0.00000	0.00000
N-Decane	0.00000	0.00000	24.59729
Water	0.00000	0.00000	0.00000
N-Undecane	0.00000	0.00000	16.86021
N-Dodecane	0.00004	0.00000	11.37846
N-Tridecane	0.00145	0.00020	7.84551
N-Tetradecane	0.04954	0.00990	5.39250
N-Pentadecane	1.70329	0.49524	3.70753
N-Hexadecane	106.18342	47.49856	2.40984
N-Heptadecane	2817.89575	1754.73621	1.73111
N-Octadecane	70803.03906	60283.81641	1.26608
N-Nonadecane	205305.37500	239754.00000	0.92309
Total lb/h	279034.2500	301840.4375	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:45:07
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 39	528.53 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	0.00000
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00000	0.00000	0.00000
Oxygen	0.00000	0.00000	0.00000
Methane	0.00000	0.00000	0.00000
Ethane	0.00000	0.00000	0.00000
Carbon Dioxide	0.00000	0.00000	0.00000
Propane	0.00000	0.00000	0.00000
I-Butane	0.00000	0.00000	0.00000
I-Pentane	0.00000	0.00000	0.00000
N-Hexane	0.00000	0.00000	0.00000
N-Heptane	0.00000	0.00000	0.00000
N-Octane	0.00000	0.00000	0.00000
N-Nonane	0.00000	0.00000	0.00000
N-Decane	0.00000	0.00000	0.00000
Water	0.00000	0.00000	0.00000
N-Undecane	0.00000	0.00000	17.01159
N-Dodecane	0.00000	0.00000	11.49009
N-Tridecane	0.00020	0.00003	7.92930
N-Tetradecane	0.00990	0.00196	5.45459
N-Pentadecane	0.49522	0.14230	3.75323
N-Hexadecane	47.47752	20.97161	2.44161
N-Heptadecane	1749.38147	1074.98181	1.75510
N-Octadecane	59211.49219	49719.07422	1.28441
N-Nonadecane	218834.25000	251875.00000	0.93702
Total lb/h	279843.0938	302690.1250	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:45:37
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 40 528.98 K -12.00 psig

	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	0.00000
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00000	0.00000	0.00000
Oxygen	0.00000	0.00000	0.00000
Methane	0.00000	0.00000	0.00000
Ethane	0.00000	0.00000	0.00000
Carbon Dioxide	0.00000	0.00000	0.00000
Propane	0.00000	0.00000	0.00000
I-Butane	0.00000	0.00000	0.00000
I-Pentane	0.00000	0.00000	0.00000
N-Hexane	0.00000	0.00000	0.00000
N-Heptane	0.00000	0.00000	0.00000
N-Octane	0.00000	0.00000	0.00000
N-Nonane	0.00000	0.00000	0.00000
N-Decane	0.00000	0.00000	0.00000
Water	0.00000	0.00000	0.00000
N-Undecane	0.00000	0.00000	17.14276
N-Dodecane	0.00000	0.00000	11.58675
N-Tridecane	0.00003	0.00000	8.00184
N-Tetradecane	0.00196	0.00038	5.50835
N-Pentadecane	0.14229	0.04044	3.79277
N-Hexadecane	20.95057	9.14623	2.46911
N-Heptadecane	1069.62671	649.24078	1.77588
N-Octadecane	48646.74219	40328.02344	1.30027
N-Nonadecane	230955.31250	262306.68750	0.94909
Total lb/h	280693.0000	303293.1250	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:46:03
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 41	529.37 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	0.00000
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00000	0.00000	0.00000
Oxygen	0.00000	0.00000	0.00000
Methane	0.00000	0.00000	0.00000
Ethane	0.00000	0.00000	0.00000
Carbon Dioxide	0.00000	0.00000	0.00000
Propane	0.00000	0.00000	0.00000
I-Butane	0.00000	0.00000	0.00000
I-Pentane	0.00000	0.00000	0.00000
N-Hexane	0.00000	0.00000	0.00000
N-Heptane	0.00000	0.00000	0.00000
N-Octane	0.00000	0.00000	0.00000
N-Nonane	0.00000	0.00000	0.00000
N-Decane	0.00000	0.00000	0.00000
Water	0.00000	0.00000	0.00000
N-Undecane	0.00000	0.00000	0.00000
N-Dodecane	0.00000	0.00000	11.66930
N-Tridecane	0.00000	0.00000	8.06378
N-Tetradecane	0.00038	0.00007	5.55424
N-Pentadecane	0.04042	0.01139	3.82654
N-Hexadecane	9.12519	3.94630	2.49259
N-Heptadecane	643.88568	386.97043	1.79362
N-Octadecane	39255.68750	32208.14258	1.31382
N-Nonadecane	241387.04688	271217.65625	0.95939
Total lb/h	281296.0000	303817.0000	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:46:26
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 42	529.68 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	0.00000
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00000	0.00000	0.00000
Oxygen	0.00000	0.00000	0.00000
Methane	0.00000	0.00000	0.00000
Ethane	0.00000	0.00000	0.00000
Carbon Dioxide	0.00000	0.00000	0.00000
Propane	0.00000	0.00000	0.00000
I-Butane	0.00000	0.00000	0.00000
I-Pentane	0.00000	0.00000	0.00000
N-Hexane	0.00000	0.00000	0.00000
N-Heptane	0.00000	0.00000	0.00000
N-Octane	0.00000	0.00000	0.00000
N-Nonane	0.00000	0.00000	0.00000
N-Decane	0.00000	0.00000	0.00000
Water	0.00000	0.00000	0.00000
N-Undecane	0.00000	0.00000	0.00000
N-Dodecane	0.00000	0.00000	11.73884
N-Tridecane	0.00000	0.00000	8.11593
N-Tetradecane	0.00007	0.00001	5.59289
N-Pentadecane	0.01137	0.00318	3.85497
N-Hexadecane	3.92526	1.68376	2.51236
N-Heptadecane	381.61530	227.39815	1.80856
N-Octadecane	31135.80664	25319.84180	1.32523
N-Nonadecane	250298.00000	278640.06250	0.96807
Total lb/h	281819.3438	304189.0000	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:46:52
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 43	529.95 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	0.00000
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00000	0.00000	0.00000
Oxygen	0.00000	0.00000	0.00000
Methane	0.00000	0.00000	0.00000
Ethane	0.00000	0.00000	0.00000
Carbon Dioxide	0.00000	0.00000	0.00000
Propane	0.00000	0.00000	0.00000
I-Butane	0.00000	0.00000	0.00000
I-Pentane	0.00000	0.00000	0.00000
N-Hexane	0.00000	0.00000	0.00000
N-Heptane	0.00000	0.00000	0.00000
N-Octane	0.00000	0.00000	0.00000
N-Nonane	0.00000	0.00000	0.00000
N-Decane	0.00000	0.00000	0.00000
Water	0.00000	0.00000	0.00000
N-Undecane	0.00000	0.00000	0.00000
N-Dodecane	0.00000	0.00000	0.00000
N-Tridecane	0.00000	0.00000	8.15932
N-Tetradecane	0.00001	0.00000	5.62503
N-Pentadecane	0.00316	0.00088	3.87862
N-Hexadecane	1.66272	0.70881	2.52881
N-Heptadecane	222.04300	131.44916	1.82098
N-Octadecane	24247.50781	19584.00000	1.33473
N-Nonadecane	257720.37500	284866.00000	0.97529
Total lb/h	282191.5938	304582.0000	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:47:15
TRAY COMPOSITIONS

Unit type : TOWR Unit name: Eqp # 2010

Stage # 44	530.16 K	-12.00 psig	
	Vap lb/h	Liq lb/h	Y/X
Hydrogen	0.00000	0.00000	0.00000
Nitrogen	0.00000	0.00000	0.00000
Carbon Monoxide	0.00000	0.00000	0.00000
Oxygen	0.00000	0.00000	0.00000
Methane	0.00000	0.00000	0.00000
Ethane	0.00000	0.00000	0.00000
Carbon Dioxide	0.00000	0.00000	0.00000
Propane	0.00000	0.00000	0.00000
I-Butane	0.00000	0.00000	0.00000
I-Pentane	0.00000	0.00000	0.00000
N-Hexane	0.00000	0.00000	0.00000
N-Heptane	0.00000	0.00000	0.00000
N-Octane	0.00000	0.00000	0.00000
N-Nonane	0.00000	0.00000	0.00000
N-Decane	0.00000	0.00000	0.00000
Water	0.00000	0.00000	0.00000
N-Undecane	0.00000	0.00000	0.00000
N-Dodecane	0.00000	0.00000	0.00000
N-Tridecane	0.00000	0.00000	8.19501
N-Tetradecane	0.00000	0.00000	5.65147
N-Pentadecane	0.00086	0.00002	3.89807
N-Hexadecane	0.68777	0.02104	2.54234
N-Heptadecane	126.09404	5.35513	1.83121
N-Octadecane	18511.64844	1072.33728	1.34254
N-Nonadecane	263946.12500	20919.69336	0.98123
Total lb/h	282584.5625	21997.4063	

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:47:42
DISTILLATION PROFILE

Unit type : TOWR Unit name: Eqp # 2010

			* Net Flows *				
	Temp	Pres	Liquid	Vapor	Feeds	Product	Duties
Stg	K	psig	lb/h	lb/h	lb/h	lb/h	MMBtu/h
1	438.7	-12.00	120393.57			208435.44	-54.97
2	480.8	-12.00	140707.00	328830.00			
3	491.1	-12.00	147313.06	349143.16			
4	493.8	-12.00	148391.34	355749.34			
5	494.9	-12.00	148404.19	356827.63			
6	495.5	-12.00	148203.14	356840.47			
7	495.8	-12.00	147958.14	356639.44			
8	496.1	-12.00	147708.44	356394.41			
9	496.3	-12.00	147463.19	356145.00			
10	496.5	-12.00	147227.03	355899.47			
11	496.7	-12.00	147001.55	355663.31			
12	496.8	-12.00	146789.00	355438.00			
13	497.0	-12.00	146590.55	355225.19			
14	497.1	-12.00	146407.06	355027.00			
15	497.3	-12.00	146239.78	354843.34			
16	497.4	-12.00	146088.22	354676.09			
17	497.5	-12.00	145953.00	354524.50			
18	497.6	-12.00	145832.50	354389.22			
19	497.7	-12.00	145726.58	354269.00			
20	497.8	-12.00	145633.59	354163.00			
21	497.8	-12.00	145553.31	354070.00			
22	497.9	-12.00	145484.00	353989.59			
23	498.0	-12.00	145425.42	353920.16			
24	498.0	-12.00	145375.44	353862.00			
25	498.1	-12.00	145333.81	353812.00			
26	498.1	-12.00	145299.25	353770.06			
27	498.1	-12.00	145271.55	353735.53			
28	498.2	-12.00	145302.00	353708.00			
29	498.2	-12.00	245099.06	353738.19	230433.56		
30	514.5	-12.00	278088.13	223101.75			
31	519.8	-12.00	289264.00	256091.00			
32	522.3	-12.00	293739.38	267266.50			
33	523.8	-12.00	296163.66	271742.06			
34	525.0	-12.00	297798.19	274166.31			
35	525.9	-12.00	299058.53	275801.00			
36	526.7	-12.00	300112.00	277061.19			
37	527.4	-12.00	301031.56	278114.69			
38	528.0	-12.00	301840.44	279034.25			
39	528.5	-12.00	302690.13	279843.09			
40	529.0	-12.00	303293.13	280693.00			
41	529.4	-12.00	303817.00	281296.00			
42	529.7	-12.00	304189.00	281819.34			
43	529.9	-12.00	304582.00	282191.59			
44	530.2	-12.00		282584.56		21997.41	29.9

Mass Reflux ratio 0.578
Total liquid entering stage 29 at 482.694 K, 219527.000 lb/h.

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:49:58
Tray Properties

Unit type : TOWR Unit name: Eqp # 2010

Liquid Stg	lb/h	Average mol wt	Actual vol rate ft3/hr	Actual density lb/ft3	viscosity cP	Thermal conduct. Btu/hr-ft-F	Surface tension dyne/cm
1	120394	197.75	2936.58	41.00	0.3622	0.064	14.263
2	140707	228.95	3508.67	40.10	0.3347	0.063	12.492
3	147313	236.11	3692.73	39.89	0.3267	0.063	12.048
4	148391	238.63	3722.00	39.87	0.3256	0.063	11.948
5	148404	239.84	3722.26	39.87	0.3256	0.063	11.920
6	148203	240.57	3717.14	39.87	0.3258	0.063	11.910
7	147958	241.08	3711.16	39.87	0.3260	0.063	11.906
8	147708	241.50	3705.26	39.86	0.3263	0.064	11.905
9	147463	241.85	3699.59	39.86	0.3265	0.064	11.906
10	147227	242.18	3694.22	39.85	0.3267	0.064	11.907
11	147002	242.48	3689.15	39.85	0.3268	0.064	11.908
12	146789	242.76	3684.41	39.84	0.3270	0.064	11.909
13	146591	243.02	3680.02	39.83	0.3272	0.064	11.911
14	146407	243.27	3675.98	39.83	0.3273	0.064	11.912
15	146240	243.49	3672.31	39.82	0.3275	0.064	11.913
16	146088	243.70	3669.00	39.82	0.3276	0.064	11.914
17	145953	243.90	3666.06	39.81	0.3277	0.064	11.915
18	145833	244.07	3663.45	39.81	0.3278	0.064	11.915
19	145727	244.23	3661.16	39.80	0.3279	0.064	11.916
20	145634	244.36	3659.16	39.80	0.3280	0.064	11.917
21	145553	244.49	3657.44	39.80	0.3281	0.064	11.917
22	145484	244.60	3655.96	39.79	0.3282	0.064	11.917
23	145425	244.69	3654.72	39.79	0.3282	0.064	11.918
24	145375	244.78	3653.67	39.79	0.3283	0.064	11.918
25	145334	244.85	3652.80	39.79	0.3283	0.064	11.918
26	145299	244.91	3652.08	39.79	0.3283	0.064	11.919
27	145272	244.97	3651.52	39.78	0.3284	0.064	11.919
28	145302	245.01	3652.40	39.78	0.3284	0.064	11.919
29	245099	245.06	6161.14	39.78	0.3284	0.064	11.919
30	278088	253.56	7076.09	39.30	0.3107	0.064	11.129
31	289264	257.17	7385.02	39.17	0.3067	0.064	10.912
32	293739	259.28	7510.76	39.11	0.3056	0.064	10.833
33	296164	260.80	7582.14	39.06	0.3052	0.064	10.793
34	297798	262.02	7633.37	39.01	0.3050	0.064	10.769
35	299059	263.06	7675.22	38.96	0.3049	0.064	10.751
36	300112	263.95	7711.74	38.92	0.3048	0.064	10.738
37	301032	264.74	7744.48	38.87	0.3048	0.064	10.727
38	301840	265.42	7773.80	38.83	0.3047	0.064	10.718
39	302690	266.01	7803.40	38.79	0.3046	0.064	10.710
40	303293	266.51	7825.77	38.76	0.3046	0.064	10.703
41	303817	266.93	7845.17	38.73	0.3045	0.064	10.697
42	304189	267.28	7859.80	38.70	0.3045	0.064	10.693
43	304582	267.57	7874.13	38.68	0.3044	0.064	10.689
44	21997	267.80	568.93	38.66	0.3044	0.064	10.685

Stg	Liq H MMBtu/h
1	-87.584
2	-93.584
3	-95.761
4	-95.815
5	-95.558
6	-95.285
7	-95.033
8	-94.8
9	-94.583
10	-94.377
11	-94.184
12	-94.002
13	-93.832
14	-93.675
15	-93.531
16	-93.4
17	-93.283
18	-93.177
19	-93.084
20	-93.002
21	-92.931
22	-92.869
23	-92.816
24	-92.771
25	-92.732
26	-92.7
27	-92.673
28	-92.685
29	-156.33
30	-170.95
31	-175.54
32	-177.14
33	-177.87
34	-178.29
35	-178.59
36	-178.82
37	-179.02
38	-179.2
39	-179.45
40	-179.58
41	-179.7
42	-179.77
43	-179.87
44	-12.983

Simulation: Separator_Train_v5 Date: 05/01/2013 Time: 15:49:58
Tray Properties

Stg	Vapor lb/h	Average mol wt	Actual vol rate ft3/hr	Actual density lb/ft3	viscosity cP	Thermal conduct. Btu/hr-ft-F	Compr. factor
1	0	0.00	0	0.0000	0.0000	0.000	0.000
2	328830	197.75	5644912	0.0583	0.0067	0.012	0.986
3	349143	209.24	5780291	0.0604	0.0066	0.012	0.985
4	355749	212.02	5844732	0.0609	0.0066	0.012	0.985
5	356828	212.92	5850097	0.0610	0.0066	0.012	0.985
6	356840	213.32	5845838	0.0610	0.0066	0.012	0.985
7	356639	213.54	5840542	0.0611	0.0066	0.012	0.985
8	356394	213.70	5835482	0.0611	0.0066	0.012	0.985
9	356145	213.81	5830769	0.0611	0.0066	0.012	0.985
10	355899	213.91	5826338	0.0611	0.0066	0.012	0.985
11	355663	214.00	5822158	0.0611	0.0066	0.012	0.985
12	355438	214.08	5818209	0.0611	0.0066	0.012	0.985
13	355225	214.16	5814497	0.0611	0.0066	0.012	0.985
14	355027	214.23	5811035	0.0611	0.0066	0.012	0.985
15	354843	214.29	5807826	0.0611	0.0067	0.012	0.985
16	354676	214.35	5804892	0.0611	0.0067	0.012	0.985
17	354525	214.41	5802224	0.0611	0.0067	0.012	0.985
18	354389	214.46	5799831	0.0611	0.0067	0.012	0.985
19	354269	214.51	5797693	0.0611	0.0067	0.012	0.985
20	354163	214.55	5795803	0.0611	0.0067	0.012	0.985
21	354070	214.59	5794139	0.0611	0.0067	0.012	0.985
22	353990	214.62	5792693	0.0611	0.0067	0.012	0.985
23	353920	214.65	5791437	0.0611	0.0067	0.012	0.985
24	353862	214.68	5790372	0.0611	0.0067	0.012	0.985
25	353812	214.70	5789457	0.0611	0.0067	0.012	0.985
26	353770	214.72	5788689	0.0611	0.0067	0.012	0.985
27	353736	214.74	5788046	0.0611	0.0067	0.012	0.985
28	353708	214.75	5787521	0.0611	0.0067	0.012	0.985
29	353738	214.77	5787883	0.0611	0.0067	0.012	0.985
30	223102	243.02	3322823	0.0671	0.0065	0.011	0.982
31	256091	252.41	3706845	0.0691	0.0065	0.011	0.981
32	267267	256.33	3826132	0.0699	0.0065	0.011	0.981
33	271742	258.61	3866496	0.0703	0.0065	0.011	0.981
34	274166	260.26	3884452	0.0706	0.0065	0.011	0.980
35	275801	261.57	3894596	0.0708	0.0064	0.011	0.980
36	277061	262.69	3901489	0.0710	0.0064	0.011	0.980
37	278115	263.65	3906911	0.0712	0.0064	0.011	0.980
38	279034	264.50	3911622	0.0713	0.0064	0.011	0.980
39	279843	265.23	3915818	0.0715	0.0064	0.011	0.980
40	280693	265.87	3921539	0.0716	0.0064	0.011	0.980
41	281296	266.41	3924700	0.0717	0.0064	0.011	0.980
42	281819	266.86	3927568	0.0718	0.0064	0.011	0.980
43	282192	267.24	3929061	0.0718	0.0064	0.011	0.980
44	282585	267.55	3931490	0.0719	0.0064	0.011	0.980

Stg	Vap H MMBtu/h
1	0
2	-184.24
3	-190.24
4	-192.41
5	-192.47
6	-192.21
7	-191.94
8	-191.68
9	-191.45
10	-191.23
11	-191.03
12	-190.83
13	-190.65
14	-190.48
15	-190.32
16	-190.18
17	-190.05
18	-189.93
19	-189.82
20	-189.73
21	-189.65
22	-189.58
23	-189.51
24	-189.46
25	-189.41
26	-189.38
27	-189.34
28	-189.31
29	-189.32
30	-113.44
31	-128.07
32	-132.66
33	-134.26
34	-134.99
35	-135.41
36	-135.71
37	-135.94
38	-136.14
39	-136.32
40	-136.55
41	-136.69
42	-136.81
43	-136.89
44	-136.99

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 2

Tray Loadings	Vapor	Liquid
	349030.000 lb/h	140805.672 lb/h
	5784269.000 ft3/hr	3510.590 ft3/hr
Density	0.060 lb/ft3	40.109 lb/ft3
Tower internal diameter, ft	.....	16.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft	Length ft	Area ft2
Side	2.958	12.659	26.025
Avg. weir length ft	.....		12.659
Weir height, ft	.....		0.167
Flow path length ft	.....		10.583
Flow path width ft	.....		15.286
Tray area, ft2	.....		213.825
Tray active area ft2	.....		161.775
% flood	.....		76.236
Fractional entrainment	.....		0.149
Aeration factor	.....		0.581
Minimum (Weeping) vapor flow lb/h	.....		164074.672
Tray press loss, ft	.....		0.385
Tray press loss, psi	.....		0.107
Downcomer clearance ft	.....		0.146
Downcomer backup ft	.....		0.647
Downcomer residence time sec	.....		17.280
Downcomer apparent residence time sec	.....		80.063
Downcomer velocity ft/sec	.....		0.037
Liquid holdup ft3	.....		40.177
Liquid holdup lb	.....		1611.459
Design pressure psig	.....		100.000
Joint efficiency	.....		0.850
Allowable stress psig	.....		13685.304
Corrosion allowance ft	.....		0.003
Column thickness ft	.....		0.076
Bottom thickness ft	.....		0.076
Actual tray efficiency (O'Connell)	.....		0.617
Actual tray efficiency (Chu)	.....		0.440

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 3

Tray Loadings	Vapor	Liquid
	355661.250 lb/h	147437.000 lb/h
	5849240.000 ft3/hr	3695.117 ft3/hr
Density	0.061 lb/ft3	39.900 lb/ft3
Tower internal diameter, ft	.....	16.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft	Length ft	Area ft2
Side	2.958	12.659	26.025
Avg. weir length ft	.....		12.659
Weir height, ft	.....		0.167
Flow path length ft	.....		10.583
Flow path width ft	.....		15.286
Tray area, ft2	.....		213.825
Tray active area ft2	.....		161.775
% flood	.....		78.296
Fractional entrainment	.....		0.160
Aeration factor	.....		0.580
Minimum (Weeping) vapor flow lb/h	.....		164897.484
Tray press loss, ft	.....		0.395
Tray press loss, psi	.....		0.109
Downcomer clearance ft	.....		0.146
Downcomer backup ft	.....		0.662
Downcomer residence time sec	.....		16.779
Downcomer apparent residence time sec	.....		76.065
Downcomer velocity ft/sec	.....		0.039
Liquid holdup ft3	.....		40.800
Liquid holdup lb	.....		1627.938
Design pressure psig	.....		100.000
Joint efficiency	.....		0.850
Allowable stress psig	.....		13685.304
Corrosion allowance ft	.....		0.003
Column thickness ft	.....		0.076
Bottom thickness ft	.....		0.076
Actual tray efficiency (O'Connell)	.....		0.619
Actual tray efficiency (Chu)	.....		0.443

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 4

Tray Loadings	Vapor	Liquid
	356822.625 lb/h	148598.406 lb/h
	5855986.500 ft3/hr	3726.186 ft3/hr
Density	0.061 lb/ft3	39.879 lb/ft3
Tower internal diameter, ft	.....	16.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft Length ft	Area ft2
Side	2.958 12.659	26.025
Avg. weir length ft	.....	12.659
Weir height, ft	.....	0.167
Flow path length ft	.....	10.583
Flow path width ft	.....	15.286
Tray area, ft2	.....	213.825
Tray active area ft2	.....	161.775
% flood	.....	78.646
Fractional entrainment	.....	0.162
Aeration factor	.....	0.580
Minimum (Weeping) vapor flow lb/h	.....	165130.016
Tray press loss, ft	.....	0.396
Tray press loss, psi	.....	0.110
Downcomer clearance ft	.....	0.146
Downcomer backup ft	.....	0.664
Downcomer residence time sec	.....	16.694
Downcomer apparent residence time sec	.....	75.431
Downcomer velocity ft/sec	.....	0.040
Liquid holdup ft3	.....	40.899
Liquid holdup lb	.....	1631.037
Design pressure psig	.....	100.000
Joint efficiency	.....	0.850
Allowable stress psig	.....	13685.304
Corrosion allowance ft	.....	0.003
Column thickness ft	.....	0.076
Bottom thickness ft	.....	0.076
Actual tray efficiency (O'Connell)	.....	0.619
Actual tray efficiency (Chu)	.....	0.444

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 5

Tray Loadings	Vapor	Liquid
	356909.469 lb/h	148685.281 lb/h
	5852958.500 ft3/hr	3727.993 ft3/hr
Density	0.061 lb/ft3	39.883 lb/ft3
Tower internal diameter, ft	.....	16.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft	Length ft	Area ft2
Side	2.958	12.659	26.025
Avg. weir length ft	.....		12.659
Weir height, ft	.....		0.167
Flow path length ft	.....		10.583
Flow path width ft	.....		15.286
Tray area, ft2	.....		213.825
Tray active area ft2	.....		161.775
% flood	.....		78.674
Fractional entrainment	.....		0.162
Aeration factor	.....		0.580
Minimum (Weeping) vapor flow lb/h	.....		165220.297
Tray press loss, ft	.....		0.396
Tray press loss, psi	.....		0.110
Downcomer clearance ft	.....		0.146
Downcomer backup ft	.....		0.664
Downcomer residence time sec	.....		16.685
Downcomer apparent residence time sec	.....		75.394
Downcomer velocity ft/sec	.....		0.040
Liquid holdup ft3	.....		40.901
Liquid holdup lb	.....		1631.265
Design pressure psig	.....		100.000
Joint efficiency	.....		0.850
Allowable stress psig	.....		13685.304
Corrosion allowance ft	.....		0.003
Column thickness ft	.....		0.076
Bottom thickness ft	.....		0.076
Actual tray efficiency (O'Connell)	.....		0.620
Actual tray efficiency (Chu)	.....		0.443

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 6

Tray Loadings	Vapor	Liquid
	356780.000 lb/h	148555.609 lb/h
	5848865.000 ft3/hr	3724.359 ft3/hr
Density	0.061 lb/ft3	39.888 lb/ft3
Tower internal diameter, ft	.....	16.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft Length ft	Area ft2
Side	2.958 12.659	26.025
Avg. weir length ft	.....	12.659
Weir height, ft	.....	0.167
Flow path length ft	.....	10.583
Flow path width ft	.....	15.286
Tray area, ft2	.....	213.825
Tray active area ft2	.....	161.775
% flood	.....	78.640
Fractional entrainment	.....	0.162
Aeration factor	.....	0.580
Minimum (Weeping) vapor flow lb/h	.....	165256.625
Tray press loss, ft	.....	0.396
Tray press loss, psi	.....	0.110
Downcomer clearance ft	.....	0.146
Downcomer backup ft	.....	0.664
Downcomer residence time sec	.....	16.691
Downcomer apparent residence time sec	.....	75.468
Downcomer velocity ft/sec	.....	0.040
Liquid holdup ft3	.....	40.886
Liquid holdup lb	.....	1630.826
Design pressure psig	.....	100.000
Joint efficiency	.....	0.850
Allowable stress psig	.....	13685.304
Corrosion allowance ft	.....	0.003
Column thickness ft	.....	0.076
Bottom thickness ft	.....	0.076
Actual tray efficiency (O'Connell)	.....	0.620
Actual tray efficiency (Chu)	.....	0.443

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 7

Tray Loadings	Vapor	Liquid
	356602.000 lb/h	148377.563 lb/h
	5844950.000 ft3/hr	3719.775 ft3/hr
Density	0.061 lb/ft3	39.889 lb/ft3
Tower internal diameter, ft	.....	16.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft Length ft	Area ft2
Side	2.958 12.659	26.025
Avg. weir length ft	.....	12.659
Weir height, ft	.....	0.167
Flow path length ft	.....	10.583
Flow path width ft	.....	15.286
Tray area, ft2	.....	213.825
Tray active area ft2	.....	161.775
% flood	.....	78.596
Fractional entrainment	.....	0.162
Aeration factor	.....	0.580
Minimum (Weeping) vapor flow lb/h	.....	165268.000
Tray press loss, ft	.....	0.396
Tray press loss, psi	.....	0.110
Downcomer clearance ft	.....	0.146
Downcomer backup ft	.....	0.663
Downcomer residence time sec	.....	16.700
Downcomer apparent residence time sec	.....	75.561
Downcomer velocity ft/sec	.....	0.040
Liquid holdup ft3	.....	40.868
Liquid holdup lb	.....	1630.181
Design pressure psig	.....	100.000
Joint efficiency	.....	0.850
Allowable stress psig	.....	13685.304
Corrosion allowance ft	.....	0.003
Column thickness ft	.....	0.076
Bottom thickness ft	.....	0.076
Actual tray efficiency (O'Connell)	.....	0.620
Actual tray efficiency (Chu)	.....	0.443

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 8

Tray Loadings	Vapor	Liquid
	356412.500 lb/h	148188.297 lb/h
	5841286.000 ft3/hr	3715.131 ft3/hr
Density	0.061 lb/ft3	39.888 lb/ft3
Tower internal diameter, ft	.....	16.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft Length ft	Area ft2
Side	2.958 12.659	26.025
Avg. weir length ft	.....	12.659
Weir height, ft	.....	0.167
Flow path length ft	.....	10.583
Flow path width ft	.....	15.286
Tray area, ft2	.....	213.825
Tray active area ft2	.....	161.775
% flood	.....	78.551
Fractional entrainment	.....	0.161
Aeration factor	.....	0.580
Minimum (Weeping) vapor flow lb/h	.....	165266.328
Tray press loss, ft	.....	0.395
Tray press loss, psi	.....	0.110
Downcomer clearance ft	.....	0.146
Downcomer backup ft	.....	0.663
Downcomer residence time sec	.....	16.710
Downcomer apparent residence time sec	.....	75.655
Downcomer velocity ft/sec	.....	0.040
Liquid holdup ft3	.....	40.851
Liquid holdup lb	.....	1629.453
Design pressure psig	.....	100.000
Joint efficiency	.....	0.850
Allowable stress psig	.....	13685.304
Corrosion allowance ft	.....	0.003
Column thickness ft	.....	0.076
Bottom thickness ft	.....	0.076
Actual tray efficiency (O'Connell)	.....	0.620
Actual tray efficiency (Chu)	.....	0.443

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 9

Tray Loadings	Vapor	Liquid
	356218.188 lb/h	147994.000 lb/h
	5837760.500 ft3/hr	3710.516 ft3/hr
Density	0.061 lb/ft3	39.885 lb/ft3
Tower internal diameter, ft	.....	16.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft	Length ft	Area ft2
Side	2.958	12.659	26.025
Avg. weir length ft	.....		12.659
Weir height, ft	.....		0.167
Flow path length ft	.....		10.583
Flow path width ft	.....		15.286
Tray area, ft2	.....		213.825
Tray active area ft2	.....		161.775
% flood	.....		78.505
Fractional entrainment	.....		0.161
Aeration factor	.....		0.580
Minimum (Weeping) vapor flow lb/h	.....		165257.203
Tray press loss, ft	.....		0.395
Tray press loss, psi	.....		0.109
Downcomer clearance ft	.....		0.146
Downcomer backup ft	.....		0.662
Downcomer residence time sec	.....		16.721
Downcomer apparent residence time sec	.....		75.749
Downcomer velocity ft/sec	.....		0.040
Liquid holdup ft3	.....		40.834
Liquid holdup lb	.....		1628.672
Design pressure psig	.....		100.000
Joint efficiency	.....		0.850
Allowable stress psig	.....		13685.304
Corrosion allowance ft	.....		0.003
Column thickness ft	.....		0.076
Bottom thickness ft	.....		0.076
Actual tray efficiency (O'Connell)	.....		0.620
Actual tray efficiency (Chu)	.....		0.443

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 10

Tray Loadings	Vapor	Liquid
	356022.281 lb/h	147798.078 lb/h
	5834317.000 ft3/hr	3705.967 ft3/hr
Density	0.061 lb/ft3	39.881 lb/ft3
Tower internal diameter, ft	.....	16.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft	Length ft	Area ft2
Side	2.958	12.659	26.025
Avg. weir length ft	.....		12.659
Weir height, ft	.....		0.167
Flow path length ft	.....		10.583
Flow path width ft	.....		15.286
Tray area, ft2	.....		213.825
Tray active area ft2	.....		161.775
% flood	.....		78.461
Fractional entrainment	.....		0.161
Aeration factor	.....		0.580
Minimum (Weeping) vapor flow lb/h	.....		165243.750
Tray press loss, ft	.....		0.395
Tray press loss, psi	.....		0.109
Downcomer clearance ft	.....		0.146
Downcomer backup ft	.....		0.662
Downcomer residence time sec	.....		16.731
Downcomer apparent residence time sec	.....		75.842
Downcomer velocity ft/sec	.....		0.040
Liquid holdup ft3	.....		40.818
Liquid holdup lb	.....		1627.862
Design pressure psig	.....		100.000
Joint efficiency	.....		0.850
Allowable stress psig	.....		13685.304
Corrosion allowance ft	.....		0.003
Column thickness ft	.....		0.076
Bottom thickness ft	.....		0.076
Actual tray efficiency (O'Connell)	.....		0.620
Actual tray efficiency (Chu)	.....		0.442

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 11

Tray Loadings	Vapor	Liquid
	355825.000 lb/h	147600.766 lb/h
	5830908.000 ft3/hr	3701.449 ft3/hr
Density	0.061 lb/ft3	39.876 lb/ft3
Tower internal diameter, ft	.....	16.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft	Length ft	Area ft2
Side	2.958	12.659	26.025
Avg. weir length ft	.....		12.659
Weir height, ft	.....		0.167
Flow path length ft	.....		10.583
Flow path width ft	.....		15.286
Tray area, ft2	.....		213.825
Tray active area ft2	.....		161.775
% flood	.....		78.416
Fractional entrainment	.....		0.161
Aeration factor	.....		0.580
Minimum (Weeping) vapor flow lb/h	.....		165227.719
Tray press loss, ft	.....		0.395
Tray press loss, psi	.....		0.109
Downcomer clearance ft	.....		0.146
Downcomer backup ft	.....		0.661
Downcomer residence time sec	.....		16.742
Downcomer apparent residence time sec	.....		75.935
Downcomer velocity ft/sec	.....		0.040
Liquid holdup ft3	.....		40.802
Liquid holdup lb	.....		1627.030
Design pressure psig	.....		100.000
Joint efficiency	.....		0.850
Allowable stress psig	.....		13685.304
Corrosion allowance ft	.....		0.003
Column thickness ft	.....		0.076
Bottom thickness ft	.....		0.076
Actual tray efficiency (O'Connell)	.....		0.620
Actual tray efficiency (Chu)	.....		0.442

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 12

Tray Loadings	Vapor	Liquid
	355628.000 lb/h	147403.672 lb/h
	5827529.000 ft3/hr	3696.981 ft3/hr
Density	0.061 lb/ft3	39.871 lb/ft3
Tower internal diameter, ft	.....	16.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft Length ft	Area ft2
Side	2.958 12.659	26.025
Avg. weir length ft	.....	12.659
Weir height, ft	.....	0.167
Flow path length ft	.....	10.583
Flow path width ft	.....	15.286
Tray area, ft2	.....	213.825
Tray active area ft2	.....	161.775
% flood	.....	78.372
Fractional entrainment	.....	0.160
Aeration factor	.....	0.580
Minimum (Weeping) vapor flow lb/h	.....	165210.172
Tray press loss, ft	.....	0.394
Tray press loss, psi	.....	0.109
Downcomer clearance ft	.....	0.146
Downcomer backup ft	.....	0.661
Downcomer residence time sec	.....	16.752
Downcomer apparent residence time sec	.....	76.026
Downcomer velocity ft/sec	.....	0.039
Liquid holdup ft3	.....	40.786
Liquid holdup lb	.....	1626.188
Design pressure psig	.....	100.000
Joint efficiency	.....	0.850
Allowable stress psig	.....	13685.304
Corrosion allowance ft	.....	0.003
Column thickness ft	.....	0.076
Bottom thickness ft	.....	0.076
Actual tray efficiency (O'Connell)	.....	0.620
Actual tray efficiency (Chu)	.....	0.442

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 13

Tray Loadings	Vapor	Liquid
	355432.156 lb/h	147208.000 lb/h
	5824185.000 ft3/hr	3692.574 ft3/hr
Density	0.061 lb/ft3	39.866 lb/ft3
Tower internal diameter, ft	.....	16.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft Length ft	Area ft2
Side	2.958 12.659	26.025
Avg. weir length ft	.....	12.659
Weir height, ft	.....	0.167
Flow path length ft	.....	10.583
Flow path width ft	.....	15.286
Tray area, ft2	.....	213.825
Tray active area ft2	.....	161.775
% flood	.....	78.329
Fractional entrainment	.....	0.160
Aeration factor	.....	0.580
Minimum (Weeping) vapor flow lb/h	.....	165192.000
Tray press loss, ft	.....	0.394
Tray press loss, psi	.....	0.109
Downcomer clearance ft	.....	0.146
Downcomer backup ft	.....	0.661
Downcomer residence time sec	.....	16.762
Downcomer apparent residence time sec	.....	76.117
Downcomer velocity ft/sec	.....	0.039
Liquid holdup ft3	.....	40.770
Liquid holdup lb	.....	1625.343
Design pressure psig	.....	100.000
Joint efficiency	.....	0.850
Allowable stress psig	.....	13685.304
Corrosion allowance ft	.....	0.003
Column thickness ft	.....	0.076
Bottom thickness ft	.....	0.076
Actual tray efficiency (O'Connell)	.....	0.620
Actual tray efficiency (Chu)	.....	0.442

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 14

Tray Loadings	Vapor	Liquid
	355240.000 lb/h	147015.813 lb/h
	5820903.000 ft3/hr	3688.271 ft3/hr
Density	0.061 lb/ft3	39.860 lb/ft3
Tower internal diameter, ft	.....	16.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft	Length ft	Area ft2
Side	2.958	12.659	26.025
Avg. weir length ft	.....		12.659
Weir height, ft	.....		0.167
Flow path length ft	.....		10.583
Flow path width ft	.....		15.286
Tray area, ft2	.....		213.825
Tray active area ft2	.....		161.775
% flood	.....		78.287
Fractional entrainment	.....		0.160
Aeration factor	.....		0.580
Minimum (Weeping) vapor flow lb/h	.....		165173.281
Tray press loss, ft	.....		0.394
Tray press loss, psi	.....		0.109
Downcomer clearance ft	.....		0.146
Downcomer backup ft	.....		0.660
Downcomer residence time sec	.....		16.773
Downcomer apparent residence time sec	.....		76.206
Downcomer velocity ft/sec	.....		0.039
Liquid holdup ft3	.....		40.755
Liquid holdup lb	.....		1624.508
Design pressure psig	.....		100.000
Joint efficiency	.....		0.850
Allowable stress psig	.....		13685.304
Corrosion allowance ft	.....		0.003
Column thickness ft	.....		0.076
Bottom thickness ft	.....		0.076
Actual tray efficiency (O'Connell)	.....		0.620
Actual tray efficiency (Chu)	.....		0.442

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 15

Tray Loadings	Vapor	Liquid
	355054.063 lb/h	146829.844 lb/h
	5817717.500 ft3/hr	3684.127 ft3/hr
Density	0.061 lb/ft3	39.855 lb/ft3
Tower internal diameter, ft	.....	16.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft Length ft	Area ft2
Side	2.958 12.659	26.025
Avg. weir length ft	.....	12.659
Weir height, ft	.....	0.167
Flow path length ft	.....	10.583
Flow path width ft	.....	15.286
Tray area, ft2	.....	213.825
Tray active area ft2	.....	161.775
% flood	.....	78.246
Fractional entrainment	.....	0.160
Aeration factor	.....	0.580
Minimum (Weeping) vapor flow lb/h	.....	165155.000
Tray press loss, ft	.....	0.393
Tray press loss, psi	.....	0.109
Downcomer clearance ft	.....	0.146
Downcomer backup ft	.....	0.660
Downcomer residence time sec	.....	16.782
Downcomer apparent residence time sec	.....	76.292
Downcomer velocity ft/sec	.....	0.039
Liquid holdup ft3	.....	40.740
Liquid holdup lb	.....	1623.693
Design pressure psig	.....	100.000
Joint efficiency	.....	0.850
Allowable stress psig	.....	13685.304
Corrosion allowance ft	.....	0.003
Column thickness ft	.....	0.076
Bottom thickness ft	.....	0.076
Actual tray efficiency (O'Connell)	.....	0.620
Actual tray efficiency (Chu)	.....	0.441

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 16

Tray Loadings	Vapor	Liquid
	354875.000 lb/h	146650.609 lb/h
	5814640.500 ft3/hr	3680.146 ft3/hr
Density	0.061 lb/ft3	39.849 lb/ft3
Tower internal diameter, ft	.....	16.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft Length ft	Area ft2
Side	2.958 12.659	26.025
Avg. weir length ft	.....	12.659
Weir height, ft	.....	0.167
Flow path length ft	.....	10.583
Flow path width ft	.....	15.286
Tray area, ft2	.....	213.825
Tray active area ft2	.....	161.775
% flood	.....	78.206
Fractional entrainment	.....	0.160
Aeration factor	.....	0.580
Minimum (Weeping) vapor flow lb/h	.....	165137.047
Tray press loss, ft	.....	0.393
Tray press loss, psi	.....	0.109
Downcomer clearance ft	.....	0.146
Downcomer backup ft	.....	0.660
Downcomer residence time sec	.....	16.792
Downcomer apparent residence time sec	.....	76.374
Downcomer velocity ft/sec	.....	0.039
Liquid holdup ft3	.....	40.726
Liquid holdup lb	.....	1622.903
Design pressure psig	.....	100.000
Joint efficiency	.....	0.850
Allowable stress psig	.....	13685.304
Corrosion allowance ft	.....	0.003
Column thickness ft	.....	0.076
Bottom thickness ft	.....	0.076
Actual tray efficiency (O'Connell)	.....	0.620
Actual tray efficiency (Chu)	.....	0.441

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 17

Tray Loadings	Vapor	Liquid
	354704.625 lb/h	146480.422 lb/h
	5811707.500 ft3/hr	3676.381 ft3/hr
Density	0.061 lb/ft3	39.844 lb/ft3
Tower internal diameter, ft	.....	16.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft Length ft	Area ft2
Side	2.958 12.659	26.025
Avg. weir length ft	.....	12.659
Weir height, ft	.....	0.167
Flow path length ft	.....	10.583
Flow path width ft	.....	15.286
Tray area, ft2	.....	213.825
Tray active area ft2	.....	161.775
% flood	.....	78.169
Fractional entrainment	.....	0.159
Aeration factor	.....	0.580
Minimum (Weeping) vapor flow lb/h	.....	165120.000
Tray press loss, ft	.....	0.393
Tray press loss, psi	.....	0.109
Downcomer clearance ft	.....	0.146
Downcomer backup ft	.....	0.659
Downcomer residence time sec	.....	16.801
Downcomer apparent residence time sec	.....	76.452
Downcomer velocity ft/sec	.....	0.039
Liquid holdup ft3	.....	40.713
Liquid holdup lb	.....	1622.148
Design pressure psig	.....	100.000
Joint efficiency	.....	0.850
Allowable stress psig	.....	13685.304
Corrosion allowance ft	.....	0.003
Column thickness ft	.....	0.076
Bottom thickness ft	.....	0.076
Actual tray efficiency (O'Connell)	.....	0.620
Actual tray efficiency (Chu)	.....	0.441

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 18

Tray Loadings	Vapor	Liquid
	354544.000 lb/h	146319.828 lb/h
	5808931.000 ft3/hr	3672.838 ft3/hr
Density	0.061 lb/ft3	39.838 lb/ft3
Tower internal diameter, ft	.....	16.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft Length ft	Area ft2
Side	2.958 12.659	26.025
Avg. weir length ft	.....	12.659
Weir height, ft	.....	0.167
Flow path length ft	.....	10.583
Flow path width ft	.....	15.286
Tray area, ft2	.....	213.825
Tray active area ft2	.....	161.775
% flood	.....	78.134
Fractional entrainment	.....	0.159
Aeration factor	.....	0.580
Minimum (Weeping) vapor flow lb/h	.....	165103.500
Tray press loss, ft	.....	0.393
Tray press loss, psi	.....	0.109
Downcomer clearance ft	.....	0.146
Downcomer backup ft	.....	0.659
Downcomer residence time sec	.....	16.809
Downcomer apparent residence time sec	.....	76.526
Downcomer velocity ft/sec	.....	0.039
Liquid holdup ft3	.....	40.700
Liquid holdup lb	.....	1621.433
Design pressure psig	.....	100.000
Joint efficiency	.....	0.850
Allowable stress psig	.....	13685.304
Corrosion allowance ft	.....	0.003
Column thickness ft	.....	0.076
Bottom thickness ft	.....	0.076
Actual tray efficiency (O'Connell)	.....	0.620
Actual tray efficiency (Chu)	.....	0.441

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 19

Tray Loadings	Vapor	Liquid
	354394.563 lb/h	146170.375 lb/h
	5806336.500 ft3/hr	3669.553 ft3/hr
Density	0.061 lb/ft3	39.833 lb/ft3
Tower internal diameter, ft	.....	16.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft	Length ft	Area ft2
Side	2.958	12.659	26.025
Avg. weir length ft	.....		12.659
Weir height, ft	.....		0.167
Flow path length ft	.....		10.583
Flow path width ft	.....		15.286
Tray area, ft2	.....		213.825
Tray active area ft2	.....		161.775
% flood	.....		78.102
Fractional entrainment	.....		0.159
Aeration factor	.....		0.580
Minimum (Weeping) vapor flow lb/h	.....		165088.172
Tray press loss, ft	.....		0.393
Tray press loss, psi	.....		0.109
Downcomer clearance ft	.....		0.146
Downcomer backup ft	.....		0.659
Downcomer residence time sec	.....		16.817
Downcomer apparent residence time sec	.....		76.595
Downcomer velocity ft/sec	.....		0.039
Liquid holdup ft3	.....		40.689
Liquid holdup lb	.....		1620.764
Design pressure psig	.....		100.000
Joint efficiency	.....		0.850
Allowable stress psig	.....		13685.304
Corrosion allowance ft	.....		0.003
Column thickness ft	.....		0.076
Bottom thickness ft	.....		0.076
Actual tray efficiency (O'Connell)	.....		0.620
Actual tray efficiency (Chu)	.....		0.441

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 20

Tray Loadings	Vapor	Liquid
	354257.000 lb/h	146032.500 lb/h
	5803933.000 ft3/hr	3666.533 ft3/hr
Density	0.061 lb/ft3	39.828 lb/ft3
Tower internal diameter, ft	.....	16.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft	Length ft	Area ft2
Side	2.958	12.659	26.025
Avg. weir length ft	.....		12.659
Weir height, ft	.....		0.167
Flow path length ft	.....		10.583
Flow path width ft	.....		15.286
Tray area, ft2	.....		213.825
Tray active area ft2	.....		161.775
% flood	.....		78.072
Fractional entrainment	.....		0.159
Aeration factor	.....		0.580
Minimum (Weeping) vapor flow lb/h	.....		165074.000
Tray press loss, ft	.....		0.392
Tray press loss, psi	.....		0.109
Downcomer clearance ft	.....		0.146
Downcomer backup ft	.....		0.658
Downcomer residence time sec	.....		16.824
Downcomer apparent residence time sec	.....		76.658
Downcomer velocity ft/sec	.....		0.039
Liquid holdup ft3	.....		40.678
Liquid holdup lb	.....		1620.142
Design pressure psig	.....		100.000
Joint efficiency	.....		0.850
Allowable stress psig	.....		13685.304
Corrosion allowance ft	.....		0.003
Column thickness ft	.....		0.076
Bottom thickness ft	.....		0.076
Actual tray efficiency (O'Connell)	.....		0.620
Actual tray efficiency (Chu)	.....		0.441

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 21

Tray Loadings	Vapor	Liquid
	354130.438 lb/h	145906.234 lb/h
	5801725.000 ft3/hr	3663.775 ft3/hr
Density	0.061 lb/ft3	39.824 lb/ft3
Tower internal diameter, ft	.....	16.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft	Length ft	Area ft2
Side	2.958	12.659	26.025
Avg. weir length ft	.....		12.659
Weir height, ft	.....		0.167
Flow path length ft	.....		10.583
Flow path width ft	.....		15.286
Tray area, ft2	.....		213.825
Tray active area ft2	.....		161.775
% flood	.....		78.045
Fractional entrainment	.....		0.159
Aeration factor	.....		0.580
Minimum (Weeping) vapor flow lb/h	.....		165060.813
Tray press loss, ft	.....		0.392
Tray press loss, psi	.....		0.108
Downcomer clearance ft	.....		0.146
Downcomer backup ft	.....		0.658
Downcomer residence time sec	.....		16.831
Downcomer apparent residence time sec	.....		76.715
Downcomer velocity ft/sec	.....		0.039
Liquid holdup ft3	.....		40.668
Liquid holdup lb	.....		1619.571
Design pressure psig	.....		100.000
Joint efficiency	.....		0.850
Allowable stress psig	.....		13685.304
Corrosion allowance ft	.....		0.003
Column thickness ft	.....		0.076
Bottom thickness ft	.....		0.076
Actual tray efficiency (O'Connell)	.....		0.620
Actual tray efficiency (Chu)	.....		0.441

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 22

Tray Loadings	Vapor	Liquid
	354016.469 lb/h	145792.266 lb/h
	5799720.000 ft3/hr	3661.296 ft3/hr
Density	0.061 lb/ft3	39.820 lb/ft3
Tower internal diameter, ft	.....	16.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft	Length ft	Area ft2
Side	2.958	12.659	26.025
Avg. weir length ft	.....		12.659
Weir height, ft	.....		0.167
Flow path length ft	.....		10.583
Flow path width ft	.....		15.286
Tray area, ft2	.....		213.825
Tray active area ft2	.....		161.775
% flood	.....		78.020
Fractional entrainment	.....		0.159
Aeration factor	.....		0.580
Minimum (Weeping) vapor flow lb/h	.....		165049.000
Tray press loss, ft	.....		0.392
Tray press loss, psi	.....		0.108
Downcomer clearance ft	.....		0.146
Downcomer backup ft	.....		0.658
Downcomer residence time sec	.....		16.837
Downcomer apparent residence time sec	.....		76.767
Downcomer velocity ft/sec	.....		0.039
Liquid holdup ft3	.....		40.659
Liquid holdup lb	.....		1619.052
Design pressure psig	.....		100.000
Joint efficiency	.....		0.850
Allowable stress psig	.....		13685.304
Corrosion allowance ft	.....		0.003
Column thickness ft	.....		0.076
Bottom thickness ft	.....		0.076
Actual tray efficiency (O'Connell)	.....		0.620
Actual tray efficiency (Chu)	.....		0.441

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 23

Tray Loadings	Vapor	Liquid
	353914.344 lb/h	145690.109 lb/h
	5797916.500 ft3/hr	3659.084 ft3/hr
Density	0.061 lb/ft3	39.816 lb/ft3
Tower internal diameter, ft	.....	16.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft	Length ft	Area ft2
Side	2.958	12.659	26.025
Avg. weir length ft	.....		12.659
Weir height, ft	.....		0.167
Flow path length ft	.....		10.583
Flow path width ft	.....		15.286
Tray area, ft2	.....		213.825
Tray active area ft2	.....		161.775
% flood	.....		77.998
Fractional entrainment	.....		0.158
Aeration factor	.....		0.580
Minimum (Weeping) vapor flow lb/h	.....		165038.094
Tray press loss, ft	.....		0.392
Tray press loss, psi	.....		0.108
Downcomer clearance ft	.....		0.146
Downcomer backup ft	.....		0.658
Downcomer residence time sec	.....		16.842
Downcomer apparent residence time sec	.....		76.814
Downcomer velocity ft/sec	.....		0.039
Liquid holdup ft3	.....		40.652
Liquid holdup lb	.....		1618.583
Design pressure psig	.....		100.000
Joint efficiency	.....		0.850
Allowable stress psig	.....		13685.304
Corrosion allowance ft	.....		0.003
Column thickness ft	.....		0.076
Bottom thickness ft	.....		0.076
Actual tray efficiency (O'Connell)	.....		0.620
Actual tray efficiency (Chu)	.....		0.440

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 24

Tray Loadings	Vapor	Liquid
	353824.000 lb/h	145599.734 lb/h
	5796310.500 ft3/hr	3657.136 ft3/hr
Density	0.061 lb/ft3	39.813 lb/ft3
Tower internal diameter, ft	.....	16.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft	Length ft	Area ft2
Side	2.958	12.659	26.025
Avg. weir length ft	.....		12.659
Weir height, ft	.....		0.167
Flow path length ft	.....		10.583
Flow path width ft	.....		15.286
Tray area, ft2	.....		213.825
Tray active area ft2	.....		161.775
% flood	.....		77.979
Fractional entrainment	.....		0.158
Aeration factor	.....		0.580
Minimum (Weeping) vapor flow lb/h	.....		165028.469
Tray press loss, ft	.....		0.392
Tray press loss, psi	.....		0.108
Downcomer clearance ft	.....		0.146
Downcomer backup ft	.....		0.658
Downcomer residence time sec	.....		16.846
Downcomer apparent residence time sec	.....		76.855
Downcomer velocity ft/sec	.....		0.039
Liquid holdup ft3	.....		40.645
Liquid holdup lb	.....		1618.166
Design pressure psig	.....		100.000
Joint efficiency	.....		0.850
Allowable stress psig	.....		13685.304
Corrosion allowance ft	.....		0.003
Column thickness ft	.....		0.076
Bottom thickness ft	.....		0.076
Actual tray efficiency (O'Connell)	.....		0.620
Actual tray efficiency (Chu)	.....		0.440

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 25

Tray Loadings	Vapor	Liquid
	353745.000 lb/h	145520.453 lb/h
	5794891.000 ft3/hr	3655.437 ft3/hr
Density	0.061 lb/ft3	39.809 lb/ft3
Tower internal diameter, ft	.....	16.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft Length ft	Area ft2
Side	2.958 12.659	26.025
Avg. weir length ft	.....	12.659
Weir height, ft	.....	0.167
Flow path length ft	.....	10.583
Flow path width ft	.....	15.286
Tray area, ft2	.....	213.825
Tray active area ft2	.....	161.775
% flood	.....	77.962
Fractional entrainment	.....	0.158
Aeration factor	.....	0.580
Minimum (Weeping) vapor flow lb/h	.....	165020.000
Tray press loss, ft	.....	0.392
Tray press loss, psi	.....	0.108
Downcomer clearance ft	.....	0.146
Downcomer backup ft	.....	0.657
Downcomer residence time sec	.....	16.851
Downcomer apparent residence time sec	.....	76.890
Downcomer velocity ft/sec	.....	0.039
Liquid holdup ft3	.....	40.639
Liquid holdup lb	.....	1617.796
Design pressure psig	.....	100.000
Joint efficiency	.....	0.850
Allowable stress psig	.....	13685.304
Corrosion allowance ft	.....	0.003
Column thickness ft	.....	0.076
Bottom thickness ft	.....	0.076
Actual tray efficiency (O'Connell)	.....	0.620
Actual tray efficiency (Chu)	.....	0.440

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 26

Tray Loadings	Vapor	Liquid
	353674.219 lb/h	145450.000 lb/h
	5793632.500 ft3/hr	3653.930 ft3/hr
Density	0.061 lb/ft3	39.806 lb/ft3
Tower internal diameter, ft	.....	16.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft	Length ft	Area ft2
Side	2.958	12.659	26.025
Avg. weir length ft	.....		12.659
Weir height, ft	.....		0.167
Flow path length ft	.....		10.583
Flow path width ft	.....		15.286
Tray area, ft2	.....		213.825
Tray active area ft2	.....		161.775
% flood	.....		77.947
Fractional entrainment	.....		0.158
Aeration factor	.....		0.580
Minimum (Weeping) vapor flow lb/h	.....		165012.203
Tray press loss, ft	.....		0.392
Tray press loss, psi	.....		0.108
Downcomer clearance ft	.....		0.146
Downcomer backup ft	.....		0.657
Downcomer residence time sec	.....		16.854
Downcomer apparent residence time sec	.....		76.922
Downcomer velocity ft/sec	.....		0.039
Liquid holdup ft3	.....		40.633
Liquid holdup lb	.....		1617.467
Design pressure psig	.....		100.000
Joint efficiency	.....		0.850
Allowable stress psig	.....		13685.304
Corrosion allowance ft	.....		0.003
Column thickness ft	.....		0.076
Bottom thickness ft	.....		0.076
Actual tray efficiency (O'Connell)	.....		0.620
Actual tray efficiency (Chu)	.....		0.440

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 27

Tray Loadings	Vapor	Liquid
	353605.031 lb/h	145380.813 lb/h
	5792409.500 ft3/hr	3652.431 ft3/hr
Density	0.061 lb/ft3	39.804 lb/ft3
Tower internal diameter, ft	.....	16.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft Length ft	Area ft2
Side	2.958 12.659	26.025
Avg. weir length ft	.....	12.659
Weir height, ft	.....	0.167
Flow path length ft	.....	10.583
Flow path width ft	.....	15.286
Tray area, ft2	.....	213.825
Tray active area ft2	.....	161.775
% flood	.....	77.932
Fractional entrainment	.....	0.158
Aeration factor	.....	0.580
Minimum (Weeping) vapor flow lb/h	.....	165005.000
Tray press loss, ft	.....	0.391
Tray press loss, psi	.....	0.108
Downcomer clearance ft	.....	0.146
Downcomer backup ft	.....	0.657
Downcomer residence time sec	.....	16.858
Downcomer apparent residence time sec	.....	76.954
Downcomer velocity ft/sec	.....	0.039
Liquid holdup ft3	.....	40.628
Liquid holdup lb	.....	1617.150
Design pressure psig	.....	100.000
Joint efficiency	.....	0.850
Allowable stress psig	.....	13685.304
Corrosion allowance ft	.....	0.003
Column thickness ft	.....	0.076
Bottom thickness ft	.....	0.076
Actual tray efficiency (O'Connell)	.....	0.620
Actual tray efficiency (Chu)	.....	0.440

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 28

Tray Loadings	Vapor	Liquid
	222878.000 lb/h	245728.016 lb/h
	3325987.000 ft3/hr	6173.831 ft3/hr
Density	0.067 lb/ft3	39.802 lb/ft3
Tower internal diameter, ft	.....	13.000
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft	Length ft	Area ft2
Side	2.333	9.978	16.180
Avg. weir length ft	.....		9.978
Weir height, ft	.....		0.167
Flow path length ft	.....		8.333
Flow path width ft	.....		12.045
Tray area, ft2	.....		132.733
Tray active area ft2	.....		100.372
% flood	.....		79.796
Fractional entrainment	.....		0.067
Aeration factor	.....		0.581
Minimum (Weeping) vapor flow lb/h	.....		112072.727
Tray press loss, ft	.....		0.410
Tray press loss, psi	.....		0.113
Downcomer clearance ft	.....		0.146
Downcomer backup ft	.....		0.787
Downcomer residence time sec	.....		7.429
Downcomer apparent residence time sec	.....		28.304
Downcomer velocity ft/sec	.....		0.106
Liquid holdup ft3	.....		30.682
Liquid holdup lb	.....		1221.188
Design pressure psig	.....		100.000
Joint efficiency	.....		0.850
Allowable stress psig	.....		13685.304
Corrosion allowance ft	.....		0.003
Column thickness ft	.....		0.060
Bottom thickness ft	.....		0.060
Actual tray efficiency (O'Connell)	.....		0.620
Actual tray efficiency (Chu)	.....		0.614

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 29

Tray Loadings	Vapor	Liquid
	255681.281 lb/h	278531.406 lb/h
	3710105.250 ft3/hr	7080.977 ft3/hr
Density	0.069 lb/ft3	39.335 lb/ft3
Tower internal diameter, ft	.....	14.000
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft Length ft	Area ft2
Side	2.521 10.759	18.851
Avg. weir length ft	.....	10.759
Weir height, ft	.....	0.167
Flow path length ft	.....	8.958
Flow path width ft	.....	12.975
Tray area, ft2	.....	153.938
Tray active area ft2	.....	116.236
% flood	.....	79.456
Fractional entrainment	.....	0.065
Aeration factor	.....	0.582
Minimum (Weeping) vapor flow lb/h	.....	131965.188
Tray press loss, ft	.....	0.405
Tray press loss, psi	.....	0.111
Downcomer clearance ft	.....	0.146
Downcomer backup ft	.....	0.797
Downcomer residence time sec	.....	7.641
Downcomer apparent residence time sec	.....	28.752
Downcomer velocity ft/sec	.....	0.104
Liquid holdup ft3	.....	36.232
Liquid holdup lb	.....	1425.180
Design pressure psig	.....	100.000
Joint efficiency	.....	0.850
Allowable stress psig	.....	13685.304
Corrosion allowance ft	.....	0.003
Column thickness ft	.....	0.065
Bottom thickness ft	.....	0.065
Actual tray efficiency (O'Connell)	.....	0.624
Actual tray efficiency (Chu)	.....	0.616

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 30

Tray Loadings	Vapor	Liquid
	266692.000 lb/h	289542.031 lb/h
	3828969.250 ft3/hr	7382.762 ft3/hr
Density	0.070 lb/ft3	39.219 lb/ft3
Tower internal diameter, ft	.....	14.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft Length ft	Area ft2
Side	2.583 11.097	19.916
Avg. weir length ft	.....	11.097
Weir height, ft	.....	0.167
Flow path length ft	.....	9.333
Flow path width ft	.....	13.425
Tray area, ft2	.....	165.130
Tray active area ft2	.....	125.299
% flood	.....	77.119
Fractional entrainment	.....	0.058
Aeration factor	.....	0.584
Minimum (Weeping) vapor flow lb/h	.....	142213.391
Tray press loss, ft	.....	0.393
Tray press loss, psi	.....	0.107
Downcomer clearance ft	.....	0.146
Downcomer backup ft	.....	0.788
Downcomer residence time sec	.....	7.651
Downcomer apparent residence time sec	.....	29.134
Downcomer velocity ft/sec	.....	0.103
Liquid holdup ft3	.....	38.684
Liquid holdup lb	.....	1517.137
Design pressure psig	.....	100.000
Joint efficiency	.....	0.850
Allowable stress psig	.....	13685.304
Corrosion allowance ft	.....	0.003
Column thickness ft	.....	0.068
Bottom thickness ft	.....	0.068
Actual tray efficiency (O'Connell)	.....	0.625
Actual tray efficiency (Chu)	.....	0.616

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 31

Tray Loadings	Vapor	Liquid
	271012.000 lb/h	293862.031 lb/h
	3868621.500 ft3/hr	7501.826 ft3/hr
Density	0.070 lb/ft3	39.172 lb/ft3
Tower internal diameter, ft	.....	14.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft Length ft	Area ft2
Side	2.583 11.097	19.916
Avg. weir length ft	.....	11.097
Weir height, ft	.....	0.167
Flow path length ft	.....	9.333
Flow path width ft	.....	13.425
Tray area, ft2	.....	165.130
Tray active area ft2	.....	125.299
% flood	.....	78.312
Fractional entrainment	.....	0.062
Aeration factor	.....	0.583
Minimum (Weeping) vapor flow lb/h	.....	142765.047
Tray press loss, ft	.....	0.399
Tray press loss, psi	.....	0.109
Downcomer clearance ft	.....	0.146
Downcomer backup ft	.....	0.799
Downcomer residence time sec	.....	7.632
Downcomer apparent residence time sec	.....	28.672
Downcomer velocity ft/sec	.....	0.105
Liquid holdup ft3	.....	38.992
Liquid holdup lb	.....	1527.396
Design pressure psig	.....	100.000
Joint efficiency	.....	0.850
Allowable stress psig	.....	13685.304
Corrosion allowance ft	.....	0.003
Column thickness ft	.....	0.068
Bottom thickness ft	.....	0.068
Actual tray efficiency (O'Connell)	.....	0.625
Actual tray efficiency (Chu)	.....	0.617

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 32

Tray Loadings	Vapor	Liquid
	273284.531 lb/h	296134.656 lb/h
	3885575.750 ft3/hr	7566.980 ft3/hr
Density	0.070 lb/ft3	39.135 lb/ft3
Tower internal diameter, ft	.....	14.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft Length ft	Area ft2
Side	2.583 11.097	19.916
Avg. weir length ft	.....	11.097
Weir height, ft	.....	0.167
Flow path length ft	.....	9.333
Flow path width ft	.....	13.425
Tray area, ft2	.....	165.130
Tray active area ft2	.....	125.299
% flood	.....	78.913
Fractional entrainment	.....	0.063
Aeration factor	.....	0.583
Minimum (Weeping) vapor flow lb/h	.....	143102.672
Tray press loss, ft	.....	0.403
Tray press loss, psi	.....	0.109
Downcomer clearance ft	.....	0.146
Downcomer backup ft	.....	0.804
Downcomer residence time sec	.....	7.620
Downcomer apparent residence time sec	.....	28.425
Downcomer velocity ft/sec	.....	0.106
Liquid holdup ft3	.....	39.158
Liquid holdup lb	.....	1532.449
Design pressure psig	.....	100.000
Joint efficiency	.....	0.850
Allowable stress psig	.....	13685.304
Corrosion allowance ft	.....	0.003
Column thickness ft	.....	0.068
Bottom thickness ft	.....	0.068
Actual tray efficiency (O'Connell)	.....	0.625
Actual tray efficiency (Chu)	.....	0.617

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 33

Tray Loadings	Vapor	Liquid
	274777.563 lb/h	297628.000 lb/h
	3894480.750 ft3/hr	7612.738 ft3/hr
Density	0.071 lb/ft3	39.096 lb/ft3
Tower internal diameter, ft	.....	14.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft Length ft	Area ft2
Side	2.583 11.097	19.916
Avg. weir length ft	.....	11.097
Weir height, ft	.....	0.167
Flow path length ft	.....	9.333
Flow path width ft	.....	13.425
Tray area, ft2	.....	165.130
Tray active area ft2	.....	125.299
% flood	.....	79.301
Fractional entrainment	.....	0.064
Aeration factor	.....	0.583
Minimum (Weeping) vapor flow lb/h	.....	143339.313
Tray press loss, ft	.....	0.405
Tray press loss, psi	.....	0.110
Downcomer clearance ft	.....	0.146
Downcomer backup ft	.....	0.808
Downcomer residence time sec	.....	7.610
Downcomer apparent residence time sec	.....	28.254
Downcomer velocity ft/sec	.....	0.106
Liquid holdup ft3	.....	39.273
Liquid holdup lb	.....	1535.401
Design pressure psig	.....	100.000
Joint efficiency	.....	0.850
Allowable stress psig	.....	13685.304
Corrosion allowance ft	.....	0.003
Column thickness ft	.....	0.068
Bottom thickness ft	.....	0.068
Actual tray efficiency (O'Connell)	.....	0.626
Actual tray efficiency (Chu)	.....	0.617

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 34

Tray Loadings	Vapor	Liquid
	275919.469 lb/h	298769.625 lb/h
	3900030.250 ft3/hr	7650.340 ft3/hr
Density	0.071 lb/ft3	39.053 lb/ft3
Tower internal diameter, ft	.....	14.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft Length ft	Area ft2
Side	2.583 11.097	19.916
Avg. weir length ft	.....	11.097
Weir height, ft	.....	0.167
Flow path length ft	.....	9.333
Flow path width ft	.....	13.425
Tray area, ft2	.....	165.130
Tray active area ft2	.....	125.299
% flood	.....	79.598
Fractional entrainment	.....	0.065
Aeration factor	.....	0.583
Minimum (Weeping) vapor flow lb/h	.....	143521.000
Tray press loss, ft	.....	0.406
Tray press loss, psi	.....	0.110
Downcomer clearance ft	.....	0.146
Downcomer backup ft	.....	0.811
Downcomer residence time sec	.....	7.602
Downcomer apparent residence time sec	.....	28.115
Downcomer velocity ft/sec	.....	0.107
Liquid holdup ft3	.....	39.366
Liquid holdup lb	.....	1537.354
Design pressure psig	.....	100.000
Joint efficiency	.....	0.850
Allowable stress psig	.....	13685.304
Corrosion allowance ft	.....	0.003
Column thickness ft	.....	0.068
Bottom thickness ft	.....	0.068
Actual tray efficiency (O'Connell)	.....	0.626
Actual tray efficiency (Chu)	.....	0.617

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 35

Tray Loadings	Vapor	Liquid
	276887.531 lb/h	299737.656 lb/h
	3904119.500 ft3/hr	7684.156 ft3/hr
Density	0.071 lb/ft3	39.007 lb/ft3
Tower internal diameter, ft	.....	14.500
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1

Downcomer dimension	Width ft	Length ft	Area ft2
Side	2.583	11.097	19.916

Avg. weir length ft	.....	11.097
Weir height, ft	.....	0.167
Flow path length ft	.....	9.333
Flow path width ft	.....	13.425
Tray area, ft2	.....	165.130
Tray active area ft2	.....	125.299
% flood	.....	79.852
Fractional entrainment	.....	0.066
Aeration factor	.....	0.583
Minimum (Weeping) vapor flow lb/h	.....	143669.609
Tray press loss, ft	.....	0.408
Tray press loss, psi	.....	0.110
Downcomer clearance ft	.....	0.146
Downcomer backup ft	.....	0.814
Downcomer residence time sec	.....	7.593
Downcomer apparent residence time sec	.....	27.991
Downcomer velocity ft/sec	.....	0.107
Liquid holdup ft3	.....	39.449
Liquid holdup lb	.....	1538.794
Design pressure psig	.....	100.000
Joint efficiency	.....	0.850
Allowable stress psig	.....	13685.304
Corrosion allowance ft	.....	0.003
Column thickness ft	.....	0.068
Bottom thickness ft	.....	0.068
Actual tray efficiency (O'Connell)	.....	0.626
Actual tray efficiency (Chu)	.....	0.617

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 36

Tray Loadings	Vapor	Liquid
	277762.656 lb/h	300613.000 lb/h
	3907639.250 ft3/hr	7715.955 ft3/hr
Density	0.071 lb/ft3	38.960 lb/ft3
Tower internal diameter, ft	.....	15.000
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft Length ft	Area ft2
Side	2.708 11.539	21.726
Avg. weir length ft	.....	11.539
Weir height, ft	.....	0.167
Flow path length ft	.....	9.583
Flow path width ft	.....	13.906
Tray area, ft2	.....	176.715
Tray active area ft2	.....	133.262
% flood	.....	75.035
Fractional entrainment	.....	0.053
Aeration factor	.....	0.585
Minimum (Weeping) vapor flow lb/h	.....	153459.484
Tray press loss, ft	.....	0.380
Tray press loss, psi	.....	0.103
Downcomer clearance ft	.....	0.146
Downcomer backup ft	.....	0.776
Downcomer residence time sec	.....	7.865
Downcomer apparent residence time sec	.....	30.410
Downcomer velocity ft/sec	.....	0.099
Liquid holdup ft3	.....	41.404
Liquid holdup lb	.....	1613.082
Design pressure psig	.....	100.000
Joint efficiency	.....	0.850
Allowable stress psig	.....	13685.304
Corrosion allowance ft	.....	0.003
Column thickness ft	.....	0.068
Bottom thickness ft	.....	0.068
Actual tray efficiency (O'Connell)	.....	0.626
Actual tray efficiency (Chu)	.....	0.618

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 37

Tray Loadings	Vapor	Liquid
	278582.000 lb/h	301432.094 lb/h
	3911043.750 ft3/hr	7746.349 ft3/hr
Density	0.071 lb/ft3	38.913 lb/ft3
Tower internal diameter, ft	.....	15.000
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft Length ft	Area ft2
Side	2.708 11.539	21.726
Avg. weir length ft	.....	11.539
Weir height, ft	.....	0.167
Flow path length ft	.....	9.583
Flow path width ft	.....	13.906
Tray area, ft2	.....	176.715
Tray active area ft2	.....	133.262
% flood	.....	75.243
Fractional entrainment	.....	0.053
Aeration factor	.....	0.585
Minimum (Weeping) vapor flow lb/h	.....	153576.609
Tray press loss, ft	.....	0.381
Tray press loss, psi	.....	0.103
Downcomer clearance ft	.....	0.146
Downcomer backup ft	.....	0.778
Downcomer residence time sec	.....	7.856
Downcomer apparent residence time sec	.....	30.291
Downcomer velocity ft/sec	.....	0.099
Liquid holdup ft3	.....	41.478
Liquid holdup lb	.....	1614.040
Design pressure psig	.....	100.000
Joint efficiency	.....	0.850
Allowable stress psig	.....	13685.304
Corrosion allowance ft	.....	0.003
Column thickness ft	.....	0.068
Bottom thickness ft	.....	0.068
Actual tray efficiency (O'Connell)	.....	0.626
Actual tray efficiency (Chu)	.....	0.618

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 38

Tray Loadings	Vapor	Liquid
	279342.156 lb/h	302192.281 lb/h
	3914303.500 ft3/hr	7774.938 ft3/hr
Density	0.071 lb/ft3	38.867 lb/ft3
Tower internal diameter, ft	.....	15.000
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft	Length ft	Area ft2
Side	2.708	11.539	21.726
Avg. weir length ft	.....		11.539
Weir height, ft	.....		0.167
Flow path length ft	.....		9.583
Flow path width ft	.....		13.906
Tray area, ft2	.....		176.715
Tray active area ft2	.....		133.262
% flood	.....		75.438
Fractional entrainment	.....		0.053
Aeration factor	.....		0.585
Minimum (Weeping) vapor flow lb/h	.....		153680.000
Tray press loss, ft	.....		0.382
Tray press loss, psi	.....		0.103
Downcomer clearance ft	.....		0.146
Downcomer backup ft	.....		0.780
Downcomer residence time sec	.....		7.848
Downcomer apparent residence time sec	.....		30.180
Downcomer velocity ft/sec	.....		0.099
Liquid holdup ft3	.....		41.549
Liquid holdup lb	.....		1614.898
Design pressure psig	.....		100.000
Joint efficiency	.....		0.850
Allowable stress psig	.....		13685.304
Corrosion allowance ft	.....		0.003
Column thickness ft	.....		0.068
Bottom thickness ft	.....		0.068
Actual tray efficiency (O'Connell)	.....		0.626
Actual tray efficiency (Chu)	.....		0.618

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 39

Tray Loadings	Vapor	Liquid
	280067.344 lb/h	302917.500 lb/h
	3917797.250 ft3/hr	7802.079 ft3/hr
Density	0.071 lb/ft3	38.825 lb/ft3
Tower internal diameter, ft	.....	15.000
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft	Length ft	Area ft2
Side	2.708	11.539	21.726
Avg. weir length ft	.....		11.539
Weir height, ft	.....		0.167
Flow path length ft	.....		9.583
Flow path width ft	.....		13.906
Tray area, ft2	.....		176.715
Tray active area ft2	.....		133.262
% flood	.....		75.627
Fractional entrainment	.....		0.054
Aeration factor	.....		0.585
Minimum (Weeping) vapor flow lb/h	.....		153772.063
Tray press loss, ft	.....		0.383
Tray press loss, psi	.....		0.103
Downcomer clearance ft	.....		0.146
Downcomer backup ft	.....		0.782
Downcomer residence time sec	.....		7.841
Downcomer apparent residence time sec	.....		30.075
Downcomer velocity ft/sec	.....		0.100
Liquid holdup ft3	.....		41.616
Liquid holdup lb	.....		1615.752
Design pressure psig	.....		100.000
Joint efficiency	.....		0.850
Allowable stress psig	.....		13685.304
Corrosion allowance ft	.....		0.003
Column thickness ft	.....		0.068
Bottom thickness ft	.....		0.068
Actual tray efficiency (O'Connell)	.....		0.626
Actual tray efficiency (Chu)	.....		0.618

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 40

Tray Loadings	Vapor	Liquid
	280723.313 lb/h	303573.438 lb/h
	3921080.250 ft3/hr	7826.692 ft3/hr
Density	0.072 lb/ft3	38.787 lb/ft3
Tower internal diameter, ft	.....	15.000
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft	Length ft	Area ft2
Side	2.708	11.539	21.726
Avg. weir length ft	.....		11.539
Weir height, ft	.....		0.167
Flow path length ft	.....		9.583
Flow path width ft	.....		13.906
Tray area, ft2	.....		176.715
Tray active area ft2	.....		133.262
% flood	.....		75.799
Fractional entrainment	.....		0.054
Aeration factor	.....		0.585
Minimum (Weeping) vapor flow lb/h	.....		153852.516
Tray press loss, ft	.....		0.384
Tray press loss, psi	.....		0.103
Downcomer clearance ft	.....		0.146
Downcomer backup ft	.....		0.784
Downcomer residence time sec	.....		7.835
Downcomer apparent residence time sec	.....		29.980
Downcomer velocity ft/sec	.....		0.100
Liquid holdup ft3	.....		41.677
Liquid holdup lb	.....		1616.528
Design pressure psig	.....		100.000
Joint efficiency	.....		0.850
Allowable stress psig	.....		13685.304
Corrosion allowance ft	.....		0.003
Column thickness ft	.....		0.068
Bottom thickness ft	.....		0.068
Actual tray efficiency (O'Connell)	.....		0.627
Actual tray efficiency (Chu)	.....		0.618

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 41

Tray Loadings	Vapor	Liquid
	281290.000 lb/h	304140.000 lb/h
	3923876.750 ft3/hr	7848.150 ft3/hr
Density	0.072 lb/ft3	38.753 lb/ft3
Tower internal diameter, ft	.....	15.000
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft	Length ft	Area ft2
Side	2.708	11.539	21.726
Avg. weir length ft	.....		11.539
Weir height, ft	.....		0.167
Flow path length ft	.....		9.583
Flow path width ft	.....		13.906
Tray area, ft2	.....		176.715
Tray active area ft2	.....		133.262
% flood	.....		75.948
Fractional entrainment	.....		0.054
Aeration factor	.....		0.585
Minimum (Weeping) vapor flow lb/h	.....		153921.188
Tray press loss, ft	.....		0.385
Tray press loss, psi	.....		0.104
Downcomer clearance ft	.....		0.146
Downcomer backup ft	.....		0.786
Downcomer residence time sec	.....		7.829
Downcomer apparent residence time sec	.....		29.898
Downcomer velocity ft/sec	.....		0.100
Liquid holdup ft3	.....		41.730
Liquid holdup lb	.....		1617.181
Design pressure psig	.....		100.000
Joint efficiency	.....		0.850
Allowable stress psig	.....		13685.304
Corrosion allowance ft	.....		0.003
Column thickness ft	.....		0.068
Bottom thickness ft	.....		0.068
Actual tray efficiency (O'Connell)	.....		0.627
Actual tray efficiency (Chu)	.....		0.618

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 42

Tray Loadings	Vapor	Liquid
	281940.000 lb/h	304790.000 lb/h
	3928574.500 ft3/hr	7870.873 ft3/hr
Density	0.072 lb/ft3	38.724 lb/ft3
Tower internal diameter, ft	.....	15.000
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft	Length ft	Area ft2
Side	2.708	11.539	21.726
Avg. weir length ft	.....		11.539
Weir height, ft	.....		0.167
Flow path length ft	.....		9.583
Flow path width ft	.....		13.906
Tray area, ft2	.....		176.715
Tray active area ft2	.....		133.262
% flood	.....		76.121
Fractional entrainment	.....		0.055
Aeration factor	.....		0.585
Minimum (Weeping) vapor flow lb/h	.....		153986.578
Tray press loss, ft	.....		0.386
Tray press loss, psi	.....		0.104
Downcomer clearance ft	.....		0.146
Downcomer backup ft	.....		0.787
Downcomer residence time sec	.....		7.824
Downcomer apparent residence time sec	.....		29.812
Downcomer velocity ft/sec	.....		0.101
Liquid holdup ft3	.....		41.788
Liquid holdup lb	.....		1618.191
Design pressure psig	.....		100.000
Joint efficiency	.....		0.850
Allowable stress psig	.....		13685.304
Corrosion allowance ft	.....		0.003
Column thickness ft	.....		0.068
Bottom thickness ft	.....		0.068
Actual tray efficiency (O'Connell)	.....		0.627
Actual tray efficiency (Chu)	.....		0.618

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 11:46:20
SIEVE TRAY SIZING

Vapor load is defined as the vapor from the tray below.
Liquid load is defined as the liquid on the tray.

Section: 1
Flood correlation: Fair

Equip. 2010 Tray No. 43

Tray Loadings	Vapor	Liquid
	282300.500 lb/h	305150.594 lb/h
	3929928.250 ft3/hr	7885.249 ft3/hr
Density	0.072 lb/ft3	38.699 lb/ft3
Tower internal diameter, ft	.....	15.000
Tray spacing, ft	.....	3.000
No. of tray liquid passes	.....	1
Downcomer dimension	Width ft	Length ft	Area ft2
Side	2.708	11.539	21.726
Avg. weir length ft	.....		11.539
Weir height, ft	.....		0.167
Flow path length ft	.....		9.583
Flow path width ft	.....		13.906
Tray area, ft2	.....		176.715
Tray active area ft2	.....		133.262
% flood	.....		76.217
Fractional entrainment	.....		0.055
Aeration factor	.....		0.585
Minimum (Weeping) vapor flow lb/h	.....		154033.000
Tray press loss, ft	.....		0.386
Tray press loss, psi	.....		0.104
Downcomer clearance ft	.....		0.146
Downcomer backup ft	.....		0.788
Downcomer residence time sec	.....		7.820
Downcomer apparent residence time sec	.....		29.757
Downcomer velocity ft/sec	.....		0.101
Liquid holdup ft3	.....		41.823
Liquid holdup lb	.....		1618.521
Design pressure psig	.....		100.000
Joint efficiency	.....		0.850
Allowable stress psig	.....		13685.304
Corrosion allowance ft	.....		0.003
Column thickness ft	.....		0.068
Bottom thickness ft	.....		0.068
Actual tray efficiency (O'Connell)	.....		0.627
Actual tray efficiency (Chu)	.....		0.618

Total column pressure drop = 4.537 psi

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 15:10:47
EQUIPMENT SUMMARIES

Heat Exchanger Summary

Equip. No.		20071
Name		
U	W/m2-K	850.0000
Area/shell	ft2	1200.0000
Calc Ht Duty	MMBtu/h	54.9962
LMTD (End points)	K	170.0888
LMTD Corr Factor		1.0000
Calc U	W/m2-K	850.0000
Calc Area	ft2	1200.0000
1st Stream Pout	psig	60.0000
2nd Stream Pout	psig	-12.0000
Cost estimation		1
Install factor		2.0000
Material factor		1.0000
Pressure factor		1.1303
Type factor		0.6230
Basic cost	$	23298
Total purchase cost	**$**	**32418**
Total installed cost	$	64835
P1 out specified	psig	60.0000
P2 out specified	psig	-12.0000

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 15:12:29

EQUIPMENT SUMMARIES

Flash Summary

Equip. No.	20072
Name	
Diameter ft	7.5000
Length ft	22.5000
Vessel thickness ft	0.1458
Head thickness ft	0.1458
Straight flange ft	0.1667
Metal density lb/ft3	489.0240
Total weight lb	49733.9297
Purchase cost $	**145333**
Installed cost $	247066
Cost estimation flag	1
Total volume ft3	1104.4656

K values:	
Hydrogen	3389.708
Nitrogen	2470.380
Carbon Monoxide	2555.362
Oxygen	1823.774
Methane	1349.572
Ethane	560.853
Carbon Dioxide	744.741
Propane	290.888
I-Butane	178.322
I-Pentane	91.285
N-Hexane	43.520
N-Heptane	24.180
N-Octane	13.414
N-Nonane	7.430
N-Decane	4.196
Water	776.921
N-Undecane	2.393
N-Dodecane	1.345
N-Tridecane	0.763
N-Tetradecane	0.436
N-Pentadecane	0.251
N-Hexadecane	0.135
N-Heptadecane	0.084
N-Octadecane	0.054
N-Nonadecane	0.034

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 15:11:53

Preliminary Horizontal Vessel Sizing for Unit # 20072

Loadings and Properties

	Vapor		Liquid	
Flow rate	268.3111	lb/h	328830.0000	lb/h
Flow rate	5161.1172	ft3/hr	8019.9541	ft3/hr
Density	0.0520	lb/ft3	41.0015	lb/ft3
K constant	0.0297	ft/sec		
Length / Diameter ratio	3.0000			
Vapor area / cross sec. A	0.2000			
Design pressure	500.0000	psig		
Allowable stress	15000.3037	psig		
Shell joint efficiency	1.0000			
Head joint efficiency	1.0000			
Head type	Ellipsoidal			
Corrosion allowance	0.0104	ft		
Vessel density	489.0240	lb/ft3		
Weight percent allowance	20.0000			
Inside diameter ID	7.5000	ft		
V_max	0.8330	ft/sec		
Retention time	5.9493	min.		
Length	22.5000	ft		
Shell thickness	0.1458	ft		
Head thickness	0.1458	ft		
Shell weight	38542.8281	lb		
Head weight	11191.0820	lb		
Total weight (empty)	49733.9102	lb		
Total vessel volume	1104.4656	ft3		
Total weight (full)	95018.6250	lb		
Total weight (full) w/allow.	104965.4063	lb		

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 15:13:18

EQUIPMENT SUMMARIES

Pump Summary

Equip. No.		20073
Name		
Output pressure	psig	-11.0000
Efficiency		0.5000
Calculated power	kW	0.3221
Calculated Pout	psig	-11.0000
Head	ft	3.5122
Vol. flow rate	ft3/hr	2967.4875
Mass flow rate	lb/h	121667.0703
Cost estimation flag		1
Install factor		2.8000
Basic pump cost	$	4135
Basic motor cost	$	324
Total purchase cost	**$**	**4459**
Total installed cost	$	12485

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 15:13:49

EQUIPMENT SUMMARIES

Pump Summary

Equip. No.		20074
Name		
Output pressure	psig	1.0000
Efficiency		0.5000
Calculated power	kW	7.1297
Calculated Pout	psig	1.0000
Head	ft	45.6585
Vol. flow rate	ft3/hr	5052.7500
Mass flow rate	lb/h	207163.0000
Cost estimation flag		1
Install factor		2.8000
Basic pump cost	$	5642
Basic motor cost	$	721
Total purchase cost	**$**	**6363**
Total installed cost	$	17817

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 15:15:00

EQUIPMENT SUMMARIES

Heat Exchanger Summary

Equip. No.		20106
Name		
U	W/m2-K	1100.0000
Area/shell	ft2	797.0000
Calc Ht Duty	MMBtu/h	29.9635
LMTD (End points)	K	107.8172
LMTD Corr Factor		1.0000
Calc U	W/m2-K	1100.0000
Calc Area	ft2	797.0000
1st Stream Pout	psig	-12.0000
2nd Stream Pout	psig	600.0000
Cost estimation		1
Install factor		2.0000
Material factor		1.0000
Pressure factor		1.5075
Type factor		0.6003
Basic cost	$	18009
Total purchase cost	**$**	**32207**
Total installed cost ($)		64413
P1 out specifed	psig	-12.0000
P2 out specifed	psig	600.0000

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 15:15:35
EQUIPMENT SUMMARIES

Fired Heater Summary

Equip. No.		20107
Name		
Temperature Out	K	1030.0000
Heat Absorbed	MMBtu/h	30.6678
Fuel Usage(SCF)		45433.7891
Design pressure	psig	600.0000
Cost estimation flag		1
Purchase cost	**$**	**857031**
Installed cost	$	1114141

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 15:16:14

EQUIPMENT SUMMARIES

Pump Summary

Equip. No.		2012
Name		
Output pressure	psig	10.0000
Efficiency		0.5000
Calculated power	kW	1.4107
Calculated Pout	psig	10.0000
Head	ft	81.9067
Vol. flow rate	ft3/hr	590.7752
Mass flow rate	lb/h	22850.0840
Cost estimation flag		1
Install factor		2.8000
Basic pump cost	$	4122
Basic motor cost	$	362
Total purchase cost	**$**	**4485**
Total installed cost	$	12557

Simulation: Separator_Train_v6 Date: 05/06/2013 Time: 15:18:09
EQUIPMENT SUMMARIES

Heat Exchanger Summary

Equip. No. Name	2011
1st Stream T Out K	293.0000
2nd Stream T Out K	302.0000
U W/m2-K	850.0000
Calc Ht Duty MMBtu/h	30.8641
LMTD (End points) K	56.1377
LMTD Corr Factor	1.0000
Utility Option:	1
Calc U W/m2-K	850.0000
Calc Area ft2	2040.4429
1st Stream Pout psig	-12.0000
2nd Stream Pout psig	60.0000
Cost estimation	1
Install factor	2.0000
Material factor	1.0000
Pressure factor	1.1567
Type factor	0.6537
Basic cost $	33661
Total purchase cost $	**50295**
Total installed cost ($)	100589
P1 out specifed psig	-12.0000
P2 out specifed psig	60.0000