




1	 <div>TEAM LND Calgary, Alberta CANADA</div>		Case Name: F:\FINALEMENT\QSDFG1.HSC		
2			Unit Set: SI		
3			Date/Time: Tue Jan 30 20:39:25 2007		
4					
5	Material Stream: 3		Fluid Package: Basis-1		
Property Package: Peng-Robinson					
9	CONDITIONS				
10					
11		Overall	Vapour Phase		
12	Vapour / Phase Fraction	1.0000	1.0000		
13	Temperature: (C)	778.6	778.6		
14	Pressure: (kPa)	2500	2500		
15	Molar Flow (kgmole/h)	8590	8590		
16	Mass Flow (kg/h)	1.609e+005	1.609e+005		
17	Std Ideal Liq Vol Flow (m3/h)	448.1	448.1		
18	Molar Enthalpy (kJ/kgmole)	-4.674e+004	-4.674e+004		
19	Molar Entropy (kJ/kgmole-C)	229.5	229.5		
20	Heat Flow (kJ/h)	-4.015e+008	-4.015e+008		
21	Liq Vol Flow @Std Cond (m3/h)	---	---		
22	PROPERTIES				
23					
24		Overall	Vapour Phase		
25	Molecular Weight	18.73	18.73		
26	Molar Density (kgmole/m3)	0.2843	0.2843		
27	Mass Density (kg/m3)	5.324	5.324		
28	Act. Volume Flow (m3/h)	3.022e+004	3.022e+004		
29	Mass Enthalpy (kJ/kg)	-2496	-2496		
30	Mass Entropy (kJ/kg-C)	12.25	12.25		
31	Heat Capacity (kJ/kgmole-C)	75.49	75.49		
32	Mass Heat Capacity (kJ/kg-C)	4.031	4.031		
33	Lower Heating Value (kJ/kgmole)	7.618e+005	7.618e+005		
34	Mass Lower Heating Value (kJ/kg)	4.067e+004	4.067e+004		
35	Phase Fraction [Vol. Basis]	---	1.000		
36	Phase Fraction [Mass Basis]	4.941e-324	1.000		
37	Partial Pressure of CO2 (kPa)	4.039	---		
38	Cost Based on Flow (Cost/s)	0.0000	0.0000		
39	Act. Gas Flow (ACT_m3/h)	---	3.022e+004		
40	Avg. Liq. Density (kgmole/m3)	19.17	19.17		
41	Specific Heat (kJ/kgmole-C)	75.49	75.49		
42	Std. Gas Flow (STD_m3/h)	2.031e+005	2.031e+005		
43	Std. Ideal Liq. Mass Density (kg/m3)	359.1	359.1		
44	Act. Liq. Flow (m3/s)	---	---		
45	Z Factor	1.006	1.006		
46	Watson K	17.90	17.90		
47	User Property	---	---		
48	Cp/(Cp - R)	1.124	1.124		
49	Cp/Cv	1.126	1.126		
50	Heat of Vap. (kJ/kgmole)	2.037e+004	2.037e+004		
51	Kinematic Viscosity (cSt)	5.640	5.640		
52	Liq. Mass Density (Std. Cond) (kg/m3)	---	---		
53	Liq. Vol. Flow (Std. Cond) (m3/h)	---	---		
54	Liquid Fraction	0.0000	0.0000		
55	Molar Volume (m3/kgmole)	3.518	3.518		
56	Mass Heat of Vap. (kJ/kg)	1087	---		
57	Phase Fraction [Molar Basis]	1.0000	1.0000		
58	Surface Tension (dyne/cm)	---	---		
59	Thermal Conductivity (W/m-K)	0.1575	0.1575		
60	Viscosity (cP)	3.003e-002	3.003e-002		
61	Cv (Semi-Ideal) (kJ/kgmole-C)	67.18	67.18		
62	Mass Cv (Semi-Ideal) (kJ/kg-C)	3.587	3.587		
63	Cv (kJ/kgmole-C)	67.07	67.07		
64	Mass Cv (kJ/kg-C)	3.581	3.581		
65	Cv (Ent. Method) (kJ/kgmole-C)	67.10	67.10		
66	Mass Cv (Ent. Method) (kJ/kg-C)	3.583	3.583		
67	Cp/Cv (Ent. Method)	1.125	1.125		
68	Reid VP at 37.8 C (kPa)	---	---		
69	Hyprotech Ltd. HYSYS v3.2 (Build 5029) Page 1 of 3				

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3				Date/Time: Tue Jan 30 20:39:25 2007			
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5							
6	Material Stream: 3 (continued)					Fluid Package:	Basis-1
7						Property Package:	Peng-Robinson
8							
9	PROPERTIES						
10							
11		Overall	Vapour Phase				
12	True VP at 37.8 C (kPa)	---	---				
13	Liq. Vol. Flow - Sum(Std. Cond) (m3/h)	0.0000	0.0000				
14	COMPOSITION						
15							
16	Overall Phase Vapour Fraction 1.0000						
17							
18	COMPONENTS	MOLAR FLOW (kgmole/h)	MOLE FRACTION	MASS FLOW (kg/h)	MASS FRACTION	LIQUID VOLUME FLOW (m3/h)	LIQUID VOLUME FRACTION
19							
20	Nitrogen	423.2790	0.0493	11857.3148	0.0737	14.7045	0.0328
21	Methane	6455.5830	0.7515	103566.2731	0.6437	345.9197	0.7720
22	Ethane	592.1280	0.0689	17805.2301	0.1107	50.0593	0.1117
23	Propane	151.8870	0.0177	6697.7611	0.0416	13.2190	0.0295
24	n-Butane	57.0540	0.0066	3316.2067	0.0206	5.6860	0.0127
25	n-Pentane	15.4200	0.0018	1112.5684	0.0069	1.7667	0.0039
26	n-Hexane	0.7710	0.0001	66.4432	0.0004	0.1003	0.0002
27	Hydrogen	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
28	H2O	880.0000	0.1024	15853.2884	0.0985	15.8853	0.0355
29	CO	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30	CO2	13.8780	0.0016	610.7666	0.0038	0.7400	0.0017
31	Total	8590.0000	1.0000	160885.8524	1.0000	448.0807	1.0000
32	Vapour Phase Phase Fraction 1.000						
33							
34	COMPONENTS	MOLAR FLOW (kgmole/h)	MOLE FRACTION	MASS FLOW (kg/h)	MASS FRACTION	LIQUID VOLUME FLOW (m3/h)	LIQUID VOLUME FRACTION
35							
36	Nitrogen	423.2790	0.0493	11857.3148	0.0737	14.7045	0.0328
37	Methane	6455.5830	0.7515	103566.2731	0.6437	345.9197	0.7720
38	Ethane	592.1280	0.0689	17805.2301	0.1107	50.0593	0.1117
39	Propane	151.8870	0.0177	6697.7611	0.0416	13.2190	0.0295
40	n-Butane	57.0540	0.0066	3316.2067	0.0206	5.6860	0.0127
41	n-Pentane	15.4200	0.0018	1112.5684	0.0069	1.7667	0.0039
42	n-Hexane	0.7710	0.0001	66.4432	0.0004	0.1003	0.0002
43	Hydrogen	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
44	H2O	880.0000	0.1024	15853.2884	0.0985	15.8853	0.0355
45	CO	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
46	CO2	13.8780	0.0016	610.7666	0.0038	0.7400	0.0017
47	Total	8590.0000	1.0000	160885.8524	1.0000	448.0807	1.0000
48	K VALUE						
49							
50	COMPONENTS	MIXED		LIGHT		HEAVY	
51	Nitrogen	---		---		---	
52	Methane	---		---		---	
53	Ethane	---		---		---	
54	Propane	---		---		---	
55	n-Butane	---		---		---	
56	n-Pentane	---		---		---	
57	n-Hexane	---		---		---	
58	Hydrogen	---		---		---	
59	H2O	---		---		---	
60	CO	---		---		---	
61	CO2	---		---		---	
62	UNIT OPERATIONS						
63							
64	FEED TO		PRODUCT FROM		LOGICAL CONNECTION		
65	Plug Flow Reactor:	four de reforming	Mixer:	MIX-100			
66	UTILITIES						
67							
68	(No utilities reference this stream)						
69	Hyprotech Ltd.		HYSYS v3.2 (Build 5029)			Page 2 of 3	

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6	Material Stream: 3 (continued)		Fluid Package: Basis-1	
Property Package: Peng-Robinson				
9	DYNAMICS			
11	Pressure Specification (Inactive) 2500 kPa			
12	Flow Specification (Inactive) Molar: 8590 kgmole/h Mass: 1.609e+005 kg/h Std Ideal Liq Volume: 448.1 m3/h			
13	User Variables			
15	NOTES			
18	Description			
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