






1	 <div> <div>TEAM LND</div> <div>Calgary, Alberta</div> <div>CANADA</div> </div>		Case Name: C:\Program Files\Hyprotech\HYSYS 3.2\Cases\Nouveau dossier\Nouvea		
2			Unit Set: SI		
3			Date/Time: Tue Jan 16 02:44:21 2007		
4					
5					
6	<b>Plug Flow Reactor: reacteur</b>				
7					
8					
9	<b>CONNECTIONS</b>				
10					
11	<b>Inlet Stream</b>				
12					
13	STREAM NAME		FROM UNIT OPERATION		
14	charge de reacteur		Mixer MIX-100		
15	<b>Outlet Stream</b>				
16					
17	STREAM NAME		TO UNIT OPERATION		
18	produit		Separator separateur		
19	<b>Energy Stream</b>				
20					
21	STREAM NAME		TO UNIT OPERATION		
22					
23	<b>PARAMETERS</b>				
24					
25	<b>Physical Parameters</b>				
26					
27	Type : User Specified		Pressure Drop: 1000 kPa *		
28	<b>Heat Transfer : Heating</b>				
29					
30	Type : Direct Q Value		Energy Stream :		Duty : 0.0000 kJ/h
31	<b>Dimensions</b>				
32					
33	Total Volume:	89.57 m3	Length:	19.00 m *	Diameter: 2.450 m * Number of Tubes: 1 *
34	Wall Thickness:	5.000e-003 m *	Void Fraction:	1.0000 *	Void Volume: 89.57 m3
35	<b>Reaction Info</b>				
36					
37	Reaction Set: Set-1		Initialize From: Current		
38	<b>Integration Information</b>				
39					
40	Number of Segments:	20 *	Minimum Step Fraction:	1.0e-06 *	Minimum Step Length: 1.9e-05 m
41	<b>User Variables</b>				
42					
43	<b>RATING</b>				
44					
45	<b>Sizing</b>				
46					
47	Tube Dimensions				
48	Total Volume	89.57 m3	Length	19.00 m *	Diameter 2.450 m * Number of Tubes 1 * Wall Thickness 5.000e-003 m *
49	Tube Packing				
50	Void Fraction	1.0000 *		Void Volume 89.57 m3	
51	<b>Conditions</b>				
52					
53	Length	Temperature	Pressure	Vapour Fraction	Duty
54	(m)	(C)	(kPa)		(kJ/h)
55	0.475	369.2	3950.00	0.8646	0
56	1.425	369.2	3900.00	0.8650	0
57	2.375	369.3	3850.00	0.8653	0
58	3.325	369.3	3800.00	0.8657	0
59	4.275	369.3	3750.00	0.8660	0
60	5.225	369.4	3700.00	0.8664	0
61	6.175	369.4	3650.00	0.8667	0
62	7.125	369.4	3600.00	0.8671	0
63	8.075	369.5	3550.00	0.8675	0
64	9.025	369.5	3500.00	0.8678	0
65	9.975	369.6	3450.00	0.8682	0
66	10.925	369.6	3400.00	0.8685	0
67	11.875	369.6	3350.00	0.8689	0
68	12.825	369.7	3300.00	0.8692	0
69	<div> <div>Hyprotech Ltd.</div> <div>HYSYS v3.2 (Build 5029)</div> <div>Page 1 of 8</div> </div>				


1	<div></div> <div>TEAM LND Calgary, Alberta CANADA</div>			Case Name:	C:\Program Files\Hyprotech\HYSYS 3.2\Cases\Nouveau dossier\Nouvea	
2				Unit Set:	SI	
3				Date/Time: Tue Jan 16 02:44:21 2007		
4						
5						
6	Plug Flow Reactor: reacteur (continued)					
7						
8						
9	Conditions					
10						
11	Length	Temperature	Pressure	Vapour Fraction	Duty	
12	(m)	(C)	(kPa)		(kJ/h)	
13	13.775	369.7	3250.00	0.8696	0	
14	14.725	369.7	3200.00	0.8700	0	
15	15.675	369.8	3150.00	0.8703	0	
16	16.625	369.8	3100.00	0.8707	0	
17	17.575	369.8	3050.00	0.8710	0	
18	18.525	369.9	3000.00	0.8714	0	
19	Length	Enthalpy	Entropy	Inside HTC	Overall HTC	
20	(m)	(kJ/kgmole)	(kJ/kgmole-C)	(kJ/h-m2-C)	(kJ/h-m2-C)	
21	0.475	-66707	550.02	---	---	
22	1.425	-66709	550.15	---	---	
23	2.375	-66709	550.26	---	---	
24	3.325	-66709	550.38	---	---	
25	4.275	-66709	550.49	---	---	
26	5.225	-66709	550.61	---	---	
27	6.175	-66709	550.72	---	---	
28	7.125	-66709	550.84	---	---	
29	8.075	-66709	550.96	---	---	
30	9.025	-66709	551.08	---	---	
31	9.975	-66709	551.20	---	---	
32	10.925	-66709	551.32	---	---	
33	11.875	-66709	551.45	---	---	
34	12.825	-66709	551.58	---	---	
35	13.775	-66709	551.70	---	---	
36	14.725	-66709	551.83	---	---	
37	15.675	-66709	551.97	---	---	
38	16.625	-66709	552.10	---	---	
39	17.575	-66709	552.24	---	---	
40	18.525	-66709	552.37	---	---	
41	Flows					
42						
43	Length	Molar Flow	Mass Flow	Volumetric Flow	Heat Flow	
44	(m)	(kgmole/h)	(kg/h)	(m3/h)	(kJ/h)	
45	0.475	1987.867	134808.14	2589.469	-1.326e+008	
46	1.425	1987.789	134808.30	2620.204	-1.326e+008	
47	2.375	1987.783	134808.34	2651.788	-1.326e+008	
48	3.325	1987.782	134808.34	2684.207	-1.326e+008	
49	4.275	1987.782	134808.35	2717.493	-1.326e+008	
50	5.225	1987.782	134808.35	2751.681	-1.326e+008	
51	6.175	1987.782	134808.35	2786.806	-1.326e+008	
52	7.125	1987.782	134808.35	2822.910	-1.326e+008	
53	8.075	1987.782	134808.35	2860.031	-1.326e+008	
54	9.025	1987.782	134808.35	2898.216	-1.326e+008	
55	9.975	1987.782	134808.35	2937.509	-1.326e+008	
56	10.925	1987.782	134808.35	2977.960	-1.326e+008	
57	11.875	1987.782	134808.35	3019.621	-1.326e+008	
58	12.825	1987.782	134808.35	3062.546	-1.326e+008	
59	13.775	1987.782	134808.35	3106.795	-1.326e+008	
60	14.725	1987.782	134808.35	3152.430	-1.326e+008	
61	15.675	1987.782	134808.35	3199.516	-1.326e+008	
62	16.625	1987.782	134808.35	3248.124	-1.326e+008	
63	17.575	1987.782	134808.35	3298.328	-1.326e+008	
64	18.525	1987.782	134808.35	3350.209	-1.326e+008	
65	Segment Overall Reaction Rates (kgmole/m3-s)					
66						
67	Length (m)	Rxn-1				
68	0.4750	3.608e-005				
69	Hyprotech Ltd. HYSYS v3.2 (Build 5029) Page 2 of 8					


1	<div></div> <div>TEAM LND Calgary, Alberta CANADA</div>		Case Name: C:\Program Files\Hyprotech\HYSYS 3.2\Cases\Nouveau dossier\Nouvea		
2			Unit Set: SI		
3					
4			Date/Time: Tue Jan 16 02:44:21 2007		
5					
6	Plug Flow Reactor: reacteur (continued)				
7					
8					
9	Segment Overall Reaction Rates (kgmole/m3-s)				
10					
11	Length (m)	Rxn-1			
12	1.425	2.522e-006			
13	2.375	6.149e-007			
14	3.325	1.502e-007			
15	4.275	3.678e-008			
16	5.225	9.021e-009			
17	6.175	2.217e-009			
18	7.125	5.460e-010			
19	8.075	1.347e-010			
20	9.025	3.330e-011			
21	9.975	8.248e-012			
22	10.92	2.047e-012			
23	11.88	5.089e-013			
24	12.82	1.268e-013			
25	13.77	3.164e-014			
26	14.73	7.911e-015			
27	15.67	1.982e-015			
28	16.63	4.974e-016			
29	17.57	1.250e-016			
30	18.52	2.047e-040			
31	Component Production Rates (kgmole/m3-s)				
32					
33	Length (m)	gasoil*	Methane	Ethane	Propane
34	0.4750	0.0000	0.0000	0.0000	0.0000
35	1.425	0.0000	0.0000	0.0000	0.0000
36	2.375	0.0000	0.0000	0.0000	0.0000
37	3.325	0.0000	0.0000	0.0000	0.0000
38	4.275	0.0000	0.0000	0.0000	0.0000
39	5.225	0.0000	0.0000	0.0000	0.0000
40	6.175	0.0000	0.0000	0.0000	0.0000
41	7.125	0.0000	0.0000	0.0000	0.0000
42	8.075	0.0000	0.0000	0.0000	0.0000
43	9.025	0.0000	0.0000	0.0000	0.0000
44	9.975	0.0000	0.0000	0.0000	0.0000
45	10.92	0.0000	0.0000	0.0000	0.0000
46	11.88	0.0000	0.0000	0.0000	0.0000
47	12.82	0.0000	0.0000	0.0000	0.0000
48	13.77	0.0000	0.0000	0.0000	0.0000
49	14.73	0.0000	0.0000	0.0000	0.0000
50	15.67	0.0000	0.0000	0.0000	0.0000
51	16.63	0.0000	0.0000	0.0000	0.0000
52	17.57	0.0000	0.0000	0.0000	0.0000
53	18.52	0.0000	0.0000	0.0000	0.0000
54	Length (m)	i-Butane	n-Butane	i-Pentane	n-Pentane
55	0.4750	0.0000	3.608e-005	0.0000	0.0000
56	1.425	0.0000	2.522e-006	0.0000	0.0000
57	2.375	0.0000	6.149e-007	0.0000	0.0000
58	3.325	0.0000	1.502e-007	0.0000	0.0000
59	4.275	0.0000	3.678e-008	0.0000	0.0000
60	5.225	0.0000	9.021e-009	0.0000	0.0000
61	6.175	0.0000	2.217e-009	0.0000	0.0000
62	7.125	0.0000	5.460e-010	0.0000	0.0000
63	8.075	0.0000	1.347e-010	0.0000	0.0000
64	9.025	0.0000	3.330e-011	0.0000	0.0000
65	9.975	0.0000	8.248e-012	0.0000	0.0000
66	10.92	0.0000	2.047e-012	0.0000	0.0000
67	11.88	0.0000	5.089e-013	0.0000	0.0000
68	12.82	0.0000	1.268e-013	0.0000	0.0000
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1	<div></div> <div>TEAM LND Calgary, Alberta CANADA</div>			Case Name: C:\Program Files\Hyprotech\HYSYS 3.2\Cases\Nouveau dossier\Nouvea				
2				Unit Set: SI				
3								
4				Date/Time: Tue Jan 16 02:44:21 2007				
5								
6	<div>Plug Flow Reactor: reacteur (continued)</div>							
7								
8								
9	Component Production Rates (kgmole/m3-s)							
10								
11	Length (m)	i-Butane	n-Butane		i-Pentane		n-Pentane	
12	13.77	0.0000	3.164e-014		0.0000		0.0000	
13	14.73	0.0000	7.911e-015		0.0000		0.0000	
14	15.67	0.0000	1.982e-015		0.0000		0.0000	
15	16.63	0.0000	4.974e-016		0.0000		0.0000	
16	17.57	0.0000	1.250e-016		0.0000		0.0000	
17	18.52	0.0000	2.047e-040		0.0000		0.0000	
18	Length (m)	n-Hexane	Hydrogen		H2S		Thiophene	
19	0.4750	0.0000	-1.443e-004		3.608e-005		-3.608e-005	
20	1.425	0.0000	-1.009e-005		2.522e-006		-2.522e-006	
21	2.375	0.0000	-2.460e-006		6.149e-007		-6.149e-007	
22	3.325	0.0000	-6.010e-007		1.502e-007		-1.502e-007	
23	4.275	0.0000	-1.471e-007		3.678e-008		-3.678e-008	
24	5.225	0.0000	-3.609e-008		9.021e-009		-9.021e-009	
25	6.175	0.0000	-8.869e-009		2.217e-009		-2.217e-009	
26	7.125	0.0000	-2.184e-009		5.460e-010		-5.460e-010	
27	8.075	0.0000	-5.388e-010		1.347e-010		-1.347e-010	
28	9.025	0.0000	-1.332e-010		3.330e-011		-3.330e-011	
29	9.975	0.0000	-3.299e-011		8.248e-012		-8.248e-012	
30	10.92	0.0000	-8.187e-012		2.047e-012		-2.047e-012	
31	11.88	0.0000	-2.036e-012		5.089e-013		-5.089e-013	
32	12.82	0.0000	-5.071e-013		1.268e-013		-1.268e-013	
33	13.77	0.0000	-1.266e-013		3.164e-014		-3.164e-014	
34	14.73	0.0000	-3.164e-014		7.911e-015		-7.911e-015	
35	15.67	0.0000	-7.927e-015		1.982e-015		-1.982e-015	
36	16.63	0.0000	-1.989e-015		4.974e-016		-4.974e-016	
37	17.57	0.0000	-5.002e-016		1.250e-016		-1.250e-016	
38	18.52	0.0000	-8.186e-040		2.047e-040		-2.047e-040	
39								
40	Transport							
41	Length	Viscosity	Molecular Weight	Mass Density	Heat Capacity	Surface Tension	Z Factor	
42	(m)	(cP)		(kg/m3)	(kJ/kgmole-C)	(dyne/cm)		
43	0.4750	---	67.82	52.06	258.256	5.355	---	
44	1.425	---	67.82	51.45	258.282	5.368	---	
45	2.375	---	67.82	50.84	258.296	5.381	---	
46	3.325	---	67.82	50.22	258.310	5.394	---	
47	4.275	---	67.82	49.61	258.324	5.407	---	
48	5.225	---	67.82	48.99	258.337	5.420	---	
49	6.175	---	67.82	48.37	258.351	5.434	---	
50	7.125	---	67.82	47.76	258.365	5.447	---	
51	8.075	---	67.82	47.14	258.378	5.460	---	
52	9.025	---	67.82	46.51	258.392	5.474	---	
53	9.975	---	67.82	45.89	258.406	5.488	---	
54	10.92	---	67.82	45.27	258.419	5.501	---	
55	11.88	---	67.82	44.64	258.433	5.515	---	
56	12.82	---	67.82	44.02	258.447	5.529	---	
57	13.77	---	67.82	43.39	258.460	5.543	---	
58	14.73	---	67.82	42.76	258.474	5.556	---	
59	15.67	---	67.82	42.13	258.488	5.570	---	
60	16.63	---	67.82	41.50	258.501	5.585	---	
61	17.57	---	67.82	40.87	258.515	5.599	---	
62	18.52	---	67.82	40.24	258.529	5.613	---	
63	Component Molar Flowrates (kgmole/h)							
64								
65	Length (m)	gasoil*	Methane		Ethane		Propane	
66	0.4750	215.6849	90.4389		31.4739		16.8478	
67	1.425	215.6849	90.4389		31.4739		16.8478	
68	2.375	215.6849	90.4389		31.4739		16.8478	
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1	<div></div> <div>TEAM LND Calgary, Alberta CANADA</div>		Case Name: C:\Program Files\Hyprotech\HYSYS 3.2\Cases\Nouveau dossier\Nouvea		
2			Unit Set: SI		
3					
4			Date/Time: Tue Jan 16 02:44:21 2007		
5	<div>Plug Flow Reactor: reacteur (continued)</div>				
6					
7					
8					
9	Component Molar Flowrates (kgmole/h)				
10					
11	Length (m)	gasoil*	Methane	Ethane	Propane
12	3.325	215.6849	90.4389	31.4739	16.8478
13	4.275	215.6849	90.4389	31.4739	16.8478
14	5.225	215.6849	90.4389	31.4739	16.8478
15	6.175	215.6849	90.4389	31.4739	16.8478
16	7.125	215.6849	90.4389	31.4739	16.8478
17	8.075	215.6849	90.4389	31.4739	16.8478
18	9.025	215.6849	90.4389	31.4739	16.8478
19	9.975	215.6849	90.4389	31.4739	16.8478
20	10.92	215.6849	90.4389	31.4739	16.8478
21	11.88	215.6849	90.4389	31.4739	16.8478
22	12.82	215.6849	90.4389	31.4739	16.8478
23	13.77	215.6849	90.4389	31.4739	16.8478
24	14.73	215.6849	90.4389	31.4739	16.8478
25	15.67	215.6849	90.4389	31.4739	16.8478
26	16.63	215.6849	90.4389	31.4739	16.8478
27	17.57	215.6849	90.4389	31.4739	16.8478
28	18.52	215.6849	90.4389	31.4739	16.8478
29	Length (m)	i-Butane	n-Butane	i-Pentane	n-Pentane
30	0.4750	1.9158	2.3995	0.6359	0.5929
31	1.425	1.9158	2.4264	0.6359	0.5929
32	2.375	1.9158	2.4282	0.6359	0.5929
33	3.325	1.9158	2.4287	0.6359	0.5929
34	4.275	1.9158	2.4288	0.6359	0.5929
35	5.225	1.9158	2.4288	0.6359	0.5929
36	6.175	1.9158	2.4288	0.6359	0.5929
37	7.125	1.9158	2.4288	0.6359	0.5929
38	8.075	1.9158	2.4288	0.6359	0.5929
39	9.025	1.9158	2.4288	0.6359	0.5929
40	9.975	1.9158	2.4288	0.6359	0.5929
41	10.92	1.9158	2.4288	0.6359	0.5929
42	11.88	1.9158	2.4288	0.6359	0.5929
43	12.82	1.9158	2.4288	0.6359	0.5929
44	13.77	1.9158	2.4288	0.6359	0.5929
45	14.73	1.9158	2.4288	0.6359	0.5929
46	15.67	1.9158	2.4288	0.6359	0.5929
47	16.63	1.9158	2.4288	0.6359	0.5929
48	17.57	1.9158	2.4288	0.6359	0.5929
49	18.52	1.9158	2.4288	0.6359	0.5929
50	Length (m)	n-Hexane	Hydrogen	H2S	Thiophene
51	0.4750	0.9142	1626.3548	0.5817	0.0268
52	1.425	0.9142	1626.2476	0.6085	0.0019
53	2.375	0.9142	1626.2401	0.6104	0.0005
54	3.325	0.9142	1626.2383	0.6109	0.0001
55	4.275	0.9142	1626.2379	0.6110	0.0000
56	5.225	0.9142	1626.2378	0.6110	0.0000
57	6.175	0.9142	1626.2378	0.6110	0.0000
58	7.125	0.9142	1626.2378	0.6110	0.0000
59	8.075	0.9142	1626.2379	0.6110	0.0000
60	9.025	0.9142	1626.2379	0.6110	0.0000
61	9.975	0.9142	1626.2380	0.6110	0.0000
62	10.92	0.9142	1626.2380	0.6110	0.0000
63	11.88	0.9142	1626.2380	0.6110	0.0000
64	12.82	0.9142	1626.2381	0.6110	0.0000
65	13.77	0.9142	1626.2381	0.6110	0.0000
66	14.73	0.9142	1626.2382	0.6110	0.0000
67	15.67	0.9142	1626.2382	0.6110	0.0000
68	16.63	0.9142	1626.2382	0.6110	0.0000
69	Hyprotech Ltd.		HYSYS v3.2 (Build 5029)		Page 5 of 8

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4					
5					
6	Plug Flow Reactor: reacteur (continued)				
7					
8					
9	Component Molar Flowrates (kgmole/h)				
10					
11	Length (m)	n-Hexane	Hydrogen	H2S	Thiophene
12	17.57	0.9142	1626.2383	0.6110	0.0000
13	18.52	0.9142	1626.2383	0.6110	0.0000
14	Component Mole Fractions				
15					
16	Length (m)	gasoil*	Methane	Ethane	Propane
17	0.4750	0.1085	0.0455	0.0158	0.0085
18	1.425	0.1085	0.0455	0.0158	0.0085
19	2.375	0.1085	0.0455	0.0158	0.0085
20	3.325	0.1085	0.0455	0.0158	0.0085
21	4.275	0.1085	0.0455	0.0158	0.0085
22	5.225	0.1085	0.0455	0.0158	0.0085
23	6.175	0.1085	0.0455	0.0158	0.0085
24	7.125	0.1085	0.0455	0.0158	0.0085
25	8.075	0.1085	0.0455	0.0158	0.0085
26	9.025	0.1085	0.0455	0.0158	0.0085
27	9.975	0.1085	0.0455	0.0158	0.0085
28	10.92	0.1085	0.0455	0.0158	0.0085
29	11.88	0.1085	0.0455	0.0158	0.0085
30	12.82	0.1085	0.0455	0.0158	0.0085
31	13.77	0.1085	0.0455	0.0158	0.0085
32	14.73	0.1085	0.0455	0.0158	0.0085
33	15.67	0.1085	0.0455	0.0158	0.0085
34	16.63	0.1085	0.0455	0.0158	0.0085
35	17.57	0.1085	0.0455	0.0158	0.0085
36	18.52	0.1085	0.0455	0.0158	0.0085
37	Length (m)	i-Butane	n-Butane	i-Pentane	n-Pentane
38	0.4750	0.0010	0.0012	0.0003	0.0003
39	1.425	0.0010	0.0012	0.0003	0.0003
40	2.375	0.0010	0.0012	0.0003	0.0003
41	3.325	0.0010	0.0012	0.0003	0.0003
42	4.275	0.0010	0.0012	0.0003	0.0003
43	5.225	0.0010	0.0012	0.0003	0.0003
44	6.175	0.0010	0.0012	0.0003	0.0003
45	7.125	0.0010	0.0012	0.0003	0.0003
46	8.075	0.0010	0.0012	0.0003	0.0003
47	9.025	0.0010	0.0012	0.0003	0.0003
48	9.975	0.0010	0.0012	0.0003	0.0003
49	10.92	0.0010	0.0012	0.0003	0.0003
50	11.88	0.0010	0.0012	0.0003	0.0003
51	12.82	0.0010	0.0012	0.0003	0.0003
52	13.77	0.0010	0.0012	0.0003	0.0003
53	14.73	0.0010	0.0012	0.0003	0.0003
54	15.67	0.0010	0.0012	0.0003	0.0003
55	16.63	0.0010	0.0012	0.0003	0.0003
56	17.57	0.0010	0.0012	0.0003	0.0003
57	18.52	0.0010	0.0012	0.0003	0.0003
58	Length (m)	n-Hexane	Hydrogen	H2S	Thiophene
59	0.4750	0.0005	0.8181	0.0003	0.0000
60	1.425	0.0005	0.8181	0.0003	0.0000
61	2.375	0.0005	0.8181	0.0003	0.0000
62	3.325	0.0005	0.8181	0.0003	0.0000
63	4.275	0.0005	0.8181	0.0003	0.0000
64	5.225	0.0005	0.8181	0.0003	0.0000
65	6.175	0.0005	0.8181	0.0003	0.0000
66	7.125	0.0005	0.8181	0.0003	0.0000
67	8.075	0.0005	0.8181	0.0003	0.0000
68	9.025	0.0005	0.8181	0.0003	0.0000
69	Hyprotech Ltd.		HYSYS v3.2 (Build 5029)		Page 6 of 8

1	<div></div> <div>TEAM LND Calgary, Alberta CANADA</div>			Case Name: C:\Program Files\Hyprotech\HYSYS 3.2\Cases\Nouveau dossier\Nouvea	
2				Unit Set: SI	
3				Date/Time: Tue Jan 16 02:44:21 2007	
4					
5					
6	<div>Plug Flow Reactor: reacteur (continued)</div>				
7					
8					
9	Component Mole Fractions				
10					
11	Length (m)	n-Hexane	Hydrogen	H2S	Thiophene
12	9.975	0.0005	0.8181	0.0003	0.0000
13	10.92	0.0005	0.8181	0.0003	0.0000
14	11.88	0.0005	0.8181	0.0003	0.0000
15	12.82	0.0005	0.8181	0.0003	0.0000
16	13.77	0.0005	0.8181	0.0003	0.0000
17	14.73	0.0005	0.8181	0.0003	0.0000
18	15.67	0.0005	0.8181	0.0003	0.0000
19	16.63	0.0005	0.8181	0.0003	0.0000
20	17.57	0.0005	0.8181	0.0003	0.0000
21	18.52	0.0005	0.8181	0.0003	0.0000
22					
23	PROPERTIES				
24					
25	charge de reacteur				
26		Overall	Vapour Phase	Liquid Phase	
27	Vapour/Phase Fraction	0.8644	0.8644	0.1356	
28	Temperature: (C)	368.8	368.8	368.8	
29	Pressure: (kPa)	4000	4000	4000	
30	Molar Flow (kgmole/h)	1990	1720	269.8	
31	Mass Flow (kg/h)	1.348e+005	7153	1.277e+005	
32	Std Ideal Liq Vol Flow (m3/h)	217.6	55.52	162.1	
33	Molar Enthalpy (kJ/kgmole)	-6.665e+004	3957	-5.167e+005	
34	Mass Enthalpy (kJ/kg)	-983.7	951.5	-1092	
35	Molar Entropy (kJ/kgmole-C)	549.3	126.6	3244	
36	Mass Entropy (kJ/kg-C)	8.107	30.43	6.857	
37	Heat Flow (kJ/h)	-1.326e+008	6.806e+006	-1.394e+008	
38	Molar Density (kgmole/m3)	0.7770	0.7414	1.121	
39	Mass Density (kg/m3)	52.65	3.083	530.1	
40	Std Ideal Liq Mass Density (kg/m3)	619.5	128.8	787.6	
41	Liq Mass Density @Std Cond (kg/m3)	---	---	773.2	
42	Molar Heat Capacity (kJ/kgmole-C)	258.0	34.44	1683	
43	Mass Heat Capacity (kJ/kg-C)	3.807	8.281	3.557	
44	Thermal Conductivity (W/m-K)	---	0.2705	7.390e-002	
45	Viscosity (cP)	---	1.804e-002	0.4509	
46	Surface Tension (dyne/cm)	5.352	---	5.352	
47	Molecular Weight	67.76	4.159	473.1	
48	Z Factor	---	1.011	0.6688	
49					
50	produit				
51		Overall	Vapour Phase	Liquid Phase	
52	Vapour/Phase Fraction	0.8714	0.8714	0.1286	
53	Temperature: (C)	369.9	369.9	369.9	
54	Pressure: (kPa)	3000	3000	3000	
55	Molar Flow (kgmole/h)	1988	1732	255.6	
56	Mass Flow (kg/h)	1.348e+005	7400	1.274e+005	
57	Std Ideal Liq Vol Flow (m3/h)	217.6	56.18	161.4	
58	Molar Enthalpy (kJ/kgmole)	-6.671e+004	3786	-5.444e+005	
59	Mass Enthalpy (kJ/kg)	-983.6	886.1	-1092	
60	Molar Entropy (kJ/kgmole-C)	552.4	129.8	3415	
61	Mass Entropy (kJ/kg-C)	8.145	30.39	6.853	
62	Heat Flow (kJ/h)	-1.326e+008	6.557e+006	-1.392e+008	
63	Molar Density (kgmole/m3)	0.5933	0.5566	1.074	
64	Mass Density (kg/m3)	40.24	2.378	535.1	
65	Std Ideal Liq Mass Density (kg/m3)	619.6	131.7	789.4	
66	Liq Mass Density @Std Cond (kg/m3)	---	---	777.0	
67	Molar Heat Capacity (kJ/kgmole-C)	258.5	34.79	1774	
68	Mass Heat Capacity (kJ/kg-C)	3.812	8.144	3.560	
69	Hyprotech Ltd. HYSYS v3.2 (Build 5029) Page 7 of 8				

1	 <div> <div>TEAM LND</div> <div>Calgary, Alberta</div> <div>CANADA</div> </div>		Case Name: C:\Program Files\Hyprotech\HYSYS 3.2\Cases\Nouveau dossier\Nouvea			
2			Unit Set: SI			
3			Date/Time: Tue Jan 16 02:44:21 2007			
4						
5						
6	<div>Plug Flow Reactor: reacteur (continued)</div>					
7						
8						
9	PROPERTIES					
10						
11	produit					
12						
13		Overall	Vapour Phase	Liquid Phase		
14	Thermal Conductivity (W/m-K)	---	0.2699	7.723e-002		
15	Viscosity (cP)	---	1.820e-002	0.4575		
16	Surface Tension (dyne/cm)	5.613	---	5.613		
17	Molecular Weight	67.82	4.272	498.4		
18	Z Factor	---	1.008	0.5226		
19	DYNAMICS					
20						
21	Vessel Parameters: Initialize from Product					
22						
23	Single Phase: Not Activated			Lag Rxn Temperature: Not Activated		
24	Laminar Flow	Activated	Fixed Delta P		Not Activated	
25	Flow Equation	Activated	PFR Elevation (m)		0 *	
26	Pressure Flow Relation			Segmented Holdup Details		
27						
28	Segment	Pressure-Flow K (kg/hr/sqrt(kPa-kg/m3))		View Holdup		
29	1.000 *	---		reacteur:Seg-1:EnHoldup		
30	2.000 *	---		reacteur:Seg-2:EnHoldup		
31	3.000 *	---		reacteur:Seg-3:EnHoldup		
32	4.000 *	---		reacteur:Seg-4:EnHoldup		
33	5.000 *	---		reacteur:Seg-5:EnHoldup		
34	6.000 *	---		reacteur:Seg-6:EnHoldup		
35	7.000 *	---		reacteur:Seg-7:EnHoldup		
36	8.000 *	---		reacteur:Seg-8:EnHoldup		
37	9.000 *	---		reacteur:Seg-9:EnHoldup		
38	10.00 *	---		reacteur:Seg-10:EnHoldup		
39	11.00 *	---		reacteur:Seg-11:EnHoldup		
40	12.00 *	---		reacteur:Seg-12:EnHoldup		
41	13.00 *	---		reacteur:Seg-13:EnHoldup		
42	14.00 *	---		reacteur:Seg-14:EnHoldup		
43	15.00 *	---		reacteur:Seg-15:EnHoldup		
44	16.00 *	---		reacteur:Seg-16:EnHoldup		
45	17.00 *	---		reacteur:Seg-17:EnHoldup		
46	18.00 *	---		reacteur:Seg-18:EnHoldup		
47	19.00 *	---		reacteur:Seg-19:EnHoldup		
48	20.00 *	---		reacteur:Seg-20:EnHoldup		
49	Overall Holdup Details					
50						
51	Phase	Accumulation (kgmole/h)		Moles (kgmole)		Volume (m3)
52						
53	Vapour	0.0000 *		0.0000 *		0.0000 *
54	Liquid	0.0000 *		0.0000 *		0.0000 *
55	Aqueous	0.0000 *		0.0000 *		0.0000 *
56	<b>Total</b>	<b>0.0000</b>		<b>0.0000</b>		<b>0.0000</b>
57	Heat Flow into the PFR: Heating					
58						
59	NOTES					
60						
61						
62						
63						
64						
65						
66						
67						
68						
69	Hyprotech Ltd.		HYSYS v3.2 (Build 5029)		Page 8 of 8	