

DESIGN BASIS

INUVIK AREA FACILITY

Stream #		1	2	3	4	5		6		7	8	9		10	11	12	13
Description		Slug Vapour	Inlet liquids without slug	Inlet sep. O/H to gas chiller	Inlet sep. liquids	Combined liquids		Gas + Condensate from gas chiller to LTS		LTS O/H to gas/gas heat exch.	LTS condensate	Condensate to stabilizer flash drum		Flash drum O/H	Flash drum condensate	Stabilizer feed drum O/H	Stabilizer feed
Vapour Fraction		1.0	0.0	1.0	-	0.00896		0.999992		1.0	0.0	0.29254		1.0	0.0	1.0	0.0
Temperature	C	-21.2	-21.2	-21.2	-	-21.4		-21.6		-24.5	-24.5	-23.2		-23.2	-23.2	33.2	33.2
Pressure	kPa (abs)	7100	7100	7100	-	6962		7031		6546	6546	2606		2606	2606	1310	1310
Molar Flow	kgmole/h	61863.7	2024.7	61863.7	0.0	2024.7		61863.7		61855.4	8.4	2033.1		594.8	1438.4	284.7	1158.3
Mass Flow	kg/h	1080055.6	128942.5	1080055.6	0.0	128942.5		1080055.6		1079599.9	455.7	129398.2		10634.6	118763.5	6943.9	112110.6
Phase		Vapour	Liquid	Vapour	Liquid	Vapour	Liquid	Vapour	Liquid	Vapour	Liquid	Vapour	Liquid	Vapour	Liquid	Vapour	Liquid
Std Gas Flow	10 ³ STD m ³ /dav	35105.6	0.0	35105.6	0.0	10.3	0.0	35105.6	0.0000	35100.8	0.0	337.5	0.0	337.5	0.0	161.6	0.0
Liquid Vol Flow @ Std Cond	m ³ /dav	0.0	4977.3	0.0	0.0	0.0	4943.4	0.0	0.1	0.0	18.6	0.0	4139.1	0.0	4142.6	0.0	3755.7
Compressibility		0.7059	-	0.7059	-	0.7104	-	0.7066	-	0.7122	-	0.8808	-	0.8808	-	0.9420	-
Mass Density	kg/m ³	83.8	667.7	83.8	-	81.7	669.6	83.1	661.0	77.6	641.8	25.5	727.2	25.5	727.2	13.3	699.9
Molecular Weight		17.46	63.68	17.46	-	17.45	64.10	17.46	60.92	17.45	54.48	17.88	82.57	17.88	82.57	24.39	96.79
Viscosity	cP	0.013	0.441	0.013	-	0.013	0.446	0.013	0.394	0.012	0.308	0.010	0.704	0.010	0.704	0.011	0.445
Mass Heat Capacity	kJ/kg-C	3.36	1.99	3.36	-	3.32	1.99	3.35	2.00	3.29	2.01	2.31	1.87	2.31	1.87	2.01	2.09
Component Molar Flow	kgmole/h																
Nitrogen		306.69965	1.36890	306.69965	0.00000	0.08694	1.28196	306.69962	0.00003	306.69470	0.00496	1.23922	0.13464	1.23922	0.13464	0.12433	0.01058
CO2		700.64736	27.74118	700.64736	0.00000	0.20651	27.53467	700.64668	0.00068	700.53383	0.11353	10.44003	17.41468	10.44003	17.41468	10.58104	6.87316
Methane		57759.75507	771.54539	57759.75507	0.00000	16.93488	754.61051	57759.73602	0.01906	57756.62980	3.12527	541.23735	233.43332	541.23735	233.43332	186.67387	47.21928
Ethane		2094.72801	136.37316	2094.72801	0.00000	0.61494	135.75821	2094.72457	0.00344	2094.11725	0.61076	30.99959	105.98433	30.99959	105.98433	47.42575	58.96042
Propane		664.48650	134.37059	664.48650	0.00000	0.19321	134.17738	664.48308	0.00342	663.85126	0.63525	8.14237	126.86347	8.14237	126.86347	25.33165	102.61890
i-Butane		106.85518	48.90406	106.85518	0.00000	0.03080	48.87326	106.85392	0.00125	106.61580	0.23937	1.01048	48.13295	1.01048	48.13295	4.46644	43.92110
n-Butane		134.25602	86.79686	134.25602	0.00000	0.03858	86.75828	134.25378	0.00224	133.81996	0.43606	1.17203	86.06089	1.17203	86.06089	5.93970	80.57578
i-Pentane		33.84341	47.29449	33.84341	0.00000	0.00964	47.28485	33.84220	0.00122	33.60159	0.24182	0.22176	47.31454	0.22176	47.31454	1.43847	46.11169
n-Pentane		23.36201	44.23161	23.36201	0.00000	0.00663	44.22498	23.36086	0.00114	23.13217	0.22984	0.00114	44.31995	0.14150	44.31995	1.04001	43.50013
n-Hexane		12.69610	67.61124	12.69610	0.00000	0.00356	67.60768	12.69435	0.00175	12.33855	0.35756	0.05331	67.91549	0.05331	67.91549	0.54164	67.66881
n-Heptane		5.54637	79.04147	5.54637	0.00000	0.00154	79.03993	5.54433	0.00205	5.13781	0.40857	0.01621	79.43383	0.01621	79.43383	0.22318	79.46753
n-Octane		2.11498	80.49234	2.11498	0.00000	0.00058	80.49176	2.11290	0.00208	1.73788	0.37709	0.00429	80.86513	0.00429	80.86513	0.08029	80.94065
n-Nonane		0.33299	32.31382	0.33299	0.00000	0.00009	32.31373	0.33216	0.00083	0.21282	0.12017	0.00047	32.43352	0.00047	32.43352	0.01179	32.45279
n-Decane		0.20542	47.77454	0.20542	0.00000	0.00006	47.77448	0.20421	0.00122	0.08704	0.11838	0.00021	47.89271	0.00021	47.89271	0.00664	47.90690
n-C11		0.05823	35.14411	0.05823	0.00000	0.00002	35.14409	0.05735	0.00008	0.01268	0.04555	0.00004	35.18962	0.00004	35.18962	0.00178	35.19419
n-C12		0.02094	26.62039	0.02094	0.00000	0.00001	26.62039	0.02029	0.00065	0.00245	0.01849	0.00001	26.63888	0.00001	26.63888	0.00057	26.64052
n-C13		0.00721	26.50635	0.00721	0.00000	0.00000	26.50634	0.00660	0.00061	0.00031	0.00690	0.00000	26.51325	0.00000	26.51325	0.00019	26.51388
n-C14		0.00205	22.42267	0.00205	0.00000	0.00000	22.42267	0.00161	0.00044	0.00003	0.00202	0.00000	22.42469	0.00000	22.42469	0.00005	22.42489
n-C15		0.00084	16.48229	0.00084	0.00000	0.00000	16.48229	0.00056	0.00027	0.00001	0.00083	0.00000	16.48312	0.00000	16.48312	0.00002	16.48320
n-C16		0.00023	11.11629	0.00023	0.00000	0.00000	11.11629	0.00011	0.00013	0.00000	0.00023	0.00000	11.11653	0.00000	11.11653	0.00000	11.11655
n-C17		0.00012	8.49699	0.00012	0.00000	0.00000	8.49699	0.00005	0.00008	0.00000	0.00012	0.00000	8.49712	0.00000	8.49712	0.00000	8.49713
n-C18		0.00005	4.98323	0.00005	0.00000	0.00000	4.98323	0.00001	0.00003	0.00000	0.00005	0.00000	4.98327	0.00000	4.98327	0.00000	4.98327
n-C19		0.00002	3.51382	0.00002	0.00000	0.00000	3.51382	0.00001	0.00002	0.00000	0.00002	0.00000	3.51385	0.00000	3.51385	0.00000	3.51385
n-C20		0.00001	2.55552	0.00001	0.00000	0.00000	2.55552	0.00000	0.00001	0.00000	0.00001	0.00000	2.55552	0.00000	2.55552	0.00000	2.55552
n-C21		0.00000	1.85275	0.00000	0.00000	0.00000	1.85275	0.00000	0.00000	0.00000	0.00000	0.00000	1.85275	0.00000	1.85275	0.00000	1.85275
n-C22		0.00000	0.76666	0.00000	0.00000	0.00000	0.76666	0.00000	0.00000	0.00000	0.00000	0.00000	0.76666	0.00000	0.76666	0.00000	0.76666
n-C23		0.00000	0.89443	0.00000	0.00000	0.00000	0.89443	0.00000	0.00000	0.00000	0.00000	0.00000	0.89443	0.00000	0.89443	0.00000	0.89443
n-C24		0.00000	0.70277	0.00000	0.00000	0.00000	0.70277	0.00000	0.00000	0.00000	0.00000	0.00000	0.70277	0.00000	0.70277	0.00000	0.70277
n-C25		0.00000	0.57499	0.00000	0.00000	0.00000	0.57499	0.00000	0.00000	0.00000	0.00000	0.00000	0.57499	0.00000	0.57499	0.00000	0.57499
n-C26		0.00000	0.19166	0.00000	0.00000	0.00000	0.19166	0.00000	0.00000	0.00000	0.00000	0.00000	0.19166	0.00000	0.19166	0.00000	0.19166
n-C27		0.00000	0.12778	0.00000	0.00000	0.00000	0.12778	0.00000	0.00000	0.00000	0.00000	0.00000	0.12778	0.00000	0.12778	0.00000	0.12778
n-C28		0.00000	0.06389	0.00000	0.00000	0.00000	0.06389	0.00000	0.00000	0.00000	0.00000	0.00000	0.06389	0.00000	0.06389	0.00000	0.06389
n-C29		0.00000	0.06389	0.00000	0.00000	0.00000	0.06389	0.00000	0.00000	0.00000	0.00000	0.00000	0.06389	0.00000	0.06389	0.00000	0.06389
n-C30		0.00000	0.38333	0.00000	0.00000	0.00000	0.38333	0.00000	0.00000	0.00000	0.00000	0.00000	0.38333	0.00000	0.38333	0.00000	0.38333
Benzene		2.35091	16.36830	2.35091	0.00000	0.00066	16.36764	2.35047	0.00044	2.26045	0.09046	0.01186	16.44691	0.01186	16.44691	0.12270	16.39810
Toluene		2.43432	49.37893	2.43432	0.00000	0.00068	49.37825	2.43301	0.00131	2.17816	0.25616	0.00860	49.62649	0.00860	49.62649	0.12100	49.66218
E-Benzene		0.44451	23.19408	0.44451	0.00000	0.00012	23.19396	0.44389	0.00062	0.33511	0.10940	0.01105	23.30243	0.01105	23.30243	0.01995	23.32433
m-Xylene		0.23109	14.59094	0.23109	0.00000	0.00006	14.59088	0.23070	0.00039	0.16671	0.06438	0.00054	14.65479	0.00054	14.65479	0.01082	14.66799
p-Xylene		0.23013	14.27247	0.23013	0.00000	0.00006	14.27240	0.22975	0.00038	0.16718	0.06295	0.00053	14.33489	0.00053	14.33489	0.01069	14.34781
o-Xylene		0.25237	17.06131	0.25237	0.00000	0.00007	17.06124	0.25191	0.00046	0.17823	0.07414	0.00059	17.13486	0.00059	17.13486	0.01183	17.14980
124-MBenzene		0.06836	14.24257	0.06836	0.00000	0.00002	14.2425										

DESIGN BASIS

INUVIK AREA FACILITY

Stream #		14	15	16	17	18		19	20	21A	21B	22	23	24	25	26	27	
Description		Stabilizer O/H	Stabilizer bottoms	Feed to stabilizer O/H compressor	Stabilizer O/H compressor outlet	Stabilizer O/H compressor suction scrubber drain to flash drum		Fuel gas	Feed to residue gas compressor	Residue gas compressor outlet	Residue gas compressor outlet	Refrigerant condenser outlet	Refrigerant economizer O/H	Refrigerant economizer liquid	Refrigerant to gas chiller	Refrigerant to liquid chiller	Feed to refig comp. suction scrubber	
Vapour Fraction		1.0	0.0	1.0	1.0	0.10289		1.0	1.0	1.0	1.0	0.0	1.0	0.0	-	0.0	1.0	
Temperature	C	52.5	175.6	42.1	92.2	16.1		-3.6	-1.6	15.6	15.6	15.6	-2.4	-2.4	-	-2.4	-17.1	
Pressure	kPa (abs)	1103	1145	1103	6511	1310		6511	6511	18168	18168	769	452	452	-	452	170	
Molar Flow	kgmole/h	217.0	941.4	501.7	1091.8	4.6		874.0	62073.1	31036.6	31036.6	22.1	2.8	19.3	0.0	19.3	19.3	
Mass Flow	kg/h	7843.0	104267.5	14786.9	25132.5	289.0		15254.5	1089477.9	544739.0	544739.0	972.2	120.0	852.2	0.0	852.2	852.2	
Phase		Vapour	Liquid	Vapour	Vapour	Vapour	Liquid	Vapour	Vapour	Vapour	Vapour	Liquid	Vapour	Liquid	-	Liquid	Vapour	
Std Gas Flow	10 ³ STD m ³ /dav	123.1	0.0	284.7	619.5	0.3		496.0	35224.4	17612.2	17612.2	0.0	1.6	0.0	0.0	0.0	11.0	
Liquid Vol Flow @ Std Cond	m ³ /dav	0.0	3399.8	0.0	0.0	0.0		0.0	0.0	0.0	0.0	46.1	0.0	40.4	0.0	40.4	0.0	
Compressibility		0.9041	-	0.9326	0.8719	0.9190		0.7892	0.7922	0.7394	0.7394	-	0.8986	-	-	-	0.9568	
Mass Density	kg/m ³	16.3	578.4	13.3	56.6	15.4		64.2	63.9	179.7	179.7	506.4	9.7	532.1	-	532.1	3.7	
Molecular Weight		36.15	110.76	29.48	23.02	26.01		17.45	17.55	17.55	17.55	44.03	43.53	44.10	-	44.10	44.10	
Viscosity	cP	0.011	0.156	0.011	0.015	0.011		0.012	0.013	0.021	0.021	0.109	0.008	0.130	-	0.130	0.007	
Mass Heat Capacity	kJ/kg-C	1.95	2.80	1.95	2.53	1.96		2.12	2.85	3.73	3.73	2.72	1.67	2.51	-	2.51	1.55	
Component Molar Flow	kgmole/h																	
Nitrogen		0.01058	0.00000	0.13491	1.37386	0.00022		0.00004	4.33352	303.73504	151.86752	151.86752	0.00000	0.00000	0.00000	-	0.00000	0.00000
CO2		6.87316	0.00000	17.45420	27.85495	0.01477		0.02451	9.89837	718.49041	359.24520	359.24520	0.00000	0.00000	0.00000	-	0.00000	0.00000
Methane		47.21928	0.00000	233.89315	774.67360	0.27921		0.17769	816.08724	57715.21615	28857.60808	28857.60808	0.00000	0.00000	0.00000	-	0.00000	0.00000
Ethane		58.96042	0.00000	106.38618	136.98648	0.08584		0.31345	29.58937	2201.51436	1100.75718	1100.75718	0.33124	0.12002	0.21122	-	0.21122	0.21122
Propane		83.29037	19.32852	108.62203	115.68536	0.07668		1.00236	9.38006	770.15656	385.07828	385.07828	21.53034	2.62735	18.90298	-	18.90298	18.90298
i-Butane		6.32943	37.59166	10.79587	11.55363	0.00735		0.24537	1.50646	116.66298	58.33149	58.33149	0.11041	0.00541	0.10500	-	0.10500	0.10500
n-Butane		8.15058	72.42520	14.09028	14.81104	0.00923		0.44204	1.89084	146.74016	73.37008	73.37008	0.11041	0.00375	0.10667	-	0.10667	0.10667
i-Pentane		1.95737	44.15433	3.39584	3.38367	0.00197		0.23197	0.47478	36.51048	18.25524	18.25524	0.00000	0.00000	0.00000	-	0.00000	0.00000
n-Pentane		1.44950	42.05063	2.48951	2.41239	0.00137		0.21725	0.32685	25.21771	12.60885	12.60885	0.00000	0.00000	0.00000	-	0.00000	0.00000
n-Hexane		0.82327	66.84554	1.36491	1.12526	0.00058		0.29238	0.17434	13.28947	6.64473	6.64473	0.00000	0.00000	0.00000	-	0.00000	0.00000
n-Heptane		0.37667	79.09086	0.59985	0.36073	0.00017		0.25516	0.07260	5.42594	2.71297	2.71297	0.00000	0.00000	0.00000	-	0.00000	0.00000
n-Octane		0.15191	80.78874	0.23219	0.08144	0.00003		0.15501	0.02456	1.79477	0.89738	0.89738	0.00000	0.00000	0.00000	-	0.00000	0.00000
n-Nonane		0.02496	32.42783	0.03676	0.00628	0.00000		0.03095	0.00301	0.21609	0.10805	0.10805	0.00000	0.00000	0.00000	-	0.00000	0.00000
n-Decane		0.01563	47.89126	0.02227	0.00172	0.00000		0.02076	0.00123	0.08753	0.04376	0.04376	0.00000	0.00000	0.00000	-	0.00000	0.00000
n-C11		0.00472	35.18947	0.00650	0.00020	0.00000		0.00634	0.00018	0.01270	0.00635	0.00635	0.00000	0.00000	0.00000	-	0.00000	0.00000
n-C12		0.00166	26.63886	0.00223	0.00003	0.00000		0.00221	0.00003	0.00245	0.00122	0.00122	0.00000	0.00000	0.00000	-	0.00000	0.00000
n-C13		0.00064	26.51325	0.00083	0.00000	0.00000		0.00082	0.00000	0.00031	0.00016	0.00016	0.00000	0.00000	0.00000	-	0.00000	0.00000
n-C14		0.00020	22.42469	0.00025	0.00000	0.00000		0.00025	0.00000	0.00003	0.00002	0.00002	0.00000	0.00000	0.00000	-	0.00000	0.00000
n-C15		0.00008	16.48312	0.00009	0.00000	0.00000		0.00009	0.00000	0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	-	0.00000	0.00000
n-C16		0.00002	11.11653	0.00003	0.00000	0.00000		0.00003	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-	0.00000	0.00000
n-C17		0.00001	8.49712	0.00001	0.00000	0.00000		0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-	0.00000	0.00000
n-C18		0.00000	4.98327	0.00000	0.00000	0.00000		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-	0.00000	0.00000
n-C19		0.00000	3.51385	0.00000	0.00000	0.00000		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-	0.00000	0.00000
n-C20		0.00000	2.55552	0.00000	0.00000	0.00000		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-	0.00000	0.00000
n-C21		0.00000	1.85275	0.00000	0.00000	0.00000		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-	0.00000	0.00000
n-C22		0.00000	0.76666	0.00000	0.00000	0.00000		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-	0.00000	0.00000
n-C23		0.00000	0.89443	0.00000	0.00000	0.00000		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-	0.00000	0.00000
n-C24		0.00000	0.70277	0.00000	0.00000	0.00000		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-	0.00000	0.00000
n-C25		0.00000	0.57499	0.00000	0.00000	0.00000		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-	0.00000	0.00000
n-C26		0.00000	0.19166	0.00000	0.00000	0.00000		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-	0.00000	0.00000
n-C27		0.00000	0.12778	0.00000	0.00000	0.00000		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-	0.00000	0.00000
n-C28		0.00000	0.06389	0.00000	0.00000	0.00000		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-	0.00000	0.00000
n-C29		0.00000	0.06389	0.00000	0.00000	0.00000		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-	0.00000	0.00000
n-C30		0.00000	0.38333	0.00000	0.00000	0.00000		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-	0.00000	0.00000
Benzene		0.18926	16.20885	0.31196	0.25041	0.00013		0.07328	0.03194	2.47892	1.23946	1.23946	0.00000	0.00000	0.00000	-	0.00000	0.00000
Toluene		0.21044	49.45174	0.33144	0.18422	0.00009		0.15574	0.03078	2.33160	1.16580	1.16580	0.00000	0.00000	0.00000	-	0.00000	0.00000
E-Benzene		0.03774	23.28659	0.05769	0.01708	0.00001		0.04166	0.00473	0.34745	0.17373	0.17373	0.00000	0.00000	0.00000	-	0.00000	0.00000
m-Xylene		0.02154	14.64645	0.03236	0.00897	0.00000		0.02392	0.00236	0.17333	0.08666	0.08666	0.00000	0.00000	0.00000	-	0.00000	0.00000
p-Xylene		0.02123	14.32658	0.03193	0.00893	0.00000		0.02352	0.00236	0.17375	0.08688	0.08688	0.00000	0.00000	0.00000	-	0.00000	0.00000
o-Xylene		0.02358	17.12622	0.03541	0.00933	0.00000		0.02667	0.00252	0.18504	0.09252	0.09252	0.00000	0.00000	0.00000	-	0.00000	0.00000
124-MBenzene		0.00670	14.28117	0.00970	0.00093	0.00000		0.00887	0.00041	0.02937	0.01469	0.01469	0.00000	0.00000	0.00000	-	0.00000	0.00000
Cyclopentane		0.05223	2.03387	0.08939	0.08353	0.00005		0.01056	0.01071	0.83047</								