```
          ---   Simulation  Input  File   ---
   *-STMT-*
              *XPSIM>  ...generated by XpsimWin v.1.06 ...
              *EXE-OPT> PAGELEN=66
              *
       100    RUN ID=PHASEN04 CUSTOMER=SP-GAS PROJECT=VLE-TEST
       200    DESC  EQUILIBRIUM CALCULATION TEST - SSI/2
       300    DIMENSION MET
              *
              *
       400    Petroleum Data
              *
              *
       500    HYPO ID=H501 NAME=HEAVY NBP=188.40 API=45.454 MW=149.7 TCRIT=374.771 +
               PCRIT=25.310 OMEGA=0.471
              *
              *
       600    System Data
              *
              *
       700    CHEMCOMP N2 / CO2 / C1 / C2 / C3 / IC4 / NC4 / IC5 / NC5 / NC6 / H501
       800    THERMSET UID=M1
       900    METHODS K=SRK H=LK
              *
              *
      1000    Flowsheet Data
              *
              *
              *
      1100    STREAM=FEED TEMP=-30 PRES=133.3
      1200    COMP 16.24 / 61.82 / 5575.0391 / 307.3599 / 89.01 / 18.66 / 18.91 / +
               6.01 / 5.36 / 10.13 / 9.54
              *
      1300    FLASH IN FEED OUT PROD1(V) PROD2(L) UID=V1
              *
      1400    PHASENV IN FEED UID=PHAS01
      1500    CALC PMIN=20 PMAX=200 TEST(DEWT)=100 VF=0.1,0.2,0.5,0.7,0.9 DPMAX=5.
      1600    PRINT PLOT
              *
              *
      1700    VLE Analysis
              *
              *
      1800    VLECURVE STR=FEED PROP XPRT KPRT PLOT
      1900    CALC BUBT TEMP=-60. PRES=20.,80. POINTS=8
      2000    CALC DEWP TEMP=-60.,20. PRES=70. POINTS=9
      2100    CALC DEWT TEMP=70. PRES=10.,150. POINTS=15
              *
              *
      2200    END
          ---   End of Simulation Input File   ---
```

I) * PROBLEM GENERAL DATA *

1) * PROBLEM/PROJECT *
' EQUILIBRIUM CALCULATION TEST - SSI/2 '

2) * UNITS OF MEASURE *
- Input system METRIC - Output system METRIC

- INPUT AND OUTPUT UNITS -

Time	- HR	Weight	- KG
Temperature	- CENT	Pressure	- ATA
Energy/Duty	- M-KCAL	Work	- KW
Liq volums	- CUMT	Vap Volume	- CUMT
Viscosity	- CP	Thermal cond	- KCAL/HMC
Surface tens	- DYCM	Std Vap Vol	- N-CUMT

Standard Vapor Volume is 23.64469 M3/KMOL
Reference Status - Temperature 15°C - Pressure 1 atm

Enthalpy is 0.0 for ideal gas at 298.15 K
Std entropy is for ideal gas at 298.15 K and 1 Atm

*** HYPOTHETICAL/PETROLEUM COMPONENTS CALCULATION OPTIONS ***

Initial point interval 2.00
End point interval 98.00

Critical props calculation method 'STD80 '

II) * DEFINED COMPONENTS *

* No of Chemical Components 11
No of Hypothetical/Petroleum Components 1

No	1	2	3	4	5
CAS Registry no.	7727-37-9	124-38-9	74-82-8	74-84-0	74-98-6
Name	NITROGEN	CARBON DIOXIDE	METHANE	ETHANE	PROPANE
Component Key	N2	CO2	C1	C2	C3
Type	LIBRARY	LIBRARY	LIBRARY	LIBRARY	LIBRARY
Class	INOR	INOR	SHYD	SHYD	SHYD
Formula	N2	CO2	CH4	C2H6	C3H8
Molecular weight	28.010	44.010	16.040	30.070	44.100
Boiling point,CENT	-195.80	-78.55	-161.52	-88.60	-42.10
Std spec. gravity	0.64315	0.81906	0.40749	0.35522	0.50430
Critical temp,CENT	-146.95	31.06	-82.62	32.27	96.67
Critical pres,ATA	34.670	75.280	46.856	49.752	43.328
Critical vol,CUMT	0.089489	0.094039	0.099013	0.148129	0.203227
Critical Z	0.289987	0.274489	0.287211	0.284617	0.280844
Acentric factor	0.037000	0.223000	0.011000	0.099000	0.153000
Lat. heat, KC/KMOL	1326.133	3641.372	1952.989	3471.723	4501.865
H form, KC/KMOL	0.000	-93983.927	-17814.488	-20066.696	-24805.360
G form, KC/KMOL	-13629.903	-106958.683	-31074.090	-36381.277	-44046.738
Std entr, KC/KML-C	45.71492	43.51755	44.47293	54.71937	64.53590

No	6	7	8	9	10
CAS Registry no.	75-28-5	106-97-8	78-78-4	109-66-0	110-54-3
Name	ISOBUTANE	BUTANE	ISOPENTANE	PENTANE	HEXANE
Component Key	IC4	NC4	IC5	NC5	NC6
Type	LIBRARY	LIBRARY	LIBRARY	LIBRARY	LIBRARY
Class	SHYD	SHYD	SHYD	SHYD	SHYD
Formula	C4H10	C4H10	C5H12	C5H12	C6H14
Molecular weight	58.120	58.120	72.150	72.150	86.180
Boiling point,CENT	-11.73	-0.50	27.88	36.06	68.73
Std spec. gravity	0.55891	0.58434	0.62469	0.63094	0.65877
Critical temp,CENT	134.99	152.03	187.28	196.59	234.75
Critical pres,ATA	37.199	38.729	34.497	34.364	30.918
Critical vol,CUMT	0.262988	0.254914	0.305722	0.304432	0.369874
Critical Z	0.282728	0.273882	0.270180	0.262694	0.265578
Acentric factor	0.183000	0.200000	0.227000	0.251000	0.294000
Lat. heat, KC/KMOL	5046.152	5249.344	5806.159	6126.752	6875.879
H form, KC/KMOL	-32149.941	-30039.928	-36895.129	-34982.303	-39870.542
G form, KC/KMOL	-53185.852	-52101.286	-61363.439	-59863.641	-67557.617
Std entr, KC/KML-C	70.55479	73.99416	82.06712	83.45242	92.86291

No	11
CAS Registry no.	00000-00-0
Name	HEAVY
Component Key	H501
Type	PETRO
Class	PETR
Formula	
Molecular weight	149.700
Boiling point,CENT	188.40
Std spec. gravity	0.79964
Critical temp,CENT	374.77
Critical pres,ATA	25.310
Critical vol,CUMT	0.549782
Critical Z	0.253320
Acentric factor	0.471000
Lat. heat, KC/KMOL	9657.931
H form, KC/KMOL	0.000
G form, KC/KMOL	0.000
Std entr, KC/KML-C	19.87120

III) * PVT/THERMO/TRANSPORT PROPERTIES CALCULATION METHODS *

* CALCULATION SET 1 - M1 *

VLE K-values SRK - REDLICH-KWONG-SOAVE
ENTHALPY - Vapor LK - LEE-KESLER
ENTHALPY - Liquid LK - LEE-KESLER

- LIMITS AND OPTIONS -
Temperature - Min -223.15 CENT - Max 1200.05 CENT
Pressure - Min 0.100000E-04 ATA - Max 3000.00 ATA

Lowest significant composition 0.10000000E-19

Water K-values are calculated based on
'Vapor Pressure curve '
Water thermo-props are calculated based on
'Saturated conditions '
Water solubility in hydr phases calculated based on
'API solubility in HC mixtures '

*** STREAM 'FEED ' ***
- Temperature -30.000 CENT - Pressure 133.3000 ATA

* No *	Component	GLOBAL STREAM - Mols	-Mol fr-	Weight	-Wt fr-
1	NITROGEN	16.240	0.002654	454.882	0.004095
2	CARBON DIOXIDE	61.820	0.010104	2720.698	0.024495
3	METHANE	5575.039	0.911240	89423.588	0.805097
4	ETHANE	307.360	0.050238	9242.314	0.083210
5	PROPANE	89.010	0.014549	3925.342	0.035341
6	ISOBUTANE	18.660	0.003050	1084.519	0.009764
7	BUTANE	18.910	0.003091	1099.049	0.009895
8	ISOPENTANE	6.010	0.000982	433.621	0.003904
9	PENTANE	5.360	0.000876	386.724	0.003482
10	HEXANE	10.130	0.001656	873.003	0.007860
11	HEAVY	9.540	0.001559	1428.138	0.012858
	* TOTAL *	6118.079	1.000000	111071.879	1.000000
		KMOL		KG	

*** UNIT 1 - 'V1 ' - ' FLASH ' ***

--- Feed Streams ---	- Product Streams -	
'FEED '	'PROD1 '	VAPOR
	'PROD2 '	LIQUID

1) * CALCULATION TYPE *
Adiabatic flash
Temperature is variable
Pressure is fixed at lowest feed pressure

*** UNIT 2 - 'PHAS01 ' - ' PHASE ENVELOPE ' ***
--- Feed Streams --- - Product Streams -
'FEED '

1) * CALCULATION PARAMETERS *

Maximum envelope pressure 200.0000 ATA
Maximum bubble point pressure 200.0000 ATA

Calculation starts from DEW POINT curve
Initial pressure 20.0000 ATA
Initial temperature estimate 100.0000 CENT
Maximum temperature stepsize 5.0000 CENT
Maximum pressure stepsize 5.0000 ATA

Additional VLE curve(s) requested at the following V/F ratios
1) 0.100000 2) 0.200000 3) 0.500000 4) 0.700000 5) 0.900000

1) * PRINTOUT OPTION *

Envelope plot requested

V) **** STREAM / UNITS DICTIONARY ****

1) STREAMS-UNITS CROSS-REFERENCE TABLE

No	Stream Id	Description/Service	Product of Unit	Feed of Unit(s)	
1	FEED	.....		1 V1	2 PHAS01
2	PROD1	.....	1 V1		
3	PROD2	.....	1 V1		

2) UNITS-STREAMS CROSS-REFERENCE TABLE

No	Unit	Unit Description	Feed Streams		Product Streams	
1	V1	.....	1	FEED	2	PROD1
					3	PROD2
2	PHAS01	.....	1	FEED		

VI) **** RUN STATISTICS ****

* No of streams 3
process operations 2
topping structures 0
control operations 0
set operations 0

The calculation is NOT a RECYCLE PROBLEM
Calculation sequence defined by input sequence

*** VAPOR/LIQUID EQUILIBRIUM CURVES - SET NO. 1 ***

VLE calculation for stream 'FEED '

No. of VLE curves 3

1) - BUBBLE POINT TEMPERATURE -
Initial pressure 20.0000 ATA - End pressure 80.0000 ATA
User's temperature estimate -60.000 CENT
No. of points 8
- Printout options - X AND Y COMPOSITIONS
- VLE K-VALUES
- THERMO PROPERTIES
- TEMP/PRES PLOT

2) - DEW POINT PRESSURE -
Initial temperature -60.000 CENT - End temperature 20.000 CENT
User's pressure estimate 70.0000 ATA
No. of points 9
- Printout options - X AND Y COMPOSITIONS
- VLE K-VALUES
- THERMO PROPERTIES
- TEMP/PRES PLOT

3) - DEW POINT TEMPERATURE -
Initial pressure 10.0000 ATA - End pressure 150.0000 ATA
User's temperature estimate 70.000 CENT
No. of points 15
- Printout options - X AND Y COMPOSITIONS
- VLE K-VALUES
- THERMO PROPERTIES
- TEMP/PRES PLOT

    *** SIMULATION TRACE FOLLOWS ***

 ... New/output binary file 'PHASEN04' initialized ...

 . Stream 'FEED   ' flashed .
 . Feed/Recycle streams processed .

 * WARNING, PRODUCT STREAM 'PROD2   ' (LIQUID) HAS NULL FLOW-RATE *
   Unit op   1 - 'V1   ' calculated
    *** CALCULATION TERMINATED, TOO MANY INDIPENDENT VARIABLES CHANGES ***
    *** CALCULATION TERMINATED, TOO MANY INDIPENDENT VARIABLES CHANGES ***
    *** CALCULATION TERMINATED, TOO MANY INDIPENDENT VARIABLES CHANGES ***
    *** CALCULATION TERMINATED, TOO MANY INDIPENDENT VARIABLES CHANGES ***
    *** CALCULATION TERMINATED, TOO MANY INDIPENDENT VARIABLES CHANGES ***
   Unit op   2 - 'PHAS01 ' calculated

         *** SOLUTION OBTAINED ***

 ... Base case results loaded on binary file 'PHASEN04' ...

* BUBBLE-POINT TEMPERATURE CURVE - STREAM FEED *
Initial pressure 20.0000 ata - End pressure 80.0000 ata
Initial temperature estimate -60.000 °C
No. of points 8

- BUBBLE-POINT of stream FEED
1) * Temp -105.742 CENT * Pres 20.0000 ATA *

* NO *	Component	LIQUID Mols	LIQUID -Mol Fr-	LIQUID Weight	LIQUID -Wt Fr-	VAPOR Mols	VAPOR -Mol Fr-	VAPOR Weight	VAPOR -Wt Fr-	Vle K
1	NITROGEN	16.24	0.00265	454.88	0.00410	0.01	0.01365	0.38	0.02345	5.14165
2	CARBON DIOXIDE	61.82	0.01010	2720.70	0.02449	0.00	0.00185	0.08	0.00498	0.18271
3	METHANE	5575.04	0.91124	89423.59	0.80510	0.98	0.98141	15.74	0.96577	1.07701
4	ETHANE	307.36	0.05024	9242.31	0.08321	0.00	0.00299	0.09	0.00552	0.05955
5	PROPANE	89.01	0.01455	3925.34	0.03534	0.00	0.00009	0.00	0.00025	0.00644
6	ISOBUTANE	18.66	0.00305	1084.52	0.00976	0.00	0.00000	0.00	0.00001	0.00123
7	BUTANE	18.91	0.00309	1099.05	0.00989	0.00	0.00000	0.00	0.00001	0.00071
8	ISOPENTANE	6.01	0.00098	433.62	0.00390	0.00	0.00000	0.00	0.00000	0.00013
9	PENTANE	5.36	0.00088	386.72	0.00348	0.00	0.00000	0.00	0.00000	0.00008
10	HEXANE	10.13	0.00166	873.00	0.00786	0.00	0.00000	0.00	0.00000	0.00001
11	HEAVY	9.54	0.00156	1428.14	0.01286	0.00	0.00000	0.00	0.00000	0.00000
	* TOTAL *	6118.08 KMOL	1.00000	111071.88 KG	1.00000	1.00 KMOL	1.00000	16.30 KG	1.00000	

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	0.000	6118.079
Weight Flow Rate	kg/h	111071.879	0.000	111071.879
Molar Fraction			0.000000	1.000000
Weight Fraction			0.000000	1.000000
Molecular Weight		18.1547	16.2999	18.1547
Std Vap Vol Rate	N-m3/h		0.0000	
Std Liq Vol Rate	m3/h			265.5117
Enthalpy	Mcal/h	-18243.0494	0.0000	-18243.0494
Spec. Enthalpy	kcal/kg	-164.245	-81.502	-164.245
	kcal/kmol	-2981.824	-1328.467	-2981.824
Gravity at 60/60				0.418321

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- BUBBLE-POINT of stream FEED
2) * Temp -95.115 CENT * Pres 28.5714 ATA *

NO	Component	LIQUID Mols	LIQUID Mol Fr	LIQUID Weight	LIQUID Wt Fr	VAPOR Mols	VAPOR Mol Fr	VAPOR Weight	VAPOR Wt Fr	Vle K
1	NITROGEN	16.24	0.00265	454.88	0.00410	0.01	0.01008	0.28	0.01730	3.79637
2	CARBON DIOXIDE	61.82	0.01010	2720.70	0.02449	0.00	0.00270	0.12	0.00729	0.26768
3	METHANE	5575.04	0.91124	89423.59	0.80510	0.98	0.98155	15.74	0.96470	1.07716
4	ETHANE	307.36	0.05024	9242.31	0.08321	0.01	0.00537	0.16	0.00990	0.10699
5	PROPANE	89.01	0.01455	3925.34	0.03534	0.00	0.00026	0.01	0.00071	0.01809
6	ISOBUTANE	18.66	0.00305	1084.52	0.00976	0.00	0.00001	0.00	0.00005	0.00482
7	BUTANE	18.91	0.00309	1099.05	0.00989	0.00	0.00001	0.00	0.00003	0.00309
8	ISOPENTANE	6.01	0.00098	433.62	0.00390	0.00	0.00000	0.00	0.00000	0.00081
9	PENTANE	5.36	0.00088	386.72	0.00348	0.00	0.00000	0.00	0.00000	0.00053
10	HEXANE	10.13	0.00166	873.00	0.00786	0.00	0.00000	0.00	0.00000	0.00010
11	HEAVY	9.54	0.00156	1428.14	0.01286	0.00	0.00000	0.00	0.00000	0.00000
	* TOTAL *	6118.08 KMOL	1.00000	111071.88 KG	1.00000	1.00 KMOL	1.00000	16.32 KG	1.00000	

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	0.000	6118.079
Weight Flow Rate	kg/h	111071.879	0.000	111071.879
Molar Fraction			0.000000	1.000000
Weight Fraction			0.000000	1.000000
Molecular Weight		18.1547	16.3202	18.1547
Std Vap Vol Rate	N-m3/h		0.0000	
Std Liq Vol Rate	m3/h			265.5117
Enthalpy	Mcal/h	-17155.4891	0.0000	-17155.4891
Spec. Enthalpy	kcal/kg	-154.454	-82.804	-154.454
	kcal/kmol	-2804.062	-1351.372	-2804.062
Gravity at 60/60				0.418321

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- BUBBLE-POINT of stream FEED
3) * Temp -86.340 CENT * Pres 37.1429 ATA *

		LIQUID				VAPOR				
NO	Component	Mols	Mol Fr	Weight	Wt Fr	Mols	Mol Fr	Weight	Wt Fr	Vle K
1	NITROGEN	16.24	0.00265	454.88	0.00410	0.01	0.00773	0.22	0.01322	2.91246
2	CARBON DIOXIDE	61.82	0.01010	2720.70	0.02449	0.00	0.00369	0.16	0.00993	0.36564
3	METHANE	5575.04	0.91124	89423.59	0.80510	0.98	0.97899	15.70	0.95856	1.07435
4	ETHANE	307.36	0.05024	9242.31	0.08321	0.01	0.00885	0.27	0.01625	0.17624
5	PROPANE	89.01	0.01455	3925.34	0.03534	0.00	0.00064	0.03	0.00172	0.04388
6	ISOBUTANE	18.66	0.00305	1084.52	0.00976	0.00	0.00005	0.00	0.00017	0.01558
7	BUTANE	18.91	0.00309	1099.05	0.00989	0.00	0.00003	0.00	0.00012	0.01101
8	ISOPENTANE	6.01	0.00098	433.62	0.00390	0.00	0.00000	0.00	0.00002	0.00386
9	PENTANE	5.36	0.00088	386.72	0.00348	0.00	0.00000	0.00	0.00001	0.00277
10	HEXANE	10.13	0.00166	873.00	0.00786	0.00	0.00000	0.00	0.00001	0.00073
11	HEAVY	9.54	0.00156	1428.14	0.01286	0.00	0.00000	0.00	0.00000	0.00000
	* TOTAL *	6118.08	1.00000	111071.88	1.00000	1.00	1.00000	16.38	1.00000	
		KMOL		KG		KMOL		KG		

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	0.000	6118.079
Weight Flow Rate	kg/h	111071.879	0.000	111071.879
Molar Fraction			0.000000	1.000000
Weight Fraction			0.000000	1.000000
Molecular Weight		18.1547	16.3819	18.1547
Std Vap Vol Rate	N-m3/h		0.0000	
Std Liq Vol Rate	m3/h			265.5117
Enthalpy	Mcal/h	-16190.6517	0.0000	-16190.6517
Spec. Enthalpy	kcal/kg	-145.767	-85.497	-145.767
	kcal/kmol	-2646.360	-1400.598	-2646.360
Gravity at 60/60				0.418321

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- BUBBLE-POINT of stream FEED
4) * Temp -78.667 CENT * Pres 45.7143 ATA *

		LIQUID				VAPOR				
NO	Component	Mols	Mol Fr	Weight	Wt Fr	Mols	Mol Fr	Weight	Wt Fr	Vle K
1	NITROGEN	16.24	0.00265	454.88	0.00410	0.01	0.00598	0.17	0.01015	2.25294
2	CARBON DIOXIDE	61.82	0.01010	2720.70	0.02449	0.00	0.00490	0.22	0.01306	0.48473
3	METHANE	5575.04	0.91124	89423.59	0.80510	0.97	0.97320	15.61	0.94598	1.06800
4	ETHANE	307.36	0.05024	9242.31	0.08321	0.01	0.01415	0.43	0.02578	0.28166
5	PROPANE	89.01	0.01455	3925.34	0.03534	0.00	0.00147	0.07	0.00394	0.10135
6	ISOBUTANE	18.66	0.00305	1084.52	0.00976	0.00	0.00014	0.01	0.00051	0.04744
7	BUTANE	18.91	0.00309	1099.05	0.00989	0.00	0.00011	0.01	0.00040	0.03667
8	ISOPENTANE	6.01	0.00098	433.62	0.00390	0.00	0.00002	0.00	0.00007	0.01699
9	PENTANE	5.36	0.00088	386.72	0.00348	0.00	0.00001	0.00	0.00005	0.01333
10	HEXANE	10.13	0.00166	873.00	0.00786	0.00	0.00001	0.00	0.00004	0.00502
11	HEAVY	9.54	0.00156	1428.14	0.01286	0.00	0.00000	0.00	0.00000	0.00007
	* TOTAL *	6118.08	1.00000	111071.88	1.00000	1.00	1.00000	16.50	1.00000	
		KMOL		KG		KMOL		KG		

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	0.000	6118.079
Weight Flow Rate	kg/h	111071.879	0.000	111071.879
Molar Fraction			0.000000	1.000000
Weight Fraction			0.000000	1.000000
Molecular Weight		18.1547	16.5015	18.1547
Std Vap Vol Rate	N-m3/h		0.0000	
Std Liq Vol Rate	m3/h			265.5117
Enthalpy	Mcal/h	-15270.0174	0.0000	-15270.0174
Spec. Enthalpy	kcal/kg	-137.479	-89.897	-137.479
	kcal/kmol	-2495.882	-1483.440	-2495.882
Gravity at 60/60				0.418321

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- BUBBLE-POINT of stream FEED
5) * Temp -71.749 CENT * Pres 54.2857 ATA *

		LIQUID				VAPOR				
NO	Component	Mols	Mol Fr	Weight	Wt Fr	Mols	Mol Fr	Weight	Wt Fr	Vle K
1	NITROGEN	16.24	0.00265	454.88	0.00410	0.00	0.00450	0.13	0.00753	1.69594
2	CARBON DIOXIDE	61.82	0.01010	2720.70	0.02449	0.01	0.00652	0.29	0.01713	0.64543
3	METHANE	5575.04	0.91124	89423.59	0.80510	0.96	0.96110	15.42	0.92022	1.05472
4	ETHANE	307.36	0.05024	9242.31	0.08321	0.02	0.02319	0.70	0.04163	0.46165
5	PROPANE	89.01	0.01455	3925.34	0.03534	0.00	0.00358	0.16	0.00944	0.24641
6	ISOBUTANE	18.66	0.00305	1084.52	0.00976	0.00	0.00047	0.03	0.00164	0.15526
7	BUTANE	18.91	0.00309	1099.05	0.00989	0.00	0.00041	0.02	0.00142	0.13202
8	ISOPENTANE	6.01	0.00098	433.62	0.00390	0.00	0.00008	0.01	0.00035	0.08259
9	PENTANE	5.36	0.00088	386.72	0.00348	0.00	0.00006	0.00	0.00027	0.07111
10	HEXANE	10.13	0.00166	873.00	0.00786	0.00	0.00006	0.01	0.00033	0.03917
11	HEAVY	9.54	0.00156	1428.14	0.01286	0.00	0.00000	0.00	0.00004	0.00294
	* TOTAL *	6118.08	1.00000	111071.88	1.00000	1.00	1.00000	16.75	1.00000	
		KMOL		KG		KMOL		KG		

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	0.000	6118.079
Weight Flow Rate	kg/h	111071.879	0.000	111071.879
Molar Fraction			0.000000	1.000000
Weight Fraction			0.000000	1.000000
Molecular Weight		18.1547	16.7526	18.1547
Std Vap Vol Rate	N-m3/h		0.0000	
Std Liq Vol Rate	m3/h			265.5117
Enthalpy	Mcal/h	-14347.5290	0.0000	-14347.5290
Spec. Enthalpy	kcal/kg	-129.173	-97.494	-129.173
	kcal/kmol	-2345.102	-1633.280	-2345.102
Gravity at 60/60				0.418321

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- BUBBLE-POINT of stream FEED
6) * Temp -65.890 CENT * Pres 62.8571 ATA *

NO	Component	LIQUID Mols	LIQUID -Mol Fr-	LIQUID Weight	LIQUID -Wt Fr-	VAPOR Mols	VAPOR -Mol Fr-	VAPOR Weight	VAPOR -Wt Fr-	Vle K
1	NITROGEN	16.24	0.00265	454.88	0.00410	0.00	0.00318	0.09	0.00511	1.19761
2	CARBON DIOXIDE	61.82	0.01010	2720.70	0.02449	0.01	0.00886	0.39	0.02239	0.87733
3	METHANE	5575.04	0.91124	89423.59	0.80510	0.93	0.93338	14.97	0.85918	1.02431
4	ETHANE	307.36	0.05024	9242.31	0.08321	0.04	0.03985	1.20	0.06876	0.79313
5	PROPANE	89.01	0.01455	3925.34	0.03534	0.01	0.00955	0.42	0.02416	0.65608
6	ISOBUTANE	18.66	0.00305	1084.52	0.00976	0.00	0.00175	0.10	0.00583	0.57276
7	BUTANE	18.91	0.00309	1099.05	0.00989	0.00	0.00168	0.10	0.00560	0.54353
8	ISOPENTANE	6.01	0.00098	433.62	0.00390	0.00	0.00046	0.03	0.00192	0.47319
9	PENTANE	5.36	0.00088	386.72	0.00348	0.00	0.00040	0.03	0.00164	0.45174
10	HEXANE	10.13	0.00166	873.00	0.00786	0.00	0.00063	0.05	0.00310	0.37830
11	HEAVY	9.54	0.00156	1428.14	0.01286	0.00	0.00027	0.04	0.00231	0.17231
	* TOTAL *	6118.08 KMOL	1.00000	111071.88 KG	1.00000	1.00 KMOL	1.00000	17.43 KG	1.00000	

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	0.000	6118.079
Weight Flow Rate	kg/h	111071.879	0.000	111071.879
Molar Fraction			0.000000	1.000000
Weight Fraction			0.000000	1.000000
Molecular Weight		18.1547	17.4252	18.1547
Std Vap Vol Rate	N-m3/h		0.0000	
Std Liq Vol Rate	m3/h			265.5117
Enthalpy	Mcal/h	-13511.7067	0.0000	-13511.7067
Spec. Enthalpy	kcal/kg	-121.648	-112.007	-121.648
	kcal/kmol	-2208.487	-1951.752	-2208.487
Gravity at 60/60				0.418321

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- BUBBLE-POINT of stream FEED
7) * Temp -48.784 CENT * Pres 71.4286 ATA *

		LIQUID				VAPOR				
NO	Component	Mols	Mol Fr	Weight	Wt Fr	Mols	Mol Fr	Weight	Wt Fr	Vle K
1	NITROGEN	16.24	0.00265	454.88	0.00410	0.00	0.00283	0.08	0.00444	1.06451
2	CARBON DIOXIDE	61.82	0.01010	2720.70	0.02449	0.01	0.00973	0.43	0.02403	0.96276
3	METHANE	5575.04	0.91124	89423.59	0.80510	0.92	0.92040	14.76	0.82852	1.01006
4	ETHANE	307.36	0.05024	9242.31	0.08321	0.05	0.04630	1.39	0.07813	0.92159
5	PROPANE	89.01	0.01455	3925.34	0.03534	0.01	0.01247	0.55	0.03087	0.85724
6	ISOBUTANE	18.66	0.00305	1084.52	0.00976	0.00	0.00247	0.14	0.00807	0.81084
7	BUTANE	18.91	0.00309	1099.05	0.00989	0.00	0.00246	0.14	0.00804	0.79751
8	ISOPENTANE	6.01	0.00098	433.62	0.00390	0.00	0.00074	0.05	0.00300	0.75394
9	PENTANE	5.36	0.00088	386.72	0.00348	0.00	0.00065	0.05	0.00263	0.74189
10	HEXANE	10.13	0.00166	873.00	0.00786	0.00	0.00115	0.10	0.00554	0.69155
11	HEAVY	9.54	0.00156	1428.14	0.01286	0.00	0.00080	0.12	0.00674	0.51452
	* TOTAL *	6118.08	1.00000	111071.88	1.00000	1.00	1.00000	17.82	1.00000	
		KMOL		KG		KMOL		KG		

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	0.000	6118.079
Weight Flow Rate	kg/h	111071.879	0.000	111071.879
Molar Fraction			0.000000	1.000000
Weight Fraction			0.000000	1.000000
Molecular Weight		18.1547	17.8188	18.1547
Std Vap Vol Rate	N-m3/h		0.0000	
Std Liq Vol Rate	m3/h			265.5117
Enthalpy	Mcal/h	-9676.9844	0.0000	-9676.9844
Spec. Enthalpy	kcal/kg	-87.124	-83.988	-87.124
	kcal/kmol	-1581.702	-1496.567	-1581.702
Gravity at 60/60				0.418321

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- BUBBLE-POINT of stream FEED
8) * Temp -42.117 CENT * Pres 80.0000 ATA *

		LIQUID				VAPOR				
* NO *	Component *	Mols	-Mol Fr-	Weight	-Wt Fr-	Mols	-Mol Fr-	Weight	-Wt Fr-	Vle K
1	NITROGEN	16.24	0.00265	454.88	0.00410	0.00	0.00272	0.08	0.00424	1.02586
2	CARBON DIOXIDE	61.82	0.01010	2720.70	0.02449	0.01	0.00996	0.44	0.02433	0.98539
3	METHANE	5575.04	0.91124	89423.59	0.80510	0.92	0.91507	14.68	0.81505	1.00416
4	ETHANE	307.36	0.05024	9242.31	0.08321	0.05	0.04864	1.46	0.08122	0.96823
5	PROPANE	89.01	0.01455	3925.34	0.03534	0.01	0.01369	0.60	0.03352	0.94087
6	ISOBUTANE	18.66	0.00305	1084.52	0.00976	0.00	0.00281	0.16	0.00906	0.92043
7	BUTANE	18.91	0.00309	1099.05	0.00989	0.00	0.00283	0.16	0.00912	0.91434
8	ISOPENTANE	6.01	0.00098	433.62	0.00390	0.00	0.00088	0.06	0.00352	0.89427
9	PENTANE	5.36	0.00088	386.72	0.00348	0.00	0.00078	0.06	0.00312	0.88859
10	HEXANE	10.13	0.00166	873.00	0.00786	0.00	0.00143	0.12	0.00685	0.86426
11	HEAVY	9.54	0.00156	1428.14	0.01286	0.00	0.00120	0.18	0.00996	0.76873
	* TOTAL *	6118.08	1.00000	111071.88	1.00000	1.00	1.00000	18.01	1.00000	
		KMOL		KG		KMOL		KG		

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	0.000	6118.079
Weight Flow Rate	kg/h	111071.879	0.000	111071.879
Molar Fraction			0.000000	1.000000
Weight Fraction			0.000000	1.000000
Molecular Weight		18.1547	18.0083	18.1547
Std Vap Vol Rate	N-m3/h		0.0000	
Std Liq Vol Rate	m3/h			265.5117
Enthalpy	Mcal/h	-9252.4617	0.0000	-9252.4617
Spec. Enthalpy	kcal/kg	-83.302	-82.230	-83.302
	kcal/kmol	-1512.314	-1480.815	-1512.314
Gravity at 60/60				0.418321

Reference Gas Status - Temperature 15°C - Pressure 1 atm

*** SUMMARY OF VLE CURVE - STREAM FEED ***

* BUBBLE-POINT TEMPERATURE CURVE - STREAM FEED *
Initial pressure 20.0000 ata - End pressure 80.0000 ata
Initial temperature estimate -60.000 °C
No. of points 8

1)	Temp	-105.742 °C	Pres	20.0000 ata
2)	Temp	-95.115 °C	Pres	28.5714 ata
3)	Temp	-86.340 °C	Pres	37.1429 ata
4)	Temp	-78.667 °C	Pres	45.7143 ata
5)	Temp	-71.749 °C	Pres	54.2857 ata
6)	Temp	-65.890 °C	Pres	62.8571 ata
7)	Temp	-48.784 °C	Pres	71.4286 ata
8)	Temp	-42.117 °C	Pres	80.0000 ata

* DEW-POINT PRESSURE CURVE - STREAM FEED *
Initial temperature -60.000 °C - End temperature 20.000 °C
Initial pressure estimate 70.0000 ata
No. of points 9

- DEW-POINT of stream 'FEED
1) * Temp -60.000 CENT * Pres 93.8848 ATA *

		LIQUID				VAPOR				
* NO *	Component *	Mols	-Mol Fr-	Weight	-Wt Fr-	Mols	-Mol Fr-	Weight	-Wt Fr-	Vle K
1	NITROGEN	0.00	0.00069	0.02	0.00044	16.24	0.00265	454.88	0.00410	3.82005
2	CARBON DIOXIDE	0.01	0.01253	0.55	0.01237	61.82	0.01010	2720.70	0.02449	0.80645
3	METHANE	0.63	0.63400	10.17	0.22804	5575.04	0.91124	89423.59	0.80510	1.43729
4	ETHANE	0.08	0.08435	2.54	0.05688	307.36	0.05024	9242.31	0.08321	0.59559
5	PROPANE	0.04	0.04116	1.82	0.04070	89.01	0.01455	3925.34	0.03534	0.35350
6	ISOBUTANE	0.01	0.01126	0.65	0.01467	18.66	0.00305	1084.52	0.00976	0.27096
7	BUTANE	0.01	0.01457	0.85	0.01899	18.91	0.00309	1099.05	0.00989	0.21214
8	ISOPENTANE	0.01	0.00617	0.45	0.00999	6.01	0.00098	433.62	0.00390	0.15911
9	PENTANE	0.01	0.00650	0.47	0.01052	5.36	0.00088	386.72	0.00348	0.13473
10	HEXANE	0.02	0.01846	1.59	0.03567	10.13	0.00166	873.00	0.00786	0.08971
11	HEAVY	0.17	0.17031	25.50	0.57174	9.54	0.00156	1428.14	0.01286	0.00916
	* TOTAL *	1.00	1.00000	44.59	1.00000	6118.08	1.00000	111071.88	1.00000	
		KMOL		KG		KMOL		KG		

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	6118.079	0.000
Weight Flow Rate	kg/h	111071.879	111071.879	0.000
Molar Fraction			1.000000	0.000000
Weight Fraction			1.000000	0.000000
Molecular Weight		18.1547	18.1547	44.5937
Std Vap Vol Rate	N-m3/h		144661.0193	
Std Liq Vol Rate	m3/h			0.0000
Enthalpy	Mcal/h	-13339.4101	-13339.4101	0.0000
Spec. Enthalpy	kcal/kg	-120.097	-120.097	-120.273
	kcal/kmol	-2180.325	-2180.325	-5363.415
Gravity at 60/60				0.596384

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- DEW-POINT of stream 'FEED
2) * Temp -50.000 CENT * Pres 112.2686 ATA *

NO	Component	LIQUID Mols	LIQUID Mol Fr	LIQUID Weight	LIQUID Wt Fr	VAPOR Mols	VAPOR Mol Fr	VAPOR Weight	VAPOR Wt Fr	Vle K
1	NITROGEN	0.00	0.00068	0.02	0.00041	16.24	0.00265	454.88	0.00410	3.88486
2	CARBON DIOXIDE	0.01	0.01217	0.54	0.01148	61.82	0.01010	2720.70	0.02449	0.83024
3	METHANE	0.62	0.61936	9.93	0.21301	5575.04	0.91124	89423.59	0.80510	1.47126
4	ETHANE	0.08	0.08314	2.50	0.05360	307.36	0.05024	9242.31	0.08321	0.60427
5	PROPANE	0.04	0.04108	1.81	0.03885	89.01	0.01455	3925.34	0.03534	0.35412
6	ISOBUTANE	0.01	0.01141	0.66	0.01422	18.66	0.00305	1084.52	0.00976	0.26738
7	BUTANE	0.01	0.01474	0.86	0.01837	18.91	0.00309	1099.05	0.00989	0.20969
8	ISOPENTANE	0.01	0.00634	0.46	0.00981	6.01	0.00098	433.62	0.00390	0.15496
9	PENTANE	0.01	0.00667	0.48	0.01032	5.36	0.00088	386.72	0.00348	0.13133
10	HEXANE	0.02	0.01922	1.66	0.03552	10.13	0.00166	873.00	0.00786	0.08614
11	HEAVY	0.19	0.18518	27.72	0.59441	9.54	0.00156	1428.14	0.01286	0.00842
	* TOTAL *	1.00 KMOL	1.00000	46.64 KG	1.00000	6118.08 KMOL	1.00000	111071.88 KG	1.00000	

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	6118.079	0.000
Weight Flow Rate	kg/h	111071.879	111071.879	0.000
Molar Fraction			1.000000	0.000000
Weight Fraction			1.000000	0.000000
Molecular Weight		18.1547	18.1547	46.6381
Std Vap Vol Rate	N-m3/h		144661.0193	
Std Liq Vol Rate	m3/h			0.0000
Enthalpy	Mcal/h	-12275.6406	-12275.6406	0.0000
Spec. Enthalpy	kcal/kg	-110.520	-110.520	-114.521
	kcal/kmol	-2006.452	-2006.452	-5341.058
Gravity at 60/60				0.605502

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- DEW-POINT of stream 'FEED
3) * Temp -40.000 CENT * Pres 127.4997 ATA *

		LIQUID				VAPOR				
NO	Component	Mols	Mol Fr	Weight	Wt Fr	Mols	Mol Fr	Weight	Wt Fr	Vle K
1	NITROGEN	0.00	0.00067	0.02	0.00039	16.24	0.00265	454.88	0.00410	3.95712
2	CARBON DIOXIDE	0.01	0.01180	0.52	0.01064	61.82	0.01010	2720.70	0.02449	0.85625
3	METHANE	0.60	0.60410	9.69	0.19858	5575.04	0.91124	89423.59	0.80510	1.50844
4	ETHANE	0.08	0.08180	2.46	0.05041	307.36	0.05024	9242.31	0.08321	0.61412
5	PROPANE	0.04	0.04094	1.81	0.03700	89.01	0.01455	3925.34	0.03534	0.35537
6	ISOBUTANE	0.01	0.01154	0.67	0.01374	18.66	0.00305	1084.52	0.00976	0.26432
7	BUTANE	0.01	0.01489	0.87	0.01773	18.91	0.00309	1099.05	0.00989	0.20764
8	ISOPENTANE	0.01	0.00650	0.47	0.00961	6.01	0.00098	433.62	0.00390	0.15121
9	PENTANE	0.01	0.00683	0.49	0.01010	5.36	0.00088	386.72	0.00348	0.12825
10	HEXANE	0.02	0.01998	1.72	0.03529	10.13	0.00166	873.00	0.00786	0.08286
11	HEAVY	0.20	0.20095	30.08	0.61651	9.54	0.00156	1428.14	0.01286	0.00776
	* TOTAL *	1.00	1.00000	48.80	1.00000	6118.08	1.00000	111071.88	1.00000	
		KMOL		KG		KMOL		KG		

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	6118.079	0.000
Weight Flow Rate	kg/h	111071.879	111071.879	0.000
Molar Fraction			1.000000	0.000000
Weight Fraction			1.000000	0.000000
Molecular Weight		18.1547	18.1547	48.7955
Std Vap Vol Rate	N-m3/h		144661.0193	
Std Liq Vol Rate	m3/h			0.0000
Enthalpy	Mcal/h	-11223.0821	-11223.0821	0.0000
Spec. Enthalpy	kcal/kg	-101.043	-101.043	-108.938
	kcal/kmol	-1834.411	-1834.411	-5315.694
Gravity at 60/60				0.614604

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- DEW-POINT of stream 'FEED
4) * Temp -30.000 CENT * Pres 139.7148 ATA *

* NO *	Component	LIQUID Mols	LIQUID -Mol Fr-	LIQUID Weight	LIQUID -Wt Fr-	VAPOR Mols	VAPOR -Mol Fr-	VAPOR Weight	VAPOR -Wt Fr-	Vle K
1	NITROGEN	0.00	0.00066	0.02	0.00036	16.24	0.00265	454.88	0.00410	4.05166
2	CARBON DIOXIDE	0.01	0.01141	0.50	0.00981	61.82	0.01010	2720.70	0.02449	0.88532
3	METHANE	0.59	0.58736	9.42	0.18409	5575.04	0.91124	89423.59	0.80510	1.55142
4	ETHANE	0.08	0.08032	2.42	0.04719	307.36	0.05024	9242.31	0.08321	0.62545
5	PROPANE	0.04	0.04073	1.80	0.03510	89.01	0.01455	3925.34	0.03534	0.35720
6	ISOBUTANE	0.01	0.01165	0.68	0.01324	18.66	0.00305	1084.52	0.00976	0.26169
7	BUTANE	0.02	0.01501	0.87	0.01705	18.91	0.00309	1099.05	0.00989	0.20585
8	ISOPENTANE	0.01	0.00665	0.48	0.00938	6.01	0.00098	433.62	0.00390	0.14769
9	PENTANE	0.01	0.00699	0.50	0.00985	5.36	0.00088	386.72	0.00348	0.12534
10	HEXANE	0.02	0.02076	1.79	0.03496	10.13	0.00166	873.00	0.00786	0.07975
11	HEAVY	0.22	0.21845	32.70	0.63897	9.54	0.00156	1428.14	0.01286	0.00714
	* TOTAL *	1.00 KMOL	1.00000	51.18 KG	1.00000	6118.08 KMOL	1.00000	111071.88 KG	1.00000	

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	6118.079	0.000
Weight Flow Rate	kg/h	111071.879	111071.879	0.000
Molar Fraction			1.000000	0.000000
Weight Fraction			1.000000	0.000000
Molecular Weight		18.1547	18.1547	51.1786
Std Vap Vol Rate	N-m3/h		144661.0193	
Std Liq Vol Rate	m3/h			0.0000
Enthalpy	Mcal/h	-10183.1777	-10183.1777	0.0000
Spec. Enthalpy	kcal/kg	-91.681	-91.681	-103.502
	kcal/kmol	-1664.439	-1664.439	-5297.075
Gravity at 60/60				0.624074

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- DEW-POINT of stream 'FEED
5) * Temp -20.000 CENT * Pres 149.0270 ATA *

		LIQUID				VAPOR				
* NO *	Component *	Mols	-Mol Fr-	Weight	-Wt Fr-	Mols	-Mol Fr-	Weight	-Wt Fr-	Vle K
1	NITROGEN	0.00	0.00064	0.02	0.00033	16.24	0.00265	454.88	0.00410	4.16623
2	CARBON DIOXIDE	0.01	0.01101	0.48	0.00901	61.82	0.01010	2720.70	0.02449	0.91795
3	METHANE	0.57	0.56930	9.13	0.16981	5575.04	0.91124	89423.59	0.80510	1.60063
4	ETHANE	0.08	0.07867	2.37	0.04399	307.36	0.05024	9242.31	0.08321	0.63855
5	PROPANE	0.04	0.04044	1.78	0.03316	89.01	0.01455	3925.34	0.03534	0.35980
6	ISOBUTANE	0.01	0.01175	0.68	0.01270	18.66	0.00305	1084.52	0.00976	0.25960
7	BUTANE	0.02	0.01512	0.88	0.01634	18.91	0.00309	1099.05	0.00989	0.20444
8	ISOPENTANE	0.01	0.00680	0.49	0.00912	6.01	0.00098	433.62	0.00390	0.14449
9	PENTANE	0.01	0.00714	0.52	0.00958	5.36	0.00088	386.72	0.00348	0.12267
10	HEXANE	0.02	0.02155	1.86	0.03453	10.13	0.00166	873.00	0.00786	0.07685
11	HEAVY	0.24	0.23759	35.57	0.66142	9.54	0.00156	1428.14	0.01286	0.00656
	* TOTAL *	1.00	1.00000	53.77	1.00000	6118.08	1.00000	111071.88	1.00000	
		KMOL		KG		KMOL		KG		

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	6118.079	0.000
Weight Flow Rate	kg/h	111071.879	111071.879	0.000
Molar Fraction			1.000000	0.000000
Weight Fraction			1.000000	0.000000
Molecular Weight		18.1547	18.1547	53.7746
Std Vap Vol Rate	N-m3/h		144661.0193	
Std Liq Vol Rate	m3/h			0.0000
Enthalpy	Mcal/h	-9152.4079	-9152.4079	0.0000
Spec. Enthalpy	kcal/kg	-82.401	-82.401	-98.203
	kcal/kmol	-1495.960	-1495.960	-5280.797
Gravity at 60/60				0.633763

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- DEW-POINT of stream 'FEED
6) * Temp -10.000 CENT * Pres 155.5246 ATA *

		LIQUID				VAPOR				
* NO *	Component *	Mols	-Mol Fr-	Weight	-Wt Fr-	Mols	-Mol Fr-	Weight	-Wt Fr-	Vle K
1	NITROGEN	0.00	0.00062	0.02	0.00031	16.24	0.00265	454.88	0.00410	4.29982
2	CARBON DIOXIDE	0.01	0.01058	0.47	0.00823	61.82	0.01010	2720.70	0.02449	0.95479
3	METHANE	0.55	0.55002	8.82	0.15594	5575.04	0.91124	89423.59	0.80510	1.65674
4	ETHANE	0.08	0.07684	2.31	0.04084	307.36	0.05024	9242.31	0.08321	0.65378
5	PROPANE	0.04	0.04004	1.77	0.03121	89.01	0.01455	3925.34	0.03534	0.36333
6	ISOBUTANE	0.01	0.01182	0.69	0.01214	18.66	0.00305	1084.52	0.00976	0.25812
7	BUTANE	0.02	0.01519	0.88	0.01560	18.91	0.00309	1099.05	0.00989	0.20348
8	ISOPENTANE	0.01	0.00694	0.50	0.00884	6.01	0.00098	433.62	0.00390	0.14164
9	PENTANE	0.01	0.00728	0.53	0.00929	5.36	0.00088	386.72	0.00348	0.12029
10	HEXANE	0.02	0.02233	1.92	0.03401	10.13	0.00166	873.00	0.00786	0.07417
11	HEAVY	0.26	0.25835	38.67	0.68359	9.54	0.00156	1428.14	0.01286	0.00604
	* TOTAL *	1.00	1.00000	56.58	1.00000	6118.08	1.00000	111071.88	1.00000	
		KMOL		KG		KMOL		KG		

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	6118.079	0.000
Weight Flow Rate	kg/h	111071.879	111071.879	0.000
Molar Fraction			1.000000	0.000000
Weight Fraction			1.000000	0.000000
Molecular Weight		18.1547	18.1547	56.5758
Std Vap Vol Rate	N-m3/h		144661.0193	
Std Liq Vol Rate	m3/h			0.0000
Enthalpy	Mcal/h	-8126.0434	-8126.0434	0.0000
Spec. Enthalpy	kcal/kg	-73.160	-73.160	-93.028
	kcal/kmol	-1328.201	-1328.201	-5263.114
Gravity at 60/60				0.643559

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- DEW-POINT of stream 'FEED
7) * Temp 0.000 CENT * Pres 159.2684 ATA *

		LIQUID				VAPOR				
* NO *	Component *	Mols	-Mol Fr-	Weight	-Wt Fr-	Mols	-Mol Fr-	Weight	-Wt Fr-	Vle K
1	NITROGEN	0.00	0.00059	0.02	0.00028	16.24	0.00265	454.88	0.00410	4.46388
2	CARBON DIOXIDE	0.01	0.01013	0.45	0.00747	61.82	0.01010	2720.70	0.02449	0.99719
3	METHANE	0.53	0.52897	8.48	0.14221	5575.04	0.91124	89423.59	0.80510	1.72266
4	ETHANE	0.07	0.07478	2.25	0.03769	307.36	0.05024	9242.31	0.08321	0.67178
5	PROPANE	0.04	0.03954	1.74	0.02922	89.01	0.01455	3925.34	0.03534	0.36798
6	ISOBUTANE	0.01	0.01185	0.69	0.01155	18.66	0.00305	1084.52	0.00976	0.25731
7	BUTANE	0.02	0.01522	0.88	0.01483	18.91	0.00309	1099.05	0.00989	0.20301
8	ISOPENTANE	0.01	0.00706	0.51	0.00854	6.01	0.00098	433.62	0.00390	0.13912
9	PENTANE	0.01	0.00741	0.53	0.00897	5.36	0.00088	386.72	0.00348	0.11816
10	HEXANE	0.02	0.02310	1.99	0.03337	10.13	0.00166	873.00	0.00786	0.07166
11	HEAVY	0.28	0.28132	42.11	0.70586	9.54	0.00156	1428.14	0.01286	0.00554
	* TOTAL *	1.00	1.00000	59.66	1.00000	6118.08	1.00000	111071.88	1.00000	
		KMOL		KG		KMOL		KG		

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	6118.079	0.000
Weight Flow Rate	kg/h	111071.879	111071.879	0.000
Molar Fraction			1.000000	0.000000
Weight Fraction			1.000000	0.000000
Molecular Weight		18.1547	18.1547	59.6628
Std Vap Vol Rate	N-m3/h		144661.0193	
Std Liq Vol Rate	m3/h			0.0000
Enthalpy	Mcal/h	-7099.4260	-7099.4260	0.0000
Spec. Enthalpy	kcal/kg	-63.917	-63.917	-87.969
	kcal/kmol	-1160.400	-1160.400	-5248.474
Gravity at 60/60				0.653634

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- DEW-POINT of stream 'FEED
8) * Temp 10.000 CENT * Pres 160.2891 ATA *

		LIQUID				VAPOR				
NO	Component	Mols	Mol Fr	Weight	Wt Fr	Mols	Mol Fr	Weight	Wt Fr	Vle K
1	NITROGEN	0.00	0.00057	0.02	0.00025	16.24	0.00265	454.88	0.00410	4.66790
2	CARBON DIOXIDE	0.01	0.00965	0.42	0.00673	61.82	0.01010	2720.70	0.02449	1.04689
3	METHANE	0.51	0.50582	8.11	0.12860	5575.04	0.91124	89423.59	0.80510	1.80150
4	ETHANE	0.07	0.07245	2.18	0.03453	307.36	0.05024	9242.31	0.08321	0.69339
5	PROPANE	0.04	0.03889	1.72	0.02719	89.01	0.01455	3925.34	0.03534	0.37406
6	ISOBUTANE	0.01	0.01185	0.69	0.01092	18.66	0.00305	1084.52	0.00976	0.25732
7	BUTANE	0.02	0.01522	0.88	0.01402	18.91	0.00309	1099.05	0.00989	0.20313
8	ISOPENTANE	0.01	0.00717	0.52	0.00820	6.01	0.00098	433.62	0.00390	0.13696
9	PENTANE	0.01	0.00753	0.54	0.00861	5.36	0.00088	386.72	0.00348	0.11632
10	HEXANE	0.02	0.02388	2.06	0.03261	10.13	0.00166	873.00	0.00786	0.06935
11	HEAVY	0.31	0.30696	45.95	0.72834	9.54	0.00156	1428.14	0.01286	0.00508
	* TOTAL *	1.00	1.00000	63.09	1.00000	6118.08	1.00000	111071.88	1.00000	
		KMOL		KG		KMOL		KG		

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	6118.079	0.000
Weight Flow Rate	kg/h	111071.879	111071.879	0.000
Molar Fraction			1.000000	0.000000
Weight Fraction			1.000000	0.000000
Molecular Weight		18.1547	18.1547	63.0919
Std Vap Vol Rate	N-m3/h		144661.0193	
Std Liq Vol Rate	m3/h			0.0000
Enthalpy	Mcal/h	-6068.4004	-6068.4004	0.0000
Spec. Enthalpy	kcal/kg	-54.635	-54.635	-83.022
	kcal/kmol	-991.879	-991.879	-5237.998
Gravity at 60/60				0.664033

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- DEW-POINT of stream 'FEED
9) * Temp 20.000 CENT * Pres 158.5788 ATA *

NO	Component	LIQUID Mols	LIQUID Mol Fr	LIQUID Weight	LIQUID Wt Fr	VAPOR Mols	VAPOR Mol Fr	VAPOR Weight	VAPOR Wt Fr	Vle K
1	NITROGEN	0.00	0.00054	0.02	0.00023	16.24	0.00265	454.88	0.00410	4.91984
2	CARBON DIOXIDE	0.01	0.00914	0.40	0.00601	61.82	0.01010	2720.70	0.02449	1.10605
3	METHANE	0.48	0.48042	7.71	0.11519	5575.04	0.91124	89423.59	0.80510	1.89675
4	ETHANE	0.07	0.06980	2.10	0.03138	307.36	0.05024	9242.31	0.08321	0.71970
5	PROPANE	0.04	0.03808	1.68	0.02511	89.01	0.01455	3925.34	0.03534	0.38203
6	ISOBUTANE	0.01	0.01181	0.69	0.01026	18.66	0.00305	1084.52	0.00976	0.25835
7	BUTANE	0.02	0.01515	0.88	0.01316	18.91	0.00309	1099.05	0.00989	0.20400
8	ISOPENTANE	0.01	0.00726	0.52	0.00783	6.01	0.00098	433.62	0.00390	0.13525
9	PENTANE	0.01	0.00763	0.55	0.00823	5.36	0.00088	386.72	0.00348	0.11483
10	HEXANE	0.02	0.02463	2.12	0.03172	10.13	0.00166	873.00	0.00786	0.06724
11	HEAVY	0.34	0.33554	50.23	0.75088	9.54	0.00156	1428.14	0.01286	0.00465
	* TOTAL *	1.00	1.00000	66.90	1.00000	6118.08	1.00000	111071.88	1.00000	
		KMOL		KG		KMOL		KG		

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	6118.079	0.000
Weight Flow Rate	kg/h	111071.879	111071.879	0.000
Molar Fraction			1.000000	0.000000
Weight Fraction			1.000000	0.000000
Molecular Weight		18.1547	18.1547	66.8956
Std Vap Vol Rate	N-m3/h		144661.0193	
Std Liq Vol Rate	m3/h			0.0000
Enthalpy	Mcal/h	-5029.3525	-5029.3525	0.0000
Spec. Enthalpy	kcal/kg	-45.280	-45.280	-78.181
	kcal/kmol	-822.047	-822.047	-5229.954
Gravity at 60/60				0.674705

Reference Gas Status - Temperature 15°C - Pressure 1 atm

*** SUMMARY OF VLE CURVE - STREAM FEED ***

* DEW-POINT PRESSURE CURVE - STREAM FEED *
Initial temperature -60.000 °C - End temperature 20.000 °C
Initial pressure estimate 70.0000 ata
No. of points 9

1)	Temp	-60.000 °C	Pres	93.8848 ata
2)	Temp	-50.000 °C	Pres	112.2686 ata
3)	Temp	-40.000 °C	Pres	127.4997 ata
4)	Temp	-30.000 °C	Pres	139.7148 ata
5)	Temp	-20.000 °C	Pres	149.0270 ata
6)	Temp	-10.000 °C	Pres	155.5246 ata
7)	Temp	0.000 °C	Pres	159.2684 ata
8)	Temp	10.000 °C	Pres	160.2891 ata
9)	Temp	20.000 °C	Pres	158.5788 ata

* DEW-POINT TEMPERATURE CURVE - STREAM FEED *
Initial pressure 10.0000 ata - End pressure 150.0000 ata
Initial temperature estimate 70.000 °C
No. of points 15

- DEW-POINT of stream 'FEED
1) * Temp 67.249 CENT * Pres 10.0000 ATA *

		LIQUID				VAPOR				
NO	Component	Mols	Mol Fr	Weight	Wt Fr	Mols	Mol Fr	Weight	Wt Fr	Vle K
1	NITROGEN	0.00	0.00003	0.00	0.00001	16.24	0.00265	454.88	0.00410	97.88147
2	CARBON DIOXIDE	0.00	0.00074	0.03	0.00023	61.82	0.01010	2720.70	0.02449	13.71341
3	METHANE	0.03	0.03287	0.53	0.00372	5575.04	0.91124	89423.59	0.80510	27.72041
4	ETHANE	0.01	0.00776	0.23	0.00165	307.36	0.05024	9242.31	0.08321	6.47134
5	PROPANE	0.01	0.00634	0.28	0.00197	89.01	0.01455	3925.34	0.03534	2.29461
6	ISOBUTANE	0.00	0.00274	0.16	0.00112	18.66	0.00305	1084.52	0.00976	1.11244
7	BUTANE	0.00	0.00379	0.22	0.00155	18.91	0.00309	1099.05	0.00989	0.81570
8	ISOPENTANE	0.00	0.00254	0.18	0.00129	6.01	0.00098	433.62	0.00390	0.38668
9	PENTANE	0.00	0.00286	0.21	0.00145	5.36	0.00088	386.72	0.00348	0.30681
10	HEXANE	0.01	0.01373	1.18	0.00835	10.13	0.00166	873.00	0.00786	0.12056
11	HEAVY	0.93	0.92660	138.71	0.97865	9.54	0.00156	1428.14	0.01286	0.00168
	* TOTAL *	1.00	1.00000	141.74	1.00000	6118.08	1.00000	111071.88	1.00000	
		KMOL		KG		KMOL		KG		

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	6118.079	0.000
Weight Flow Rate	kg/h	111071.879	111071.879	0.000
Molar Fraction			1.000000	0.000000
Weight Fraction			1.000000	0.000000
Molecular Weight		18.1547	18.1547	141.7379
Std Vap Vol Rate	N-m3/h		144661.0193	
Std Liq Vol Rate	m3/h			0.0000
Enthalpy	Mcal/h	2217.3504	2217.3504	0.0000
Spec. Enthalpy	kcal/kg	19.963	19.963	-64.040
	kcal/kmol	362.426	362.426	-9076.851
Gravity at 60/60				0.791424

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- DEW-POINT of stream 'FEED
2) * Temp 76.719 CENT * Pres 20.0000 ATA *

NO	Component	LIQUID Mols	LIQUID Mol Fr	LIQUID Weight	LIQUID Wt Fr	VAPOR Mols	VAPOR Mol Fr	VAPOR Weight	VAPOR Wt Fr	Vle K
1	NITROGEN	0.00	0.00006	0.00	0.00001	16.24	0.00265	454.88	0.00410	47.44075
2	CARBON DIOXIDE	0.00	0.00133	0.06	0.00043	61.82	0.01010	2720.70	0.02449	7.62033
3	METHANE	0.06	0.06260	1.00	0.00739	5575.04	0.91124	89423.59	0.80510	14.55737
4	ETHANE	0.01	0.01335	0.40	0.00295	307.36	0.05024	9242.31	0.08321	3.76192
5	PROPANE	0.01	0.01013	0.45	0.00329	89.01	0.01455	3925.34	0.03534	1.43661
6	ISOBUTANE	0.00	0.00416	0.24	0.00178	18.66	0.00305	1084.52	0.00976	0.73388
7	BUTANE	0.01	0.00562	0.33	0.00240	18.91	0.00309	1099.05	0.00989	0.54977
8	ISOPENTANE	0.00	0.00357	0.26	0.00190	6.01	0.00098	433.62	0.00390	0.27491
9	PENTANE	0.00	0.00394	0.28	0.00209	5.36	0.00088	386.72	0.00348	0.22217
10	HEXANE	0.02	0.01771	1.53	0.01123	10.13	0.00166	873.00	0.00786	0.09349
11	HEAVY	0.88	0.87753	131.37	0.96653	9.54	0.00156	1428.14	0.01286	0.00178
	* TOTAL *	1.00 KMOL	1.00000	135.92 KG	1.00000	6118.08 KMOL	1.00000	111071.88 KG	1.00000	

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	6118.079	0.000
Weight Flow Rate	kg/h	111071.879	111071.879	0.000
Molar Fraction			1.000000	0.000000
Weight Fraction			1.000000	0.000000
Molecular Weight		18.1547	18.1547	135.9160
Std Vap Vol Rate	N-m3/h		144661.0193	
Std Liq Vol Rate	m3/h			0.0000
Enthalpy	Mcal/h	2591.7011	2591.7011	0.0000
Spec. Enthalpy	kcal/kg	23.334	23.334	-58.239
	kcal/kmol	423.613	423.613	-7915.651
Gravity at 60/60				0.785607

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- DEW-POINT of stream 'FEED
3) * Temp 80.814 CENT * Pres 30.0000 ATA *

NO	Component	LIQUID Mols	LIQUID Mol Fr	LIQUID Weight	LIQUID Wt Fr	VAPOR Mols	VAPOR Mol Fr	VAPOR Weight	VAPOR Wt Fr	Vle K
1	NITROGEN	0.00	0.00009	0.00	0.00002	16.24	0.00265	454.88	0.00410	31.05105
2	CARBON DIOXIDE	0.00	0.00187	0.08	0.00063	61.82	0.01010	2720.70	0.02449	5.39195
3	METHANE	0.09	0.09127	1.46	0.01121	5575.04	0.91124	89423.59	0.80510	9.98404
4	ETHANE	0.02	0.01832	0.55	0.00422	307.36	0.05024	9242.31	0.08321	2.74268
5	PROPANE	0.01	0.01327	0.59	0.00448	89.01	0.01455	3925.34	0.03534	1.09644
6	ISOBUTANE	0.01	0.00527	0.31	0.00234	18.66	0.00305	1084.52	0.00976	0.57917
7	BUTANE	0.01	0.00704	0.41	0.00313	18.91	0.00309	1099.05	0.00989	0.43919
8	ISOPENTANE	0.00	0.00432	0.31	0.00239	6.01	0.00098	433.62	0.00390	0.22722
9	PENTANE	0.00	0.00472	0.34	0.00261	5.36	0.00088	386.72	0.00348	0.18558
10	HEXANE	0.02	0.02031	1.75	0.01341	10.13	0.00166	873.00	0.00786	0.08151
11	HEAVY	0.83	0.83352	124.78	0.95556	9.54	0.00156	1428.14	0.01286	0.00187
	* TOTAL *	1.00 KMOL	1.00000	130.58 KG	1.00000	6118.08 KMOL	1.00000	111071.88 KG	1.00000	

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	6118.079	0.000
Weight Flow Rate	kg/h	111071.879	111071.879	0.000
Molar Fraction			1.000000	0.000000
Weight Fraction			1.000000	0.000000
Molecular Weight		18.1547	18.1547	130.5815
Std Vap Vol Rate	N-m3/h		144661.0193	
Std Liq Vol Rate	m3/h			0.0000
Enthalpy	Mcal/h	2650.7676	2650.7676	0.0000
Spec. Enthalpy	kcal/kg	23.865	23.865	-55.282
	kcal/kmol	433.268	433.268	-7218.792
Gravity at 60/60				0.780081

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- DEW-POINT of stream 'FEED
4) * Temp 82.468 CENT * Pres 40.0000 ATA *

NO	Component	LIQUID Mols	LIQUID Mol Fr	LIQUID Weight	LIQUID Wt Fr	VAPOR Mols	VAPOR Mol Fr	VAPOR Weight	VAPOR Wt Fr	Vle K
1	NITROGEN	0.00	0.00012	0.00	0.00003	16.24	0.00265	454.88	0.00410	22.99320
2	CARBON DIOXIDE	0.00	0.00240	0.11	0.00084	61.82	0.01010	2720.70	0.02449	4.21366
3	METHANE	0.12	0.11926	1.91	0.01524	5575.04	0.91124	89423.59	0.80510	7.64106
4	ETHANE	0.02	0.02289	0.69	0.00548	307.36	0.05024	9242.31	0.08321	2.19461
5	PROPANE	0.02	0.01603	0.71	0.00563	89.01	0.01455	3925.34	0.03534	0.90780
6	ISOBUTANE	0.01	0.00620	0.36	0.00287	18.66	0.00305	1084.52	0.00976	0.49203
7	BUTANE	0.01	0.00821	0.48	0.00380	18.91	0.00309	1099.05	0.00989	0.37626
8	ISOPENTANE	0.00	0.00492	0.35	0.00283	6.01	0.00098	433.62	0.00390	0.19982
9	PENTANE	0.01	0.00533	0.38	0.00306	5.36	0.00088	386.72	0.00348	0.16440
10	HEXANE	0.02	0.02220	1.91	0.01524	10.13	0.00166	873.00	0.00786	0.07458
11	HEAVY	0.79	0.79245	118.63	0.94498	9.54	0.00156	1428.14	0.01286	0.00197
	* TOTAL *	1.00 KMOL	1.00000	125.54 KG	1.00000	6118.08 KMOL	1.00000	111071.88 KG	1.00000	

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	6118.079	0.000
Weight Flow Rate	kg/h	111071.879	111071.879	0.000
Molar Fraction			1.000000	0.000000
Weight Fraction			1.000000	0.000000
Molecular Weight		18.1547	18.1547	125.5373
Std Vap Vol Rate	N-m3/h		144661.0193	
Std Liq Vol Rate	m3/h			0.0000
Enthalpy	Mcal/h	2561.4846	2561.4846	0.0000
Spec. Enthalpy	kcal/kg	23.061	23.061	-53.649
	kcal/kmol	418.674	418.674	-6734.941
Gravity at 60/60				0.774612

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- DEW-POINT of stream 'FEED
5) * Temp 82.639 CENT * Pres 50.0000 ATA *

NO	Component	LIQUID Mols	LIQUID Mol Fr	LIQUID Weight	LIQUID Wt Fr	VAPOR Mols	VAPOR Mol Fr	VAPOR Weight	VAPOR Wt Fr	Vle K
1	NITROGEN	0.00	0.00015	0.00	0.00003	16.24	0.00265	454.88	0.00410	18.22141
2	CARBON DIOXIDE	0.00	0.00291	0.13	0.00106	61.82	0.01010	2720.70	0.02449	3.47732
3	METHANE	0.15	0.14672	2.35	0.01950	5575.04	0.91124	89423.59	0.80510	6.21074
4	ETHANE	0.03	0.02718	0.82	0.00677	307.36	0.05024	9242.31	0.08321	1.84812
5	PROPANE	0.02	0.01851	0.82	0.00676	89.01	0.01455	3925.34	0.03534	0.78604
6	ISOBUTANE	0.01	0.00701	0.41	0.00337	18.66	0.00305	1084.52	0.00976	0.43531
7	BUTANE	0.01	0.00923	0.54	0.00444	18.91	0.00309	1099.05	0.00989	0.33500
8	ISOPENTANE	0.01	0.00540	0.39	0.00323	6.01	0.00098	433.62	0.00390	0.18183
9	PENTANE	0.01	0.00582	0.42	0.00348	5.36	0.00088	386.72	0.00348	0.15044
10	HEXANE	0.02	0.02362	2.04	0.01686	10.13	0.00166	873.00	0.00786	0.07010
11	HEAVY	0.75	0.75346	112.79	0.93448	9.54	0.00156	1428.14	0.01286	0.00207
	* TOTAL *	1.00 KMOL	1.00000	120.70 KG	1.00000	6118.08 KMOL	1.00000	111071.88 KG	1.00000	

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	6118.079	0.000
Weight Flow Rate	kg/h	111071.879	111071.879	0.000
Molar Fraction			1.000000	0.000000
Weight Fraction			1.000000	0.000000
Molecular Weight		18.1547	18.1547	120.7006
Std Vap Vol Rate	N-m3/h		144661.0193	
Std Liq Vol Rate	m3/h			0.0000
Enthalpy	Mcal/h	2378.0690	2378.0690	0.0000
Spec. Enthalpy	kcal/kg	21.410	21.410	-52.833
	kcal/kmol	388.695	388.695	-6376.950
Gravity at 60/60				0.769101

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- DEW-POINT of stream 'FEED
6) * Temp 81.755 CENT * Pres 60.0000 ATA *

		LIQUID				VAPOR				
NO	Component	Mols	Mol Fr	Weight	Wt Fr	Mols	Mol Fr	Weight	Wt Fr	Vle K
1	NITROGEN	0.00	0.00018	0.00	0.00004	16.24	0.00265	454.88	0.00410	15.06779
2	CARBON DIOXIDE	0.00	0.00340	0.15	0.00129	61.82	0.01010	2720.70	0.02449	2.96957
3	METHANE	0.17	0.17381	2.79	0.02403	5575.04	0.91124	89423.59	0.80510	5.24265
4	ETHANE	0.03	0.03126	0.94	0.00810	307.36	0.05024	9242.31	0.08321	1.60721
5	PROPANE	0.02	0.02078	0.92	0.00790	89.01	0.01455	3925.34	0.03534	0.70010
6	ISOBUTANE	0.01	0.00772	0.45	0.00387	18.66	0.00305	1084.52	0.00976	0.39515
7	BUTANE	0.01	0.01011	0.59	0.00507	18.91	0.00309	1099.05	0.00989	0.30563
8	ISOPENTANE	0.01	0.00581	0.42	0.00361	6.01	0.00098	433.62	0.00390	0.16911
9	PENTANE	0.01	0.00623	0.45	0.00388	5.36	0.00088	386.72	0.00348	0.14054
10	HEXANE	0.02	0.02470	2.13	0.01835	10.13	0.00166	873.00	0.00786	0.06702
11	HEAVY	0.72	0.71599	107.18	0.92386	9.54	0.00156	1428.14	0.01286	0.00218
	* TOTAL *	1.00	1.00000	116.02	1.00000	6118.08	1.00000	111071.88	1.00000	
		KMOL		KG		KMOL		KG		

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	6118.079	0.000
Weight Flow Rate	kg/h	111071.879	111071.879	0.000
Molar Fraction			1.000000	0.000000
Weight Fraction			1.000000	0.000000
Molecular Weight		18.1547	18.1547	116.0171
Std Vap Vol Rate	N-m3/h		144661.0193	
Std Liq Vol Rate	m3/h			0.0000
Enthalpy	Mcal/h	2124.2060	2124.2060	0.0000
Spec. Enthalpy	kcal/kg	19.125	19.125	-52.601
	kcal/kmol	347.201	347.201	-6102.626
Gravity at 60/60				0.763475

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- DEW-POINT of stream 'FEED
7) * Temp 80.035 CENT * Pres 70.0000 ATA *

NO	Component	LIQUID Mols	LIQUID Mol Fr	LIQUID Weight	LIQUID Wt Fr	VAPOR Mols	VAPOR Mol Fr	VAPOR Weight	VAPOR Wt Fr	Vle K
1	NITROGEN	0.00	0.00021	0.01	0.00005	16.24	0.00265	454.88	0.00410	12.83125
2	CARBON DIOXIDE	0.00	0.00389	0.17	0.00154	61.82	0.01010	2720.70	0.02449	2.59613
3	METHANE	0.20	0.20063	3.22	0.02887	5575.04	0.91124	89423.59	0.80510	4.54196
4	ETHANE	0.04	0.03516	1.06	0.00949	307.36	0.05024	9242.31	0.08321	1.42898
5	PROPANE	0.02	0.02288	1.01	0.00905	89.01	0.01455	3925.34	0.03534	0.63585
6	ISOBUTANE	0.01	0.00835	0.49	0.00436	18.66	0.00305	1084.52	0.00976	0.36517
7	BUTANE	0.01	0.01090	0.63	0.00568	18.91	0.00309	1099.05	0.00989	0.28360
8	ISOPENTANE	0.01	0.00615	0.44	0.00398	6.01	0.00098	433.62	0.00390	0.15969
9	PENTANE	0.01	0.00658	0.47	0.00426	5.36	0.00088	386.72	0.00348	0.13320
10	HEXANE	0.03	0.02553	2.20	0.01974	10.13	0.00166	873.00	0.00786	0.06486
11	HEAVY	0.68	0.67973	101.76	0.91298	9.54	0.00156	1428.14	0.01286	0.00229
	* TOTAL *	1.00 KMOL	1.00000	111.45 KG	1.00000	6118.08 KMOL	1.00000	111071.88 KG	1.00000	

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	6118.079	0.000
Weight Flow Rate	kg/h	111071.879	111071.879	0.000
Molar Fraction			1.000000	0.000000
Weight Fraction			1.000000	0.000000
Molecular Weight		18.1547	18.1547	111.4541
Std Vap Vol Rate	N-m3/h		144661.0193	
Std Liq Vol Rate	m3/h			0.0000
Enthalpy	Mcal/h	1811.2327	1811.2327	0.0000
Spec. Enthalpy	kcal/kg	16.307	16.307	-52.833
	kcal/kmol	296.046	296.046	-5888.445
Gravity at 60/60				0.757685

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- DEW-POINT of stream 'FEED
8) * Temp 77.593 CENT * Pres 80.0000 ATA *

NO	Component	LIQUID Mols	LIQUID Mol Fr	LIQUID Weight	LIQUID Wt Fr	VAPOR Mols	VAPOR Mol Fr	VAPOR Weight	VAPOR Wt Fr	Vle K
1	NITROGEN	0.00	0.00024	0.01	0.00006	16.24	0.00265	454.88	0.00410	11.16020
2	CARBON DIOXIDE	0.00	0.00438	0.19	0.00180	61.82	0.01010	2720.70	0.02449	2.30814
3	METHANE	0.23	0.22729	3.65	0.03408	5575.04	0.91124	89423.59	0.80510	4.00915
4	ETHANE	0.04	0.03891	1.17	0.01094	307.36	0.05024	9242.31	0.08321	1.29097
5	PROPANE	0.02	0.02484	1.10	0.01024	89.01	0.01455	3925.34	0.03534	0.58575
6	ISOBUTANE	0.01	0.00892	0.52	0.00485	18.66	0.00305	1084.52	0.00976	0.34191
7	BUTANE	0.01	0.01160	0.67	0.00630	18.91	0.00309	1099.05	0.00989	0.26644
8	ISOPENTANE	0.01	0.00644	0.46	0.00434	6.01	0.00098	433.62	0.00390	0.15250
9	PENTANE	0.01	0.00687	0.50	0.00463	5.36	0.00088	386.72	0.00348	0.12761
10	HEXANE	0.03	0.02613	2.25	0.02105	10.13	0.00166	873.00	0.00786	0.06336
11	HEAVY	0.64	0.64438	96.46	0.90170	9.54	0.00156	1428.14	0.01286	0.00242
	* TOTAL *	1.00 KMOL	1.00000	106.98 KG	1.00000	6118.08 KMOL	1.00000	111071.88 KG	1.00000	

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	6118.079	0.000
Weight Flow Rate	kg/h	111071.879	111071.879	0.000
Molar Fraction			1.000000	0.000000
Weight Fraction			1.000000	0.000000
Molecular Weight		18.1547	18.1547	106.9793
Std Vap Vol Rate	N-m3/h		144661.0193	
Std Liq Vol Rate	m3/h			0.0000
Enthalpy	Mcal/h	1444.0553	1444.0553	0.0000
Spec. Enthalpy	kcal/kg	13.001	13.001	-53.462
	kcal/kmol	236.031	236.031	-5719.375
Gravity at 60/60				0.751674

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- DEW-POINT of stream 'FEED
9) * Temp 74.479 CENT * Pres 90.0000 ATA *

		LIQUID				VAPOR				
NO	Component	Mols	Mol Fr	Weight	Wt Fr	Mols	Mol Fr	Weight	Wt Fr	Vle K
1	NITROGEN	0.00	0.00027	0.01	0.00007	16.24	0.00265	454.88	0.00410	9.86121
2	CARBON DIOXIDE	0.00	0.00486	0.21	0.00209	61.82	0.01010	2720.70	0.02449	2.07775
3	METHANE	0.25	0.25394	4.07	0.03971	5575.04	0.91124	89423.59	0.80510	3.58839
4	ETHANE	0.04	0.04256	1.28	0.01248	307.36	0.05024	9242.31	0.08321	1.18032
5	PROPANE	0.03	0.02667	1.18	0.01147	89.01	0.01455	3925.34	0.03534	0.54542
6	ISOBUTANE	0.01	0.00943	0.55	0.00534	18.66	0.00305	1084.52	0.00976	0.32336
7	BUTANE	0.01	0.01223	0.71	0.00693	18.91	0.00309	1099.05	0.00989	0.25272
8	ISOPENTANE	0.01	0.00669	0.48	0.00470	6.01	0.00098	433.62	0.00390	0.14693
9	PENTANE	0.01	0.00711	0.51	0.00500	5.36	0.00088	386.72	0.00348	0.12328
10	HEXANE	0.03	0.02656	2.29	0.02232	10.13	0.00166	873.00	0.00786	0.06234
11	HEAVY	0.61	0.60968	91.27	0.88988	9.54	0.00156	1428.14	0.01286	0.00256
	* TOTAL *	1.00	1.00000	102.56	1.00000	6118.08	1.00000	111071.88	1.00000	
		KMOL		KG		KMOL		KG		

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	6118.079	0.000
Weight Flow Rate	kg/h	111071.879	111071.879	0.000
Molar Fraction			1.000000	0.000000
Weight Fraction			1.000000	0.000000
Molecular Weight		18.1547	18.1547	102.5624
Std Vap Vol Rate	N-m3/h		144661.0193	
Std Liq Vol Rate	m3/h			0.0000
Enthalpy	Mcal/h	1023.3194	1023.3194	0.0000
Spec. Enthalpy	kcal/kg	9.213	9.213	-54.458
	kcal/kmol	167.261	167.261	-5585.346
Gravity at 60/60				0.745380

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- DEW-POINT of stream 'FEED
10) * Temp 70.695 CENT * Pres 100.0000 ATA *

		LIQUID				VAPOR				
NO	Component	Mols	Mol Fr	Weight	Wt Fr	Mols	Mol Fr	Weight	Wt Fr	Vle K
1	NITROGEN	0.00	0.00030	0.01	0.00009	16.24	0.00265	454.88	0.00410	8.81844
2	CARBON DIOXIDE	0.01	0.00535	0.24	0.00240	61.82	0.01010	2720.70	0.02449	1.88779
3	METHANE	0.28	0.28076	4.50	0.04587	5575.04	0.91124	89423.59	0.80510	3.24566
4	ETHANE	0.05	0.04613	1.39	0.01413	307.36	0.05024	9242.31	0.08321	1.08902
5	PROPANE	0.03	0.02841	1.25	0.01276	89.01	0.01455	3925.34	0.03534	0.51210
6	ISOBUTANE	0.01	0.00989	0.58	0.00586	18.66	0.00305	1084.52	0.00976	0.30827
7	BUTANE	0.01	0.01280	0.74	0.00758	18.91	0.00309	1099.05	0.00989	0.24153
8	ISOPENTANE	0.01	0.00689	0.50	0.00506	6.01	0.00098	433.62	0.00390	0.14259
9	PENTANE	0.01	0.00731	0.53	0.00537	5.36	0.00088	386.72	0.00348	0.11992
10	HEXANE	0.03	0.02682	2.31	0.02355	10.13	0.00166	873.00	0.00786	0.06173
11	HEAVY	0.58	0.57534	86.13	0.87734	9.54	0.00156	1428.14	0.01286	0.00271
	* TOTAL *	1.00	1.00000	98.17	1.00000	6118.08	1.00000	111071.88	1.00000	
		KMOL		KG		KMOL		KG		

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	6118.079	0.000
Weight Flow Rate	kg/h	111071.879	111071.879	0.000
Molar Fraction			1.000000	0.000000
Weight Fraction			1.000000	0.000000
Molecular Weight		18.1547	18.1547	98.1703
Std Vap Vol Rate	N-m3/h		144661.0193	
Std Liq Vol Rate	m3/h			0.0000
Enthalpy	Mcal/h	545.9977	545.9977	0.0000
Spec. Enthalpy	kcal/kg	4.916	4.916	-55.813
	kcal/kmol	89.243	89.243	-5479.227
Gravity at 60/60				0.738724

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- DEW-POINT of stream 'FEED
11) * Temp 66.193 CENT * Pres 110.0000 ATA *

		LIQUID				VAPOR				
* NO *	Component *	Mols	-Mol Fr-	Weight	-Wt Fr-	Mols	-Mol Fr-	Weight	-Wt Fr-	Vle K
1	NITROGEN	0.00	0.00033	0.01	0.00010	16.24	0.00265	454.88	0.00410	7.96080
2	CARBON DIOXIDE	0.01	0.00585	0.26	0.00275	61.82	0.01010	2720.70	0.02449	1.72716
3	METHANE	0.31	0.30791	4.94	0.05267	5575.04	0.91124	89423.59	0.80510	2.95946
4	ETHANE	0.05	0.04965	1.49	0.01592	307.36	0.05024	9242.31	0.08321	1.01190
5	PROPANE	0.03	0.03006	1.33	0.01414	89.01	0.01455	3925.34	0.03534	0.48400
6	ISOBUTANE	0.01	0.01031	0.60	0.00639	18.66	0.00305	1084.52	0.00976	0.29583
7	BUTANE	0.01	0.01331	0.77	0.00825	18.91	0.00309	1099.05	0.00989	0.23226
8	ISOPENTANE	0.01	0.00706	0.51	0.00543	6.01	0.00098	433.62	0.00390	0.13923
9	PENTANE	0.01	0.00747	0.54	0.00574	5.36	0.00088	386.72	0.00348	0.11734
10	HEXANE	0.03	0.02694	2.32	0.02476	10.13	0.00166	873.00	0.00786	0.06146
11	HEAVY	0.54	0.54112	81.01	0.86386	9.54	0.00156	1428.14	0.01286	0.00288
	* TOTAL *	1.00	1.00000	93.77	1.00000	6118.08	1.00000	111071.88	1.00000	
		KMOL		KG		KMOL		KG		

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	6118.079	0.000
Weight Flow Rate	kg/h	111071.879	111071.879	0.000
Molar Fraction			1.000000	0.000000
Weight Fraction			1.000000	0.000000
Molecular Weight		18.1547	18.1547	93.7725
Std Vap Vol Rate	N-m3/h		144661.0193	
Std Liq Vol Rate	m3/h			0.0000
Enthalpy	Mcal/h	4.9052	4.9052	0.0000
Spec. Enthalpy	kcal/kg	0.044	0.044	-57.549
	kcal/kmol	0.802	0.802	-5396.495
Gravity at 60/60				0.731615

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- DEW-POINT of stream 'FEED
12) * Temp 60.861 CENT * Pres 120.0000 ATA *

NO	Component	LIQUID Mols	LIQUID Mol Fr	LIQUID Weight	LIQUID Wt Fr	VAPOR Mols	VAPOR Mol Fr	VAPOR Weight	VAPOR Wt Fr	Vle K
1	NITROGEN	0.00	0.00037	0.01	0.00012	16.24	0.00265	454.88	0.00410	7.23249
2	CARBON DIOXIDE	0.01	0.00637	0.28	0.00314	61.82	0.01010	2720.70	0.02449	1.58738
3	METHANE	0.34	0.33585	5.39	0.06033	5575.04	0.91124	89423.59	0.80510	2.71327
4	ETHANE	0.05	0.05316	1.60	0.01790	307.36	0.05024	9242.31	0.08321	0.94497
5	PROPANE	0.03	0.03164	1.40	0.01563	89.01	0.01455	3925.34	0.03534	0.45976
6	ISOBUTANE	0.01	0.01069	0.62	0.00695	18.66	0.00305	1084.52	0.00976	0.28542
7	BUTANE	0.01	0.01377	0.80	0.00896	18.91	0.00309	1099.05	0.00989	0.22450
8	ISOPENTANE	0.01	0.00719	0.52	0.00581	6.01	0.00098	433.62	0.00390	0.13669
9	PENTANE	0.01	0.00759	0.55	0.00613	5.36	0.00088	386.72	0.00348	0.11541
10	HEXANE	0.03	0.02691	2.32	0.02597	10.13	0.00166	873.00	0.00786	0.06153
11	HEAVY	0.51	0.50647	75.82	0.84906	9.54	0.00156	1428.14	0.01286	0.00308
	* TOTAL *	1.00 KMOL	1.00000	89.30 KG	1.00000	6118.08 KMOL	1.00000	111071.88 KG	1.00000	

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	6118.079	0.000
Weight Flow Rate	kg/h	111071.879	111071.879	0.000
Molar Fraction			1.000000	0.000000
Weight Fraction			1.000000	0.000000
Molecular Weight		18.1547	18.1547	89.2971
Std Vap Vol Rate	N-m3/h		144661.0193	
Std Liq Vol Rate	m3/h			0.0000
Enthalpy	Mcal/h	-613.2215	-613.2215	0.0000
Spec. Enthalpy	kcal/kg	-5.521	-5.521	-59.713
	kcal/kmol	-100.231	-100.231	-5332.227
Gravity at 60/60				0.723871

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- DEW-POINT of stream 'FEED
13) * Temp 54.479 CENT * Pres 130.0000 ATA *

		LIQUID				VAPOR				
NO	Component	Mols	Mol Fr	Weight	Wt Fr	Mols	Mol Fr	Weight	Wt Fr	Vle K
1	NITROGEN	0.00	0.00040	0.01	0.00013	16.24	0.00265	454.88	0.00410	6.59829
2	CARBON DIOXIDE	0.01	0.00691	0.30	0.00359	61.82	0.01010	2720.70	0.02449	1.46234
3	METHANE	0.37	0.36511	5.86	0.06917	5575.04	0.91124	89423.59	0.80510	2.49581
4	ETHANE	0.06	0.05674	1.71	0.02015	307.36	0.05024	9242.31	0.08321	0.88540
5	PROPANE	0.03	0.03319	1.46	0.01729	89.01	0.01455	3925.34	0.03534	0.43840
6	ISOBUTANE	0.01	0.01102	0.64	0.00757	18.66	0.00305	1084.52	0.00976	0.27666
7	BUTANE	0.01	0.01418	0.82	0.00974	18.91	0.00309	1099.05	0.00989	0.21794
8	ISOPENTANE	0.01	0.00728	0.53	0.00621	6.01	0.00098	433.62	0.00390	0.13488
9	PENTANE	0.01	0.00768	0.55	0.00655	5.36	0.00088	386.72	0.00348	0.11407
10	HEXANE	0.03	0.02673	2.30	0.02721	10.13	0.00166	873.00	0.00786	0.06195
11	HEAVY	0.47	0.47076	70.47	0.83240	9.54	0.00156	1428.14	0.01286	0.00331
	* TOTAL *	1.00	1.00000	84.66	1.00000	6118.08	1.00000	111071.88	1.00000	
		KMOL		KG		KMOL		KG		

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	6118.079	0.000
Weight Flow Rate	kg/h	111071.879	111071.879	0.000
Molar Fraction			1.000000	0.000000
Weight Fraction			1.000000	0.000000
Molecular Weight		18.1547	18.1547	84.6616
Std Vap Vol Rate	N-m3/h		144661.0193	
Std Liq Vol Rate	m3/h			0.0000
Enthalpy	Mcal/h	-1332.4747	-1332.4747	0.0000
Spec. Enthalpy	kcal/kg	-11.996	-11.996	-62.413
	kcal/kmol	-217.793	-217.793	-5283.981
Gravity at 60/60				0.715240

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- DEW-POINT of stream 'FEED
14) * Temp 46.585 CENT * Pres 140.0000 ATA *

NO	Component	LIQUID Mols	LIQUID Mol Fr	LIQUID Weight	LIQUID Wt Fr	VAPOR Mols	VAPOR Mol Fr	VAPOR Weight	VAPOR Wt Fr	Vle K
1	NITROGEN	0.00	0.00044	0.01	0.00015	16.24	0.00265	454.88	0.00410	6.02590
2	CARBON DIOXIDE	0.01	0.00751	0.33	0.00415	61.82	0.01010	2720.70	0.02449	1.34611
3	METHANE	0.40	0.39681	6.36	0.07986	5575.04	0.91124	89423.59	0.80510	2.29644
4	ETHANE	0.06	0.06049	1.82	0.02282	307.36	0.05024	9242.31	0.08321	0.83047
5	PROPANE	0.03	0.03472	1.53	0.01921	89.01	0.01455	3925.34	0.03534	0.41902
6	ISOBUTANE	0.01	0.01133	0.66	0.00826	18.66	0.00305	1084.52	0.00976	0.26925
7	BUTANE	0.01	0.01455	0.85	0.01061	18.91	0.00309	1099.05	0.00989	0.21236
8	ISOPENTANE	0.01	0.00734	0.53	0.00665	6.01	0.00098	433.62	0.00390	0.13382
9	PENTANE	0.01	0.00773	0.56	0.00700	5.36	0.00088	386.72	0.00348	0.11335
10	HEXANE	0.03	0.02637	2.27	0.02851	10.13	0.00166	873.00	0.00786	0.06280
11	HEAVY	0.43	0.43271	64.78	0.81278	9.54	0.00156	1428.14	0.01286	0.00360
	* TOTAL *	1.00 KMOL	1.00000	79.70 KG	1.00000	6118.08 KMOL	1.00000	111071.88 KG	1.00000	

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	6118.079	0.000
Weight Flow Rate	kg/h	111071.879	111071.879	0.000
Molar Fraction			1.000000	0.000000
Weight Fraction			1.000000	0.000000
Molecular Weight		18.1547	18.1547	79.6989
Std Vap Vol Rate	N-m3/h		144661.0193	
Std Liq Vol Rate	m3/h			0.0000
Enthalpy	Mcal/h	-2201.2705	-2201.2705	0.0000
Spec. Enthalpy	kcal/kg	-19.818	-19.818	-65.870
	kcal/kmol	-359.797	-359.797	-5249.805
Gravity at 60/60				0.705217

Reference Gas Status - Temperature 15°C - Pressure 1 atm

- DEW-POINT of stream 'FEED
15) * Temp 35.972 CENT * Pres 150.0000 ATA *

		LIQUID				VAPOR				
NO	Component	Mols	Mol Fr	Weight	Wt Fr	Mols	Mol Fr	Weight	Wt Fr	Vle K
1	NITROGEN	0.00	0.00048	0.01	0.00018	16.24	0.00265	454.88	0.00410	5.47497
2	CARBON DIOXIDE	0.01	0.00821	0.36	0.00489	61.82	0.01010	2720.70	0.02449	1.23010
3	METHANE	0.43	0.43377	6.96	0.09404	5575.04	0.91124	89423.59	0.80510	2.10076
4	ETHANE	0.06	0.06471	1.95	0.02630	307.36	0.05024	9242.31	0.08321	0.77633
5	PROPANE	0.04	0.03633	1.60	0.02165	89.01	0.01455	3925.34	0.03534	0.40046
6	ISOBUTANE	0.01	0.01160	0.67	0.00911	18.66	0.00305	1084.52	0.00976	0.26298
7	BUTANE	0.01	0.01489	0.87	0.01169	18.91	0.00309	1099.05	0.00989	0.20762
8	ISOPENTANE	0.01	0.00735	0.53	0.00717	6.01	0.00098	433.62	0.00390	0.13369
9	PENTANE	0.01	0.00773	0.56	0.00753	5.36	0.00088	386.72	0.00348	0.11339
10	HEXANE	0.03	0.02574	2.22	0.02998	10.13	0.00166	873.00	0.00786	0.06434
11	HEAVY	0.39	0.38920	58.26	0.78746	9.54	0.00156	1428.14	0.01286	0.00401
	* TOTAL *	1.00	1.00000	73.99	1.00000	6118.08	1.00000	111071.88	1.00000	
		KMOL		KG		KMOL		KG		

Phase		TOTAL	VAPOR	LIQUID
Molar Flow Rate	kmol/h	6118.079	6118.079	0.000
Weight Flow Rate	kg/h	111071.879	111071.879	0.000
Molar Fraction			1.000000	0.000000
Weight Fraction			1.000000	0.000000
Molecular Weight		18.1547	18.1547	73.9883
Std Vap Vol Rate	N-m3/h		144661.0193	
Std Liq Vol Rate	m3/h			0.0000
Enthalpy	Mcal/h	-3344.7772	-3344.7772	0.0000
Spec. Enthalpy	kcal/kg	-30.114	-30.114	-70.676
	kcal/kmol	-546.703	-546.703	-5229.210
Gravity at 60/60				0.692526

Reference Gas Status - Temperature 15°C - Pressure 1 atm

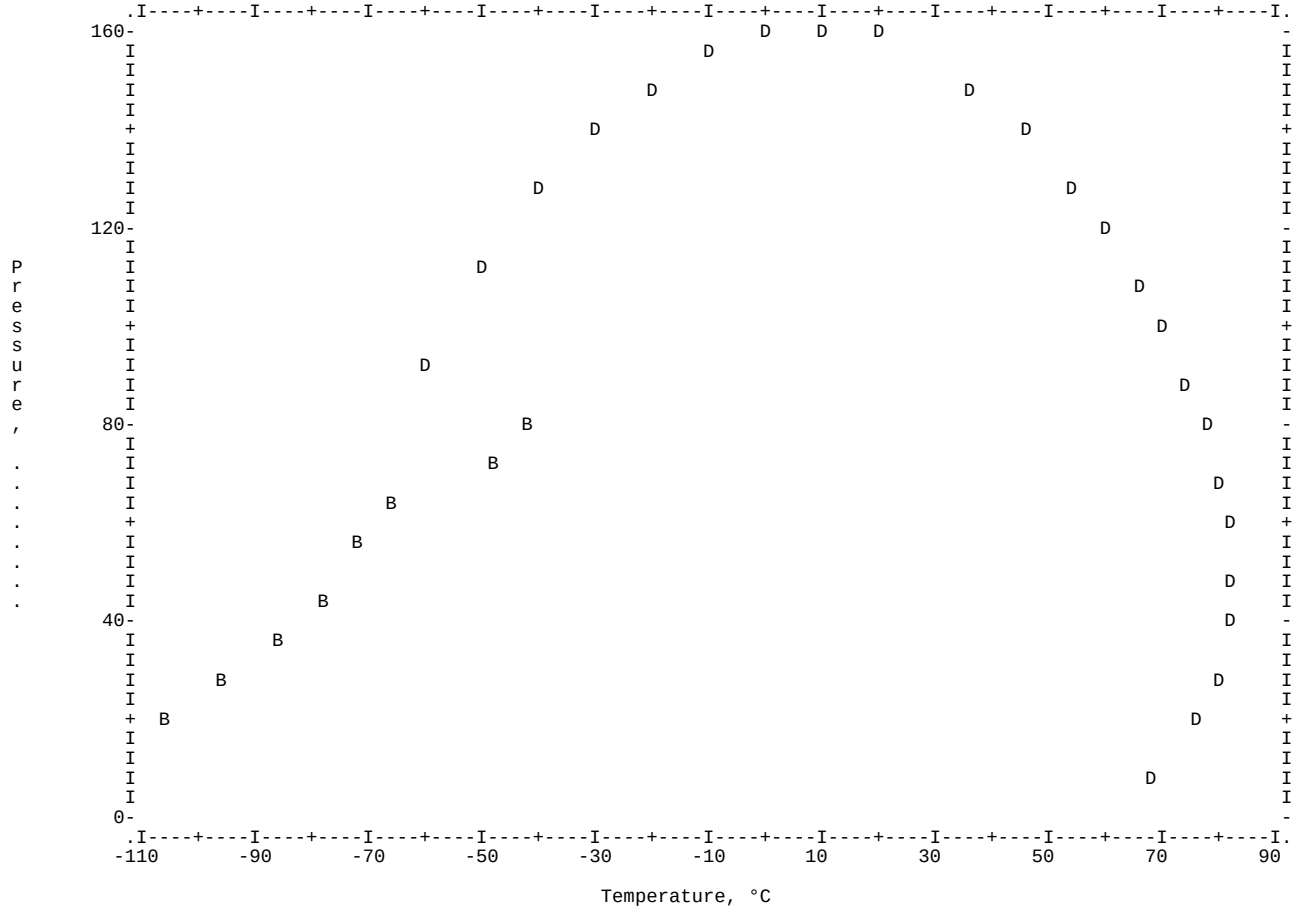
*** SUMMARY OF VLE CURVE - STREAM FEED ***

* DEW-POINT TEMPERATURE CURVE - STREAM FEED *

Initial pressure 10.0000 ata - End pressure 150.0000 ata
Initial temperature estimate 70.000 °C
No. of points 15

1)	Temp	67.249 °C	Pres	10.0000 ata
2)	Temp	76.719 °C	Pres	20.0000 ata
3)	Temp	80.814 °C	Pres	30.0000 ata
4)	Temp	82.468 °C	Pres	40.0000 ata
5)	Temp	82.639 °C	Pres	50.0000 ata
6)	Temp	81.755 °C	Pres	60.0000 ata
7)	Temp	80.035 °C	Pres	70.0000 ata
8)	Temp	77.593 °C	Pres	80.0000 ata
9)	Temp	74.479 °C	Pres	90.0000 ata
10)	Temp	70.695 °C	Pres	100.0000 ata
11)	Temp	66.193 °C	Pres	110.0000 ata
12)	Temp	60.861 °C	Pres	120.0000 ata
13)	Temp	54.479 °C	Pres	130.0000 ata
14)	Temp	46.585 °C	Pres	140.0000 ata
15)	Temp	35.972 °C	Pres	150.0000 ata

* VLE CURVES OF STREAM FEED *



*** UNIT 1 - 'V1 ' - ' FLASH ' ***

--- Feed Streams ---	- Product Streams -
'FEED '	'PROD1 ' VAPOR
	'PROD2 ' LIQUID

1) * OPERATING CONDITIONS *

Outlet temperature	-30.00 °C
Outlet pressure	133.3000 ata

2) * FEEDS *

Stream		FEED
Temperature,	°C	-30.00
Pressure,	ata	133.300
Total rate,	kmol/h	6118.1
Vapor,	kmol/h	6118.1
Liquid,	kmol/h	0.0000

3) * PRODUCTS *

Stream		PROD1
Temperature,	°C	-30.00
Pressure,	ata	133.300
Total rate,	kmol/h	6118.1
Vapor,	kmol/h	6118.1
Liquid,	kmol/h	0.0000

*** UNIT 2 - 'PHAS01 ' - ' PHASE ENVELOPE ' ***
--- Feed Streams --- - Product Streams -
'FEED '

1) * FEEDS *

Stream		FEED
Temperature,	°C	-30.00
Pressure,	ata	133.300
Total rate,	kmol/h	6118.1
Vapor,	kmol/h	6118.1
Liquid,	kmol/h	0.0000

2) * METHOD *
K-values calculation method 'SRK '

3) *** DEW POINT EQUILIBRIUM CURVE ***

Cricondentherm Point - Temp 82.717 °C - Pres 46.3780 ata
Cricondenbar Point - Temp 7.465 °C - Pres 160.3707 ata
Critical Point - *** NOT DETERMINED ***
Max Temp/Pres Point - Temp 82.717 °C - Pres 160.3707 ata

1) -	DEW	PT - PRES	20.0000	ata	- TEMP	76.719	°C
2) -	DEW	PT - PRES	21.0000	ata	- TEMP	77.291	°C
3) -	DEW	PT - PRES	23.1000	ata	- TEMP	78.353	°C
4) -	DEW	PT - PRES	25.4100	ata	- TEMP	79.334	°C
5) -	DEW	PT - PRES	27.9510	ata	- TEMP	80.223	°C
6) -	DEW	PT - PRES	30.7461	ata	- TEMP	81.005	°C
7) -	DEW	PT - PRES	33.8207	ata	- TEMP	81.664	°C
8) -	DEW	PT - PRES	37.2028	ata	- TEMP	82.182	°C
9) -	DEW	PT - PRES	40.9231	ata	- TEMP	82.537	°C
10) -	DEW	PT - PRES	45.0154	ata	- TEMP	82.705	°C
11) -	DEW	PT - PRES	46.3780	ata	- TEMP MAX	82.717	°C
12) -	DEW	PT - PRES	49.5169	ata	- TEMP	82.657	°C
13) -	DEW	PT - PRES	54.4686	ata	- TEMP	82.358	°C
14) -	DEW	PT - PRES	56.9137	ata	- TEMP	82.124	°C
15) -	DEW	PT - PRES	59.6916	ata	- TEMP	81.795	°C
16) -	DEW	PT - PRES	62.6051	ata	- TEMP	81.382	°C
17) -	DEW	PT - PRES	65.6608	ata	- TEMP	80.875	°C
18) -	DEW	PT - PRES	70.6608	ata	- TEMP	79.895	°C
19) -	DEW	PT - PRES	73.1180	ata	- TEMP	79.347	°C
20) -	DEW	PT - PRES	75.8509	ata	- TEMP	78.689	°C
21) -	DEW	PT - PRES	78.6859	ata	- TEMP	77.952	°C
22) -	DEW	PT - PRES	81.6269	ata	- TEMP	77.133	°C
23) -	DEW	PT - PRES	84.6778	ata	- TEMP	76.219	°C
24) -	DEW	PT - PRES	89.6778	ata	- TEMP	74.590	°C
25) -	DEW	PT - PRES	94.6778	ata	- TEMP	72.794	°C
26) -	DEW	PT - PRES	99.6778	ata	- TEMP	70.828	°C
27) -	DEW	PT - PRES	102.1472	ata	- TEMP	69.792	°C
28) -	DEW	PT - PRES	105.1197	ata	- TEMP	68.485	°C
29) -	DEW	PT - PRES	108.1787	ata	- TEMP	67.070	°C
30) -	DEW	PT - PRES	111.3267	ata	- TEMP	65.537	°C
31) -	DEW	PT - PRES	113.7993	ata	- TEMP	64.274	°C
32) -	DEW	PT - PRES	116.3267	ata	- TEMP	62.927	°C
33) -	DEW	PT - PRES	118.9103	ata	- TEMP	61.487	°C
34) -	DEW	PT - PRES	121.5513	ata	- TEMP	59.951	°C
35) -	DEW	PT - PRES	124.2509	ata	- TEMP	58.279	°C
36) -	DEW	PT - PRES	127.0105	ata	- TEMP	56.517	°C
37) -	DEW	PT - PRES	129.4864	ata	- TEMP	54.838	°C

38)	-	DEW	PT - PRES		132.0105	ata	- TEMP	53.036	°C
39)	-	DEW	PT - PRES		134.5838	ata	- TEMP	51.090	°C
40)	-	DEW	PT - PRES		137.2073	ata	- TEMP	48.998	°C
41)	-	DEW	PT - PRES		139.8820	ata	- TEMP	46.690	°C
42)	-	DEW	PT - PRES		142.3600	ata	- TEMP	44.404	°C
43)	-	DEW	PT - PRES		144.8820	ata	- TEMP	41.890	°C
44)	-	DEW	PT - PRES		147.4486	ata	- TEMP	39.074	°C
45)	-	DEW	PT - PRES		150.0607	ata	- TEMP	35.940	°C
46)	-	DEW	PT - PRES		152.7191	ata	- TEMP	32.169	°C
47)	-	DEW	PT - PRES		154.2914	ata	- TEMP	29.634	°C
48)	-	DEW	PT - PRES		155.6917	ata	- TEMP	27.071	°C
49)	-	DEW	PT - PRES		156.9068	ata	- TEMP	24.482	°C
50)	-	DEW	PT - PRES		157.9807	ata	- TEMP	21.874	°C
51)	-	DEW	PT - PRES		158.8080	ata	- TEMP	19.232	°C
52)	-	DEW	PT - PRES		159.5400	ata	- TEMP	16.760	°C
53)	-	DEW	PT - PRES		159.9187	ata	- TEMP	14.113	°C
54)	-	DEW	PT - PRES		160.3036	ata	- TEMP	11.603	°C
55)	-	DEW	PT - PRES		160.3102	ata	- TEMP	8.921	°C
56)	-	DEW	PT - PRES	MAX	160.3707	ata	- TEMP	7.465	°C
57)	-	DEW	PT - PRES		160.3369	ata	- TEMP	6.378	°C
58)	-	DEW	PT - PRES		159.9586	ata	- TEMP	3.666	°C
59)	-	DEW	PT - PRES		159.6164	ata	- TEMP	1.093	°C
60)	-	DEW	PT - PRES		158.8407	ata	- TEMP	-1.644	°C
61)	-	DEW	PT - PRES		157.9875	ata	- TEMP	-4.317	°C
62)	-	DEW	PT - PRES		156.9348	ata	- TEMP	-7.004	°C
63)	-	DEW	PT - PRES		155.6770	ata	- TEMP	-9.683	°C
64)	-	DEW	PT - PRES		154.2194	ata	- TEMP	-12.398	°C
65)	-	DEW	PT - PRES		152.5873	ata	- TEMP	-15.056	°C
66)	-	DEW	PT - PRES		150.7550	ata	- TEMP	-17.719	°C
67)	-	DEW	PT - PRES		148.7145	ata	- TEMP	-20.393	°C
68)	-	DEW	PT - PRES		146.4901	ata	- TEMP	-23.052	°C
69)	-	DEW	PT - PRES		143.9600	ata	- TEMP	-25.813	°C
70)	-	DEW	PT - PRES		141.3693	ata	- TEMP	-28.429	°C
71)	-	DEW	PT - PRES		137.7547	ata	- TEMP	-31.805	°C
72)	-	DEW	PT - PRES		133.4911	ata	- TEMP	-35.395	°C
73)	-	DEW	PT - PRES		130.8825	ata	- TEMP	-37.461	°C
74)	-	DEW	PT - PRES		128.1428	ata	- TEMP	-39.528	°C
75)	-	DEW	PT - PRES		125.6600	ata	- TEMP	-41.377	°C
76)	-	DEW	PT - PRES		122.8285	ata	- TEMP	-43.290	°C
77)	-	DEW	PT - PRES		120.3412	ata	- TEMP	-44.998	°C
78)	-	DEW	PT - PRES		117.5399	ata	- TEMP	-46.761	°C
79)	-	DEW	PT - PRES		115.0486	ata	- TEMP	-48.357	°C
80)	-	DEW	PT - PRES		112.2687	ata	- TEMP	-50.000	°C
81)	-	DEW	PT - PRES		109.7739	ata	- TEMP	-51.503	°C
82)	-	DEW	PT - PRES		107.0094	ata	- TEMP	-53.046	°C
83)	-	DEW	PT - PRES		104.5115	ata	- TEMP	-54.470	°C
84)	-	DEW	PT - PRES		101.7581	ata	- TEMP	-55.930	°C
85)	-	DEW	PT - PRES		99.2574	ata	- TEMP	-57.285	°C
86)	-	DEW	PT - PRES		96.5117	ata	- TEMP	-58.673	°C
87)	-	DEW	PT - PRES		94.0082	ata	- TEMP	-59.968	°C
88)	-	DEW	PT - PRES		91.2675	ata	- TEMP	-61.294	°C
89)	-	DEW	PT - PRES		88.6712	ata	- TEMP	-62.551	°C
90)	-	DEW	PT - PRES		86.0875	ata	- TEMP	-63.804	°C
91)	-	DEW	PT - PRES		83.3241	ata	- TEMP	-65.063	°C
92)	-	DEW	PT - PRES		80.7233	ata	- TEMP	-66.250	°C
93)	-	DEW	PT - PRES		78.1412	ata	- TEMP	-67.433	°C
94)	-	DEW	PT - PRES		75.3817	ata	- TEMP	-68.621	°C
95)	-	DEW	PT - PRES		72.7742	ata	- TEMP	-69.748	°C
96)	-	DEW	PT - PRES		70.1921	ata	- TEMP	-70.872	°C
97)	-	DEW	PT - PRES		67.4310	ata	- TEMP	-72.000	°C
98)	-	DEW	PT - PRES		64.8144	ata	- TEMP	-73.076	°C
99)	-	DEW	PT - PRES		62.1582	ata	- TEMP	-74.151	°C

100) -	DEW	PT - PRES	59.5333	ata	- TEMP	-75.198	°C
101) -	DEW	PT - PRES	56.8710	ata	- TEMP	-76.244	°C
102) -	DEW	PT - PRES	54.2363	ata	- TEMP	-77.263	°C
103) -	DEW	PT - PRES	51.5658	ata	- TEMP	-78.282	°C
104) -	DEW	PT - PRES	48.9188	ata	- TEMP	-79.278	°C
105) -	DEW	PT - PRES	46.2374	ata	- TEMP	-80.273	°C
106) -	DEW	PT - PRES	41.3050	ata	- TEMP	-82.068	°C
107) -	DEW	PT - PRES	36.9108	ata	- TEMP	-83.632	°C
108) -	DEW	PT - PRES	35.9514	ata	- TEMP	-83.974	°C
109) -	DEW	PT - PRES	34.9878	ata	- TEMP	-84.316	°C
110) -	DEW	PT - PRES	33.9788	ata	- TEMP	-84.657	°C
111) -	DEW	PT - PRES	33.7252	ata	- TEMP	-84.746	°C
112) -	DEW	PT - PRES	33.4796	ata	- TEMP	-84.831	°C
113) -	DEW	PT - PRES	33.2338	ata	- TEMP	-84.917	°C
114) -	DEW	PT - PRES	33.1989	ata	- TEMP	-84.928	°C
115) -	DEW	PT - PRES	33.1773	ata	- TEMP	-84.935	°C
116) -	DEW	PT - PRES	34.7967	ata	- TEMP	-84.373	°C
117) -	DEW	PT - PRES	34.6341	ata	- TEMP	-84.429	°C
118) -	DEW	PT - PRES	34.3113	ata	- TEMP	-84.545	°C
119) -	DEW	PT - PRES	33.9915	ata	- TEMP	-84.653	°C
120) -	DEW	PT - PRES	33.3609	ata	- TEMP	-84.871	°C
121) -	DEW	PT - PRES	34.1595	ata	- TEMP	-84.595	°C
122) -	DEW	PT - PRES	33.7060	ata	- TEMP	-84.753	°C
123) -	DEW	PT - PRES	33.2582	ata	- TEMP	-84.909	°C
124) -	DEW	PT - PRES	33.2188	ata	- TEMP	-84.921	°C
125) -	DEW	PT - PRES	33.1906	ata	- TEMP	-84.930	°C
126) -	DEW	PT - PRES	33.1854	ata	- TEMP	-84.932	°C
127) -	DEW	PT - PRES	33.1867	ata	- TEMP	-84.932	°C
128) -	DEW	PT - PRES	33.1726	ata	- TEMP	-84.937	°C
129) -	DEW	PT - PRES	33.1690	ata	- TEMP	-84.938	°C
130) -	DEW	PT - PRES	33.1682	ata	- TEMP	-84.938	°C
131) -	DEW	PT - PRES	33.1673	ata	- TEMP	-84.939	°C
132) -	DEW	PT - PRES	33.1664	ata	- TEMP	-84.939	°C
133) -	DEW	PT - PRES	33.1655	ata	- TEMP	-84.939	°C

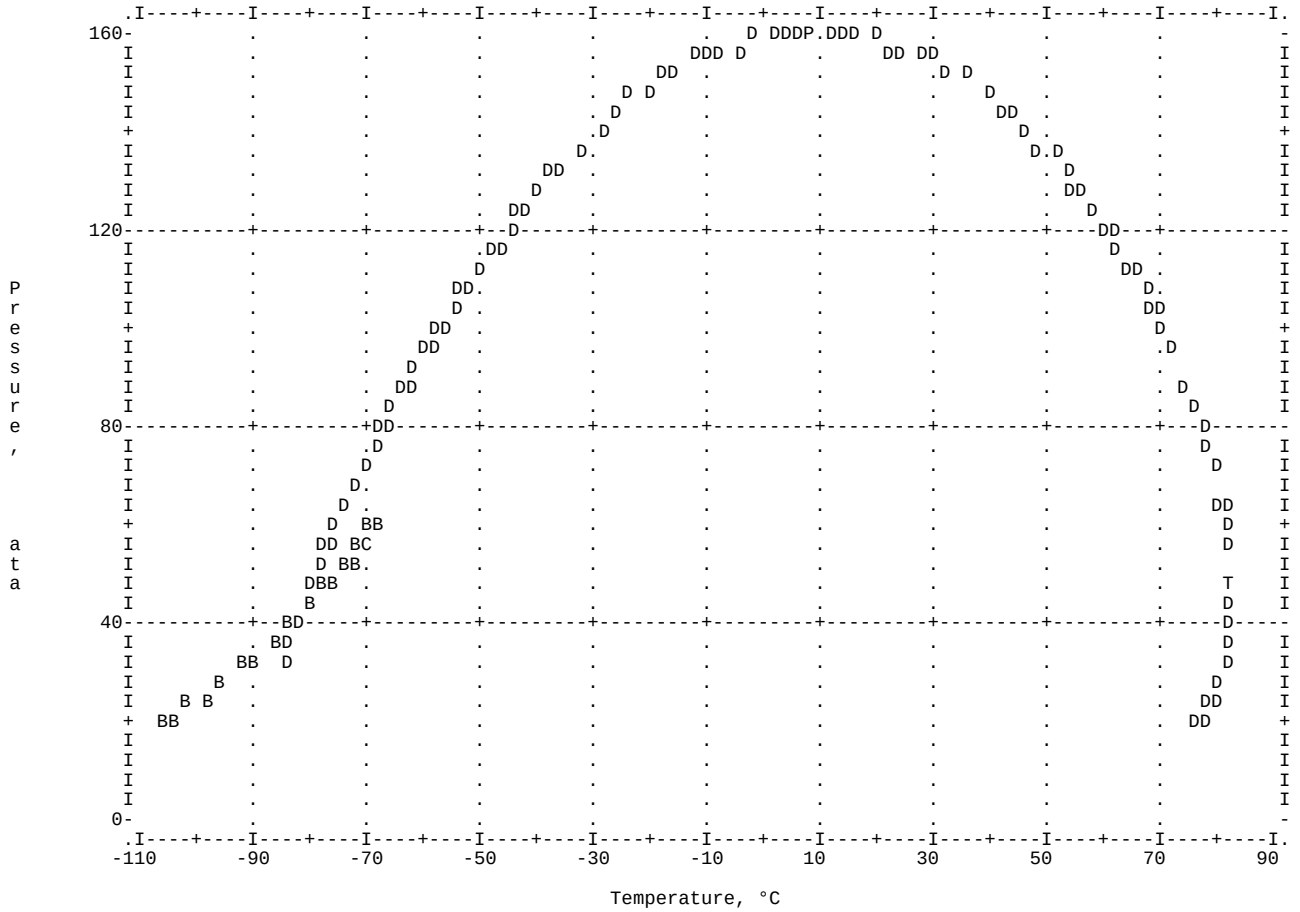
4) *** BUBBLE POINT EQUILIBRIUM CURVE ***

Cricondentherm	Point -	*** NOT DETERMINED ***					
Cricondenbar	Point -	*** NOT DETERMINED ***					
Critical	Point -	Temp	-69.078	°C	- Pres	57.9142	ata
Max Temp/Pres	Point -	Temp	-68.950	°C	- Pres	58.1079	ata

1) -	BUBBLE	PT - PRES	20.0000	ata	- TEMP	-105.742	°C
2) -	BUBBLE	PT - PRES	21.0000	ata	- TEMP	-104.366	°C
3) -	BUBBLE	PT - PRES	23.0618	ata	- TEMP	-101.658	°C
4) -	BUBBLE	PT - PRES	25.4095	ata	- TEMP	-98.760	°C
5) -	BUBBLE	PT - PRES	27.9903	ata	- TEMP	-95.765	°C
6) -	BUBBLE	PT - PRES	30.8248	ata	- TEMP	-92.669	°C
7) -	BUBBLE	PT - PRES	33.9346	ata	- TEMP	-89.467	°C
8) -	BUBBLE	PT - PRES	37.3280	ata	- TEMP	-86.161	°C
9) -	BUBBLE	PT - PRES	39.0666	ata	- TEMP	-84.539	°C
10) -	BUBBLE	PT - PRES	40.7081	ata	- TEMP	-83.042	°C
11) -	BUBBLE	PT - PRES	43.8246	ata	- TEMP	-80.287	°C
12) -	BUBBLE	PT - PRES	46.5872	ata	- TEMP	-77.931	°C
13) -	BUBBLE	PT - PRES	47.8034	ata	- TEMP	-76.917	°C
14) -	BUBBLE	PT - PRES	48.9431	ata	- TEMP	-75.979	°C
15) -	BUBBLE	PT - PRES	49.9942	ata	- TEMP	-75.129	°C
16) -	BUBBLE	PT - PRES	50.9859	ata	- TEMP	-74.330	°C
17) -	BUBBLE	PT - PRES	52.7904	ata	- TEMP	-72.906	°C
18) -	BUBBLE	PT - PRES	54.2962	ata	- TEMP	-71.738	°C
19) -	BUBBLE	PT - PRES	54.9387	ata	- TEMP	-71.252	°C
20) -	BUBBLE	PT - PRES	55.5110	ata	- TEMP	-70.822	°C

21)	- BUBBLE PT -	PRES	56.5011	ata	- TEMP	-70.089 °C
22)	- BUBBLE PT -	PRES	57.2483	ata	- TEMP	-69.549 °C
23)	- BUBBLE PT -	PRES	57.5233	ata	- TEMP	-69.353 °C
24)	- BUBBLE PT -	PRES	57.7510	ata	- TEMP	-69.194 °C
25)	- BUBBLE PT -	PRES	57.8998	ata	- TEMP	-69.090 °C
26)	- BUBBLE PT -	PRES	58.0262	ata	- TEMP	-69.004 °C
27)	- BUBBLE PT -	PRES	58.1079	ata	- TEMP	-68.950 °C

**** PHASE ENVELOPE ****

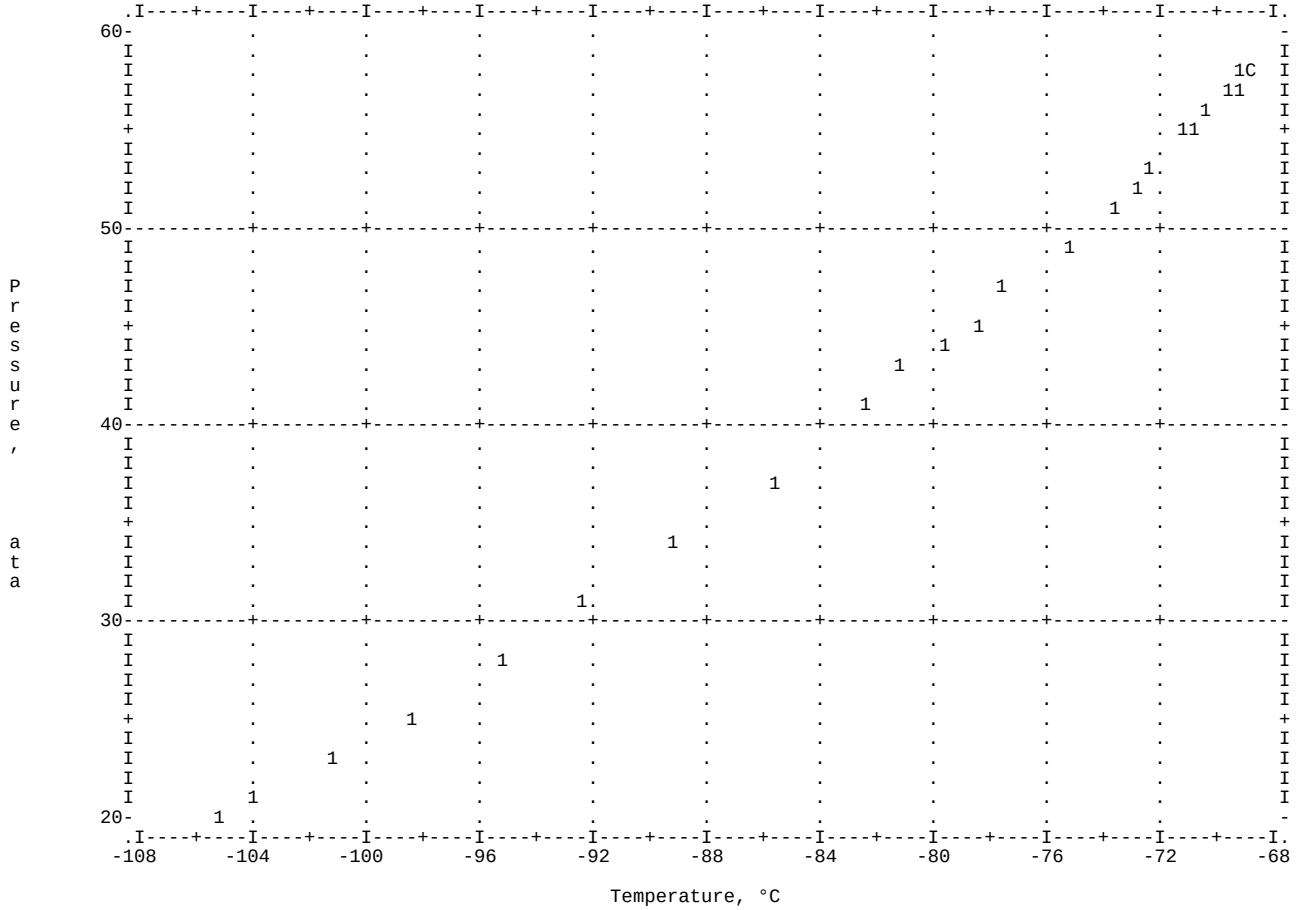


5) *** EQUILIBRIUM CURVE AT VF = 0.100000 ***

Cricondentherm Point - *** NOT DETERMINED ***
Cricondenbar Point - *** NOT DETERMINED ***
Critical Point - Temp -68.954 °C - Pres 58.1965 ata
Max Temp/Pres Point - Temp -68.768 °C - Pres 58.2065 ata

1)	L/F 0.900000	PRES	20.0000	ata	TEMP	-105.347 °C
2)	L/F 0.900000	PRES	21.0000	ata	TEMP	-103.972 °C
3)	L/F 0.900000	PRES	23.0622	ata	TEMP	-101.266 °C
4)	L/F 0.900000	PRES	25.4105	ata	TEMP	-98.369 °C
5)	L/F 0.900000	PRES	27.9934	ata	TEMP	-95.375 °C
6)	L/F 0.900000	PRES	30.8297	ata	TEMP	-92.280 °C
7)	L/F 0.900000	PRES	33.9421	ata	TEMP	-89.079 °C
8)	L/F 0.900000	PRES	37.3521	ata	TEMP	-85.768 °C
9)	L/F 0.900000	PRES	40.9213	ata	TEMP	-82.487 °C
10)	L/F 0.900000	PRES	42.5250	ata	TEMP	-81.067 °C
11)	L/F 0.900000	PRES	44.0430	ata	TEMP	-79.750 °C
12)	L/F 0.900000	PRES	45.4702	ata	TEMP	-78.537 °C
13)	L/F 0.900000	PRES	46.8164	ata	TEMP	-77.410 °C
14)	L/F 0.900000	PRES	49.3178	ata	TEMP	-75.369 °C
15)	L/F 0.900000	PRES	51.4732	ata	TEMP	-73.657 °C
16)	L/F 0.900000	PRES	52.4025	ata	TEMP	-72.939 °C
17)	L/F 0.900000	PRES	53.2538	ata	TEMP	-72.287 °C
18)	L/F 0.900000	PRES	54.8132	ata	TEMP	-71.108 °C
19)	L/F 0.900000	PRES	55.4339	ata	TEMP	-70.658 °C
20)	L/F 0.900000	PRES	55.9795	ata	TEMP	-70.268 °C
21)	L/F 0.900000	PRES	56.9344	ata	TEMP	-69.593 °C
22)	L/F 0.900000	PRES	57.4687	ata	TEMP	-69.229 °C
23)	L/F 0.900000	PRES	57.7366	ata	TEMP	-69.050 °C
24)	L/F 0.900000	PRES	57.9600	ata	TEMP	-68.910 °C
25)	L/F 0.900000	PRES	58.0967	ata	TEMP	-68.822 °C
26)	L/F 0.900000	PRES	58.2065	ata	TEMP	-68.768 °C

**** PHASE ENVELOPE ****

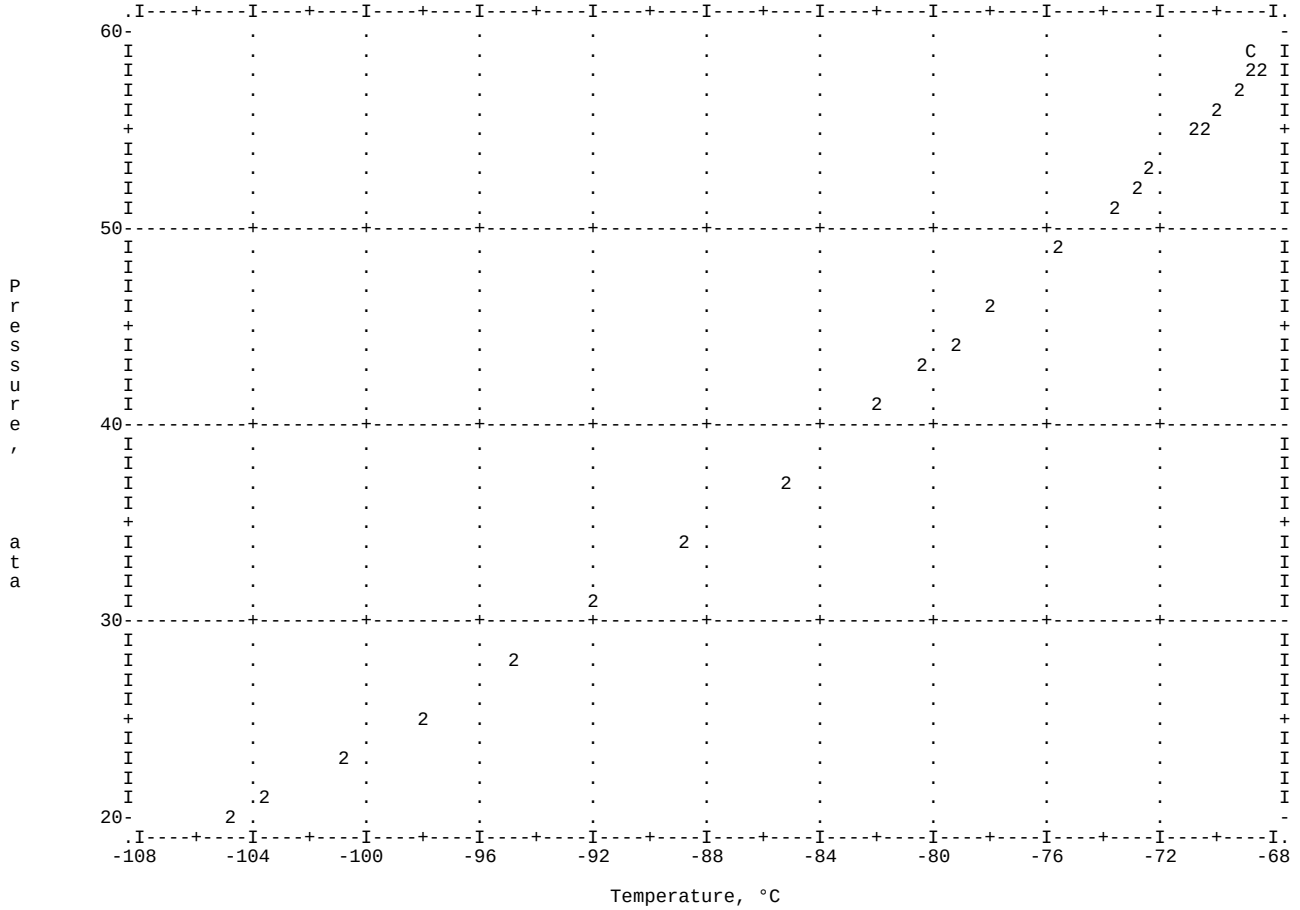


6) *** EQUILIBRIUM CURVE AT VF = 0.200000 ***

Cricondentherm Point - *** NOT DETERMINED ***
Cricondenbar Point - *** NOT DETERMINED ***
Critical Point - Temp -68.700 °C - Pres 58.7164 ata
Max Temp/Pres Point - Temp -68.515 °C - Pres 58.3681 ata

1)	L/F 0.800000	PRES	20.0000	ata	TEMP	-104.943 °C
2)	L/F 0.800000	PRES	21.0000	ata	TEMP	-103.565 °C
3)	L/F 0.800000	PRES	23.0631	ata	TEMP	-100.851 °C
4)	L/F 0.800000	PRES	25.4114	ata	TEMP	-97.949 °C
5)	L/F 0.800000	PRES	27.9963	ata	TEMP	-94.947 °C
6)	L/F 0.800000	PRES	30.8345	ata	TEMP	-91.847 °C
7)	L/F 0.800000	PRES	33.9495	ata	TEMP	-88.643 °C
8)	L/F 0.800000	PRES	37.3636	ata	TEMP	-85.332 °C
9)	L/F 0.800000	PRES	41.0574	ata	TEMP	-81.951 °C
10)	L/F 0.800000	PRES	42.7189	ata	TEMP	-80.490 °C
11)	L/F 0.800000	PRES	44.2927	ata	TEMP	-79.137 °C
12)	L/F 0.800000	PRES	45.7729	ata	TEMP	-77.892 °C
13)	L/F 0.800000	PRES	48.5405	ata	TEMP	-75.630 °C
14)	L/F 0.800000	PRES	50.9370	ata	TEMP	-73.744 °C
15)	L/F 0.800000	PRES	51.9672	ata	TEMP	-72.952 °C
16)	L/F 0.800000	PRES	52.9149	ata	TEMP	-72.237 °C
17)	L/F 0.800000	PRES	54.6356	ata	TEMP	-70.965 °C
18)	L/F 0.800000	PRES	55.3298	ata	TEMP	-70.471 °C
19)	L/F 0.800000	PRES	55.9445	ata	TEMP	-70.043 °C
20)	L/F 0.800000	PRES	57.0042	ata	TEMP	-69.325 °C
21)	L/F 0.800000	PRES	57.7451	ata	TEMP	-68.842 °C
22)	L/F 0.800000	PRES	58.0075	ata	TEMP	-68.690 °C
23)	L/F 0.800000	PRES	58.1927	ata	TEMP	-68.586 °C
24)	L/F 0.800000	PRES	58.3681	ata	TEMP	-68.515 °C

**** PHASE ENVELOPE ****

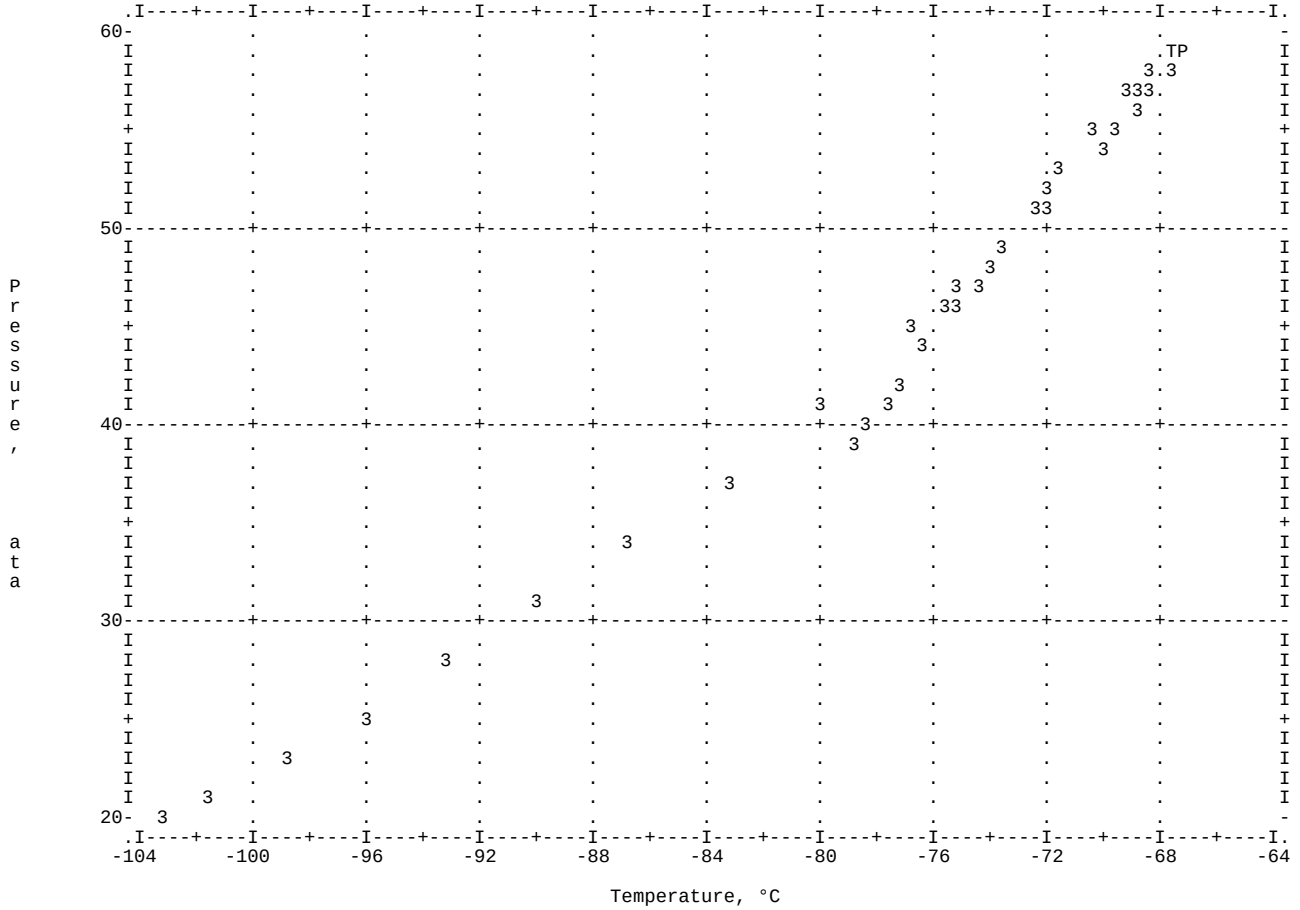


7) *** EQUILIBRIUM CURVE AT VF = 0.500000 ***

Cricondentherm Point - Temp -67.419 °C - Pres 59.0697 ata
Cricondenbar Point - Temp -67.316 °C - Pres 58.6734 ata
Critical Point - *** NOT DETERMINED ***
Max Temp/Pres Point - Temp -67.254 °C - Pres 59.1459 ata

1)	L/F 0.500000	PRES	20.0000	ata	TEMP	-103.128	°C
2)	L/F 0.500000	PRES	21.0000	ata	TEMP	-101.728	°C
3)	L/F 0.500000	PRES	23.0669	ata	TEMP	-98.972	°C
4)	L/F 0.500000	PRES	25.4080	ata	TEMP	-96.045	°C
5)	L/F 0.500000	PRES	28.0062	ata	TEMP	-93.000	°C
6)	L/F 0.500000	PRES	30.8514	ata	TEMP	-89.876	°C
7)	L/F 0.500000	PRES	33.9763	ata	TEMP	-86.661	°C
8)	L/F 0.500000	PRES	37.4057	ata	TEMP	-83.357	°C
9)	L/F 0.500000	PRES	41.1625	ata	TEMP	-79.973	°C
10)	L/F 0.500000	PRES	45.0495	ata	TEMP	-76.705	°C
11)	L/F 0.500000	PRES	46.7754	ata	TEMP	-75.326	°C
12)	L/F 0.500000	PRES	48.3930	ata	TEMP	-74.073	°C
13)	L/F 0.500000	PRES	51.3729	ata	TEMP	-71.870	°C
14)	L/F 0.500000	PRES	53.8743	ata	TEMP	-70.140	°C
15)	L/F 0.500000	PRES	54.9099	ata	TEMP	-69.461	°C
16)	L/F 0.500000	PRES	55.8436	ata	TEMP	-68.873	°C
17)	L/F 0.500000	PRES	56.6387	ata	TEMP	-68.397	°C
18)	L/F 0.500000	PRES	57.9398	ata	TEMP	-67.684	°C
19)	L/F 0.500000	PRES	58.7766	ata	TEMP	-67.313	°C
20)	L/F 0.500000	PRES	58.9961	ata	TEMP	-67.265	°C
21)	L/F 0.500000	PRES	59.0697	ata	TEMP MAX	-67.419	°C
22)	L/F 0.500000	PRES	59.1459	ata	TEMP	-67.254	°C
23)	L/F 0.500000	PRES MAX	58.6734	ata	TEMP	-67.316	°C
24)	L/F 0.500000	PRES	59.1084	ata	TEMP	-67.376	°C
25)	L/F 0.500000	PRES	58.7711	ata	TEMP	-67.765	°C
26)	L/F 0.500000	PRES	58.2469	ata	TEMP	-68.205	°C
27)	L/F 0.500000	PRES	57.7708	ata	TEMP	-68.560	°C
28)	L/F 0.500000	PRES	57.2342	ata	TEMP	-68.948	°C
29)	L/F 0.500000	PRES	56.5634	ata	TEMP	-69.392	°C
30)	L/F 0.500000	PRES	54.9636	ata	TEMP	-70.403	°C
31)	L/F 0.500000	PRES	53.2603	ata	TEMP	-71.410	°C
32)	L/F 0.500000	PRES	52.2648	ata	TEMP	-71.984	°C
33)	L/F 0.500000	PRES	51.3402	ata	TEMP	-72.498	°C
34)	L/F 0.500000	PRES	49.3663	ata	TEMP	-73.565	°C
35)	L/F 0.500000	PRES	47.4252	ata	TEMP	-74.563	°C
36)	L/F 0.500000	PRES	46.4924	ata	TEMP	-75.042	°C
37)	L/F 0.500000	PRES	45.5867	ata	TEMP	-75.492	°C
38)	L/F 0.500000	PRES	43.8801	ata	TEMP	-76.329	°C
39)	L/F 0.500000	PRES	42.3717	ata	TEMP	-77.044	°C
40)	L/F 0.500000	PRES	41.6651	ata	TEMP	-77.381	°C
41)	L/F 0.500000	PRES	41.0453	ata	TEMP	-77.671	°C
42)	L/F 0.500000	PRES	39.8936	ata	TEMP	-78.204	°C
43)	L/F 0.500000	PRES	38.9244	ata	TEMP	-78.645	°C
44)	L/F 0.500000	PRES	38.7967	ata	TEMP	-78.704	°C
45)	L/F 0.500000	PRES	38.6918	ata	TEMP	-78.751	°C
46)	L/F 0.500000	PRES	38.6383	ata	TEMP	-78.775	°C
47)	L/F 0.500000	PRES	38.5882	ata	TEMP	-78.798	°C
48)	L/F 0.500000	PRES	38.5884	ata	TEMP	-78.798	°C
49)	L/F 0.500000	PRES	38.5838	ata	TEMP	-78.800	°C

**** PHASE ENVELOPE ****

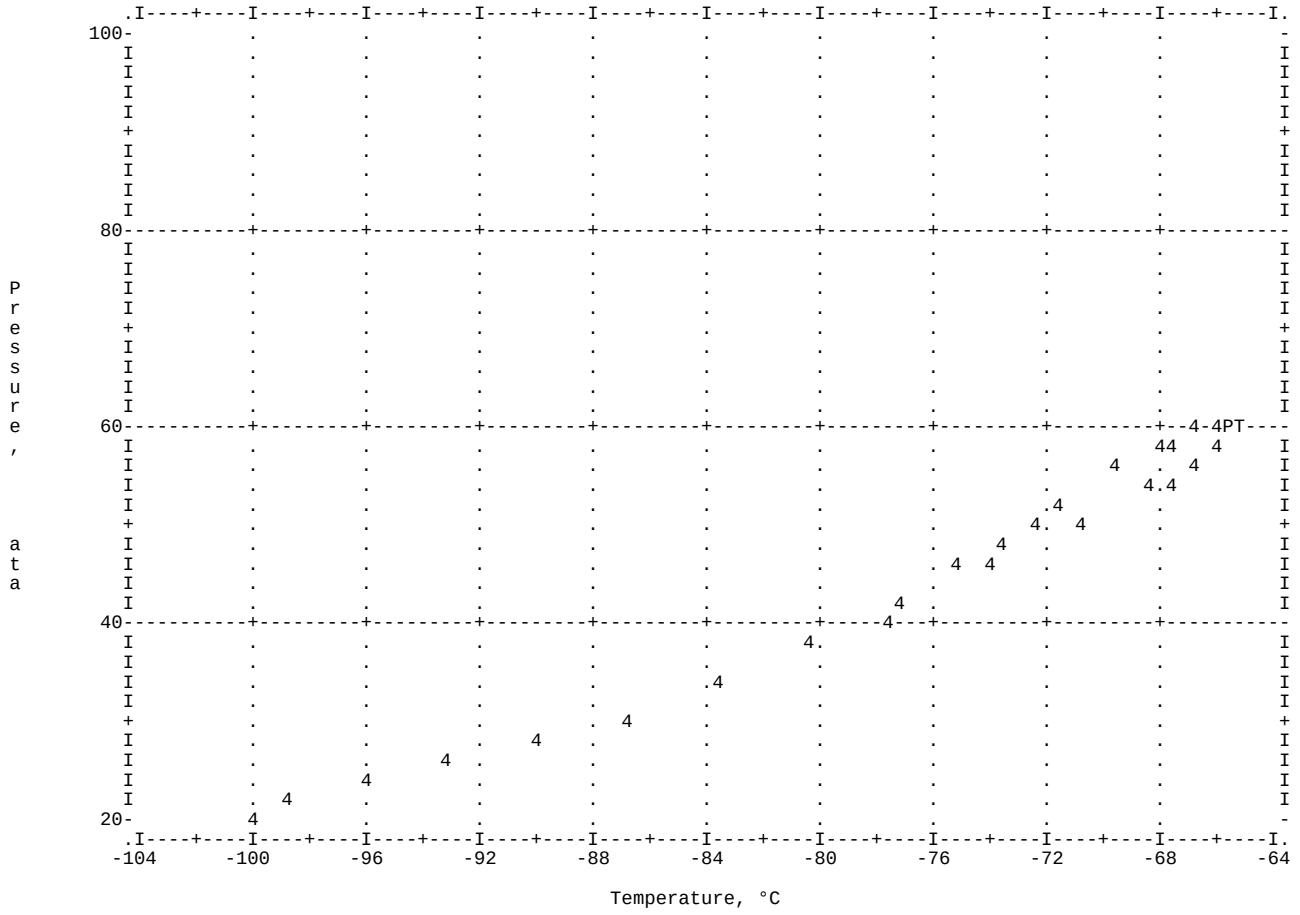


8) *** EQUILIBRIUM CURVE AT VF = 0.700000 ***

Cricondentherm Point - Temp -65.290 °C - Pres 59.8934 ata
Cricondenbar Point - Temp -65.616 °C - Pres 60.5969 ata
Critical Point - *** NOT DETERMINED ***
Max Temp/Pres Point - Temp -65.290 °C - Pres 60.5969 ata

1)	L/F 0.300000	PRES	20.0000	ata	TEMP	-100.185	°C
2)	L/F 0.300000	PRES	21.0000	ata	TEMP	-98.769	°C
3)	L/F 0.300000	PRES	23.0709	ata	TEMP	-95.980	°C
4)	L/F 0.300000	PRES	25.4007	ata	TEMP	-93.055	°C
5)	L/F 0.300000	PRES	28.0273	ata	TEMP	-89.976	°C
6)	L/F 0.300000	PRES	30.8812	ata	TEMP	-86.863	°C
7)	L/F 0.300000	PRES	34.0197	ata	TEMP	-83.679	°C
8)	L/F 0.300000	PRES	37.4658	ata	TEMP	-80.436	°C
9)	L/F 0.300000	PRES	41.2480	ata	TEMP	-77.149	°C
10)	L/F 0.300000	PRES	45.3887	ata	TEMP	-73.849	°C
11)	L/F 0.300000	PRES	49.5430	ata	TEMP	-70.844	°C
12)	L/F 0.300000	PRES	53.1024	ata	TEMP	-68.532	°C
13)	L/F 0.300000	PRES	54.5862	ata	TEMP	-67.651	°C
14)	L/F 0.300000	PRES	55.9110	ata	TEMP	-66.917	°C
15)	L/F 0.300000	PRES	58.1164	ata	TEMP	-65.850	°C
16)	L/F 0.300000	PRES	59.5954	ata	TEMP	-65.345	°C
17)	L/F 0.300000	PRES	59.8934	ata	TEMP MAX	-65.290	°C
18)	L/F 0.300000	PRES	60.0232	ata	TEMP	-65.300	°C
19)	L/F 0.300000	PRES	60.2651	ata	TEMP	-65.376	°C
20)	L/F 0.300000	PRES MAX	60.5969	ata	TEMP	-65.616	°C
21)	L/F 0.300000	PRES	60.1794	ata	TEMP	-65.885	°C
22)	L/F 0.300000	PRES	59.3113	ata	TEMP	-66.826	°C
23)	L/F 0.300000	PRES	58.5775	ata	TEMP	-67.432	°C
24)	L/F 0.300000	PRES	57.6550	ata	TEMP	-68.122	°C
25)	L/F 0.300000	PRES	55.2245	ata	TEMP	-69.759	°C
26)	L/F 0.300000	PRES	52.2356	ata	TEMP	-71.575	°C
27)	L/F 0.300000	PRES	50.5805	ata	TEMP	-72.510	°C
28)	L/F 0.300000	PRES	48.8614	ata	TEMP	-73.445	°C
29)	L/F 0.300000	PRES	45.1950	ata	TEMP	-75.348	°C
30)	L/F 0.300000	PRES	41.6278	ata	TEMP	-77.101	°C
31)	L/F 0.300000	PRES	41.4074	ata	TEMP	-77.209	°C
32)	L/F 0.300000	PRES	40.9985	ata	TEMP	-77.404	°C
33)	L/F 0.300000	PRES	40.9368	ata	TEMP	-77.433	°C
34)	L/F 0.300000	PRES	40.8668	ata	TEMP	-77.466	°C
35)	L/F 0.300000	PRES	40.8366	ata	TEMP	-77.481	°C
36)	L/F 0.300000	PRES	40.8208	ata	TEMP	-77.488	°C
37)	L/F 0.300000	PRES	40.8619	ata	TEMP	-77.470	°C
38)	L/F 0.300000	PRES	40.8021	ata	TEMP	-77.497	°C
39)	L/F 0.300000	PRES	40.8235	ata	TEMP	-77.488	°C
40)	L/F 0.300000	PRES	40.8141	ata	TEMP	-77.491	°C
41)	L/F 0.300000	PRES	40.8580	ata	TEMP	-77.473	°C
42)	L/F 0.300000	PRES	40.8058	ata	TEMP	-77.495	°C

**** PHASE ENVELOPE ****

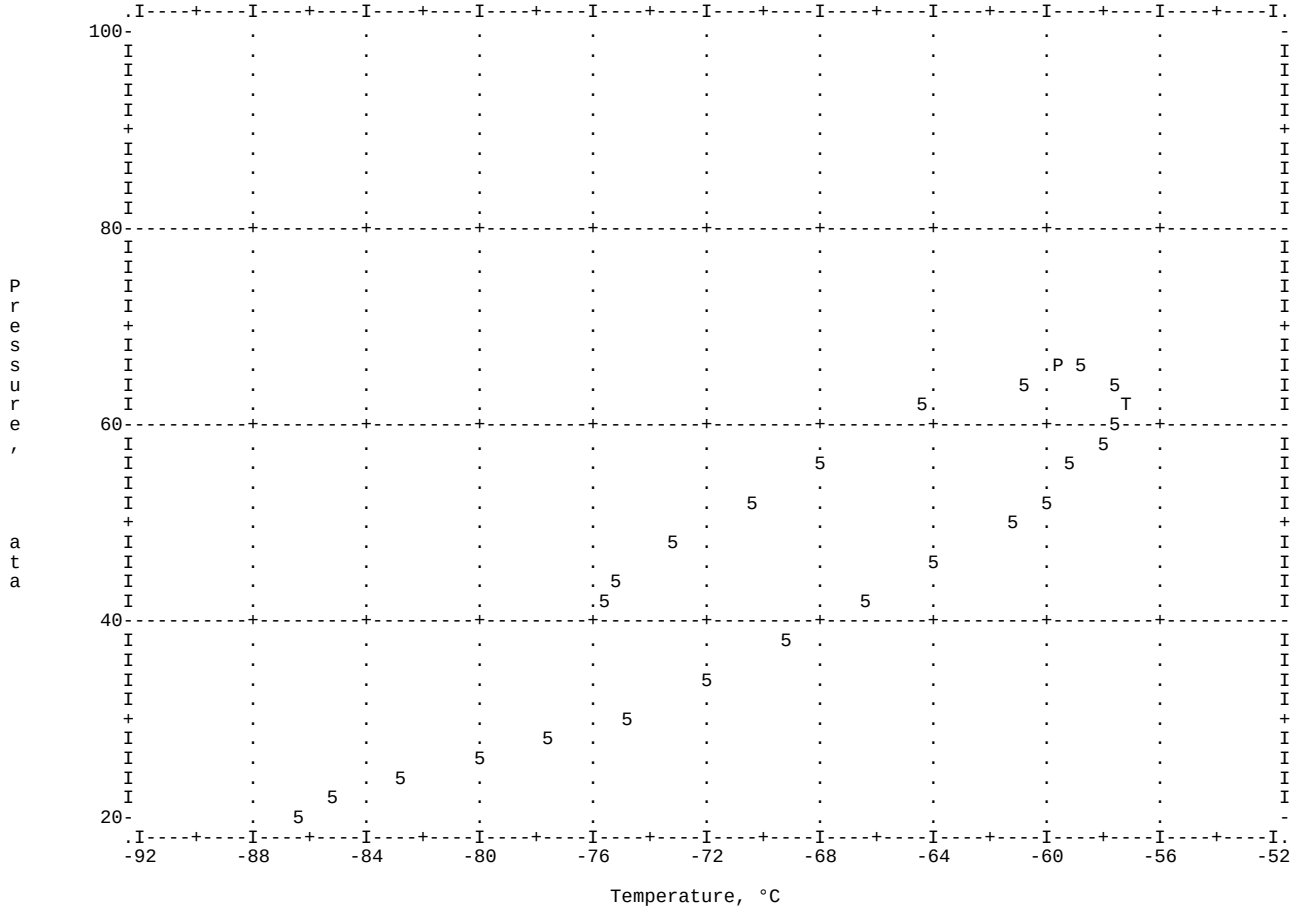


9) *** EQUILIBRIUM CURVE AT VF = 0.900000 ***

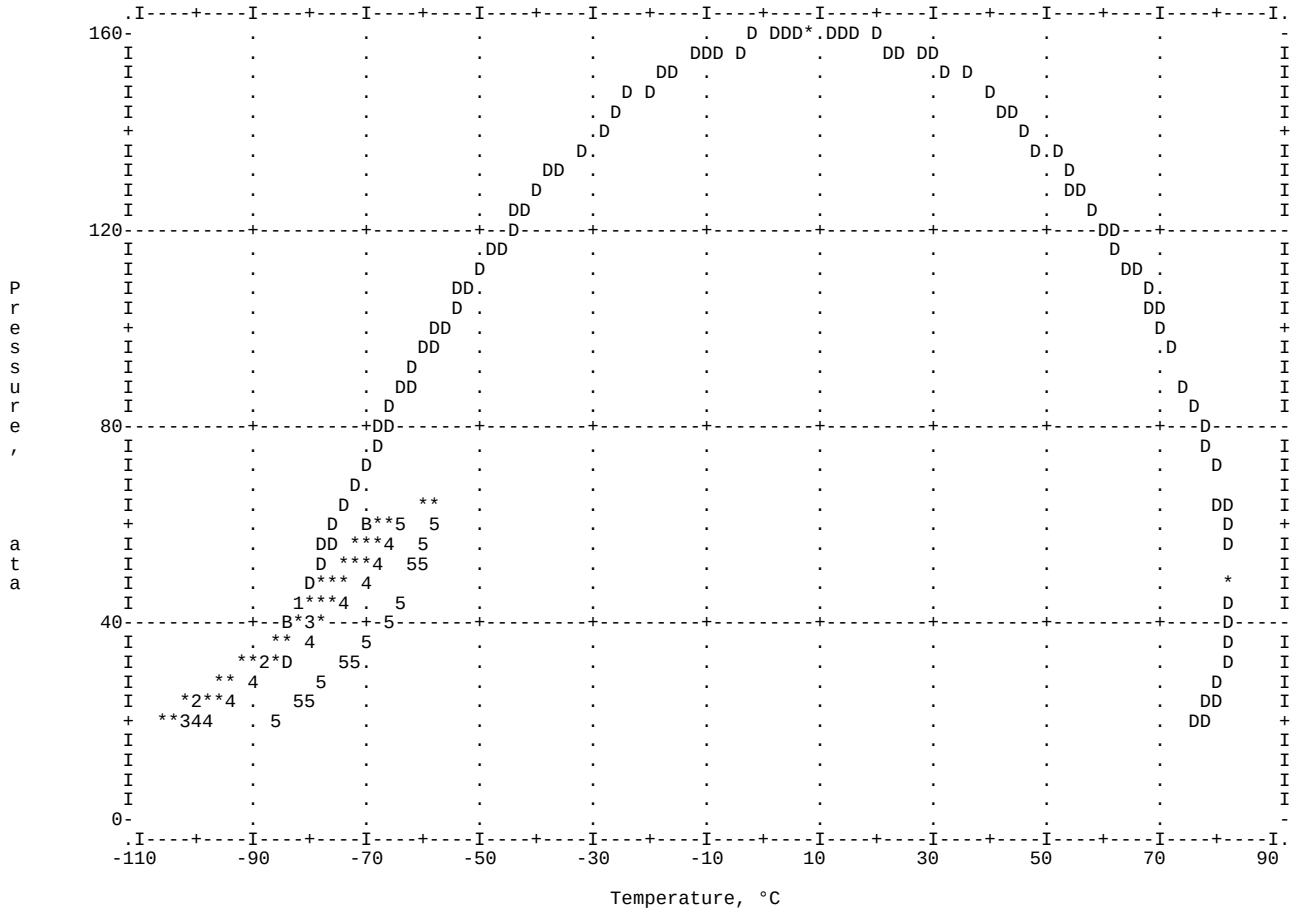
Cricondentherm Point - Temp -57.133 °C - Pres 62.2555 ata
Cricondenbar Point - Temp -59.459 °C - Pres 65.6956 ata
Critical Point - *** NOT DETERMINED ***
Max Temp/Pres Point - Temp -57.133 °C - Pres 65.6956 ata

1)	L/F 0.100000	PRES	20.0000 ata	TEMP		-86.593 °C
2)	L/F 0.100000	PRES	21.0000 ata	TEMP		-85.298 °C
3)	L/F 0.100000	PRES	23.0743 ata	TEMP		-82.764 °C
4)	L/F 0.100000	PRES	25.4112 ata	TEMP		-80.125 °C
5)	L/F 0.100000	PRES	27.9860 ata	TEMP		-77.448 °C
6)	L/F 0.100000	PRES	30.8324 ata	TEMP		-74.731 °C
7)	L/F 0.100000	PRES	33.9770 ata	TEMP		-71.989 °C
8)	L/F 0.100000	PRES	37.4525 ata	TEMP		-69.239 °C
9)	L/F 0.100000	PRES	41.2975 ata	TEMP		-66.507 °C
10)	L/F 0.100000	PRES	45.5298 ata	TEMP		-63.849 °C
11)	L/F 0.100000	PRES	50.1795 ata	TEMP		-61.345 °C
12)	L/F 0.100000	PRES	52.7390 ata	TEMP		-60.160 °C
13)	L/F 0.100000	PRES	55.5967 ata	TEMP		-59.017 °C
14)	L/F 0.100000	PRES	58.1673 ata	TEMP		-58.192 °C
15)	L/F 0.100000	PRES	60.4067 ata	TEMP		-57.665 °C
16)	L/F 0.100000	PRES	62.2555 ata	TEMP	MAX	-57.133 °C
17)	L/F 0.100000	PRES	63.8323 ata	TEMP		-57.520 °C
18)	L/F 0.100000	PRES	65.3543 ata	TEMP		-58.629 °C
19)	L/F 0.100000	PRES MAX	65.6956 ata	TEMP		-59.459 °C
20)	L/F 0.100000	PRES	64.6225 ata	TEMP		-60.930 °C
21)	L/F 0.100000	PRES	61.2485 ata	TEMP		-64.378 °C
22)	L/F 0.100000	PRES	56.4542 ata	TEMP		-67.872 °C
23)	L/F 0.100000	PRES	52.0314 ata	TEMP		-70.595 °C
24)	L/F 0.100000	PRES	47.5848 ata	TEMP		-73.071 °C
25)	L/F 0.100000	PRES	43.3124 ata	TEMP		-75.275 °C
26)	L/F 0.100000	PRES	42.8387 ata	TEMP		-75.510 °C
27)	L/F 0.100000	PRES	42.6812 ata	TEMP		-75.589 °C
28)	L/F 0.100000	PRES	42.7046 ata	TEMP		-75.576 °C
29)	L/F 0.100000	PRES	42.6998 ata	TEMP		-75.579 °C
30)	L/F 0.100000	PRES	42.6950 ata	TEMP		-75.581 °C
31)	L/F 0.100000	PRES	42.6896 ata	TEMP		-75.584 °C
32)	L/F 0.100000	PRES	42.6874 ata	TEMP		-75.586 °C
33)	L/F 0.100000	PRES	42.6693 ata	TEMP		-75.590 °C
34)	L/F 0.100000	PRES	42.6692 ata	TEMP		-75.594 °C

**** PHASE ENVELOPE ****



**** PHASE ENVELOPE ****



 *** STREAM DATA CALCULATION AND STORING ***

    Stream 'FEED   ' pvt/thermo/trans props calculated
    Stream 'PROD1   ' pvt/thermo/trans props calculated
 Stream 'PROD2   ' has NULL flowrate - Props NOT calculated

* STREAM 'FEED ', feed of unit(s) 1 'V1 ' 2 'PHAS01 '

- Temperature -30.00 °C - Pressure 133.3000 ata

Phase		VAPOR
Molar Flow Rate	kmol/h	6118.079
Weight Flow Rate	kg/h	111071.879
Molar Fraction		1.000000
Weight Fraction		1.000000
Molecular Weight		18.1547
Std Vap Vol Rate	N-m3/h	144661.0193
Enthalpy	Mcal/h	-10028.4849
Spec. Enthalpy	kcal/kg	-90.288
	kcal/kmol	-1639.155

Reference Gas Status - Temperature 15°C - Pressure 1 atm

No	Components	TOTAL Mol. Rate kmol/h	TOTAL Mol. Fr	PHASE Wt. Rate kg /h	PHASE Wt. Fr.
1	NITROGEN	16.240	0.002654	454.882	0.004095
2	CARBON DIOXIDE	61.820	0.010104	2720.698	0.024495
3	METHANE	5575.039	0.911240	89423.588	0.805097
4	ETHANE	307.360	0.050238	9242.314	0.083210
5	PROPANE	89.010	0.014549	3925.342	0.035341
6	ISOBUTANE	18.660	0.003050	1084.519	0.009764
7	BUTANE	18.910	0.003091	1099.049	0.009895
8	ISOPENTANE	6.010	0.000982	433.621	0.003904
9	PENTANE	5.360	0.000876	386.724	0.003482
10	HEXANE	10.130	0.001656	873.003	0.007860
11	HEAVY	9.540	0.001559	1428.138	0.012858
***	TOTAL ***	6118.079	1.000000	111071.879	1.000000

* STREAM 'PROD1 ', product of unit 1 'V1 '

- Temperature -30.00 °C - Pressure 133.3000 ata

Phase		VAPOR
Molar Flow Rate	kmol/h	6118.079
Weight Flow Rate	kg/h	111071.879
Molar Fraction		1.000000
Weight Fraction		1.000000
Molecular Weight		18.1547
Std Vap Vol Rate	N-m3/h	144661.0193
Enthalpy	Mcal/h	-10028.4849
Spec. Enthalpy	kcal/kg	-90.288
	kcal/kmol	-1639.155

Reference Gas Status - Temperature 15°C - Pressure 1 atm

No	Components	TOTAL Mol. Rate kmol/h	TOTAL Mol. Fr	PHASE Wt. Rate kg /h	PHASE Wt. Fr.
1	NITROGEN	16.240	0.002654	454.882	0.004095
2	CARBON DIOXIDE	61.820	0.010104	2720.698	0.024495
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***	TOTAL ***	6118.079	1.000000	111071.879	1.000000

*** STREAM INDEX ***

 - Calculation time 0.62 sec

 - Simulation no. 14 - Ended at 12.25.16 on SEP 18, 2008 -

XPSIM, Steady State Process Simulation Software
Version 1.06
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