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Computer Calculation of Binary Organic Liquid Recovery by Condensation From Mixtures of Binary Organic Vapor and Air

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Computer Calculation of Binary Organic Liquid Recovery by Condensation From Mixtures of Binary Organic Vapor and Air

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UNITED STATES DEPARTMENT OF THE INTERIOR
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CONTENTS

ILLUSTRATIONS

TABLES

COMPUTER CALCULATION OF BINARY ORGANIC LIQUID RECOVERY BY CONDENSATION FROM MIXTURES OF BINARY ORGANIC VAPOR AND AIR

by

John P. Gooch[1] and James S. Browning[2]

ABSTRACT

The Bureau of Mines wrote a computer program which calculates the saturation curves and condensation characteristics of gaseous mixtures consisting of binary organic vapor and air. The program employs an algorithm which assumes an equilibrium mechanism for condensation, and the degree of fractionation obtained is predicted on the basis of relative volatility. The program incorporates a feature which allows the user to examine the fractionation resulting from condensation as a function of the size of the temperature increments over which condensation is assumed to occur. If a single temperature interval between the dewpoint of the mixture and the outlet temperature of the condenser is assumed for the calculation, the results obtained will be those resulting from a single equilibrium condensation. If the condensation is assumed to occur over a number of temperature increments, the results obtained will approach those predicted by the Rayleigh equation as the magnitude of the temperature increments approaches zero.

The results from calculations performed on vapor mixtures from organic heavy liquid solutions used in beneficiating potash and brucite ores are presented. The liquids are solutions of dibromomethane in trichloroethylene or perchloroethylene. The results show the degree of liquid recovery which is possible by cooling mixtures of organic vapor in air. Compositions of the vapor range from 10 to 95 percent air, and assumed condenser exit temperatures range from 110° to 50° F.

INTRODUCTION

The use of heavy organic liquids with uniform chemical and physical properties potentially offers the best method for gravity separation of fine, solid particles of relatively close specific gravity. Such liquids have not been widely used commercially because a fully effective method of recovering the liquids has not been established.(10).[3]

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[2]Supervisory metallurgist.

[3]Underlined numbers in parentheses refer to items in the list of references preceding the appendixes.

Current research concerning mineral beneficiation underway at the Bureau of Mines has among its objectives the development of heavy liquid separation methods for beneficiating minerals. A pilot plant has been constructed at the Tuscaloosa Metallurgy Research Laboratory to investigate the beneficiation of potash and brucite ores using heavy liquid separation techniques. The pilot plant employs rotary steam tube dryers with countercurrent airflow, a condenser, and a charcoal adsorber to evaporate and recover the organic liquid remaining on the ore when it is fed to the dryers.

The amount and composition of organic liquid which can be recovered by condensation is a function of (1) the composition of the organic liquid, (2) the amount of air flowing through the system, and (3) the temperature to which the air-vapor mixture is cooled. This paper reports the development of a computer program which predicts the effect of the aforementioned variables on the recovery of organic liquid by condensation. Such a program will be valuable in developing the most effective means of recovering the organic vapor produced by the drying operation.

The organic liquids used in this study consist of solutions of dibromomethane (CH_2Br_2) with either trichloroethylene (C_2HCl_3) or perchloroethylene (C_2Cl_4).

THEORY

Equilibrium Relationships

In order to calculate the compositions of vapor and liquid streams resulting from condensation of condensable vapors from saturated air mixtures, using relative volatility as a basis, the assumption must first be made that the vapor and liquid phases are in thermodynamic equilibrium. The most convenient representation of the required equilibrium relationship for a component between the vapor and liquid phases is the distribution coefficient K_1, where[4]

$$K_1 = y_1/x_1 . \qquad (1)$$

The correlation of K values for nonideal solutions has been the subject of extensive study, but for ideal solutions

$$K_1 = p_1^*/p, \qquad (2)$$

which is a form of Raoult's law (8). The representation of the equilibrium relationship thus reduces to the representation of the vapor pressure of each component. Since the organic liquids used in this investigation are either type 4 or type 5 liquids in the Ewell, Harrison, and Berg classification (8), nearly ideal solutions will be formed, and the assumption of ideality will not introduce significant error. The assumption of ideal behavior of gases is valid since the total system pressure will not exceed one atmosphere.

[4]Definitions of all symbols used in this report are given in appendix A, located on page 30.

An integrated form of the Clausius-Clapeyron equation, which assumes that ΔC_p may be taken as approximately constant over short ranges of temperature, was employed to represent the vapor pressure of the compounds used in this study. The equation is as follows:

$$\ln p_i^* = -A_i/RT + B_i(\ln T) + C_i, \qquad (3)$$

where p_i^* is in mm Hg and T is in ° K (2). This equation is more amenable to a least-squares computer-fitting procedure than the more commonly used Antoine equation. The term A_i in equation 3 is related to the heat of vaporization, B_i is $\Delta C_p/R$, and C_i is a constant of integration. A nonlinear least-squares computer program furnished by the Chemical Engineering Department of the University of Alabama was employed to fit the above equation to vapor pressure data for each compound. Table 1 gives the observed and predicted vapor pressure data for the compounds, together with the least-square estimates of the parameters generated by the least squares computer program. This form of the Clausius-Clapeyron equation was employed in the dewpoint and flash routines of the program discussed herein.

TABLE 1. - Observed and predicted values of vapor pressure Clausius-Clapeyron Equation

Component	Temperature, ° C	Vapor pressure, mm Hg		Constants		
		Observed[1]	Predicted	A_i	B_i	C_i
CH_2Br_2.....	-2.4	10.0	9.96	10021.475	-2.3002231	33.810324
	23.3	40.0	40.7			
	42.3	100.0	98.2			
	79.0	400.0	403.4			
	98.6	760.0	757.8			
C_2HCl_3.....	-12.4	10.0	10.0	10252.610	-3.4919980	41.521236
	11.9	40.0	39.7			
	31.4	100.0	100.4			
	67.0	400.0	401.8			
	86.7	760.0	757.4			
C_2Cl_4.....	-20.6	1.0	1.00	11841.303	-4.1591511	46.605493
	13.8	10.0	9.98			
	40.1	40.0	39.6			
	61.3	100.0	100.7			
	100.0	400.0	405.4			
	120.8	760.0	751.8			

[1]Weast, Robert C. (ed.). Handbook of Chemistry and Physics. The Chemical Rubber Co., Cleveland, Ohio, 45th ed., 1964, pp. D-103--D-108.

Saturation Temperature Calculation

The saturation temperature or dewpoint of a multicomponent vapor mixture is defined as that temperature at which the first drop of condensate forms as

the vapor is cooled. This drop must be in thermodynamic equilibrium with the total vapor mixture. Furthermore, the sum of the mole fractions in the drop must equal 1.0--that is, $\sum_{i=1}^{n} x_i = 1.0$. Since at any temperature $x_i = y_i/K_i$, the calculation of the dewpoint (8) is a trial-and-error procedure consisting of a search for the temperature at which $\sum_{i=1}^{n} y_i/K_i = 1.0$. Air acts only as a vapor-phase diluent in the dewpoint calculation if it is regarded as a totally noncondensable gas, since x_{air} will always equal zero. If the temperature of the air-organic vapor mixture falls below the dewpoint of water vapor contained in the air, water will condense as a separate liquid phase, immiscible with the organic liquids used in this study. In most practical situations, however, the organic dewpoint is considerably higher than the water vapor dewpoint of an air mixture, and any water vapor condensate which does form will have little effect on the amount and composition of organic liquid obtained by condensation. This is true because most of the organic will have condensed before the water condensate begins to form. The total pressure is assumed to be 760 mm Hg at all points in the system.

The calculation of saturation temperatures or dewpoints can easily be automated by means of the Newton-Raphson method (6) for finding the root of an equation. This method holds that given a function of x such that $f(x) = 0$, and given an approximation x_k to a root of this equation, a better approximation is obtained by

$$x_{k+1} = x_k - f(x_k)/f'(x_k), \tag{4}$$

where $f'(x_k)$ is the derivative of $f(x)$ evaluated at x_k with respect to x, and k is the iteration index (5).

The dewpoint relationship may be expressed in the required form as

$$f(T) = \sum_{i=1}^{n} y_i/K_i - 1 = 0, \tag{5}$$

in which

$$K_i = p_i^*/760 = [\exp(-A_i/RT + B_i(\ln T) + C_i)]/760, \tag{6}$$

where $\exp(x) = e^x$.

Taking the derivative of f(T) with respect to T yields

$$f'(T) = \sum_{i=1}^{n} (y_i/K_i)(-A_i/RT^2 - B_i/T). \tag{7}$$

Now if we define

$$\Delta T = T_{k+1} - T_k, \tag{8}$$

then we can make the approximation that

$$\Delta T = -f(T_k)/f'(T_k) \tag{9}$$

and

$$T_{k+1} = T_k + \Delta T. \tag{10}$$

The saturation curve portion of the computer program uses this procedure to calculate the dewpoint of binary organic vapor and air mixtures in intervals of 2-volume-percent air from 0- to 98-percent air.

The composition of the first drop of liquid organic condensate formed at the saturation temperature is calculated after the dewpoint routine has converged. These compositions may be calculated by

$$x_i = y_i/K_i, \tag{11}$$

using the dewpoint temperature to evaluate K_i.

The computer program can, therefore, calculate the saturation curve for any organic and air system in which Raoult's law may be assumed and for which vapor pressure data is available. Saturation curves for any one of the pure organic components can also be obtained. The program presented here is written for a system containing air plus two organic components. The program is written to read an initial estimate for the dewpoint, calculate the dewpoint of the organic mixture with no air present, and then use each previously calculated point as an estimate for the succeeding point as more air is added to the system. The routine requires an initial estimate reasonably close to the true value of the dewpoint in order to converge.

Condensate Recovery Calculation

If a mixture of air and a single condensable organic vapor are cooled to a temperature below the dewpoint of the organic vapor in a partial condenser, the composition of the vapor leaving the condensor is determined by the fact that the air is saturated at the exit temperature. The mole fraction organic in the exit gas stream is equal to the vapor pressure of the organic at the exit temperature divided by the total system pressure.

When two or more organic vapors are present, some fractionation takes place, and relatively more of the high-boiling components will be condensed than will the low-boiling components. The exit temperature and pressure and the condition of saturation are not sufficient to determine the composition of the gas in the case for multiple condensates. An analysis of a two-phase system consisting of air and two volatile organic liquids by means of the Gibbs phase rule (2) will indicate that three variables must be specified in order to completely determine the state of the system. Temperature and total pressure of the streams leaving a partial condenser are known, and in addition, one composition must be determined by assuming a mechanism by which the fractional condensation occurs.

In a study of partial condensation of mixtures of methanol and water without air, Timmerman and Nickolls (9) state that the fractionation in a partial condenser cannot be predicted with certainty because of the large number of variables involved. However, three mechanisms of condensation can be visualized:

The first mechanism is simple equilibrium condensation in which the outlet vapor is in equilibrium with the total condensate formed. This is identical to the result obtained from an equilibrium flash condensation in which the temperature of an air-vapor mixture is suddenly lowered to some value below the saturation temperature. Kern (4) uses an incremental version of this mechanism to calculate the condensing curve for a multicomponent mixture in condenser heat transfer design calculations.

A second condensation mechanism is differential condensation, in which each incremental fraction of condensate formed is in equilibrium only with the increment of vapor from which it came. Following condensation, the condensate is removed and is no longer interacting with the vapor phase. This mechanism will produce greater fractionation than the first.

The third possible mechanism for condensation is one in which little or no fractionation may be obtained. If vapor velocity is high, the components may be condensed in approximately the same proportions that they exist in the vapor (9). This could be caused by insufficient time for selective condensation or diffusion of molecules. Colburn and Drew (1), who also studied condensation of methanol and water mixtures, report that large temperature differences between the vapor and the cooling surface and concomitant large rates of condensation will also produce a condensate which approaches the entering vapor in composition.

Since the third condensation mechanism involves a nonequilibrium condition, the degree of fractionation occurring cannot be predicted on the basis of an equilibrium separation resulting from a difference in volatility. Porter and Jeffreys (7) have presented a theoretical treatment which assumes a nonequilibrium differential condensation of binary vapors in the presence of a noncondensable gas. Their method considers simultaneous heat and mass diffusion processes and is based on the difference in diffusivities of the condensable vapors in air.

Timmerman and Nickolls (9) concluded from their experiments that even when the theoretical plate equivalent of a partial condenser is exactly 1.0, it is unlikely that simple equilibrium flash condensation is occurring. Instead, the data indicated that the condensation which occurred was a combination of all three mechanisms previously described.

The algorithm employed in the condensate recovery portion of the computer program in this work is based on the equations developed for equilibrium flash separations (8). An equilibrium flash calculation assumes equilibrium between total condensate and total remaining vapor. If one mole of feed is taken as a basis of calculation, the following relationships describe the

distribution between liquid and vapor phases in a multicomponent system which has undergone partial condensation:

$$F = L + V = 1.0 \tag{12}$$

and

$$z_i F = z_i = Vy_i + Lx_i . \tag{13}$$

Since $x_i = y_i / K_i$,

$$z_i = Vy_i + Ly_i / K_i ; \tag{14}$$

and since $V = \sum_{i=1}^{n} Vy_i = \sum_{i=1}^{n} v_i$,

equation 14 can be rearranged to give

$$V = \sum_{i=1}^{n} \frac{z_i}{1.0 + L/VK_i} . \tag{15}$$

Each vapor phase concentration can be obtained by

$$y_i = \frac{v_i}{V} = \frac{z_i / (1.0 + L/VK_i)}{V} . \tag{16}$$

The total condensate produced is given by

$$L = 1.0 - V, \tag{17}$$

and the condensate compositions are given by

$$x_i = \frac{z_i - v_i}{L} . \tag{18}$$

For a three-component system consisting of air and two condensable organics, a trial-and-error solution is involved in which a value of V is assumed, equation 15 is evaluated at the specified temperature, and then V from equation 15 is compared with the assumed V. This process is repeated until convergence is indicated by V calculated = V assumed.

Convergence is obtained in the computer program by again using the Newton-Raphson method. The flash equation may be expressed as

$$f(V) = \sum_{i=1}^{n} \frac{z_i}{1.0 + L/VK_i} - V = 0 . \tag{19}$$

It should be noted that for air,

$$v_i = \frac{z_i}{1.0 + L/V\infty} = z_i . \tag{20}$$

Taking the derivative of equation 19 with respect to V gives

$$f'(V) = \sum_{i=1}^{n} \frac{z_i/V^2 K_i}{(1.0 + L/VK_i)^2} - 1.0. \tag{21}$$

Then if the conditions of the Newton-Raphson method are satisfied,

$$\Delta V = V_{k+1} - V_k = -f(V)/f'(V) \tag{22}$$

and

$$V_{k+1} = V_k + \Delta V. \tag{23}$$

Convergence is considered to be reached when the absolute value of ΔV is less than 10^{-8}. All calculations in the condensate recovery portion of the program are performed in double precision because of the sensitivity of the method to rounding error.

If the program is called upon to calculate the composition of vapor and liquid resulting from cooling a binary organic vapor and air mixture to a temperature below the saturation temperature in one step, the results obtained will be the simple, single-stage equilibrium condensation mechanism described previously.

With slight modification, however, this same routine can be used to simulate differential condensation. This is accomplished by first dividing the temperature difference between the saturation temperature T_s and the exit temperature into increments designated dT. The entering vapor is assumed to have been subjected to an incremental flash condensation by cooling from T_s to T_s - dT. The liquid resulting from this process is removed from the system and the composition of the remaining vapor is calculated. One mole of the vapor exiting from the first incremental condensation is assumed to be feed for the next condensation, which occurs at T_s-2dT. The amount of each component condensed over each temperature increment is first calculated by assuming one mole of vapor as feed. However, for every temperature interval following the first, the amount of vapor feed to the next succeeding condensation is not one mole, but is equal to one mole less all the condensate which has been produced in previous intervals. Therefore, the amount of condensate of each component predicted by the flash calculation at each temperature must be multiplied by 1.0 minus the sum of all liquid that has condensed at previous points.

When the required condenser exit temperature is reached, the exit vapor is the composition calculated for the vapor leaving the last temperature interval. The liquid condensate composition is obtained by summing the amounts of each component obtained over all the intervals and dividing the total amount of component i by the total moles of organic liquid condensed.

The degree of fractionation predicted is a function of the size of the temperature increment chosen. As dT approaches 0, thus coming closer to a true differential, the amount of each component in the vapor dl_i which

condenses also approaches a true differential. For any component,

$$dl_1 = -dv_1 , \tag{24}$$

where the minus sign indicates a loss of material from the vapor phase. The composition of the liquid formed will be determined by the equilibrium ratios of the components. Since $x_1 = y_1/K_1$, it follows that for each increment condensed,

$$x_1 = \frac{dl_1}{dl_1+dl_2+dl_3+\ldots} = \left(\frac{1}{K_1}\right)\left(\frac{v_1}{v_1+v_2+v_3+\ldots}\right) . \tag{25}$$

Writing a similar equation for any other component 2 and dividing into the above equation yields

$$\frac{dl_1}{dl_2} = \left(\frac{K_2}{K_1}\right)\left(\frac{v_1}{v_2}\right) = \alpha_{21}\left(\frac{v_1}{v_2}\right) . \tag{26}$$

Substitution of equation 24 into the above equation yields

$$\frac{-dv_1}{-dv_2} = \alpha_{21}\left(\frac{v_1}{v_2}\right) \tag{27}$$

or

$$\frac{-dv_1}{v_1} = \alpha_{21}\left(\frac{-dv_2}{v_2}\right) . \tag{28}$$

If α_{21} can be assumed constant, equation 28 can be integrated to give

$$\ln\left(\frac{v_1}{(v_1)_o}\right) = \alpha_{21}\left[\ln\left(\frac{v_2}{(v_2)_o}\right)\right] \text{ or } \frac{v_1}{(v_1)_o} = \left[\frac{v_2}{(v_2)_o}\right]^{\alpha_{21}} , \tag{29}$$

where the subscript o refers to initial conditions (3). This is a form of the familiar Rayleigh equation which describes batch distillations. Thus it can be seen that the results produced by the algorithm approach a Rayleigh-type integration as dT approaches zero. The algorithm results will actually be a closer approximation to a true differential condensation than will equation 29 for small temperature increments, because α_{21} will change over a wide temperature range. The computer routine corrects for this by calculating K_1 for each temperature increment.

Table 2 illustrates the manner in which the results from the computer program approach agreement with the Rayleigh equation as the size of the temperature increment decreases. The α_{21} value was obtained by taking the geometric mean of α between 208° and 100° F.

TABLE 2. - Degree of fractionation versus temperature increment

Entering gas composition: 0.4119 moles CH_2Br_2 (component 1); 0.2881 moles C_2Cl_4 (component 2); 0.3000 moles air.

Temperature increment,[1] ° F	$\frac{v_1}{(v_1)_o}$	$\left[\frac{v_2}{(v_2)_o}\right]^{\alpha_{21}}$
108.0	0.0491	0.164
2.0	0.0776	0.0844
1.0	0.0781	0.0823
0.5	0.0783	0.0815

[1]Saturation temperature, 208° F; exit temperature, 100° F.

Both sides of equation 29 were evaluated from the condensate recovery tables. The results for the 108° F temperature interval are identical to those obtained from a single equilibrium condensation, and the Rayleigh equation does not apply. Thus, the left and right sides of equation 29 evaluated from the computer printouts do not agree. The 2.0° F increment divides the calculation into 54 equilibrium condensations, and the results are in closer agreement with equation 29. As the temperature increment decreases in size and approaches zero, the number of calculations approaches infinity and the results obtained approach those predicted by the Rayleigh equation. Note also that with decreasing temperature increment, the fraction of the most volatile component (CH_2Br_2) remaining in the vapor increases, while the fraction of the least volatile component (C_2Cl_4) decreases.

PROGRAM STRUCTURE

The computer program used in this investigation is shown in table 3. The program was written in FORTRAN IV and was run on the University of Alabama's IBM 360/50 computer. It consists of two main sections. The first section, which includes lines 1 through 67, calculates the saturation, or dewpoint, curve. The DO statement on line 26, which extends control through statement number 103 on line 48, increments the dewpoint calculation in intervals of 2 volume-percent air. The integer variable J is associated with the amount of air in the mixture, and the integer variable I is the component index. All temperatures are converted in the program to ° K.

Table 4 shows data for a typical saturation curve. The compositions of the first drop of condensate and the vapor mixture in equilibrium with the condensate are given in mole-percent along with the temperature in ° F at which condensation occurs. Note that the first line is the dewpoint of the organic liquid with no air in the system.

The compositions of the condensate formed from the entering vapor and the composition of the remaining vapor are given in mole-percent. The exit vapor compositions are also calculated on an air-free basis. Total weight-percent recovery results are obtained by calculating the total weight of condensate obtained per mole of entering vapor and dividing by the weight of total organic feed per mole of entering vapor.

TABLE 3. - Computer program

```
      C  INPUT
0001        INTEGER DATA(20)
0002        DOUBLE PRECISION A(2),B(2),C(2),DEK(2),ZF(3,20),ZLV(3),YA(3,50),
           1XC(2,50),XR(2,20),YAC(2,20),ZM(2),X(2),PA(20),Z(2),
           2T,SV,SVP,ZLP,FV,FVP,V,DLV,TV,TOL,RTL(2),SRL(2),FT(3,20)
0003        DIMENSION IC(30),TE(20),ZFP(3,20),XO(50),AI(50),TS(50)
0004        DATA KEY/4H    /
0005        IK=0
0006      4 READ(5,6) (DATA(I),I=1,20)
0007      6 FORMAT(20A4)
0008        IF(DATA(1).EQ.KEY) GO TO 1000
0009        IK=IK+1
0010        IF(IK.GT.1) GO TO 9
0011        READ(5,3) (IC(I),I=1,30)
0012      3 FORMAT(30A2)
0013        READ(5,7) (A(I),B(I),C(I),ZM(I),I=1,2)
0014      7 FORMAT(4G20.5)
0015        READ(5,8) T
0016      8 FORMAT(G10.5)
0017        TR=T+460.
0018        T=TR/1.80
0019        TG=T
0020      9 READ(5,8) Z(1)
0021        Z(2)=1.0-Z(1)
0022        IF(IK.GT.1) T=TG
      C  CALCULATE MOLE FRACTIONS
      C  BASIS=100 GRAMS LIQUID
0023        ZNO=Z(1)*100.0/ZM(1)+Z(2)*100.0/ZM(2)
0024        X(1)=(Z(1)*100.0/ZM(1))/ZNO
0025        X(2)=1.0-X(1)
      C  LOOPS FOR SATURATION CURVE
0026        DO 103 J=1,50
0027        JT=J-1
0028        ZJT=JT
0029        XO(J)=1.0-ZJT*0.02
0030        ZNT=ZNO/XO(J)
0031      100 AFT=0.0
0032        FTP=0.0
0033        DO 101 I=1,2
0034        YA(I,J)=X(I)*ZNO/ZNT
0035        ZLP=-A(I)/((1.9869D0)*T)+B(I)*DLOG(T)+C(I)
0036        EK=(DEXP(ZLP))/760.0
0037        AFT=AFT+YA(I,J)/EK
0038      101 FTP=FTP+(YA(I,J)/EK)*(-A(I)/(1.987*T*T)-B(I)/T)
0039        AFT=AFT-1.0
0040        DELT=AFT/FTP
0041        IF(ABS(DELT).LT.0.001) GO TO 102
0042        T=T-DELT
0043        GO TO 100
0044      102 TS(J)=T
0045        DO 103 I=1,2
0046        ZLP=-A(I)/((1.9869D0)*T)+B(I)*DLOG(T)+C(I)
0047        EK=(DEXP(ZLP))/760.0
0048      103 XC(I,J)=YA(I,J)/EK
      C  OUTPUT FOR SATURATION CURVE
0049        WRITE(6,20) (DATA(I),I=1,20)
```

TABLE 3. - Computer program--Continued

```
0050          20 FORMAT(1H1/1X20A4//)
0051             WRITE(6,30) (IC(I),I=1,30)
0052          30 FORMAT(1X,'COMPONENT ONE IS ',15A2/1X,'COMPONENT TWO IS ',15A2)
0053             WRITE(6,31)
0054          31 FORMAT(//T2,'MOLE PERCENT IN CONDENSATE',T31,'MOLE  PERCENT  IN  A
                1IR',T56,'SATURATION TEMP.'/T4,'COMP. 1',T18,'COMP. 2',T31,'COMP. 1
                2 COMP. 2    AIR',T61,'DEG. F.'/)
0055             DO 35 J=1,50
0056             DO 32 I=1,2
0057             YA(I,J)=YA(I,J)*100.0
0058          32 XC(I,J)=100.0*XC(I,J)
0059             AI(J)=100.0-100.0*XO(J)
0060             TS(J)=TS(J)*1.8-460.
0061             DO 251 I=1,2
0062             IF(YA(I,J).LT.0.001) YA(I,J)=0.0
0063             IF(XC(I,J).LT.0.001) XC(I,J)=0.0
0064         251 CONTINUE
0065             WRITE(6,33) (XC(I,J),I=1,2),(YA(I,J),I=1,2),AI(J),TS(J)
0066          33 FORMAT(T4,F6.2,T18,F6.2,T31,F6.2,T39,F6.2,T47,F6.2,T62,F5.1)
0067          35 CONTINUE
            C  START CONDENSATE RECOVERY CALCULATION
0068             READ(5,50) NTE,(TE(K),K=1,NTE)
0069          50 FORMAT(I3/(8G10.2))
0070             READ(5,50) NPA,(PA(J),J=1,NPA)
0071             READ(5,99) TB,IB,TINC
0072          99 FORMAT(G10.5,5X,I1,4X,G10.5)
0073             TB=(TB+460.)/1.8
0074             TINC=TINC/1.8
0075              DO 120 J=1,NPA
            C  CALCULATE DEW POINT
0076             IF(J.EQ.1) T=TB
0077             IF(J.GT.1) T=TS(J-1)
0078             XO(J)=1.0-PA(J)
0079             ZNT=ZNO/XO(J)
0080         109 AFT=0.0
0081             FTP=0.0
0082             DO 110 I=1,2
0083             ZF(I,J)=X(I)*ZNO/ZNT
0084             ZFP(I,J)=100.0*ZF(I,J)
0085             IF(ZFP(I,J).LT.0.001) ZFP(I,J)=0.0
0086             ZLP=-A(I)/((1.9869D0)*T)+B(I)*DLOG(T)+C(I)
0087             EK=(DEXP(ZLP))/760.0
0088             AFT=AFT+ZF(I,J)/EK
0089         110 FTP=FTP+(ZF(I,J)/EK)*(-A(I)/(1.987*T*T)-B(I)/T)
0090             AFT=AFT-1.0
0091             DELT=AFT/FTP
0092             IF(ABS(DELT).LT.0.001) GO TO 111
0093             T=T-DELT
0094             GO TO 109
0095         111 TS(J)=T
            C  WRITE TABLE HEADINGS
0096             ZFP(3,J)=100.0*PA(J)
0097             TSP=TS(J)*1.8-460.
0098             WRITE(6,60)
0099          60 FORMAT(1H1/T36,'CONDENSATE RECOVERY'//)
0100             WRITE(6,61) (ZFP(I,J),I=1,3),TSP
```

TABLE 3. - Computer program--Continued

```
0101          61 FORMAT(1X,'MOLE PERCENT COMP. 1=',F6.2/1X,'MOLE PERCENT COMP. 2=',
                1F6.2/1X,'MOLE PERCENT AIR=',F6.2/1X,'SATURATION TEMP.= ',F5.1,
                2' DEG.F.')
0102             IF(IB.EQ.0) GO TO 145
0103             GO TO 146
0104          145 WRITE(6,300)
0105          300 FORMAT(1X,'TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.'/)
0106             GO TO 147
0107          146 TAP=TINC*1.8
0108             WRITE(6,301) TAP
0109          301 FORMAT(1X,'TEMP. INCREMENT=',F4.1,' DEG.F.'/)
0110          147 ZF(3,J)=PA(J)
0111             WRITE(6,62)
0112          62 FORMAT(1X,'EXIT',T19,'EXIT  COMPOSITIONS  IN  MOLE  PERCENT',T75,
                1'LIQUID RECOVERY'/1X,'TEMP.',T12,'CONDENSATE',T29,
                2'T O T A L  V A P O R',T53,'ORGANIC VAPOR',T74,'IN WEIGHT PERCENT'
                3/1X,'DEG.F.',T10,'COMP. 1 COMP. 2',T28,'COMP. 1 COMP. 2    AIR',
                4T52,'COMP. 1 COMP. 2',T71,'COMP. 1 COMP. 2  TOTAL'/)
          C  START FLASH CALCULATION
          C  ONE MOLE VAPOR ENTERING CONDENSER IS BASIS
0113             DO 120 K=1,NTE
0114             TR=TE(K)+460.
0115             TE(K)=TR/1.8
0116             IF(TE(K).GE.TS(J)) GO TO 120
0117             IR=0
0118             SRL(1)=0.0
0119             SRL(2)=0.0
0120          92 IR=IR+1
0121             ZIR=IR
0122             T=TS(J)-ZIR*TINC
0123             IF(T.LT.TE(K)) T=TE(K)
0124             IF(IB.EQ.0) T=TE(K)
0125             DO 93 I=1,3
0126             IF(IR.EQ.1) FT(I,J)=ZF(I,J)
0127             IF(IR.GT.1) FT(I,J)=YA(I,J)
0128          93 CONTINUE
0129             V=0.5
0130             DO 130 I=1,2
0131             ZLP=-A(I)/((1.9869D0)*T)+B(I)*DLOG(T)+C(I)
0132          130 DEK(I)=(DEXP(ZLP))/7.60D02
0133             IZ=0
0134          112 SV=0.0
0135             SVP=0.0
0136             IZ=IZ+1
0137             IF(IZ.GT.100) GO TO 1000
0138             DO 113 I=1,2
0139             SV=SV+FT(I,J)/(1.0D0+(1.0D0-V)/(DEK(I)*V))
0140          113 SVP=SVP+(FT(I,J)/(V*V*DEK(I)))/(1.0D0+(1.0D0-V)/(V*DEK(I)))**2
0141             FV=SV-V+FT(3,J)
0142             FVP=SVP-1.0
0143             DLV=FV/FVP
0144             IF(DABS(DLV).LT.1.0D-08) GO TO 114
0145             V=V-DLV
0146             GO TO 112
          C  FLASH ROUTINE COMPLETED, CALCULATE COMPOSITIONS
          C  CORRECT FOR DECREASE IN FEED DUE TO INCREMENTAL CONDENSATION
```

TABLE 3. - Computer program--Continued

```
0147          114 CONTINUE
0148              DO 150 I=1,2
0149              ZLV(I)=FT(I,J)/(1.0D0+(1.0D0-V)/(V*DEK(I)))
0150              YA(I,J)=ZLV(I)/V
0151              RTL(I)=FT(I,J)-ZLV(I)
0152              IF(IR.GT.1) RTL(I)=RTL(I)*(1.0-TOL)
0153          150 SRL(I)=SRL(I)+RTL(I)
0154              TOL=SRL(1)+SRL(2)
0155              IF(IR.EQ.1) YA(3,J)=PA(J)/V
0156              IF(IR.GT.1) YA(3,J)=YA(3,J)/V
0157              IF(T.GT.TE(K)) GO TO 92
0158              TV=1.0-TOL
0159              DO 190 I=1,2
0160              XC(I,J)=SRL(I)*100./TOL
0161              XR(I,J)=SRL(I)*100./ZF(I,J)
0162          190 YA(I,J)=(ZF(I,J)-SRL(I))*100./TV
0163              YA(3,J)=PA(J)*100./TV
0164              DO 116 I=1,2
0165          116 YAC(I,J)=(YA(I,J)*100.0)/(YA(1,J)+YA(2,J))
0166              XRT=(XC(1,J)*ZM(1)+XC(2,J)*ZM(2))*TOL/(ZF(1,J)*ZM(1)+ZF(2,J)*
                 1ZM(2))
0167              DO 250 I=1,2
0168              IF(XC(I,J).LT.0.001) XC(I,J)=0.0
0169              IF(ZF(I,J).LT.0.001) XR(I,J)=0.0
0170              IF(YA(I,J).LT.0.001) YA(I,J)=0.0
0171              IF(YAC(I,J).LT.0.001) YAC(I,J)=0.0
0172          250 CONTINUE
              C  PRINT RESULTS
0173              TE(K)=TE(K)*1.8-460.
0174              WRITE(6,70) TE(K),(XC(I,J),I=1,2),(YA(I,J),I=1,3),(YAC(I,J),I=1,2)
                 1,(XR(I,J),I=1,2),XRT
0175           70 FORMAT(1X,F5.1,T10,F6.2,T18,F6.2,T28,F6.2,T36,F6.2,T44,F6.2,T52,
                 1F6.2,T60,F6.2,T71,F6.2,T79,F6.2,T87,F6.2)
0176          120 CONTINUE
0177              GO TO 4
0178         1000 STOP
0179              END
```

TABLE 4. - Data for saturation curve for solution of 60.0 weight-percent CH_2Br_2 (component 1)--40.0 weight-percent C_2Cl_4 (component 2)

MOLE-PERCENT IN CONDENSATE		MOLE-PERCENT IN AIR			SATURATION TEMP.,
COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	DEG. F.
42.67	57.33	58.85	41.15	0.0	229.1
42.64	57.36	57.67	40.33	2.00	227.9
42.62	57.38	56.50	39.50	4.00	226.6
42.59	57.41	55.32	38.68	6.00	225.3
42.57	57.43	54.14	37.86	8.00	224.0
42.54	57.46	52.96	37.04	10.00	222.7
42.52	57.49	51.79	36.21	12.00	221.3
42.49	57.51	50.61	35.39	14.00	220.0
42.46	57.54	49.43	34.57	16.00	218.6
42.43	57.57	48.26	33.74	18.00	217.1
42.40	57.60	47.08	32.92	20.00	215.7
42.37	57.63	45.90	32.10	22.00	214.2
42.33	57.67	44.73	31.27	24.00	212.7
42.30	57.70	43.55	30.45	26.00	211.1
42.27	57.73	42.37	29.63	28.00	209.5
42.23	57.77	41.19	28.81	30.00	207.9
42.19	57.81	40.02	27.98	32.00	206.2
42.15	57.85	38.84	27.16	34.00	204.6
42.12	57.89	37.66	26.34	36.00	202.8
42.07	57.93	36.49	25.51	38.00	201.0
42.03	57.97	35.31	24.69	40.00	199.2
41.99	58.01	34.13	23.87	42.00	197.3
41.94	58.06	32.96	23.04	44.00	195.4
41.89	58.11	31.78	22.22	46.00	193.4
41.84	58.16	30.60	21.40	48.00	191.3
41.79	58.22	29.43	20.58	50.00	189.2
41.73	58.27	28.25	19.75	52.00	187.0
41.67	58.33	27.07	18.93	54.00	184.8
41.61	58.39	25.89	18.11	56.00	182.4
41.54	58.46	24.72	17.28	58.00	180.0
41.47	58.53	23.54	16.46	60.00	177.5
41.40	58.60	22.36	15.64	62.00	174.9
41.32	58.68	21.19	14.81	64.00	172.1
41.24	58.76	20.01	13.99	66.00	169.2
41.15	58.85	18.83	13.17	68.00	166.2
41.05	58.95	17.66	12.35	70.00	163.0
40.95	59.05	16.48	11.52	72.00	159.7
40.84	59.16	15.30	10.70	74.00	156.1
40.71	59.29	14.12	9.88	76.00	152.3
40.58	59.42	12.95	9.05	78.00	148.3
40.43	59.57	11.77	8.23	80.00	143.9
40.26	59.74	10.59	7.41	82.00	139.1
40.07	59.93	9.42	6.58	84.00	133.9
39.85	60.15	8.24	5.76	86.00	128.1
39.59	60.41	7.06	4.94	88.00	121.6
39.28	60.72	5.89	4.12	90.00	114.1
38.90	61.10	4.71	3.29	92.00	105.2
38.39	61.61	3.53	2.47	94.00	94.1
37.66	62.35	2.35	1.65	96.00	79.4
36.35	63.65	1.18	0.82	98.00	56.1

Detailed instructions for use of the program can be found in appendix B.

Lines 68 through 179 (table 3) are concerned with the condensate calculation. The saturation temperature of the mixture for which a recovery calculation is desired is computed in lines 68 through 95. The DO statement on line 75, which controls through statement number 120 on line 176, repeats the entire set of calculations within its range for each vapor composition supplied as data. A separate table is therefore printed for each vapor mixture.

Control of the DO statement on line 113 also extends through statement number 120 on line 176. All calculations within its range are repeated for each exit temperature supplied as data. The integer variable K is the index for the exit temperatures. Since the algorithm cannot calculate how much condensate is formed unless the exit temperature is lower than the saturation temperature of a vapor mixture, any exit temperature higher than the saturation temperature is ignored. If an incremental flash condensation is called for, the program computes the amount of condensate formed as explained previously. When the exit temperature is reached or exceeded, the last calculation is done at the exact value of the exit temperature read in as data.

Table 5 shows data for the condensate recovery calculations. This example table was computed for a liquid mixture 60.0 weight-percent CH_2Br_2 and 40.0 weight-percent C_2Cl_4. An incremental-type condensation was assumed with a temperature increment of 1.0° F. The compositions given above the table are the compositions in mole-percent, or volume-percent, resulting from the complete vaporization of the organic liquid specified above in sufficient air to form a vapor mixture which is 90.0 percent air.

TABLE 5. - Data for condensate recovery

Mole-percent comp. 1 = 5.88
Mole-percent comp. 2 = 4.11
Mole-percent air = 90.00
Saturation temp. = 114.1 Deg. F.
Temp. increment = 1.0 Deg. F.

Exit temp., deg.F.	Exit compositions in mole-percent							Liquid recovery in weight-percent		
	Condensate		Total vapor			Organic vapor				
	Comp.1	Comp.2	Comp.1	Comp.2	Air	Comp.1	Comp.2	Comp.1	Comp.2	Total
100.0	42.30	57.70	4.83	2.57	92.60	65.31	34.69	20.17	39.35	27.84
70.0	47.99	52.01	2.95	0.78	96.27	79.15	20.85	53.12	82.33	64.80
50.0	51.35	48.65	1.97	0.28	97.74	87.41	12.59	69.12	93.64	78.93

RESULTS

Saturation Curves

The specific gravities of organic heavy liquid required for the beneficiation of brucite and potash ores are 2.40 and 2.05, respectively. Each specific gravity can be obtained by dilution of dibromomethane with either trichloroethylene or perchloroethylene. Each resulting solution will have a unique saturation curve and condensation characteristics. The computer program was therefore used to calculate saturation curves for the four organic solutions of interest. Table 6 gives the compositions of the solutions.

TABLE 6. - Compositions of organic heavy liquid solutions

Solution	Composition, weight-percent			Specific gravity	Saturation curve data given in--
	CH_2Br_2	C_2Cl_4	C_2HCl_3		
1	93.0	7.0	-	2.40	Table 9.
2	94.5	-	5.5	2.40	Table 8.
3	60.0	40.0	-	2.05	Table 4.
4	69.6	-	30.4	2.05	Table 7.

Data for the saturation curve for the 60 weight-percent CH_2Br_2--40 weight-percent C_2Cl_4 were given in table 4. Data for the remaining curves are given in tables 7, 8, and 9.

Recovery Calculations

The computer program was used to calculate organic liquid recovery as a result of condensation for vapor mixtures of each of the four solutions given in table 6. Calculations were carried out using both a single, flash-type condensation and an incremental condensation with increments of 2.0° F. Vapor compositions from 10 to 95 volume-percent air were examined. A complete tabulation of results appears in appendix B.

Effect of Condensation Mechanism

Since the exact nature of the equilibrium condensation occurring in a condenser is not known, it is of interest to determine the component recoveries and the degree of fractionation which will occur for both a single equilibrium and an incremental approximation to a differential condensation. An actual condenser will probably produce a degree of fractionation intermediate to that predicted by the two theoretical mechanisms.

TABLE 7. - Data for saturation curve for solution of 69.6 weight-percent CH_2Br_2 (component 1)--30.4 weight-percent C_2HCl_3 (component 2)

MOLE-PERCENT IN CONDENSATE		MOLE-PERCENT IN AIR			SATURATION TEMP.,
COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	DEG. F.
71.13	28.87	63.37	36.63	0.0	202.6
71.16	28.84	62.10	35.90	2.00	201.4
71.19	28.81	60.83	35.17	4.00	200.2
71.23	28.77	59.57	34.43	6.00	198.9
71.26	28.74	58.30	33.70	8.00	197.7
71.29	28.71	57.03	32.97	10.00	196.4
71.33	28.67	55.76	32.24	12.00	195.1
71.37	28.63	54.50	31.50	14.00	193.8
71.40	28.60	53.23	30.77	16.00	192.4
71.44	28.56	51.96	30.04	18.00	191.0
71.48	28.52	50.70	29.30	20.00	189.6
71.52	28.48	49.43	28.57	22.00	188.2
71.56	28.44	48.16	27.84	24.00	186.7
71.60	28.40	46.89	27.11	26.00	185.2
71.64	28.36	45.63	26.37	28.00	183.7
71.68	28.32	44.36	25.64	30.00	182.1
71.73	28.27	43.09	24.91	32.00	180.5
71.77	28.23	41.82	24.18	34.00	178.9
71.82	28.18	40.56	23.44	36.00	177.2
71.87	28.13	39.29	22.71	38.00	175.5
71.91	28.09	38.02	21.98	40.00	173.7
71.96	28.04	36.75	21.25	42.00	171.9
72.02	27.98	35.49	20.51	44.00	170.0
72.07	27.93	34.22	19.78	46.00	168.1
72.12	27.88	32.95	19.05	48.00	166.1
72.18	27.82	31.68	18.32	50.00	164.1
72.24	27.76	30.42	17.58	52.00	162.0
72.30	27.70	29.15	16.85	54.00	159.8
72.36	27.64	27.88	16.12	56.00	157.5
72.43	27.57	26.62	15.38	58.00	155.2
72.49	27.51	25.35	14.65	60.00	152.7
72.56	27.44	24.08	13.92	62.00	150.2
72.64	27.36	22.81	13.19	64.00	147.5
72.71	27.29	21.55	12.45	66.00	144.7
72.80	27.20	20.28	11.72	68.00	141.8
72.88	27.12	19.01	10.99	70.00	138.7
72.97	27.03	17.74	10.26	72.00	135.5
73.07	26.93	16.48	9.52	74.00	132.0
73.17	26.83	15.21	8.79	76.00	128.4
73.28	26.72	13.94	8.06	78.00	124.4
73.40	26.60	12.67	7.33	80.00	120.2
73.53	26.47	11.41	6.59	82.00	115.6
73.67	26.33	10.14	5.86	84.00	110.5
73.83	26.17	8.87	5.13	86.00	104.9
74.01	25.99	7.60	4.40	88.00	98.5
74.21	25.79	6.34	3.66	90.00	91.2
74.46	25.54	5.07	2.93	92.00	82.6
74.76	25.24	3.80	2.20	94.00	71.8
75.17	24.83	2.53	1.47	96.00	57.5
75.81	24.19	1.27	0.73	98.00	34.8

TABLE 8. - Data for saturation curve for solution of 94.5 weight-percent CH_2Br_2 (component 1)--5.5 weight-percent C_2HCl_3 (component 2)

MOLE-PERCENT IN CONDENSATE		MOLE-PERCENT IN AIR		AIR	SATURATION TEMP.,
COMP. 1	COMP. 2	COMP. 1	COMP. 2		DEG. F.
94.83	5.17	92.85	7.15	0.0	208.1
94.84	5.16	90.99	7.01	2.00	206.9
94.85	5.15	89.13	6.87	4.00	205.7
94.86	5.14	87.28	6.72	6.00	204.5
94.86	5.14	85.42	6.58	8.00	203.2
94.87	5.13	83.56	6.44	10.00	201.9
94.88	5.12	81.71	6.29	12.00	200.6
94.89	5.11	79.85	6.15	14.00	199.3
94.90	5.10	77.99	6.01	16.00	197.9
94.91	5.09	76.14	5.86	18.00	196.6
94.92	5.08	74.28	5.72	20.00	195.1
94.93	5.07	72.42	5.58	22.00	193.7
94.93	5.07	70.56	5.44	24.00	192.2
94.94	5.06	68.71	5.29	26.00	190.7
94.95	5.05	66.85	5.15	28.00	189.2
94.96	5.04	64.99	5.01	30.00	187.6
94.97	5.03	63.14	4.86	32.00	186.0
94.99	5.01	61.28	4.72	34.00	184.4
95.00	5.00	59.42	4.58	36.00	182.7
95.01	4.99	57.57	4.43	38.00	181.0
95.02	4.98	55.71	4.29	40.00	179.2
95.03	4.97	53.85	4.15	42.00	177.4
95.04	4.96	52.00	4.00	44.00	175.5
95.05	4.95	50.14	3.86	46.00	173.6
95.07	4.93	48.28	3.72	48.00	171.6
95.08	4.92	46.42	3.58	50.00	169.6
95.09	4.91	44.57	3.43	52.00	167.4
95.11	4.89	42.71	3.29	54.00	165.2
95.12	4.88	40.85	3.15	56.00	163.0
95.14	4.86	39.00	3.00	58.00	160.6
95.15	4.85	37.14	2.86	60.00	158.2
95.17	4.83	35.28	2.72	62.00	155.6
95.19	4.81	33.43	2.57	64.00	152.9
95.20	4.80	31.57	2.43	66.00	150.1
95.22	4.78	29.71	2.29	68.00	147.2
95.24	4.76	27.85	2.15	70.00	144.1
95.26	4.74	26.00	2.00	72.00	140.8
95.29	4.72	24.14	1.86	74.00	137.4
95.31	4.69	22.28	1.72	76.00	133.7
95.33	4.67	20.43	1.57	78.00	129.7
95.36	4.64	18.57	1.43	80.00	125.5
95.39	4.61	16.71	1.29	82.00	120.8
95.43	4.58	14.86	1.14	84.00	115.7
95.46	4.54	13.00	1.00	86.00	110.1
95.50	4.50	11.14	0.86	88.00	103.7
95.54	4.46	9.28	0.72	90.00	96.3
95.60	4.40	7.43	0.57	92.00	87.6
95.66	4.34	5.57	0.43	94.00	76.8
95.76	4.25	3.71	0.29	96.00	62.3
95.89	4.11	1.86	0.14	98.00	39.3

TABLE 9. - Data for saturation curve for solution of 93.0 weight-percent CH_2Br_2 (component 1)--7.0 weight-percent C_2Cl_4 (component 2)

MOLE-PERCENT IN CONDENSATE		MOLE-PERCENT IN AIR			SATURATION TEMP.,
COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	DEG. F.
86.68	13.32	92.68	7.32	0.0	213.4
86.67	13.33	90.83	7.17	2.00	212.2
86.65	13.35	88.98	7.02	4.00	211.0
86.64	13.36	87.12	6.88	6.00	209.7
86.63	13.37	85.27	6.73	8.00	208.4
86.61	13.39	83.41	6.59	10.00	207.2
86.60	13.40	81.56	6.44	12.00	205.8
86.59	13.41	79.71	6.29	14.00	204.5
86.57	13.43	77.85	6.15	16.00	203.1
86.55	13.45	76.00	6.00	18.00	201.7
86.54	13.46	74.15	5.85	20.00	200.3
86.52	13.48	72.29	5.71	22.00	198.9
86.51	13.49	70.44	5.56	24.00	197.4
86.49	13.51	68.59	5.41	26.00	195.9
86.47	13.53	66.73	5.27	28.00	194.4
86.45	13.55	64.88	5.12	30.00	192.8
86.43	13.57	63.02	4.98	32.00	191.2
86.41	13.59	61.17	4.83	34.00	189.5
86.39	13.61	59.32	4.68	36.00	187.8
86.37	13.63	57.46	4.54	38.00	186.1
86.35	13.65	55.61	4.39	40.00	184.3
86.32	13.68	53.76	4.24	42.00	182.5
86.30	13.70	51.90	4.10	44.00	180.6
86.27	13.73	50.05	3.95	46.00	178.6
86.25	13.75	48.20	3.80	48.00	176.7
86.22	13.78	46.34	3.66	50.00	174.6
86.19	13.81	44.49	3.51	52.00	172.5
86.16	13.84	42.63	3.37	54.00	170.3
86.12	13.88	40.78	3.22	56.00	168.0
86.09	13.91	38.93	3.07	58.00	165.6
86.05	13.95	37.07	2.93	60.00	163.1
86.01	13.99	35.22	2.78	62.00	160.6
85.97	14.03	33.37	2.63	64.00	157.9
85.92	14.08	31.51	2.49	66.00	155.1
85.88	14.12	29.66	2.34	68.00	152.1
85.82	14.18	27.80	2.20	70.00	149.0
85.77	14.23	25.95	2.05	72.00	145.7
85.71	14.29	24.10	1.90	74.00	142.2
85.64	14.36	22.24	1.76	76.00	138.5
85.57	14.44	20.39	1.61	78.00	134.6
85.48	14.52	18.54	1.46	80.00	130.3
85.39	14.61	16.68	1.32	82.00	125.6
85.29	14.72	14.83	1.17	84.00	120.5
85.16	14.84	12.98	1.02	86.00	114.8
85.01	14.99	11.12	0.88	88.00	108.4
84.84	15.16	9.27	0.73	90.00	101.0
84.61	15.39	7.41	0.59	92.00	92.2
84.31	15.69	5.56	0.44	94.00	81.4
83.86	16.14	3.71	0.29	96.00	66.8
83.04	16.96	1.85	0.15	98.00	43.9

The choice of 2.0° F to represent a Rayleigh-type fractionation was arbitrary. Intervals of 1.0° and 0.5° F were also investigated for the solution of 60.0 weight-percent CH_2Br_2--40.0 weight-percent C_2Cl_4 (table 4). The condensate compositions and recoveries obtained were not significantly different from those obtained with the 2.0° F increment. The composition of the vapor leaving the condenser, however, was significantly affected by the change in temperature increment. If an exact representation of a differential condensation were desired, the program could be run with smaller temperature increments until no change in any of the variables as a result of decreasing temperature increment is observed. Caution must be exercised, however, to insure that the results are not affected by truncation error. This was checked with the 2.0° F increment by running the program with CH_2Br_2 only in the liquid phase for both the 2.0° F increment and the single equilibrium condensation. Since the condensate recovery of organic liquid from a single organic-air mixture is not a function of the condensation mechanism, the results obtained from the two types of calculations should differ only as a result of truncation error. The results for the CH_2Br_2 test case were identical for both types of calculations, thus indicating no significant truncation error.

The solutions used in obtaining a specific gravity of 2.05 were chosen to illustrate the trends indicated by the computer calculations. Figures 1-5 show the effect of condensation mechanism on condensate recoveries from various vapor mixtures at a condenser exit temperature of 80° F. The effect on the condensate recovery of a particular component is a function of its volatility with respect to the other component. For example, a smaller percentage of CH_2Br_2 is recovered with differential condensation than with a single condensation when it is in solution with the less volatile C_2Cl_4 (fig. 1). The opposite is true when the more volatile C_2HCl_3 replaces C_2Cl_4 (fig. 3). In other words, differential condensation favors CH_2Br_2 recovery when it is the least volatile component, but hinders CH_2Br_2 recovery when it is the most volatile component.

The total weight-percent liquid recovery plot shown in figure 4 represents both differential and single condensation for one of the CH_2Br_2--C_2HCl_3 solutions. Figure 5 shows the total weight of condensate recovered for a CH_2Br_2--C_2Cl_4 solution. The curves for incremental and single condensation do not coincide because of a greater difference in K values than for the case of CH_2Br_2--C_2HCl_3 solution.

The variable most sensitive to condensation mechanism is the composition of the organic vapor leaving the condenser. This is illustrated in figure 6, which gives the mole-percent CH_2Br_2 in the exiting organic vapor at 80° F as a function of mole-percent air in the entering mixture. As would be expected, the incremental condensation shows more sensitivity to the percent air in the inlet vapor.

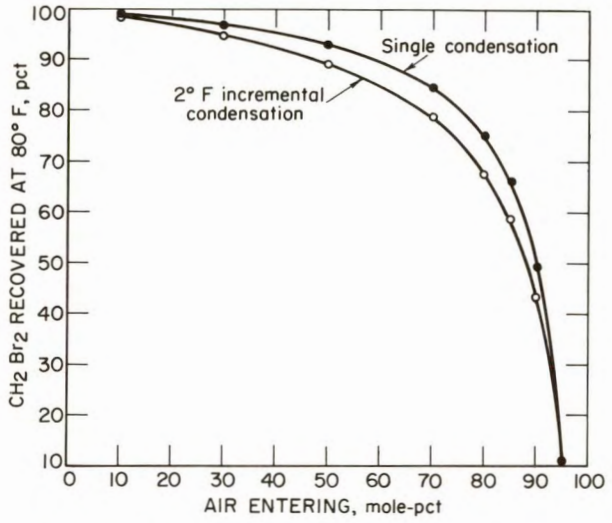

FIGURE 1. - Liquid CH_2Br_2 Recovered at 80.0° F Versus Air for Solution of 60.0 Weight-Percent CH_2Br_2–40.0 Weight-Percent C_2Cl_4.

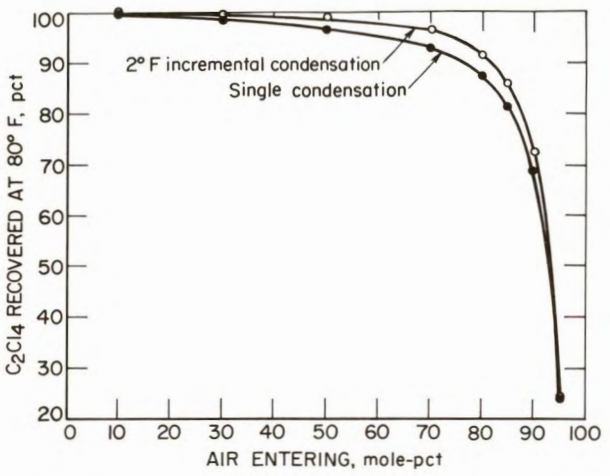

FIGURE 2. - Liquid C_2Cl_4 Recovered at 80.0° F Versus Air for Solution of 60.0 Weight-Percent CH_2Br_2–40.0 Weight-Percent C_2Cl_4.

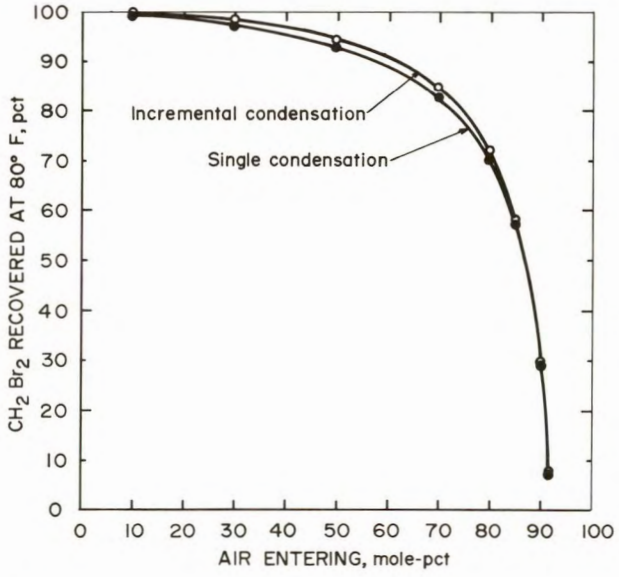

FIGURE 3. - Liquid CH_2Br_2 Recovered at 80.0° F Versus Air for Solution of 69.6 Weight-Percent CH_2Br_2–30.4 Weight-Percent C_2HCl_3.

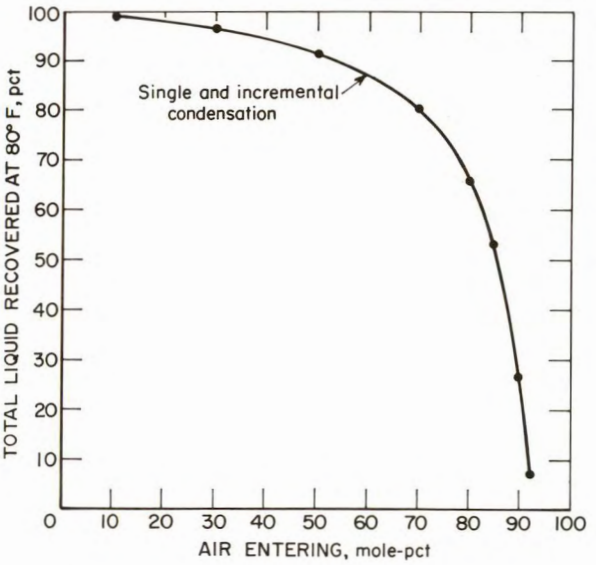

FIGURE 4. - Total Liquid Recovered at 80.0° F Versus Air for Solution of 69.6 Weight-Percent CH_2Br_2–30.4 Weight-Percent C_2HCl_3.

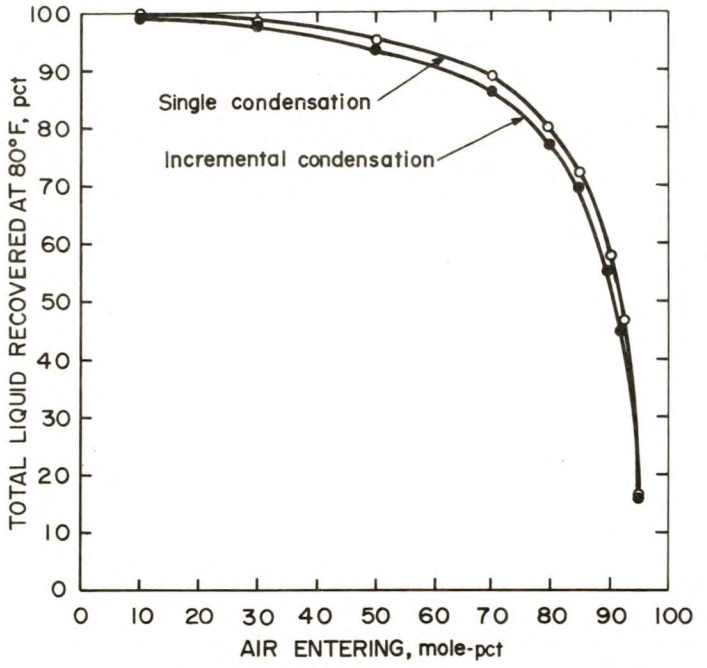

FIGURE 5. - Total Liquid Recovered at 80.0° F Versus Air for Solution of 60.0 Weight-Percent CH_2Br_2–40.0 Weight-Percent C_2Cl_4.

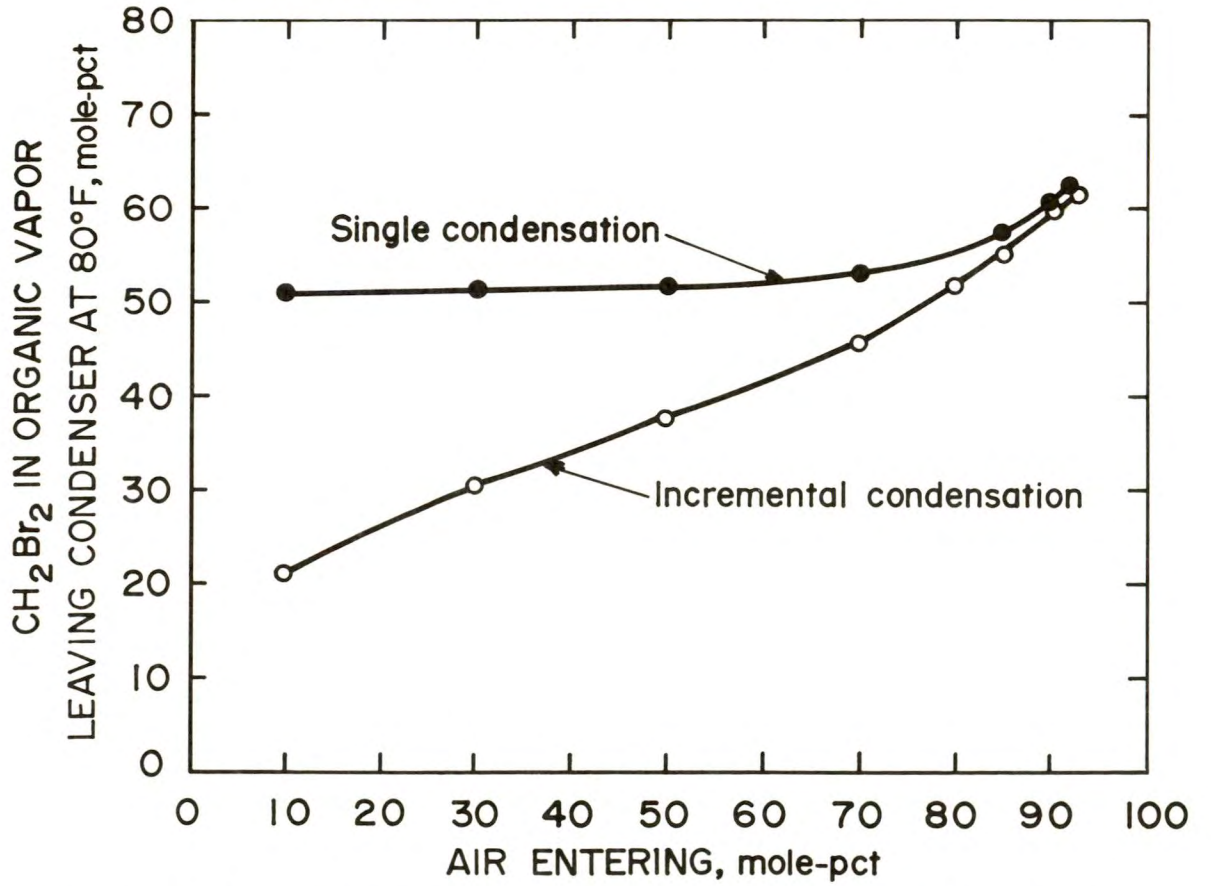

FIGURE 6. - CH_2Br_2 in Organic Vapor Leaving Condenser Versus Air at 80.0° F for Solution of 69.6 Weight-Percent CH_2Br_2–30.4 Weight-Percent C_2HCl_3.

Effect of Diluent Volatility

The effect on condensate recovery of the use of C_2Cl_4 compared with C_2HCl_3 as a diluent for CH_2Br_2 to obtain the desired specific gravity of 2.05 is shown in table 10 for one set of conditions. Values in the table are given for an inlet vapor consisting of 50 mole-percent air-50 mole-percent organic, cooled to 80° F. The use of the less volatile C_2Cl_4 results in higher total liquid recoveries (less vapor loss) regardless of the assumed condensation mechanism. However, if incremental condensation is assumed, the use of C_2Cl_4 will result in a greater vapor loss of CH_2Br_2 even though less was present in the entering organic vapor. If a single condensation is assumed, less CH_2Br_2 will be lost as vapor with C_2Cl_4 as the diluent. Thus, the use of C_2Cl_4 can, depending on the mechanism of condensation, result in a greater loss of CH_2Br_2 due to the fact that CH_2Br_2 then becomes the most volatile component in the solution. A comparative table such as table 10 can be constructed from the computer printouts in appendix B for any air percentage and exit temperature.

TABLE 10. - Effect of diluent on condensate recovery for 50 mole-percent air in entering vapor at 80° F exit temperature

Diluent	Grams vapor lost per 100 grams entering organic			
	Incremental condensation		Single condensation	
	Total	CH_2Br_2	Total	CH_2Br_2
40 wt-pct C_2Cl_4.....	6.4	6.1	5.1	4.0
30.4 wt-pct C_2HCl_3.....	8.7	3.9	8.3	4.9

Effect of Exit Temperature

Figures 7 and 8 show the total weight-percent liquid recovered as a function of exit temperature for various air mixtures of the solutions used in obtaining a 2.05 specific gravity. The increase in total liquid recovery as a result of the use of C_2Cl_4 as a diluent is much greater for vapor mixtures with large percentages of air. Figures 9 and 10 are similar plots for air mixtures of the solutions employed for the 2.40 specific gravity. Because of the small amounts involved, the effect on C_2Cl_4 as compared with C_2HCl_3 for dilution is very slight.

All four of the plots discussed above are based on the 2.0° F incremental condensation calculation. As the tables in appendix B will indicate, the effect of the condensation mechanism of the total weight-percent-condensate recovery is very small.

Figure 11 illustrates the effect of exit temperature on individual liquid recoveries for the 60.0 weight-percent CH_2Br_2--40.0 weight-percent C_2Cl_4 solution. The spread between the lines for CH_2Br_2 and C_2Cl_4 indicates the degree of fractionation which occurs when an incremental condensation mechanism is assumed. Figure 12 is a plot for the same input data but with a single equilibrium condensation assumed. The lesser degree of fractionation occurring under these circumstances is evidenced by the comparative closeness of the graphs of CH_2Br_2 and C_2Cl_4 recovery. Note that more fractionation occurs at higher air concentrations for both condensation mechanisms.

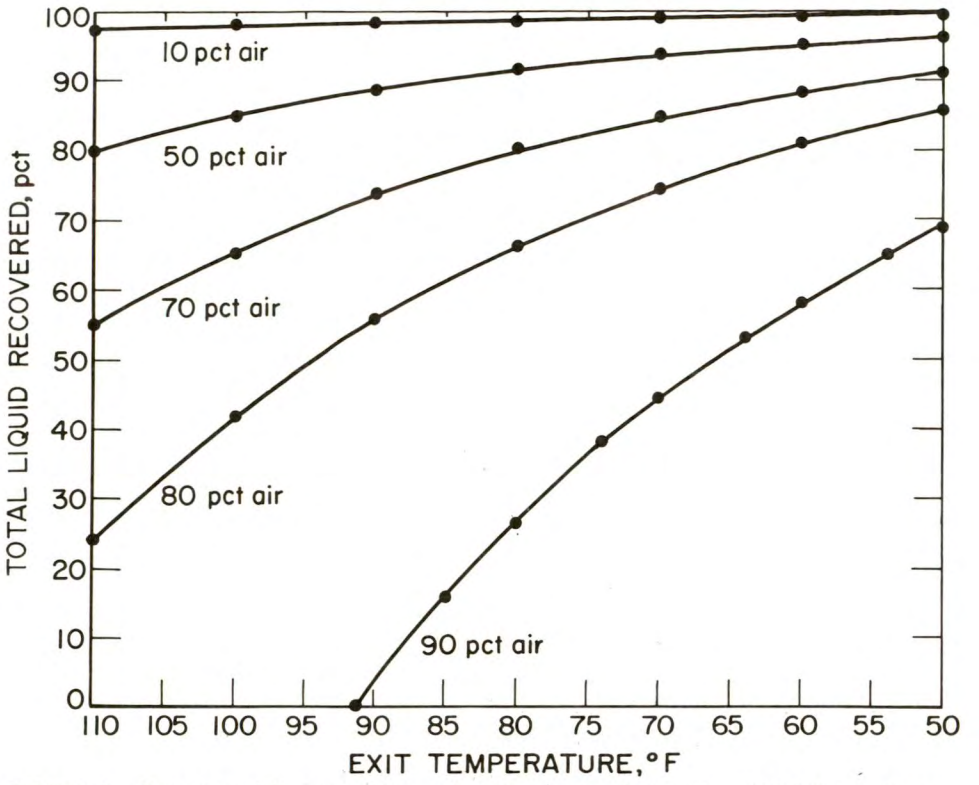

FIGURE 7. - Total Liquid Recovered Versus Exit Temperature for Solution of 69.6 Weight-Percent CH_2Br_2–30.4 Weight-Percent C_2HCl_3.

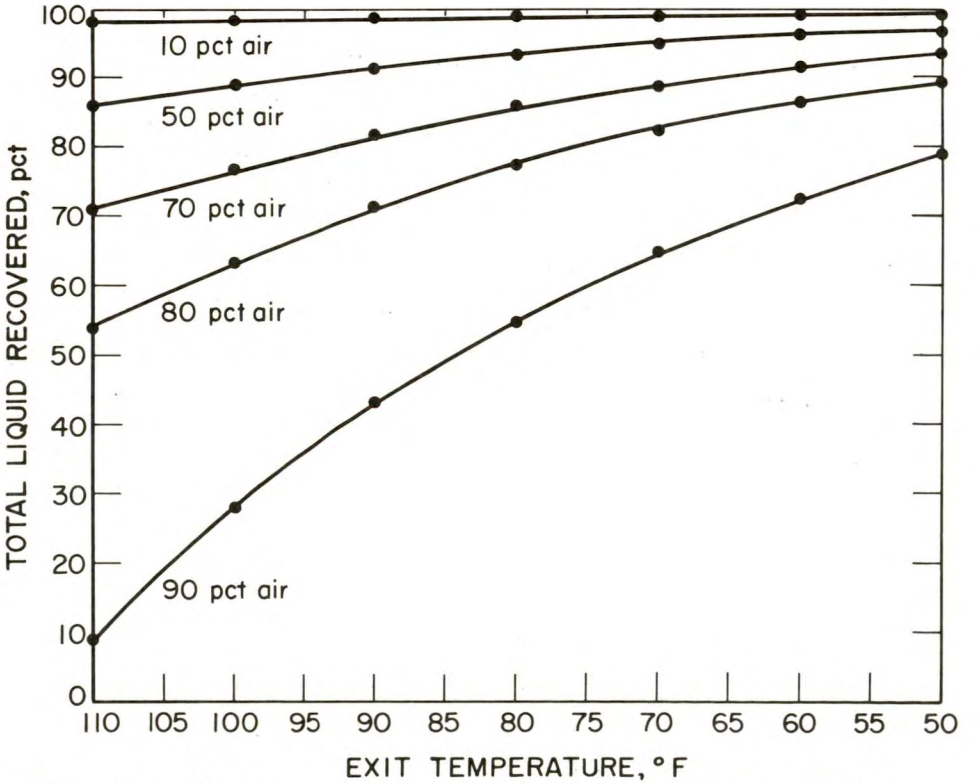

FIGURE 8. - Total Liquid Recovered Versus Exit Temperature for Solution of 60.0 Weight-Percent CH_2Br_2–40.0 Weight-Percent C_2Cl_4.

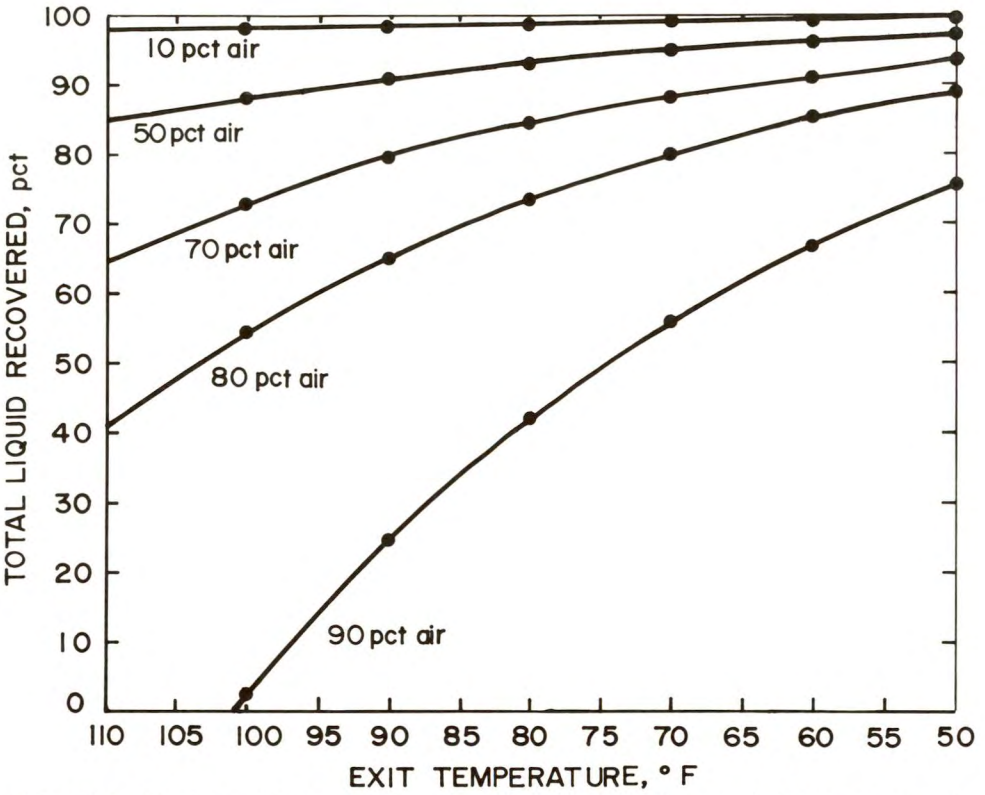

FIGURE 9. - Total Liquid Recovered Versus Exit Temperature for Solution of 93.0 Weight-Percent CH_2Br_2–7.0 Weight-Percent C_2Cl_4.

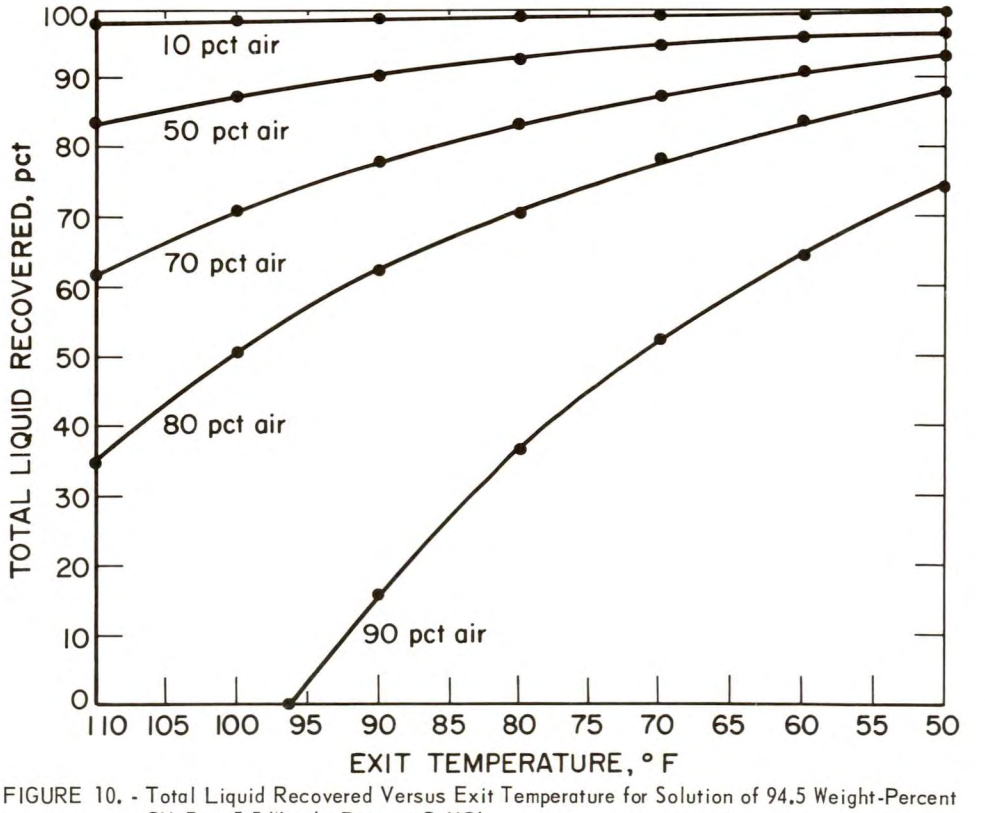

FIGURE 10. - Total Liquid Recovered Versus Exit Temperature for Solution of 94.5 Weight-Percent CH_2Br_2–5.5 Weight-Percent C_2HCl_3.

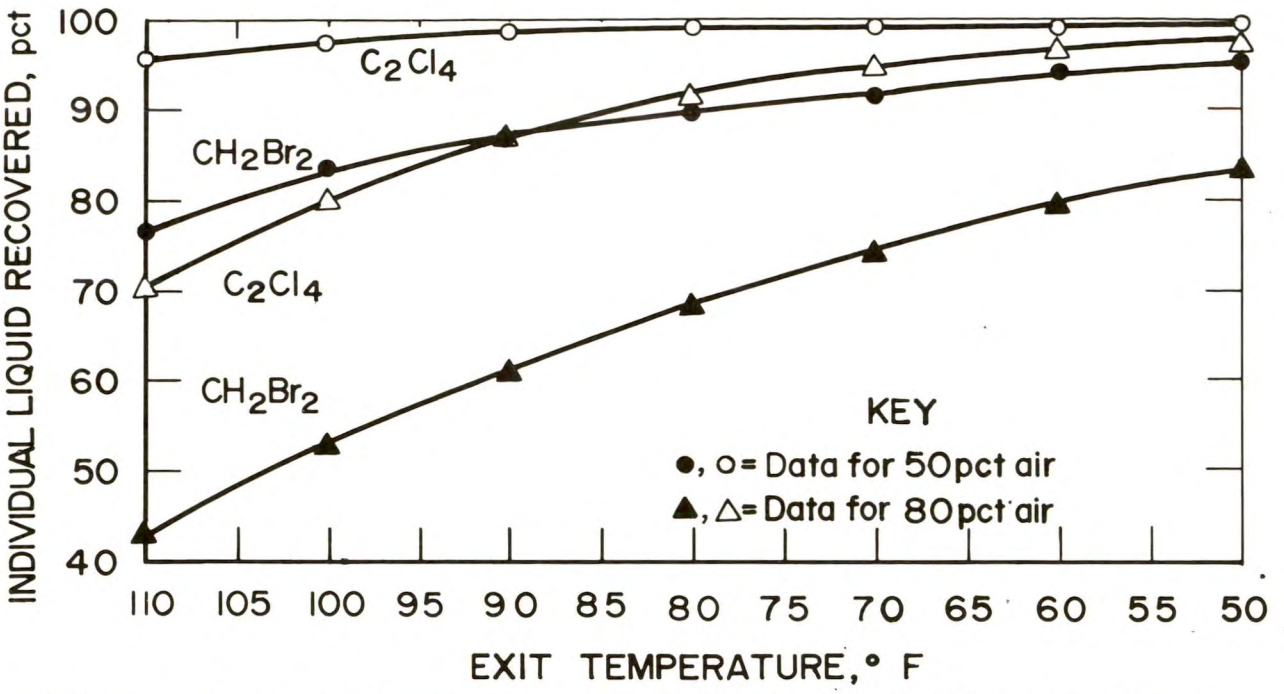

FIGURE 11. - Effect of Exit Temperature on Individual Liquid Recovery With Incremental Condensation for Solution of 60.0 Weight-Percent CH_2Br_2–40.0 Weight-Percent C_2Cl_4.

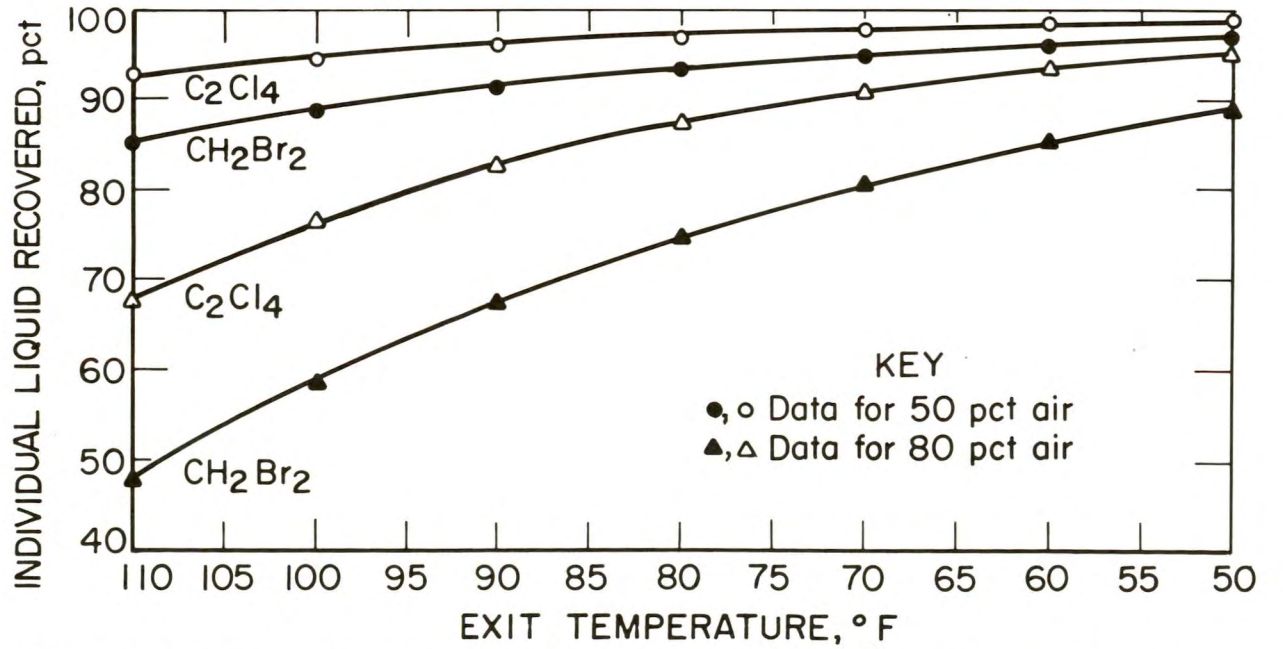

FIGURE 12. - Effect of Exit Temperature on Individual Liquid Recovery With Single Equilibrium Condensation for Solution of 60.0 Weight-Percent CH_2Br_2–40.0 Weight-Percent C_2Cl_4.

DISCUSSION OF RESULTS

The computer program permits a thorough study of organic liquid recovery via condensation for each organic heavy liquid solution of interest. The program would also be of value in any drying operation which employs evaporation with a noncondensable gas.

When the required amount of noncondensable gas for dryer operation is determined, the program can calculate how much organic can be condensed and how much must be recovered in a final cleanup device, such as a charcoal adsorber or a scrubber tower. The desirability of using more- or less-volatile diluents to obtain the required specific gravity can also be determined.

If the drying operation requires large amounts of air, the results from the program indicate that a method other than condensation should be considered for vapor recovery. One such method would employ an absorption tower in which the organic vapor is recovered in a nonvolatile absorber oil solvent followed by distillation of the absorber oil to recover the valuable organic and regenerate the nonvolatile solvent.

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APPENDIX A.--LIST OF SYMBOLS

A_i , B_i , C_i	Constants for Clausius-Clapeyron equation for component i
F	Moles of feed
K_i	Vapor-liquid distribution coefficient for component i
L	Total total moles of condensate
l_i	Moles of condensate of component i
n	Number of components
o	Initial conditions
p_i^*	Vapor pressure of component i, mm Hg
p	Total pressure = 760 mm Hg
R	Gas constant, 1.987 calories per ° C per mole
T	Temperature in ° K
t	Temperature in ° C
V	Total moles of vapor
v_i	Moles of vapor of component i
x_i	Mole fraction of component i in condensate
y_i	Mole fraction of component i in vapor
z_i	Mole fraction of component i in feed
α_{21}	Ratio of distribution coefficients = K_2/K_1 (relative volatility)
ΔC_p	Difference in heat capacity between liquid and vapor

APPENDIX B.--COMPUTER RECOVERY CALCULATIONS

Tables B-1 through B-8 present recovery calculations for 93.0 weight-percent CH_2Br_2--7.0 weight-percent C_2Cl_4; for 94.5 weight-percent CH_2Br_2--5.5 weight-percent C_2HCl_3; for 60.0 weight-percent CH_2Br_2--40.0 weight-percent C_2Cl_4; and for 69.6 weight-percent CH_2Br_2--30.4 weight-percent C_2HCl_3.

TABLE B-1. - Recovery calculations for solution of 93.0 weight-percent CH_2Br_2 (component 1)-- 7.0 weight-percent C_2Cl_4 (component 2): Single flash condensation; specific gravity 2.40

MOLE-PERCENT COMP. 1= 83.41
MOLE-PERCENT COMP. 2= 6.59
MOLE-PERCENT AIR= 10.00
SATURATION TEMP.= 207.2 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	COMP. 2	TOTAL
110.0	92.62	7.38	12.60	0.45	86.95	96.54	3.46	98.26	99.21	98.33
100.0	92.63	7.37	9.87	0.35	89.78	96.61	3.39	98.68	99.41	98.73
90.0	92.64	7.36	7.67	0.26	92.07	96.68	3.32	99.00	99.57	99.04
85.0	92.65	7.35	6.73	0.23	93.04	96.72	3.28	99.13	99.63	99.17
80.0	92.65	7.35	5.89	0.20	93.91	96.76	3.24	99.25	99.68	99.28
78.0	92.66	7.34	5.58	0.19	94.23	96.77	3.23	99.29	99.70	99.32
76.0	92.66	7.34	5.29	0.18	94.54	96.78	3.22	99.33	99.72	99.36
74.0	92.66	7.34	5.00	0.17	94.83	96.80	3.20	99.37	99.74	99.39
72.0	92.66	7.34	4.73	0.16	95.11	96.81	3.19	99.40	99.75	99.43
70.0	92.66	7.34	4.48	0.15	95.38	96.83	3.17	99.44	99.77	99.46
68.0	92.66	7.34	4.23	0.14	95.63	96.84	3.16	99.47	99.78	99.49
66.0	92.66	7.34	4.00	0.13	95.87	96.86	3.14	99.50	99.79	99.52
64.0	92.66	7.34	3.78	0.12	96.10	96.88	3.12	99.53	99.81	99.55
62.0	92.67	7.33	3.57	0.11	96.32	96.89	3.11	99.56	99.82	99.57
60.0	92.67	7.33	3.37	0.11	96.53	96.91	3.09	99.58	99.83	99.60
58.0	92.67	7.33	3.17	0.10	96.72	96.92	3.08	99.61	99.84	99.62
56.0	92.67	7.33	2.99	0.09	96.91	96.94	3.06	99.63	99.85	99.65
54.0	92.67	7.33	2.82	0.09	97.09	96.95	3.05	99.65	99.86	99.67
52.0	92.67	7.33	2.66	0.08	97.26	96.97	3.03	99.67	99.87	99.69
50.0	92.67	7.33	2.50	0.08	97.42	96.99	3.01	99.69	99.88	99.71

MOLE-PERCENT COMP. 1= 64.88
MOLE-PERCENT COMP. 2= 5.12
MOLE-PERCENT AIR= 30.00
SATURATION TEMP.= 192.8 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	COMP. 2	TOTAL
110.0	92.42	7.58	12.57	0.46	86.97	96.45	3.55	93.32	96.88	93.57
100.0	92.49	7.51	9.86	0.35	89.79	96.54	3.46	94.92	97.70	95.12
90.0	92.53	7.47	7.66	0.27	92.08	96.63	3.37	96.16	98.30	96.31
85.0	92.55	7.45	6.72	0.23	93.05	96.67	3.33	96.66	98.54	96.79
80.0	92.57	7.43	5.88	0.20	93.92	96.72	3.28	97.10	98.75	97.22
78.0	92.57	7.43	5.58	0.19	94.24	96.73	3.27	97.26	98.83	97.37
76.0	92.58	7.42	5.28	0.18	94.54	96.75	3.25	97.42	98.90	97.52
74.0	92.59	7.41	5.00	0.17	94.83	96.77	3.23	97.56	98.97	97.66
72.0	92.59	7.41	4.73	0.16	95.11	96.78	3.22	97.70	99.03	97.79
70.0	92.60	7.40	4.47	0.15	95.38	96.80	3.20	97.83	99.09	97.92
68.0	92.60	7.40	4.23	0.14	95.63	96.82	3.18	97.95	99.15	98.04
66.0	92.61	7.39	4.00	0.13	95.87	96.83	3.17	98.07	99.20	98.15
64.0	92.61	7.39	3.78	0.12	96.10	96.85	3.15	98.18	99.25	98.26
62.0	92.61	7.39	3.56	0.12	96.32	96.87	3.13	98.29	99.30	98.36
60.0	92.62	7.38	3.36	0.11	96.53	96.88	3.12	98.39	99.34	98.46
58.0	92.62	7.38	3.17	0.10	96.73	96.90	3.10	98.48	99.39	98.55
56.0	92.62	7.38	2.99	0.10	96.91	96.92	3.08	98.57	99.43	98.63
54.0	92.63	7.37	2.82	0.09	97.09	96.94	3.06	98.66	99.46	98.71
52.0	92.63	7.37	2.65	0.08	97.26	96.95	3.05	98.74	99.50	98.79
50.0	92.63	7.37	2.50	0.08	97.42	96.97	3.03	98.81	99.53	98.86

TABLE B-1. - Recovery calculations for solution of 93.0 weight-percent CH_2Br_2 (component 1)--7.0 weight-percent C_2Cl_4 (component 2): Single flash condensation; specific gravity 2.40--Continued

MOLE-PERCENT COMP. 1= 46.34
MOLE-PERCENT COMP. 2= 3.66
MOLE-PERCENT AIR= 50.00
SATURATION TEMP.= 174.6 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT COMPOSITIONS IN MOLE-PERCENT: CONDENSATE COMP. 1	CONDENSATE COMP. 2	TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT: COMP. 1	COMP. 2	TOTAL
110.0	92.05	7.95	12.52	0.49	86.99	96.27	3.73	84.47	92.37	85.03
100.0	92.21	7.79	9.83	0.37	89.81	96.41	3.59	88.19	94.43	88.63
90.0	92.32	7.68	7.64	0.27	92.09	96.53	3.47	91.05	95.93	91.39
85.0	92.37	7.63	6.71	0.24	93.06	96.59	3.41	92.22	96.52	92.52
80.0	92.41	7.59	5.87	0.20	93.92	96.64	3.36	93.25	97.03	93.52
78.0	92.42	7.58	5.57	0.19	94.24	96.66	3.34	93.63	97.21	93.88
76.0	92.44	7.56	5.27	0.18	94.55	96.68	3.32	93.98	97.39	94.22
74.0	92.45	7.55	4.99	0.17	94.84	96.71	3.29	94.32	97.55	94.55
72.0	92.46	7.54	4.72	0.16	95.12	96.73	3.27	94.64	97.70	94.86
70.0	92.48	7.52	4.47	0.15	95.38	96.75	3.25	94.94	97.85	95.15
68.0	92.49	7.51	4.23	0.14	95.63	96.77	3.23	95.23	97.98	95.43
66.0	92.50	7.50	3.99	0.13	95.87	96.79	3.21	95.51	98.11	95.69
64.0	92.51	7.49	3.77	0.12	96.10	96.81	3.19	95.77	98.23	95.94
62.0	92.52	7.48	3.56	0.12	96.32	96.83	3.17	96.01	98.34	96.17
60.0	92.53	7.47	3.36	0.11	96.53	96.85	3.15	96.24	98.45	96.40
58.0	92.54	7.46	3.17	0.10	96.73	96.86	3.14	96.46	98.55	96.61
56.0	92.54	7.46	2.99	0.10	96.92	96.88	3.12	96.67	98.64	96.81
54.0	92.55	7.45	2.82	0.09	97.09	96.90	3.10	96.87	98.73	97.00
52.0	92.56	7.44	2.65	0.08	97.26	96.92	3.08	97.06	98.82	97.18
50.0	92.57	7.43	2.50	0.08	97.42	96.94	3.06	97.24	98.89	97.35

MOLE-PERCENT COMP. 1= 27.80
MOLE-PERCENT COMP. 2= 2.20
MOLE-PERCENT AIR= 70.00
SATURATION TEMP.= 149.0 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT COMPOSITIONS IN MOLE-PERCENT: CONDENSATE COMP. 1	CONDENSATE COMP. 2	TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT: COMP. 1	COMP. 2	TOTAL
110.0	91.05	8.95	12.38	0.55	87.07	95.77	4.23	64.20	79.97	65.30
100.0	91.48	8.52	9.75	0.40	89.85	96.05	3.95	72.68	85.79	73.60
90.0	91.79	8.21	7.59	0.29	92.11	96.28	3.72	79.24	89.83	79.99
85.0	91.91	8.09	6.67	0.25	93.07	96.37	3.63	81.95	91.39	82.61
80.0	92.01	7.99	5.85	0.21	93.94	96.46	3.54	84.32	92.71	84.91
78.0	92.05	7.95	5.54	0.20	94.25	96.49	3.51	85.19	93.18	85.75
76.0	92.09	7.91	5.25	0.19	94.56	96.52	3.48	86.01	93.62	86.55
74.0	92.12	7.88	4.97	0.18	94.85	96.55	3.45	86.80	94.03	87.30
72.0	92.15	7.85	4.71	0.17	95.12	96.58	3.42	87.54	94.42	88.02
70.0	92.18	7.82	4.45	0.16	95.39	96.61	3.39	88.24	94.78	88.70
68.0	92.21	7.79	4.21	0.15	95.64	96.64	3.36	88.91	95.12	89.35
66.0	92.24	7.76	3.98	0.14	95.88	96.67	3.33	89.55	95.44	89.96
64.0	92.26	7.74	3.76	0.13	96.11	96.70	3.30	90.15	95.74	90.54
62.0	92.29	7.71	3.55	0.12	96.33	96.72	3.28	90.72	96.02	91.09
60.0	92.31	7.69	3.35	0.11	96.53	96.75	3.25	91.26	96.28	91.61
58.0	92.33	7.67	3.16	0.11	96.73	96.77	3.23	91.77	96.53	92.10
56.0	92.35	7.65	2.98	0.10	96.92	96.80	3.20	92.25	96.76	92.57
54.0	92.37	7.63	2.81	0.09	97.10	96.82	3.18	92.71	96.97	93.01
52.0	92.39	7.61	2.65	0.09	97.27	96.85	3.15	93.15	97.18	93.43
50.0	92.41	7.59	2.49	0.08	97.43	96.87	3.13	93.56	97.37	93.83

TABLE B-1. - Recovery calculations for solution of 93.0 weight-percent CH_2Br_2 (component 1)--7.0 weight-percent C_2Cl_4 (component 2): Single flash condensation; specific gravity 2.40--Continued

MOLE-PERCENT COMP. 1= 18.54
MOLE-PERCENT COMP. 2= 1.46
MOLE-PERCENT AIR= 80.00
SATURATION TEMP.= 130.3 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE COMP. 1	CONDENSATE COMP. 2	TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	COMP. 1	COMP. 2	TOTAL
110.0	89.44	10.56	12.16	0.65	87.19	94.96	5.04	39.79	59.54	41.18
100.0	90.38	9.62	9.63	0.45	89.91	95.52	4.48	53.76	72.51	55.08
90.0	91.02	8.98	7.53	0.32	92.15	95.91	4.09	64.73	80.95	65.87
85.0	91.26	8.74	6.63	0.27	93.10	96.07	3.93	69.28	84.06	70.32
80.0	91.46	8.54	5.81	0.23	93.96	96.20	3.80	73.29	86.65	74.23
78.0	91.54	8.46	5.51	0.21	94.27	96.25	3.75	74.76	87.55	75.66
76.0	91.61	8.39	5.23	0.20	94.57	96.30	3.70	76.15	88.40	77.01
74.0	91.67	8.33	4.95	0.19	94.86	96.35	3.65	77.48	89.18	78.30
72.0	91.73	8.27	4.69	0.18	95.14	96.39	3.61	78.74	89.92	79.52
70.0	91.79	8.21	4.44	0.16	95.40	96.43	3.57	79.93	90.60	80.68
68.0	91.84	8.16	4.20	0.15	95.65	96.47	3.53	81.07	91.24	81.78
66.0	91.89	8.11	3.97	0.14	95.89	96.51	3.49	82.15	91.83	82.82
64.0	91.94	8.06	3.75	0.13	96.12	96.55	3.45	83.17	92.38	83.81
62.0	91.98	8.02	3.54	0.13	96.33	96.59	3.41	84.14	92.90	84.75
60.0	92.02	7.98	3.34	0.12	96.54	96.62	3.38	85.06	93.38	85.64
58.0	92.06	7.94	3.15	0.11	96.74	96.66	3.34	85.93	93.83	86.48
56.0	92.10	7.90	2.97	0.10	96.92	96.69	3.31	86.76	94.26	87.28
54.0	92.14	7.86	2.80	0.10	97.10	96.72	3.28	87.54	94.65	88.04
52.0	92.17	7.83	2.64	0.09	97.27	96.75	3.25	88.28	95.02	88.75
50.0	92.20	7.80	2.49	0.08	97.43	96.78	3.22	88.99	95.36	89.43

MOLE-PERCENT COMP. 1= 13.90
MOLE-PERCENT COMP. 2= 1.10
MOLE-PERCENT AIR= 85.00
SATURATION TEMP.= 117.7 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE COMP. 1	CONDENSATE COMP. 2	TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	COMP. 1	COMP. 2	TOTAL
110.0	87.29	12.71	11.87	0.78	87.35	93.86	6.14	16.91	31.18	17.90
100.0	89.01	10.99	9.49	0.52	90.00	94.84	5.16	35.55	55.58	36.95
90.0	90.11	9.89	7.46	0.35	92.19	95.47	4.53	50.56	70.30	51.94
85.0	90.51	9.49	6.57	0.29	93.13	95.71	4.29	56.85	75.50	58.16
80.0	90.84	9.16	5.77	0.25	93.98	95.91	4.09	62.43	79.71	63.64
78.0	90.96	9.04	5.48	0.23	94.29	95.98	4.02	64.48	81.17	65.64
76.0	91.07	8.93	5.19	0.21	94.59	96.05	3.95	66.42	82.52	67.55
74.0	91.17	8.83	4.92	0.20	94.88	96.12	3.88	68.28	83.76	69.36
72.0	91.26	8.74	4.66	0.19	95.15	96.18	3.82	70.04	84.91	71.08
70.0	91.35	8.65	4.41	0.17	95.41	96.23	3.77	71.71	85.98	72.71
68.0	91.44	8.56	4.18	0.16	95.66	96.29	3.71	73.30	86.97	74.26
66.0	91.51	8.49	3.95	0.15	95.90	96.34	3.66	74.81	87.89	75.73
64.0	91.59	8.41	3.73	0.14	96.13	96.39	3.61	76.25	88.74	77.12
62.0	91.65	8.35	3.53	0.13	96.34	96.44	3.56	77.61	89.53	78.45
60.0	91.72	8.28	3.33	0.12	96.55	96.49	3.51	78.91	90.27	79.70
58.0	91.78	8.22	3.14	0.11	96.74	96.53	3.47	80.13	90.95	80.89
56.0	91.83	8.17	2.97	0.11	96.93	96.57	3.43	81.30	91.59	82.02
54.0	91.89	8.11	2.80	0.10	97.11	96.61	3.39	82.40	92.18	83.08
52.0	91.93	8.07	2.63	0.09	97.27	96.65	3.35	83.44	92.73	84.09
50.0	91.98	8.02	2.48	0.08	97.43	96.69	3.31	84.43	93.24	85.05

TABLE B-1. - Recovery calculations for solution of 93.0 weight-percent CH_2Br_2 (component 1)--7.0 weight-percent C_2Cl_4 (component 2): Single flash condensation; specific gravity 2.40--Continued

MOLE-PERCENT COMP. 1= 11.12
MOLE-PERCENT COMP. 2= 0.88
MOLE-PERCENT AIR= 88.00
SATURATION TEMP.= 108.4 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT COMPOSITIONS IN MOLE-PERCENT: CONDENSATE COMP. 1	CONDENSATE COMP. 2	TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT: COMP. 1	COMP. 2	TOTAL
100.0	87.31	12.69	9.31	0.60	90.10	93.98	6.02	18.28	33.66	19.36
90.0	89.04	10.96	7.37	0.39	92.24	94.95	5.05	36.81	57.42	38.26
85.0	89.65	10.35	6.51	0.32	93.17	95.29	4.71	44.72	65.42	46.17
80.0	90.14	9.86	5.73	0.27	94.00	95.58	4.42	51.77	71.74	53.17
78.0	90.31	9.69	5.44	0.25	94.31	95.68	4.32	54.37	73.89	55.73
76.0	90.47	9.53	5.16	0.23	94.61	95.77	4.23	56.84	75.86	58.18
74.0	90.61	9.39	4.89	0.21	94.90	95.86	4.14	59.20	77.67	60.50
72.0	90.75	9.25	4.64	0.20	95.17	95.94	4.06	61.45	79.33	62.70
70.0	90.88	9.12	4.39	0.18	95.43	96.02	3.98	63.59	80.86	64.80
68.0	90.99	9.01	4.16	0.17	95.67	96.09	3.91	65.62	82.27	66.79
66.0	91.10	8.90	3.93	0.16	95.91	96.16	3.84	67.56	83.57	68.68
64.0	91.20	8.80	3.72	0.15	96.14	96.22	3.78	69.40	84.77	70.47
62.0	91.30	8.70	3.51	0.14	96.35	96.28	3.72	71.14	85.88	72.17
60.0	91.39	8.61	3.32	0.13	96.55	96.34	3.66	72.80	86.90	73.79
58.0	91.47	8.53	3.13	0.12	96.75	96.39	3.61	74.38	87.85	75.32
56.0	91.55	8.45	2.96	0.11	96.94	96.44	3.56	75.87	88.73	76.77
54.0	91.62	8.38	2.79	0.10	97.11	96.49	3.51	77.29	89.55	78.15
52.0	91.69	8.31	2.63	0.09	97.28	96.54	3.46	78.63	90.31	79.45
50.0	91.75	8.25	2.47	0.09	97.44	96.59	3.41	79.91	91.01	80.69

MOLE-PERCENT COMP. 1= 9.27
MOLE-PERCENT COMP. 2= 0.73
MOLE-PERCENT AIR= 90.00
SATURATION TEMP.= 101.0 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT COMPOSITIONS IN MOLE-PERCENT: CONDENSATE COMP. 1	CONDENSATE COMP. 2	TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT: COMP. 1	COMP. 2	TOTAL
100.0	85.18	14.82	9.08	0.70	90.23	92.88	7.12	2.29	5.06	2.49
90.0	87.76	12.24	7.26	0.44	92.30	94.32	5.68	23.61	41.71	24.88
85.0	88.64	11.36	6.44	0.35	93.21	94.81	5.19	32.94	53.47	34.38
80.0	89.34	10.66	5.68	0.29	94.03	95.20	4.80	41.35	62.51	42.83
78.0	89.58	10.42	5.40	0.26	94.34	95.33	4.67	44.47	65.54	45.94
76.0	89.80	10.20	5.12	0.24	94.63	95.45	4.55	47.44	68.29	48.90
74.0	90.00	10.00	4.86	0.23	94.92	95.57	4.43	50.28	70.80	51.72
72.0	90.18	9.82	4.61	0.21	95.18	95.67	4.33	52.99	73.08	54.40
70.0	90.35	9.65	4.37	0.19	95.44	95.77	4.23	55.58	75.17	56.95
68.0	90.51	9.49	4.13	0.18	95.69	95.87	4.13	58.04	77.08	59.37
66.0	90.66	9.34	3.91	0.17	95.92	95.95	4.05	60.38	78.83	61.67
64.0	90.79	9.21	3.70	0.15	96.15	96.03	3.97	62.61	80.43	63.86
62.0	90.92	9.08	3.50	0.14	96.36	96.11	3.89	64.74	81.91	65.94
60.0	91.03	8.97	3.31	0.13	96.56	96.18	3.82	66.75	83.27	67.91
58.0	91.14	8.86	3.12	0.12	96.76	96.25	3.75	68.67	84.52	69.78
56.0	91.24	8.76	2.95	0.11	96.94	96.31	3.69	70.49	85.68	71.55
54.0	91.34	8.66	2.78	0.10	97.12	96.37	3.63	72.22	86.74	73.23
52.0	91.43	8.57	2.62	0.10	97.28	96.43	3.57	73.85	87.73	74.83
50.0	91.51	8.49	2.47	0.09	97.44	96.48	3.52	75.41	88.64	76.33

TABLE B-1. - Recovery calculations for solution of 93.0 weight-percent CH_2Br_2 (component 1)--7.0 weight-percent C_2Cl_4 (component 2): Single flash condensation; specific gravity 2.40--Continued

MOLE-PERCENT COMP. 1= 7.41
MOLE-PERCENT COMP. 2= 0.59
MOLE-PERCENT AIR= 92.00
SATURATION TEMP.= 92.2 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP.,	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR				
DEG.F.	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
90.0	85.39	14.61	7.06	0.52	92.41	93.12	6.88	5.15	11.17	5.57
85.0	86.82	13.18	6.30	0.41	93.29	93.90	6.10	16.15	31.06	17.19
80.0	87.92	12.08	5.59	0.32	94.09	94.51	5.49	26.29	45.76	27.66
78.0	88.29	11.71	5.32	0.30	94.39	94.71	5.29	30.09	50.56	31.53
76.0	88.63	11.37	5.06	0.27	94.67	94.90	5.10	33.75	54.86	35.22
74.0	88.93	11.07	4.80	0.25	94.95	95.06	4.94	37.25	58.72	38.75
72.0	89.21	10.79	4.56	0.23	95.21	95.22	4.78	40.60	62.21	42.12
70.0	89.46	10.54	4.32	0.21	95.47	95.36	4.64	43.81	65.36	45.32
68.0	89.70	10.30	4.10	0.19	95.71	95.49	4.51	46.88	68.21	48.37
66.0	89.91	10.09	3.88	0.18	95.94	95.61	4.39	49.81	70.79	51.28
64.0	90.11	9.89	3.67	0.16	96.16	95.72	4.28	52.60	73.14	54.04
62.0	90.29	9.71	3.48	0.15	96.37	95.82	4.18	55.26	75.29	56.66
60.0	90.46	9.54	3.29	0.14	96.58	95.92	4.08	57.79	77.24	59.16
58.0	90.61	9.39	3.10	0.13	96.77	96.01	3.99	60.21	79.03	61.52
56.0	90.75	9.25	2.93	0.12	96.95	96.09	3.91	62.50	80.67	63.77
54.0	90.88	9.12	2.76	0.11	97.12	96.17	3.83	64.68	82.17	65.90
52.0	91.01	8.99	2.61	0.10	97.29	96.24	3.76	66.75	83.55	67.92
50.0	91.12	8.88	2.46	0.09	97.45	96.31	3.69	68.71	84.82	69.84

MOLE-PERCENT COMP. 1= 5.56
MOLE-PERCENT COMP. 2= 0.44
MOLE-PERCENT AIR= 94.00
SATURATION TEMP.= 81.4 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP.,	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR				
DEG.F.	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
80.0	84.83	15.17	5.39	0.41	94.20	92.97	7.03	3.23	7.32	3.52
78.0	85.53	14.47	5.15	0.37	94.48	93.35	6.65	7.85	16.82	8.47
76.0	86.14	13.86	4.91	0.33	94.76	93.68	6.32	12.35	25.15	13.24
74.0	86.70	13.30	4.68	0.30	95.02	93.98	6.02	16.72	32.49	17.82
72.0	87.20	12.80	4.46	0.27	95.27	94.25	5.75	20.96	38.96	22.22
70.0	87.65	12.35	4.24	0.25	95.52	94.50	5.50	25.05	44.71	26.42
68.0	88.06	11.94	4.02	0.22	95.75	94.71	5.29	28.99	49.81	30.45
66.0	88.42	11.58	3.82	0.20	95.98	94.91	5.09	32.78	54.36	34.29
64.0	88.76	11.24	3.62	0.19	96.19	95.09	4.91	36.42	58.43	37.96
62.0	89.06	10.94	3.43	0.17	96.40	95.26	4.74	39.90	62.08	41.45
60.0	89.34	10.66	3.24	0.16	96.60	95.41	4.59	43.23	65.37	44.78
58.0	89.59	10.41	3.07	0.14	96.79	95.54	4.46	46.41	68.33	47.95
56.0	89.82	10.18	2.90	0.13	96.97	95.67	4.33	49.45	71.01	50.96
54.0	90.03	9.97	2.74	0.12	97.14	95.79	4.21	52.34	73.44	53.82
52.0	90.22	9.78	2.58	0.11	97.30	95.89	4.11	55.10	75.64	56.54
50.0	90.40	9.60	2.44	0.10	97.46	95.99	4.01	57.72	77.65	59.12

TABLE B-1. - Recovery calculations for solution of 93.0 weight-percent CH_2Br_2 (component 1)--7.0 weight-percent C_2Cl_4 (component 2): Single flash condensation; specific gravity 2.40--Continued

MOLE-PERCENT COMP. 1= 5.10
MOLE-PERCENT COMP. 2= 0.40
MOLE-PERCENT AIR= 94.50
SATURATION TEMP.= 78.2 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP.,	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	TOTAL VAPOR					ORGANIC VAPOR				
DEG.F.	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
78.0	84.29	15.71	5.08	0.40	94.53	92.72	7.28	0.44	1.03	0.48
76.0	85.05	14.95	4.85	0.36	94.79	93.14	6.86	5.13	11.43	5.57
74.0	85.72	14.28	4.63	0.32	95.05	93.50	6.50	9.73	20.53	10.48
72.0	86.33	13.67	4.41	0.29	95.30	93.83	6.17	14.21	28.51	15.21
70.0	86.87	13.13	4.20	0.26	95.54	94.12	5.88	18.55	35.53	19.74
68.0	87.35	12.65	3.99	0.24	95.77	94.38	5.62	22.76	41.73	24.09
66.0	87.79	12.21	3.79	0.22	95.99	94.61	5.39	26.82	47.23	28.25
64.0	88.19	11.81	3.60	0.20	96.21	94.83	5.17	30.72	52.12	32.22
62.0	88.55	11.45	3.41	0.18	96.41	95.02	4.98	34.47	56.48	36.01
60.0	88.87	11.13	3.23	0.16	96.61	95.19	4.81	38.07	60.38	39.63
58.0	89.17	10.83	3.05	0.15	96.80	95.35	4.65	41.51	63.88	43.08
56.0	89.44	10.56	2.89	0.14	96.98	95.50	4.50	44.80	67.02	46.35
54.0	89.68	10.32	2.73	0.12	97.15	95.63	4.37	47.94	69.86	49.47
52.0	89.91	10.09	2.58	0.11	97.31	95.75	4.25	50.93	72.43	52.44
50.0	90.11	9.89	2.43	0.10	97.47	95.87	4.13	53.78	74.75	55.25

MOLE-PERCENT COMP. 1= 4.63
MOLE-PERCENT COMP. 2= 0.37
MOLE-PERCENT AIR= 95.00
SATURATION TEMP.= 74.7 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP.,	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	TOTAL VAPOR					ORGANIC VAPOR				
DEG.F.	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
74.0	84.41	15.59	4.56	0.35	95.09	92.84	7.16	1.75	4.09	1.91
72.0	85.16	14.84	4.35	0.31	95.33	93.25	6.75	6.44	14.23	6.99
70.0	85.83	14.17	4.15	0.28	95.57	93.61	6.39	11.04	23.09	11.88
68.0	86.43	13.57	3.95	0.26	95.80	93.93	6.07	15.52	30.86	16.59
66.0	86.96	13.04	3.75	0.23	96.02	94.22	5.78	19.86	37.70	21.10
64.0	87.45	12.55	3.57	0.21	96.23	94.47	5.53	24.05	43.73	25.43
62.0	87.88	12.12	3.38	0.19	96.43	94.71	5.29	28.10	49.08	29.57
60.0	88.27	11.73	3.21	0.17	96.62	94.91	5.09	31.99	53.83	33.52
58.0	88.63	11.37	3.04	0.16	96.81	95.10	4.90	35.72	58.07	37.28
56.0	88.95	11.05	2.87	0.14	96.99	95.27	4.73	39.30	61.85	40.88
54.0	89.24	10.76	2.71	0.13	97.16	95.43	4.57	42.72	65.25	44.30
52.0	89.50	10.50	2.56	0.12	97.32	95.57	4.43	45.99	68.30	47.55
50.0	89.75	10.25	2.42	0.11	97.47	95.70	4.30	49.10	71.05	50.64

TABLE B-2. - Recovery calculations for solution of 93.0 weight-percent CH_2Br_2 (component 1)-- 7.0 weight-percent C_2Cl_4 (component 2): Incremental condensation-- 2.0° F interval; specific gravity 2.40

MOLE-PERCENT COMP. 1= 83.41
MOLE-PERCENT COMP. 2= 6.59
MOLE-PERCENT AIR= 10.00
SATURATION TEMP.= 207.2 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT COMPOSITIONS IN MOLE-PERCENT: CONDENSATE COMP. 1	CONDENSATE COMP. 2	TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT: COMP. 1	COMP. 2	TOTAL
110.0	92.56	7.44	13.55	0.02	86.43	99.82	0.18	98.12	99.96	98.25
100.0	92.59	7.41	10.63	0.01	89.36	99.87	0.13	98.57	99.98	98.67
90.0	92.61	7.39	8.26	0.01	91.74	99.91	0.09	98.92	99.99	99.00
85.0	92.62	7.38	7.25	0.01	92.75	99.92	0.08	99.06	99.99	99.13
80.0	92.63	7.37	6.35	0.00	93.65	99.94	0.06	99.19	99.99	99.24
78.0	92.63	7.37	6.02	0.00	93.98	99.94	0.06	99.23	99.99	99.29
76.0	92.63	7.37	5.70	0.00	94.30	99.95	0.05	99.28	100.00	99.33
74.0	92.64	7.36	5.39	0.00	94.60	99.95	0.05	99.32	100.00	99.36
72.0	92.64	7.36	5.10	0.00	94.89	99.95	0.05	99.36	100.00	99.40
70.0	92.64	7.36	4.83	0.00	95.17	99.96	0.04	99.39	100.00	99.43
68.0	92.64	7.36	4.56	0.00	95.43	99.96	0.04	99.43	100.00	99.47
66.0	92.65	7.35	4.31	0.00	95.69	99.96	0.04	99.46	100.00	99.50
64.0	92.65	7.35	4.07	0.00	95.92	99.97	0.03	99.49	100.00	99.53
62.0	92.65	7.35	3.85	0.00	96.15	99.97	0.03	99.52	100.00	99.55
60.0	92.65	7.35	3.63	0.00	96.37	99.97	0.03	99.55	100.00	99.58
58.0	92.65	7.35	3.42	0.0	96.58	99.97	0.03	99.58	100.00	99.60
56.0	92.66	7.34	3.23	0.0	96.77	99.98	0.02	99.60	100.00	99.63
54.0	92.66	7.34	3.04	0.0	96.96	99.98	0.02	99.62	100.00	99.65
52.0	92.66	7.34	2.86	0.0	97.14	99.98	0.02	99.65	100.00	99.67
50.0	92.66	7.34	2.70	0.0	97.30	99.98	0.02	99.67	100.00	99.69

MOLE-PERCENT COMP. 1= 64.88
MOLE-PERCENT COMP. 2= 5.12
MOLE-PERCENT AIR= 30.00
SATURATION TEMP.= 192.8 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT COMPOSITIONS IN MOLE-PERCENT: CONDENSATE COMP. 1	CONDENSATE COMP. 2	TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT: COMP. 1	COMP. 2	TOTAL
110.0	92.20	7.80	13.44	0.07	86.49	99.46	0.54	92.82	99.51	93.28
100.0	92.31	7.69	10.56	0.04	89.39	99.61	0.39	94.54	99.73	94.90
90.0	92.40	7.60	8.22	0.02	91.76	99.72	0.28	95.86	99.85	96.14
85.0	92.44	7.56	7.22	0.02	92.76	99.77	0.23	96.40	99.89	96.64
80.0	92.47	7.53	6.33	0.01	93.66	99.80	0.20	96.88	99.92	97.09
78.0	92.48	7.52	6.00	0.01	93.99	99.82	0.18	97.05	99.93	97.25
76.0	92.49	7.51	5.68	0.01	94.31	99.83	0.17	97.21	99.94	97.41
74.0	92.50	7.50	5.38	0.01	94.61	99.84	0.16	97.37	99.95	97.55
72.0	92.51	7.49	5.09	0.01	94.90	99.85	0.15	97.52	99.95	97.69
70.0	92.52	7.48	4.82	0.01	95.18	99.87	0.13	97.66	99.96	97.82
68.0	92.53	7.47	4.55	0.01	95.44	99.88	0.12	97.79	99.97	97.95
66.0	92.54	7.46	4.30	0.00	95.69	99.89	0.11	97.92	99.97	98.06
64.0	92.55	7.45	4.07	0.00	95.93	99.89	0.11	98.04	99.97	98.18
62.0	92.56	7.44	3.84	0.00	96.16	99.90	0.10	98.15	99.98	98.28
60.0	92.56	7.44	3.62	0.00	96.37	99.91	0.09	98.26	99.98	98.38
58.0	92.57	7.43	3.42	0.00	96.58	99.92	0.08	98.36	99.98	98.48
56.0	92.58	7.42	3.22	0.00	96.77	99.92	0.08	98.46	99.99	98.57
54.0	92.58	7.42	3.04	0.00	96.96	99.93	0.07	98.55	99.99	98.65
52.0	92.59	7.41	2.86	0.00	97.14	99.94	0.06	98.64	99.99	98.73
50.0	92.60	7.40	2.69	0.00	97.31	99.94	0.06	98.72	99.99	98.81

TABLE B-2. - Recovery calculations for solution of 93.0 weight-percent CH_2Br_2 (component 1)--7.0 weight-percent C_2Cl_4 (component 2): Incremental condensation--2.0° F interval; specific gravity 2.40--Continued

MOLE-PERCENT COMP. 1=.46.34
MOLE-PERCENT COMP. 2= 3.66
MOLE-PERCENT AIR= 50.00
SATURATION TEMP.= 174.6 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT COMPOSITIONS IN MOLE—PERCENT: CONDENSATE COMP. 1	CONDENSATE COMP. 2	TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT: COMP. 1	COMP. 2	TOTAL
110.0	91.56	8.44	13.25	0.16	86.59	98.83	1.17	63.49	97.53	84.47
100.0	91.82	8.18	10.46	0.09	89.45	99.15	0.85	87.39	98.63	88.18
90.0	92.02	7.98	8.16	0.05	91.79	99.39	0.61	90.41	99.25	91.03
85.0	92.11	7.89	7.18	0.04	92.79	99.49	0.51	91.66	99.45	92.20
80.0	92.18	7.82	6.29	0.03	93.68	99.57	0.43	92.75	99.60	93.23
78.0	92.21	7.79	5.97	0.02	94.01	99.60	0.40	93.15	99.65	93.61
76.0	92.24	7.76	5.65	0.02	94.32	99.63	0.37	93.53	99.69	93.96
74.0	92.26	7.74	5.36	0.02	94.63	99.66	0.34	93.89	99.73	94.30
72.0	92.29	7.71	5.07	0.02	94.91	99.68	0.32	94.24	99.77	94.62
70.0	92.31	7.69	4.80	0.01	95.19	99.70	0.30	94.56	99.80	94.93
68.0	92.33	7.67	4.54	0.01	95.45	99.73	0.27	94.87	99.82	95.22
66.0	92.35	7.65	4.29	0.01	95.70	99.75	0.25	95.16	99.84	95.49
64.0	92.37	7.63	4.05	0.01	95.94	99.77	0.23	95.44	99.86	95.75
62.0	92.39	7.61	3.83	0.01	96.16	99.78	0.22	95.70	99.88	96.00
60.0	92.41	7.59	3.61	0.01	96.38	99.80	0.20	95.95	99.90	96.23
58.0	92.42	7.58	3.41	0.01	96.58	99.82	0.18	96.19	99.91	96.45
56.0	92.44	7.56	3.22	0.01	96.78	99.83	0.17	96.42	99.92	96.66
54.0	92.45	7.55	3.03	0.00	96.96	99.85	0.15	96.63	99.93	96.86
52.0	92.47	7.53	2.86	0.00	97.14	99.86	0.14	96.83	99.94	97.05
50.0	92.48	7.52	2.69	0.00	97.31	99.87	0.13	97.02	99.95	97.22

MOLE-PERCENT COMP. 1= 27.80
MOLE-PERCENT COMP. 2= 2.20
MOLE-PERCENT AIR= 70.00
SATURATION TEMP.= 149.0 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT COMPOSITIONS IN MOLE—PERCENT: CONDENSATE COMP. 1	CONDENSATE COMP. 2	TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT: COMP. 1	COMP. 2	TOTAL
110.0	90.09	9.91	12.84	0.34	86.82	97.41	2.59	62.77	87.44	64.50
100.0	90.68	9.32	10.21	0.20	89.59	98.08	1.92	71.32	92.90	72.83
90.0	91.14	8.86	8.01	0.11	91.88	98.61	1.39	78.05	96.08	79.31
85.0	91.34	8.66	7.07	0.08	92.85	98.82	1.18	80.84	97.11	81.98
80.0	91.51	8.49	6.21	0.06	93.73	99.01	0.99	83.32	97.89	84.34
78.0	91.58	8.42	5.89	0.05	94.05	99.08	0.92	84.22	98.15	85.20
76.0	91.64	8.36	5.59	0.05	94.36	99.14	0.86	85.09	98.37	86.02
74.0	91.69	8.31	5.30	0.04	94.66	99.21	0.79	85.91	98.57	86.80
72.0	91.75	8.25	5.02	0.04	94.94	99.26	0.74	86.69	98.75	87.53
70.0	91.80	8.20	4.75	0.03	95.21	99.32	0.68	87.43	98.90	88.23
68.0	91.85	8.15	4.50	0.03	95.47	99.37	0.63	88.14	99.04	88.90
66.0	91.90	8.10	4.26	0.03	95.72	99.41	0.59	88.81	99.16	89.53
64.0	91.94	8.06	4.02	0.02	95.95	99.46	0.54	89.44	99.27	90.13
62.0	91.99	8.01	3.80	0.02	96.18	99.50	0.50	90.05	99.37	90.70
60.0	92.03	7.97	3.59	0.02	96.39	99.54	0.46	90.62	99.45	91.24
58.0	92.07	7.93	3.39	0.01	96.60	99.58	0.42	91.17	99.52	91.75
56.0	92.10	7.90	3.20	0.01	96.79	99.61	0.39	91.68	99.59	92.24
54.0	92.14	7.86	3.02	0.01	96.97	99.64	0.36	92.17	99.64	92.70
52.0	92.17	7.83	2.84	0.01	97.15	99.67	0.33	92.64	99.69	93.13
50.0	92.20	7.80	2.68	0.01	97.32	99.70	0.30	93.08	99.74	93.54

TABLE B-2. - Recovery calculations for solution of 93.0 weight-percent CH_2Br_2 (component 1)-- 7.0 weight-percent C_2Cl_4 (component 2): Incremental condensation-- 2.0° F interval; specific gravity 2.40--Continued

MOLE-PERCENT COMP. 1= 18.54
MOLE-PERCENT COMP. 2= 1.46
MOLE-PERCENT AIR= 80.00
SATURATION TEMP.= 130.3 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	COMP. 2	TOTAL
110.0	88.33	11.67	12.35	0.56	87.09	95.67	4.33	38.77	64.87	40.60
100.0	89.27	10.73	9.90	0.33	89.76	96.75	3.25	52.39	79.72	54.30
90.0	90.04	9.96	7.83	0.19	91.98	97.61	2.39	63.26	88.61	65.04
85.0	90.37	9.63	6.93	0.14	92.93	97.97	2.03	67.83	91.56	69.49
80.0	90.66	9.34	6.11	0.11	93.79	98.29	1.71	71.91	93.79	73.44
78.0	90.77	9.23	5.80	0.09	94.11	98.40	1.60	73.40	94.53	74.88
76.0	90.88	9.12	5.51	0.08	94.41	98.51	1.49	74.83	95.18	76.26
74.0	90.97	9.03	5.22	0.07	94.70	98.61	1.39	76.19	95.76	77.56
72.0	91.07	8.93	4.95	0.06	94.98	98.71	1.29	77.49	96.28	78.81
70.0	91.16	8.84	4.69	0.06	95.25	98.80	1.20	78.73	96.74	79.99
68.0	91.24	8.76	4.45	0.05	95.50	98.89	1.11	79.90	97.14	81.11
66.0	91.32	8.68	4.21	0.04	95.75	98.97	1.03	81.02	97.50	82.18
64.0	91.40	8.60	3.98	0.04	95.98	99.05	0.95	82.09	97.82	83.19
62.0	91.47	8.53	3.77	0.03	96.20	99.12	0.88	83.10	98.10	84.15
60.0	91.54	8.46	3.56	0.03	96.41	99.19	0.81	84.07	98.35	85.07
58.0	91.61	8.39	3.36	0.03	96.61	99.25	0.75	84.98	98.57	85.93
56.0	91.67	8.33	3.17	0.02	96.80	99.31	0.69	85.85	98.76	86.75
54.0	91.73	8.27	2.99	0.02	96.99	99.37	0.63	86.68	98.93	87.53
52.0	91.79	8.21	2.82	0.02	97.16	99.42	0.58	87.46	99.07	88.27
50.0	91.85	8.15	2.66	0.01	97.33	99.47	0.53	88.20	99.20	88.97

MOLE-PERCENT COMP. 1= 13.90
MOLE-PERCENT COMP. 2= 1.10
MOLE-PERCENT AIR= 85.00
SATURATION TEMP.= 117.7 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	COMP. 2	TOTAL
110.0	86.65	13.35	11.91	0.76	87.33	93.99	6.01	16.65	32.49	17.76
100.0	87.91	12.09	9.61	0.46	89.93	95.43	4.57	34.64	60.32	36.44
90.0	88.96	11.04	7.65	0.27	92.08	96.60	3.40	49.20	77.36	51.17
85.0	89.41	10.59	6.79	0.20	93.01	97.10	2.90	55.38	83.11	57.32
80.0	89.82	10.18	6.00	0.15	93.85	97.54	2.46	60.92	87.50	62.78
78.0	89.97	10.03	5.70	0.13	94.16	97.70	2.30	62.96	88.95	64.78
76.0	90.11	9.89	5.42	0.12	94.46	97.85	2.15	64.92	90.25	66.69
74.0	90.25	9.75	5.15	0.11	94.75	98.00	2.00	66.78	91.41	68.51
72.0	90.38	9.62	4.89	0.09	95.02	98.14	1.86	68.56	92.44	70.23
70.0	90.51	9.49	4.63	0.08	95.28	98.27	1.73	70.26	93.36	71.88
68.0	90.63	9.37	4.39	0.07	95.53	98.39	1.61	71.88	94.17	73.44
66.0	90.74	9.26	4.16	0.06	95.77	98.51	1.49	73.43	94.90	74.93
64.0	90.85	9.15	3.94	0.06	96.00	98.62	1.38	74.90	95.54	76.34
62.0	90.96	9.04	3.73	0.05	96.22	98.72	1.28	76.30	96.11	77.69
60.0	91.05	8.95	3.53	0.04	96.43	98.82	1.18	77.64	96.61	78.96
58.0	91.15	8.85	3.33	0.04	96.63	98.91	1.09	78.91	97.05	80.18
56.0	91.24	8.76	3.15	0.03	96.82	98.99	1.01	80.12	97.44	81.33
54.0	91.32	8.68	2.97	0.03	97.00	99.07	0.93	81.26	97.78	82.42
52.0	91.41	8.59	2.80	0.02	97.17	99.15	0.85	82.36	98.08	83.46
50.0	91.48	8.52	2.64	0.02	97.34	99.22	0.78	83.39	98.35	84.44

TABLE B-2. - Recovery calculations for solution of 93.0 weight-percent CH_2Br_2 (component 1)--7.0 weight-percent C_2Cl_4 (component 2): Incremental condensation--2.0° F interval; specific gravity 2.40--Continued

MOLE-PERCENT COMP. 1= 11.12
MOLE-PERCENT COMP. 2= 0.88
MOLE-PERCENT AIR= 88.00
SATURATION TEMP.= 108.4 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT COMPOSITIONS IN MOLE-PERCENT: CONDENSATE COMP. 1	CONDENSATE COMP. 2	TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT: COMP. 1	COMP. 2	TOTAL
100.0	86.59	13.41	9.34	0.58	90.08	94.13	5.87	17.98	35.25	19.19
90.0	87.89	12.11	7.48	0.34	92.18	95.59	4.41	35.83	62.53	37.70
85.0	88.46	11.54	6.65	0.26	93.09	96.22	3.78	43.47	71.86	45.46
80.0	88.97	11.03	5.89	0.20	93.91	96.78	3.22	50.35	79.06	52.36
78.0	89.16	10.84	5.61	0.17	94.22	96.98	3.02	52.90	81.44	54.90
76.0	89.35	10.65	5.33	0.15	94.51	97.18	2.82	55.34	83.58	57.32
74.0	89.52	10.48	5.07	0.14	94.79	97.37	2.63	57.67	85.50	59.62
72.0	89.69	10.31	4.82	0.12	95.06	97.54	2.46	59.90	87.21	61.82
70.0	89.85	10.15	4.57	0.11	95.32	97.71	2.29	62.04	88.74	63.91
68.0	90.01	9.99	4.34	0.09	95.57	97.87	2.13	64.08	90.11	65.90
66.0	90.16	9.84	4.11	0.08	95.80	98.02	1.98	66.02	91.32	67.79
64.0	90.30	9.70	3.90	0.07	96.03	98.17	1.83	67.88	92.40	69.60
62.0	90.43	9.57	3.69	0.06	96.24	98.30	1.70	69.65	93.36	71.31
60.0	90.56	9.44	3.49	0.06	96.45	98.43	1.57	71.34	94.21	72.94
58.0	90.68	9.32	3.30	0.05	96.65	98.55	1.45	72.95	94.95	74.49
56.0	90.80	9.20	3.12	0.04	96.83	98.66	1.34	74.48	95.61	75.96
54.0	90.91	9.09	2.95	0.04	97.01	98.77	1.23	75.94	96.20	77.36
52.0	91.01	8.99	2.78	0.03	97.18	98.87	1.13	77.33	96.71	78.69
50.0	91.11	8.89	2.63	0.03	97.35	98.96	1.04	78.65	97.15	79.95

MOLE-PERCENT COMP. 1= 9.27
MOLE-PERCENT COMP. 2= 0.73
MOLE-PERCENT AIR= 90.00
SATURATION TEMP.= 101.0 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT COMPOSITIONS IN MOLE-PERCENT: CONDENSATE COMP. 1	CONDENSATE COMP. 2	TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT: COMP. 1	COMP. 2	TOTAL
100.0	85.18	14.82	9.08	0.70	90.23	92.88	7.12	2.29	5.06	2.49
90.0	86.85	13.15	7.31	0.42	92.28	94.59	5.41	23.11	44.34	24.59
85.0	87.53	12.47	6.52	0.32	93.17	95.34	4.66	32.08	57.92	33.89
80.0	88.13	11.87	5.79	0.24	93.97	96.01	3.99	40.19	68.53	42.17
78.0	88.37	11.63	5.51	0.21	94.27	96.26	3.74	43.20	72.05	45.22
76.0	88.59	11.41	5.25	0.19	94.56	96.50	3.50	46.09	75.22	48.13
74.0	88.80	11.20	4.99	0.17	94.84	96.73	3.27	48.86	78.07	50.91
72.0	89.00	11.00	4.75	0.15	95.10	96.94	3.06	51.51	80.62	53.55
70.0	89.20	10.80	4.51	0.13	95.36	97.15	2.85	54.06	82.91	56.07
68.0	89.39	10.61	4.28	0.12	95.60	97.34	2.66	56.49	84.95	58.48
66.0	89.57	10.43	4.06	0.10	95.83	97.53	2.47	58.81	86.78	60.77
64.0	89.74	10.26	3.85	0.09	96.05	97.70	2.30	61.03	88.40	62.95
62.0	89.90	10.10	3.65	0.08	96.27	97.87	2.13	63.15	89.84	65.02
60.0	90.06	9.94	3.46	0.07	96.47	98.03	1.97	65.18	91.13	67.00
58.0	90.21	9.79	3.27	0.06	96.67	98.18	1.82	67.11	92.26	68.87
56.0	90.35	9.65	3.10	0.05	96.85	98.32	1.68	68.96	93.26	70.66
54.0	90.49	9.51	2.93	0.05	97.03	98.45	1.55	70.72	94.15	72.36
52.0	90.62	9.38	2.76	0.04	97.20	98.57	1.43	72.39	94.93	73.97
50.0	90.74	9.26	2.61	0.03	97.36	98.69	1.31	73.98	95.61	75.50

TABLE B-2. - Recovery calculations for solution of 93.0 weight-percent CH_2Br_2 (component 1)--7.0 weight-percent C_2Cl_4 (component 2): Incremental condensation--2.0° F interval; specific gravity 2.40--Continued

MOLE-PERCENT COMP. 1= 7.41
MOLE-PERCENT COMP. 2= 0.59
MOLE-PERCENT AIR= 92.00
SATURATION TEMP.= 92.2 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP.,	EXIT COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR				
DEG.F.	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
90.0	85.32	14.68	7.06	0.52	92.41	93.12	6.88	5.14	11.21	5.57
85.0	86.14	13.86	6.32	0.40	93.28	94.03	5.97	15.89	32.38	17.05
80.0	86.91	13.09	5.63	0.31	94.06	94.66	5.14	25.67	48.98	27.30
78.0	87.19	12.81	5.37	0.27	94.35	95.17	4.83	29.32	54.55	31.08
76.0	87.47	12.53	5.12	0.24	94.63	95.47	4.53	32.82	59.59	34.70
74.0	87.73	12.27	4.88	0.22	94.90	95.75	4.25	36.19	64.12	38.15
72.0	87.98	12.02	4.65	0.19	95.16	96.02	3.98	39.43	68.21	41.44
70.0	88.23	11.77	4.42	0.17	95.41	96.28	3.72	42.53	71.88	44.58
68.0	88.46	11.54	4.20	0.15	95.65	96.53	3.47	45.50	75.18	47.58
66.0	88.69	11.31	3.99	0.13	95.88	96.76	3.24	48.35	78.13	50.44
64.0	88.90	11.10	3.79	0.12	96.09	96.99	3.01	51.09	80.76	53.16
62.0	89.11	10.89	3.59	0.10	96.30	97.20	2.80	53.70	83.12	55.76
60.0	89.31	10.69	3.41	0.09	96.50	97.40	2.60	56.20	85.21	58.23
58.0	89.50	10.50	3.23	0.08	96.69	97.59	2.41	58.59	87.07	60.58
56.0	89.68	10.32	3.05	0.07	96.88	97.77	2.23	60.88	88.72	62.82
54.0	89.86	10.14	2.89	0.06	97.05	97.94	2.06	63.06	90.18	64.96
52.0	90.02	9.98	2.73	0.05	97.22	98.10	1.90	65.14	91.47	66.98
50.0	90.18	9.82	2.58	0.05	97.37	98.26	1.74	67.12	92.61	68.91

MOLE-PERCENT COMP. 1= 5.56
MOLE-PERCENT COMP. 2= 0.44
MOLE-PERCENT AIR= 94.00
SATURATION TEMP.= 81.4 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP.,	EXIT COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR				
DEG.F.	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
80.0	84.83	15.17	5.39	0.41	94.20	92.97	7.03	3.23	7.32	3.52
78.0	85.26	14.74	5.15	0.37	94.48	93.37	6.63	7.80	17.07	8.45
76.0	85.63	14.37	4.92	0.33	94.75	93.76	6.24	12.19	25.93	13.16
74.0	85.97	14.03	4.70	0.29	95.01	94.13	5.87	16.43	33.95	17.66
72.0	86.31	13.69	4.48	0.26	95.26	94.48	5.52	20.51	41.22	21.96
70.0	86.63	13.37	4.27	0.23	95.50	94.83	5.17	24.44	47.79	26.08
68.0	86.94	13.06	4.07	0.21	95.73	95.16	4.84	28.22	53.71	30.00
66.0	87.23	12.77	3.87	0.18	95.95	95.47	4.53	31.85	59.05	33.76
64.0	87.52	12.48	3.68	0.16	96.16	95.77	4.23	35.34	63.84	37.34
62.0	87.79	12.21	3.50	0.14	96.36	96.06	3.94	38.69	68.14	40.75
60.0	88.06	11.94	3.32	0.13	96.56	96.33	3.67	41.91	71.98	44.01
58.0	88.31	11.69	3.15	0.11	96.74	96.59	3.41	44.99	75.41	47.12
56.0	88.56	11.44	2.98	0.10	96.92	96.84	3.16	47.94	78.47	50.08
54.0	88.79	11.21	2.83	0.09	97.09	97.07	2.93	50.77	81.19	52.90
52.0	89.01	10.99	2.68	0.07	97.25	97.29	2.71	53.48	83.61	55.59
50.0	89.23	10.77	2.53	0.06	97.40	97.50	2.50	56.07	85.75	58.14

TABLE B-2. - Recovery calculations for solution of 93.0 weight-percent CH_2Br_2 (component 1)--7.0 weight-percent C_2Cl_4 (component 2): Incremental condensation--2.0° F interval; specific gravity 2.40--Continued

MOLE-PERCENT COMP. 1= 5.10
MOLE-PERCENT COMP. 2= 0.40
MOLE-PERCENT AIR= 94.50
SATURATION TEMP.= 78.2 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT COMPOSITIONS IN MOLE-PERCENT: CONDENSATE COMP. 1	CONDENSATE COMP. 2	TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT: COMP. 1	COMP. 2	TOTAL
78.0	84.29	15.71	5.08	0.40	94.53	92.72	7.28	0.44	1.03	0.48
76.0	84.99	15.01	4.85	0.36	94.79	93.14	6.86	5.13	11.47	5.57
74.0	85.36	14.64	4.63	0.32	95.05	93.54	6.46	9.65	20.95	10.44
72.0	85.72	14.28	4.42	0.29	95.29	93.93	6.07	14.00	29.54	15.09
70.0	86.07	13.93	4.22	0.25	95.53	94.30	5.70	18.20	37.33	19.54
68.0	86.40	13.60	4.02	0.23	95.76	94.65	5.35	22.24	44.36	23.79
66.0	86.72	13.28	3.82	0.20	95.97	94.99	5.01	26.13	50.70	27.85
64.0	87.03	12.97	3.64	0.18	96.18	95.32	4.68	29.87	56.41	31.73
62.0	87.32	12.68	3.46	0.16	96.38	95.63	4.37	33.47	61.53	35.43
60.0	87.61	12.39	3.29	0.14	96.57	95.93	4.07	36.92	66.13	38.96
58.0	87.89	12.11	3.12	0.12	96.76	96.22	3.78	40.23	70.24	42.33
56.0	88.15	11.85	2.96	0.11	96.93	96.49	3.51	43.41	73.91	45.54
54.0	88.41	11.59	2.80	0.09	97.10	96.74	3.26	46.46	77.18	48.61
52.0	88.65	11.35	2.66	0.08	97.26	96.99	3.01	49.37	80.09	51.52
50.0	88.88	11.12	2.51	0.07	97.41	97.22	2.78	52.17	82.66	54.30

MOLE-PERCENT COMP. 1= 4.63
MOLE-PERCENT COMP. 2= 0.37
MOLE-PERCENT AIR= 95.00
SATURATION TEMP.= 74.7 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT COMPOSITIONS IN MOLE-PERCENT: CONDENSATE COMP. 1	CONDENSATE COMP. 2	TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT: COMP. 1	COMP. 2	TOTAL
74.0	84.41	15.59	4.56	0.35	95.09	92.64	7.16	1.75	4.09	1.91
72.0	84.97	15.03	4.35	0.31	95.33	93.26	6.74	6.42	14.38	6.97
70.0	85.37	14.63	4.15	0.28	95.57	93.67	6.33	10.92	23.71	11.81
68.0	85.74	14.26	3.96	0.25	95.79	94.06	5.94	15.26	32.16	16.44
66.0	86.09	13.91	3.77	0.22	96.00	94.43	5.57	19.44	39.79	20.87
64.0	86.43	13.57	3.59	0.20	96.21	94.79	5.21	23.47	46.68	25.09
62.0	86.75	13.25	3.42	0.17	96.41	95.13	4.87	27.34	52.88	29.13
60.0	87.07	12.93	3.25	0.15	96.60	95.46	4.54	31.06	58.44	32.98
58.0	87.37	12.63	3.09	0.14	96.78	95.77	4.23	34.64	63.43	36.66
56.0	87.66	12.34	2.93	0.12	96.95	96.07	3.93	38.08	67.90	40.17
54.0	87.94	12.06	2.78	0.11	97.12	96.35	3.65	41.38	71.88	43.51
52.0	88.21	11.79	2.63	0.09	97.28	96.62	3.38	44.54	75.43	46.70
50.0	88.46	11.54	2.49	0.08	97.43	96.88	3.12	47.56	78.58	49.74

TABLE B-3. - Recovery calculations for solution of 94.5 weight-percent CH_2Br_2 (component 1)--5.5 weight-percent C_2HCl_3 (component 2): Single flash condensation; specific gravity 2.40

MOLE-PERCENT COMP. 1= 83.56
MOLE-PERCENT COMP. 2= 6.44
MOLE-PERCENT AIR= 10.00
SATURATION TEMP.= 201.9 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	COMP. 2	TOTAL
110.0	92.92	7.08	12.64	1.56	85.80	89.02	10.98	98.24	97.18	98.18
100.0	92.90	7.10	9.90	1.24	88.86	88.86	11.14	98.67	97.83	98.62
90.0	92.89	7.11	7.69	0.98	91.33	88.69	11.31	98.99	98.33	98.96
85.0	92.89	7.11	6.75	0.87	92.39	88.61	11.39	99.13	98.54	99.09
80.0	92.88	7.12	5.90	0.77	93.33	88.53	11.47	99.24	98.73	99.21
78.0	92.88	7.12	5.59	0.73	93.68	88.49	11.51	99.29	98.79	99.26
76.0	92.88	7.12	5.30	0.69	94.01	88.46	11.54	99.33	98.86	99.30
74.0	92.88	7.12	5.02	0.66	94.33	88.43	11.57	99.36	98.92	99.34
72.0	92.88	7.12	4.75	0.62	94.63	88.40	11.60	99.40	98.98	99.38
70.0	92.86	7.12	4.49	0.59	94.92	88.36	11.64	99.43	99.03	99.41
68.0	92.87	7.13	4.24	0.56	95.20	88.33	11.67	99.47	99.09	99.45
66.0	92.87	7.13	4.01	0.53	95.46	88.30	11.70	99.50	99.14	99.48
64.0	92.87	7.13	3.79	0.50	95.71	88.26	11.74	99.53	99.18	99.51
62.0	92.87	7.13	3.57	0.48	95.95	88.23	11.77	99.55	99.23	99.54
60.0	92.87	7.13	3.37	0.45	96.18	88.20	11.80	99.58	99.27	99.56
58.0	92.87	7.13	3.18	0.43	96.39	88.16	11.84	99.61	99.31	99.59
56.0	92.87	7.13	3.00	0.40	96.60	88.13	11.87	99.63	99.35	99.61
54.0	92.87	7.13	2.83	0.38	96.79	88.10	11.90	99.65	99.39	99.64
52.0	92.86	7.14	2.66	0.36	96.98	88.06	11.94	99.67	99.42	99.66
50.0	92.86	7.14	2.50	0.34	97.15	88.03	11.97	99.69	99.46	99.68

MOLE-PERCENT COMP. 1= 64.99
MOLE-PERCENT COMP. 2= 5.01
MOLE-PERCENT AIR= 30.00
SATURATION TEMP.= 187.6 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	COMP. 2	TOTAL
110.0	93.12	6.88	12.66	1.52	85.82	89.32	10.68	93.19	89.42	92.98
100.0	93.06	6.94	9.92	1.21	88.87	89.09	10.91	94.85	91.81	94.68
90.0	93.02	6.98	7.70	0.96	91.34	88.88	11.12	96.11	93.68	95.98
85.0	93.00	7.00	6.75	0.85	92.39	88.78	11.22	96.63	94.46	96.51
80.0	92.98	7.02	5.91	0.75	93.33	88.68	11.32	97.08	95.15	96.97
78.0	92.97	7.03	5.60	0.72	93.68	88.64	11.36	97.24	95.41	97.14
76.0	92.97	7.03	5.30	0.68	94.01	88.60	11.40	97.40	95.65	97.30
74.0	92.96	7.04	5.02	0.65	94.33	88.56	11.44	97.54	95.88	97.45
72.0	92.96	7.04	4.75	0.62	94.63	88.52	11.48	97.68	96.10	97.60
70.0	92.95	7.05	4.49	0.58	94.92	88.48	11.52	97.82	96.31	97.73
68.0	92.95	7.05	4.25	0.55	95.20	88.44	11.56	97.94	96.51	97.86
66.0	92.94	7.06	4.01	0.53	95.46	88.40	11.60	98.06	96.70	97.98
64.0	92.94	7.06	3.79	0.50	95.71	88.36	11.64	98.17	96.88	98.10
62.0	92.93	7.07	3.58	0.47	95.95	88.33	11.67	98.28	97.05	98.21
60.0	92.93	7.07	3.38	0.45	96.18	88.29	11.71	98.38	97.21	98.32
58.0	92.92	7.08	3.18	0.42	96.39	88.25	11.75	98.48	97.37	98.41
56.0	92.92	7.08	3.00	0.40	96.60	88.21	11.79	98.57	97.51	98.51
54.0	92.92	7.08	2.83	0.38	96.79	88.17	11.83	98.65	97.65	98.60
52.0	92.91	7.09	2.66	0.36	96.98	88.14	11.86	98.73	97.79	98.68
50.0	92.91	7.09	2.51	0.34	97.16	88.10	11.90	98.81	97.91	98.76

TABLE B-3. - Recovery calculations for solution of 94.5 weight-percent CH_2Br_2 (component 1)--5.5 weight-percent C_2HCl_3 (component 2): Single flash condensation; specific gravity 2.40--Continued

MOLE-PERCENT COMP. 1= 46.42
MOLE-PERCENT COMP. 2= 3.58
MOLE-PERCENT AIR= 50.00
SATURATION TEMP.= 169.6 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT: CONDENSATE COMP. 1	CONDENSATE COMP. 2	TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT: COMP. 1	COMP. 2	TOTAL
110.0	93.45	6.55	12.71	1.44	85.85	89.81	10.19	84.06	76.51	83.64
100.0	93.33	6.67	9.95	1.17	88.88	89.49	10.51	87.95	81.63	87.60
90.0	93.23	6.77	7.71	0.93	91.35	89.20	10.80	90.91	85.71	90.62
85.0	93.19	6.81	6.77	0.83	92.40	89.07	10.93	92.11	87.43	91.85
80.0	93.15	6.85	5.92	0.74	93.34	88.94	11.06	93.17	88.96	92.94
78.0	93.13	6.87	5.61	0.70	93.69	88.88	11.12	93.55	89.53	93.33
76.0	93.12	6.88	5.31	0.67	94.02	88.83	11.17	93.91	90.07	93.70
74.0	93.11	6.89	5.03	0.64	94.34	88.78	11.22	94.26	90.59	94.06
72.0	93.10	6.90	4.76	0.60	94.64	88.73	11.27	94.59	91.08	94.39
70.0	93.08	6.92	4.50	0.57	94.93	88.69	11.31	94.90	91.55	94.71
68.0	93.07	6.93	4.25	0.55	95.20	88.64	11.36	95.19	91.99	95.01
66.0	93.06	6.94	4.02	0.52	95.47	88.59	11.41	95.47	92.42	95.30
64.0	93.05	6.95	3.79	0.49	95.72	88.54	11.46	95.73	92.83	95.57
62.0	93.04	6.96	3.58	0.47	95.95	88.50	11.50	95.98	93.22	95.83
60.0	93.03	6.97	3.38	0.44	96.18	88.45	11.55	96.22	93.59	96.07
58.0	93.02	6.98	3.19	0.42	96.40	88.40	11.60	96.44	93.94	96.30
56.0	93.01	6.99	3.00	0.40	96.60	88.36	11.64	96.65	94.27	96.52
54.0	93.00	7.00	2.83	0.37	96.80	88.31	11.69	96.85	94.59	96.73
52.0	93.00	7.00	2.66	0.35	96.98	88.27	11.73	97.04	94.89	96.92
50.0	92.99	7.01	2.51	0.33	97.16	88.23	11.77	97.22	95.18	97.11

MOLE-PERCENT COMP. 1= 27.85
MOLE-PERCENT COMP. 2= 2.15
MOLE-PERCENT AIR= 70.00
SATURATION TEMP.= 144.1 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT: CONDENSATE COMP. 1	CONDENSATE COMP. 2	TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT: COMP. 1	COMP. 2	TOTAL
110.0	94.11	5.89	12.80	1.30	85.90	90.81	9.19	62.56	50.79	61.91
100.0	93.88	6.12	10.01	1.07	88.92	90.33	9.67	71.72	60.70	71.11
90.0	93.68	6.32	7.75	0.87	91.38	89.90	10.10	78.68	68.90	78.15
85.0	93.59	6.41	6.80	0.78	92.42	89.69	10.31	81.52	72.43	81.02
80.0	93.51	6.49	5.94	0.70	93.36	89.50	10.50	84.00	75.63	83.54
78.0	93.48	6.52	5.63	0.67	93.70	89.43	10.57	84.90	76.82	84.45
76.0	93.46	6.54	5.33	0.64	94.03	89.35	10.65	85.75	77.96	85.32
74.0	93.43	6.57	5.05	0.61	94.35	89.28	10.72	86.56	79.06	86.15
72.0	93.40	6.60	4.77	0.58	94.65	89.21	10.79	87.33	80.11	86.93
70.0	93.37	6.63	4.51	0.55	94.94	89.14	10.86	88.06	81.11	87.67
68.0	93.35	6.65	4.26	0.52	95.21	89.07	10.93	88.74	82.07	88.38
66.0	93.33	6.67	4.03	0.50	95.47	89.01	10.99	89.40	83.00	89.04
64.0	93.30	6.70	3.80	0.47	95.72	88.94	11.06	90.01	83.88	89.68
62.0	93.28	6.72	3.59	0.45	95.96	88.88	11.12	90.60	84.72	90.27
60.0	93.26	6.74	3.39	0.43	96.19	88.81	11.19	91.15	85.53	90.84
58.0	93.24	6.76	3.19	0.40	96.40	88.75	11.25	91.67	86.30	91.38
56.0	93.22	6.78	3.01	0.38	96.61	88.69	11.31	92.17	87.03	91.89
54.0	93.20	6.80	2.84	0.36	96.80	88.63	11.37	92.64	87.74	92.37
52.0	93.18	6.82	2.67	0.34	96.99	88.57	11.43	93.08	88.41	92.82
50.0	93.17	6.83	2.51	0.33	97.16	88.51	11.49	93.50	89.05	93.26

TABLE B-3. - Recovery calculations for solution of 94.5 weight-percent CH_2Br_2 (component 1)--5.5 weight-percent C_2HCl_3 (component 2): Single flash condensation; specific gravity 2.40--Continued

MOLE-PERCENT COMP. 1= 18.57
MOLE-PERCENT COMP. 2= 1.43
MOLE-PERCENT AIR= 80.00
SATURATION TEMP.= 125.5 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT	EXIT COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY		
TEMP.,	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR		IN WEIGHT-PERCENT		
DEG.F.	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
110.0	94.78	5.22	12.89	1.15	85.96	91.82	8.18	35.40	25.29	34.84
100.0	94.46	5.54	10.07	0.97	88.96	91.21	8.79	51.24	39.02	50.57
90.0	94.17	5.83	7.79	0.80	91.41	90.65	9.35	63.28	50.84	62.59
85.0	94.04	5.96	6.83	0.73	92.44	90.39	9.61	68.17	56.06	67.51
80.0	93.92	6.08	5.97	0.65	93.38	90.14	9.86	72.45	60.86	71.81
78.0	93.88	6.12	5.65	0.63	93.72	90.04	9.96	74.01	62.67	73.38
76.0	93.83	6.17	5.35	0.60	94.05	89.94	10.06	75.48	64.41	74.87
74.0	93.79	6.21	5.06	0.57	94.36	89.85	10.15	76.88	66.08	76.28
72.0	93.75	6.25	4.79	0.55	94.66	89.76	10.24	78.20	67.70	77.62
70.0	93.71	6.29	4.53	0.52	94.95	89.66	10.34	79.45	69.25	78.89
68.0	93.67	6.33	4.28	0.50	95.22	89.58	10.42	80.64	70.75	80.10
66.0	93.63	6.37	4.04	0.47	95.48	89.49	10.51	81.76	72.19	81.24
64.0	93.60	6.40	3.82	0.45	95.73	89.40	10.60	82.83	73.57	82.32
62.0	93.56	6.44	3.60	0.43	95.97	89.32	10.68	83.83	74.90	83.34
60.0	93.53	6.47	3.40	0.41	96.19	89.24	10.76	84.79	76.18	84.31
58.0	93.50	6.50	3.20	0.39	96.41	89.16	10.84	85.69	77.40	85.23
56.0	93.46	6.54	3.02	0.37	96.61	89.08	10.92	86.54	78.57	86.10
54.0	93.43	6.57	2.84	0.35	96.81	89.00	11.00	87.35	79.70	86.93
52.0	93.40	6.60	2.68	0.33	96.99	88.92	11.08	88.11	80.77	87.71
50.0	93.38	6.62	2.52	0.32	97.17	88.85	11.15	88.83	81.80	88.45

MOLE-PERCENT COMP. 1= 13.93
MOLE-PERCENT COMP. 2= 1.07
MOLE-PERCENT AIR= 85.00
SATURATION TEMP.= 113.0 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT	EXIT COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY		
TEMP.,	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR		IN WEIGHT-PERCENT		
DEG.F.	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
110.0	95.32	4.68	12.96	1.03	86.01	92.64	7.36	8.01	5.10	7.85
100.0	94.94	5.06	10.12	0.89	89.00	91.95	8.05	30.60	21.17	30.08
90.0	94.60	5.40	7.83	0.75	91.43	91.31	8.69	47.76	35.42	47.08
85.0	94.44	5.56	6.86	0.68	92.46	91.00	9.00	54.74	41.87	54.03
80.0	94.29	5.71	5.99	0.61	93.39	90.70	9.30	60.83	47.87	60.12
78.0	94.23	5.77	5.68	0.59	93.73	90.59	9.41	63.05	50.14	62.34
76.0	94.17	5.83	5.37	0.57	94.06	90.47	9.53	65.15	52.35	64.44
74.0	94.12	5.88	5.08	0.54	94.38	90.36	9.64	67.13	54.48	66.44
72.0	94.06	5.94	4.81	0.52	94.67	90.25	9.75	69.02	56.55	68.33
70.0	94.01	5.99	4.54	0.50	94.96	90.14	9.86	70.80	58.55	70.13
68.0	93.96	6.04	4.29	0.48	95.23	90.04	9.96	72.49	60.48	71.83
66.0	93.91	6.09	4.05	0.45	95.49	89.93	10.07	74.09	62.34	73.44
64.0	93.87	6.13	3.83	0.43	95.74	89.83	10.17	75.60	64.14	74.97
62.0	93.82	6.18	3.61	0.41	95.98	89.73	10.27	77.04	65.88	76.42
60.0	93.78	6.22	3.41	0.39	96.20	89.63	10.37	78.39	67.55	77.80
58.0	93.73	6.27	3.21	0.38	96.41	89.53	10.47	79.68	69.16	79.10
56.0	93.69	6.31	3.03	0.36	96.62	89.44	10.56	80.89	70.71	80.33
54.0	93.65	6.35	2.85	0.34	96.81	89.35	10.65	82.04	72.20	81.50
52.0	93.61	6.39	2.68	0.32	97.00	89.26	10.74	83.12	73.63	82.60
50.0	93.58	6.42	2.52	0.31	97.17	89.17	10.83	84.15	75.00	83.65

TABLE B-3. - Recovery calculations for solution of 94.5 weight-percent CH_2Br_2 (component 1)--5.5 weight-percent C_2HCl_3 (component 2): Single flash condensation; specific gravity 2.40--Continued

MOLE-PERCENT COMP. 1= 11.14
MOLE-PERCENT COMP. 2= 0.86
MOLE-PERCENT AIR= 88.00
SATURATION TEMP.= 103.7 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP.,	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR				
DEG.F.	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
100.0	95.35	4.65	10.16	0.81	89.02	92.58	7.42	9.84	6.23	9.64
90.0	94.96	5.04	7.86	0.69	91.45	91.88	8.12	32.14	22.13	31.59
85.0	94.78	5.22	6.88	0.64	92.48	91.54	8.46	41.22	29.46	40.57
80.0	94.61	5.39	6.01	0.58	93.41	91.21	8.79	49.15	36.36	48.44
78.0	94.54	5.46	5.69	0.56	93.75	91.08	8.92	52.03	39.00	51.31
76.0	94.48	5.52	5.39	0.54	94.07	90.95	9.05	54.76	41.56	54.03
74.0	94.41	5.59	5.10	0.51	94.39	90.83	9.17	57.34	44.06	56.61
72.0	94.35	5.65	4.82	0.49	94.69	90.70	9.30	59.79	46.49	59.06
70.0	94.29	5.71	4.56	0.47	94.97	90.58	9.42	62.11	48.84	61.38
68.0	94.23	5.77	4.30	0.45	95.24	90.46	9.54	64.30	51.13	63.58
66.0	94.17	5.83	4.07	0.43	95.50	90.34	9.66	66.38	53.34	65.66
64.0	94.12	5.88	3.84	0.42	95.75	90.23	9.77	68.35	55.48	67.64
62.0	94.06	5.94	3.62	0.40	95.98	90.11	9.89	70.21	57.56	69.51
60.0	94.01	5.99	3.41	0.38	96.21	90.00	10.00	71.97	59.57	71.29
58.0	93.96	6.04	3.22	0.36	96.42	89.89	10.11	73.64	61.51	72.97
56.0	93.91	6.09	3.03	0.35	96.62	89.78	10.22	75.21	63.38	74.56
54.0	93.86	6.14	2.86	0.33	96.82	89.68	10.32	76.71	65.18	76.07
52.0	93.81	6.19	2.69	0.31	97.00	89.57	10.43	78.12	66.92	77.50
50.0	93.76	6.24	2.53	0.30	97.17	89.47	10.53	79.45	68.60	78.85

MOLE-PERCENT COMP. 1= 9.28
MOLE-PERCENT COMP. 2= 0.72
MOLE-PERCENT AIR= 90.00
SATURATION TEMP.= 96.3 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP.,	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR				
DEG.F.	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
90.0	95.29	4.71	7.88	0.65	91.47	92.38	7.62	16.46	10.57	16.13
85.0	95.09	4.91	6.90	0.60	92.50	92.02	7.98	27.64	18.54	27.14
80.0	94.90	5.10	6.03	0.55	93.42	91.67	8.33	37.41	26.11	36.78
78.0	94.82	5.18	5.71	0.53	93.76	91.53	8.47	40.96	29.02	40.30
76.0	94.75	5.25	5.40	0.51	94.09	91.39	8.61	44.32	31.87	43.63
74.0	94.68	5.32	5.11	0.49	94.40	91.25	8.75	47.50	34.65	46.80
72.0	94.61	5.39	4.83	0.47	94.69	91.12	8.88	50.52	37.36	49.80
70.0	94.54	5.46	4.57	0.45	94.98	90.98	9.02	53.38	40.00	52.64
68.0	94.48	5.52	4.32	0.43	95.25	90.85	9.15	56.08	42.58	55.34
66.0	94.41	5.59	4.08	0.42	95.51	90.72	9.28	58.64	45.08	57.89
64.0	94.35	5.65	3.85	0.40	95.75	90.59	9.41	61.06	47.51	60.32
62.0	94.28	5.72	3.63	0.38	95.99	90.47	9.53	63.36	49.87	62.61
60.0	94.22	5.78	3.42	0.37	96.21	90.34	9.66	65.52	52.16	64.79
58.0	94.16	5.84	3.23	0.35	96.43	90.22	9.78	67.58	54.38	66.85
56.0	94.11	5.89	3.04	0.33	96.63	90.10	9.90	69.52	56.53	68.80
54.0	94.05	5.95	2.86	0.32	96.82	89.99	10.01	71.35	58.61	70.65
52.0	94.00	6.00	2.69	0.30	97.00	89.87	10.13	73.09	60.62	72.40
50.0	93.94	6.06	2.53	0.29	97.18	89.76	10.24	74.73	62.56	74.06

TABLE B-3. - Recovery calculations for solution of 94.5 weight-percent CH_2Br_2 (component 1)--5.5 weight-percent C_2HCl_3 (component 2): Single flash condensation; specific gravity 2.40--Continued

MOLE-PERCENT COMP. 1= 7.43
MOLE-PERCENT COMP. 2= 0.57
MOLE-PERCENT AIR= 92.00
SATURATION TEMP.= 87.6 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT: CONDENSATE COMP. 1	CONDENSATE COMP. 2	TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT: COMP. 1	COMP. 2	TOTAL
85.0	95.49	4.51	6.93	0.55	92.52	92.65	7.35	7.17	4.40	7.02
80.0	95.28	4.72	6.06	0.51	93.44	92.27	7.73	19.71	12.68	19.32
78.0	95.20	4.80	5.73	0.49	93.78	92.12	7.88	24.27	15.89	23.81
76.0	95.12	4.88	5.43	0.47	94.10	91.97	8.03	28.59	19.05	28.06
74.0	95.04	4.96	5.13	0.46	94.41	91.82	8.18	32.68	22.14	32.10
72.0	94.96	5.04	4.85	0.44	94.71	91.67	8.33	36.55	25.18	35.92
70.0	94.88	5.12	4.58	0.42	94.99	91.53	8.47	40.22	28.15	39.55
68.0	94.81	5.19	4.33	0.41	95.26	91.38	8.62	43.69	31.06	42.99
66.0	94.73	5.27	4.09	0.39	95.52	91.24	8.76	46.97	33.90	46.26
64.0	94.66	5.34	3.86	0.38	95.76	91.10	8.90	50.09	36.68	49.35
62.0	94.59	5.41	3.64	0.36	96.00	90.96	9.04	53.03	39.38	52.28
60.0	94.52	5.48	3.43	0.35	96.22	90.82	9.18	55.81	42.02	55.06
58.0	94.45	5.55	3.24	0.33	96.43	90.68	9.32	58.45	44.59	57.69
56.0	94.38	5.62	3.05	0.32	96.63	90.55	9.45	60.94	47.08	60.18
54.0	94.32	5.68	2.87	0.30	96.83	90.42	9.58	63.30	49.51	62.54
52.0	94.25	5.75	2.70	0.29	97.01	90.29	9.71	65.52	51.86	64.77
50.0	94.19	5.81	2.54	0.28	97.18	90.16	9.84	67.63	54.14	66.89

MOLE-PERCENT COMP. 1= 5.57
MOLE-PERCENT COMP. 2= 0.43
MOLE-PERCENT AIR= 94.00
SATURATION TEMP.= 76.8 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT: CONDENSATE COMP. 1	CONDENSATE COMP. 2	TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT: COMP. 1	COMP. 2	TOTAL
76.0	95.63	4.37	5.45	0.42	94.12	92.79	7.21	2.21	1.31	2.16
74.0	95.54	4.46	5.16	0.41	94.43	92.63	7.37	7.82	4.73	7.65
72.0	95.46	4.54	4.88	0.40	94.73	92.47	7.53	13.13	8.11	12.85
70.0	95.37	4.63	4.61	0.38	95.01	92.31	7.69	18.15	11.44	17.79
68.0	95.28	4.72	4.35	0.37	95.28	92.15	7.85	22.91	14.72	22.46
66.0	95.20	4.80	4.11	0.36	95.53	91.99	8.01	27.42	17.95	26.90
64.0	95.12	4.88	3.88	0.34	95.78	91.83	8.17	31.68	21.12	31.10
62.0	95.03	4.97	3.66	0.33	96.01	91.68	8.32	35.72	24.23	35.09
60.0	94.95	5.05	3.45	0.32	96.23	91.52	8.48	39.54	27.28	38.86
58.0	94.87	5.13	3.25	0.31	96.44	91.37	8.63	43.15	30.27	42.44
56.0	94.79	5.21	3.06	0.29	96.64	91.22	8.78	46.56	33.19	45.83
54.0	94.72	5.28	2.88	0.28	96.84	91.07	8.93	49.79	36.05	49.04
52.0	94.64	5.36	2.71	0.27	97.02	90.92	9.08	52.84	38.84	52.07
50.0	94.57	5.43	2.55	0.26	97.19	90.77	9.23	55.73	41.56	54.95

TABLE B-3. - Recovery calculations for solution of 94.5 weight-percent CH_2Br_2 (component 1)--5.5 weight-percent C_2HCl_3 (component 2): Single flash condensation; specific gravity 2.40--Continued

MOLE-PERCENT COMP. 1= 5.11
MOLE-PERCENT COMP. 2= 0.39
MOLE-PERCENT AIR= 94.50
SATURATION TEMP.= 73.6 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT COMPOSITIONS IN MOLE-PERCENT: CONDENSATE COMP. 1	CONDENSATE COMP. 2	TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT: COMP. 1	COMP. 2	TOTAL
72.0	95.61	4.39	4.88	0.38	94.73	92.72	7.28	4.57	2.72	4.47
70.0	95.53	4.47	4.62	0.37	95.01	92.56	7.44	10.10	6.14	9.88
68.0	95.44	4.56	4.36	0.36	95.28	92.39	7.61	15.33	9.51	15.01
66.0	95.35	4.65	4.12	0.35	95.54	92.23	7.77	20.28	12.84	19.87
64.0	95.26	4.74	3.88	0.33	95.78	92.07	7.93	24.96	16.11	24.48
62.0	95.18	4.82	3.66	0.32	96.01	91.91	8.09	29.40	19.33	28.84
60.0	95.10	4.90	3.45	0.31	96.24	91.75	8.25	33.59	22.49	32.98
58.0	95.01	4.99	3.25	0.30	96.45	91.59	8.41	37.56	25.60	36.90
56.0	94.93	5.07	3.07	0.29	96.65	91.44	8.56	41.31	28.64	40.62
54.0	94.85	5.15	2.89	0.28	96.84	91.28	8.72	44.86	31.63	44.13
52.0	94.77	5.23	2.72	0.26	97.02	91.13	8.87	48.21	34.54	47.46
50.0	94.69	5.31	2.55	0.25	97.19	90.98	9.02	51.38	37.39	50.61

MOLE-PERCENT COMP. 1= 4.64
MOLE-PERCENT COMP. 2= 0.36
MOLE-PERCENT AIR= 95.00
SATURATION TEMP.= 70.1 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT COMPOSITIONS IN MOLE-PERCENT: CONDENSATE COMP. 1	CONDENSATE COMP. 2	TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT: COMP. 1	COMP. 2	TOTAL
70.0	95.70	4.30	4.62	0.36	95.02	92.84	7.16	0.41	0.24	0.40
68.0	95.61	4.39	4.37	0.35	95.29	92.67	7.33	6.21	3.70	6.07
66.0	95.52	4.48	4.12	0.33	95.54	92.51	7.49	11.69	7.12	11.44
64.0	95.43	4.57	3.89	0.32	95.79	92.34	7.66	16.88	10.50	16.53
62.0	95.34	4.66	3.67	0.31	96.02	92.18	7.82	21.80	13.82	21.36
60.0	95.26	4.74	3.46	0.30	96.24	92.01	7.99	26.45	17.10	25.93
58.0	95.17	4.83	3.26	0.29	96.45	91.85	8.15	30.84	20.33	30.26
56.0	95.08	4.92	3.07	0.28	96.65	91.69	8.31	35.00	23.49	34.37
54.0	95.00	5.00	2.89	0.27	96.84	91.53	8.47	38.93	26.60	38.25
52.0	94.92	5.08	2.72	0.26	97.02	91.37	8.63	42.65	29.65	41.93
50.0	94.84	5.16	2.56	0.25	97.20	91.21	8.79	46.16	32.63	45.42

TABLE B-4. - Recovery calculations for solution of 94.5 weight-percent CH_2Br_2 (component 1)-- 5.5 weight-percent C_2HCl_3 (component 2): Incremental condensation-- 2.0° F interval; specific gravity 2.40

MOLE-PERCENT COMP. 1= 83.56
MOLE-PERCENT COMP. 2= 6.44
MOLE-PERCENT AIR= 10.00
SATURATION TEMP.= 201.9 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	COMP. 2	TOTAL
110.0	93.15	6.85	11.56	3.31	85.13	77.74	22.26	98.38	93.96	98.13
100.0	93.11	6.89	8.92	2.86	88.22	75.74	24.26	98.79	94.97	98.58
90.0	93.07	6.93	6.80	2.45	90.75	73.54	26.46	99.10	95.81	98.92
85.0	93.05	6.95	5.92	2.26	91.82	72.35	27.65	99.23	96.18	99.06
80.0	93.04	6.96	5.13	2.08	92.79	71.11	28.89	99.34	96.51	99.18
78.0	93.03	6.97	4.84	2.01	93.15	70.59	29.41	99.38	96.64	99.23
76.0	93.03	6.97	4.56	1.95	93.49	70.06	29.94	99.42	96.76	99.27
74.0	93.02	6.98	4.30	1.88	93.82	69.52	30.48	99.45	96.88	99.31
72.0	93.01	6.99	4.05	1.82	94.13	68.97	31.03	99.49	97.00	99.35
70.0	93.01	6.99	3.81	1.76	94.43	68.41	31.59	99.52	97.11	99.38
68.0	93.00	7.00	3.58	1.70	94.72	67.83	32.17	99.55	97.21	99.42
66.0	93.00	7.00	3.37	1.64	94.99	67.25	32.75	99.58	97.32	99.45
64.0	92.99	7.01	3.16	1.58	95.25	66.65	33.35	99.60	97.42	99.48
62.0	92.99	7.01	2.97	1.53	95.50	66.04	33.96	99.63	97.52	99.51
60.0	92.98	7.02	2.79	1.47	95.74	65.42	34.58	99.65	97.61	99.54
58.0	92.98	7.02	2.61	1.42	95.97	64.78	35.22	99.67	97.70	99.57
56.0	92.98	7.02	2.45	1.37	96.18	64.13	35.87	99.70	97.79	99.59
54.0	92.97	7.03	2.29	1.32	96.39	63.46	36.54	99.72	97.87	99.61
52.0	92.97	7.03	2.14	1.27	96.58	62.79	37.21	99.73	97.96	99.64
50.0	92.96	7.04	2.01	1.22	96.77	62.09	37.91	99.75	98.03	99.66

MOLE-PERCENT COMP. 1= 64.99
MOLE-PERCENT COMP. 2= 5.01
MOLE-PERCENT AIR= 30.00
SATURATION TEMP.= 187.6 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	COMP. 2	TOTAL
110.0	93.55	6.45	12.16	2.34	85.51	83.87	16.13	93.44	83.62	92.90
100.0	93.47	6.53	9.43	2.02	88.55	82.33	17.67	95.09	86.30	94.60
90.0	93.39	6.61	7.23	1.74	91.03	80.60	19.40	96.33	88.55	95.91
85.0	93.35	6.65	6.30	1.61	92.09	79.67	20.33	96.84	89.53	96.44
80.0	93.32	6.68	5.48	1.49	93.04	78.68	21.32	97.28	90.43	96.90
78.0	93.30	6.70	5.18	1.44	93.39	78.26	21.74	97.44	90.77	97.08
76.0	93.29	6.71	4.89	1.39	93.72	77.84	22.16	97.59	91.10	97.24
74.0	93.28	6.72	4.61	1.35	94.04	77.40	22.60	97.74	91.42	97.39
72.0	93.27	6.73	4.35	1.30	94.35	76.96	23.04	97.87	91.73	97.53
70.0	93.25	6.75	4.10	1.26	94.64	76.50	23.50	98.00	92.03	97.67
68.0	93.24	6.76	3.86	1.22	94.92	76.04	23.96	98.12	92.32	97.80
66.0	93.23	6.77	3.64	1.18	95.19	75.56	24.44	98.24	92.60	97.93
64.0	93.22	6.78	3.42	1.14	95.44	75.07	24.93	98.35	92.87	98.04
62.0	93.21	6.79	3.22	1.10	95.68	74.57	25.43	98.45	93.13	98.16
60.0	93.20	6.80	3.02	1.06	95.92	74.05	25.95	98.54	93.38	98.26
58.0	93.19	6.81	2.84	1.02	96.14	73.53	26.47	98.64	93.62	98.36
56.0	93.18	6.82	2.67	0.99	96.35	72.98	27.02	98.72	93.86	98.46
54.0	93.17	6.83	2.50	0.95	96.55	72.43	27.57	98.80	94.09	98.54
52.0	93.16	6.84	2.34	0.92	96.74	71.86	28.14	98.88	94.31	98.63
50.0	93.15	6.85	2.20	0.89	96.92	71.28	28.72	98.95	94.53	98.71

TABLE B-4. - Recovery calculations for solution of 94.5 weight-percent CH_2Br_2 (component 1)--5.5 weight-percent C_2HCl_3 (component 2): Incremental condensation--2.0° F interval; specific gravity 2.40--Continued

MOLE-PERCENT COMP. 1= 46.42
MOLE-PERCENT COMP. 2= 3.58
MOLE-PERCENT AIR= 50.00
SATURATION TEMP.= 169.6 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR				
	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
110.0	93.96	6.02	12.47	1.83	85.70	87.20	12.80	84.33	70.14	83.55
100.0	93.86	6.14	9.69	1.59	88.72	85.93	14.07	88.23	75.00	87.51
90.0	93.74	6.26	7.45	1.37	91.18	84.51	15.49	91.20	79.05	90.53
85.0	93.69	6.31	6.51	1.26	92.23	83.74	16.26	92.40	80.83	91.76
80.0	93.64	6.36	5.67	1.17	93.17	82.91	17.09	93.45	82.47	92.85
78.0	93.62	6.38	5.36	1.13	93.51	82.56	17.44	93.83	83.08	93.24
76.0	93.60	6.40	5.06	1.10	93.84	82.21	17.79	94.19	83.68	93.61
74.0	93.58	6.42	4.78	1.06	94.16	81.84	18.16	94.53	84.26	93.97
72.0	93.56	6.44	4.51	1.03	94.46	81.47	18.53	94.86	84.82	94.31
70.0	93.54	6.46	4.25	0.99	94.75	81.09	18.91	95.16	85.36	94.62
68.0	93.52	6.48	4.01	0.96	95.03	80.69	19.31	95.45	85.88	94.93
66.0	93.50	6.50	3.78	0.93	95.29	80.29	19.71	95.73	86.39	95.21
64.0	93.48	6.52	3.56	0.90	95.54	79.88	20.12	95.99	86.88	95.49
62.0	93.47	6.53	3.35	0.87	95.78	79.45	20.55	96.23	87.35	95.74
60.0	93.45	6.55	3.15	0.84	96.01	79.01	20.99	96.46	87.81	95.99
58.0	93.43	6.57	2.96	0.81	96.23	78.56	21.44	96.68	88.25	96.22
56.0	93.41	6.59	2.78	0.78	96.44	78.10	21.90	96.89	88.68	96.44
54.0	93.40	6.60	2.61	0.75	96.63	77.63	22.37	97.09	89.10	96.65
52.0	93.38	6.62	2.45	0.73	96.82	77.14	22.86	97.27	89.50	96.84
50.0	93.37	6.63	2.30	0.70	97.00	76.64	23.36	97.45	89.89	97.03

MOLE-PERCENT COMP. 1= 27.85
MOLE-PERCENT COMP. 2= 2.15
MOLE-PERCENT AIR= 70.00
SATURATION TEMP.= 144.1 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR				
	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
110.0	94.57	5.43	12.74	1.40	85.86	90.09	9.91	62.73	46.78	61.85
100.0	94.40	5.60	9.92	1.22	88.87	89.08	10.92	71.95	55.37	71.04
90.0	94.25	5.75	7.64	1.05	91.31	87.94	12.06	78.96	62.56	78.06
85.0	94.17	5.83	6.68	0.97	92.35	87.32	12.68	81.81	65.71	80.93
80.0	94.10	5.90	5.83	0.90	93.28	86.65	13.35	84.30	68.61	83.44
78.0	94.07	5.93	5.51	0.87	93.62	86.37	13.63	85.21	69.70	84.35
76.0	94.04	5.96	5.21	0.84	93.95	86.09	13.91	86.07	70.76	85.22
74.0	94.02	5.98	4.92	0.82	94.26	85.79	14.21	86.88	71.78	86.05
72.0	93.99	6.01	4.65	0.79	94.56	85.49	14.51	87.65	72.77	86.83
70.0	93.96	6.04	4.39	0.76	94.85	85.17	14.83	88.37	73.73	87.57
68.0	93.93	6.07	4.14	0.74	95.12	84.85	15.15	89.06	74.66	88.27
66.0	93.91	6.09	3.90	0.71	95.38	84.52	15.48	89.72	75.56	88.94
64.0	93.88	6.12	3.68	0.69	95.63	84.19	15.81	90.33	76.42	89.57
62.0	93.86	6.14	3.46	0.67	95.87	83.84	16.16	90.92	77.27	90.17
60.0	93.83	6.17	3.26	0.65	96.09	83.48	16.52	91.47	78.08	90.73
58.0	93.81	6.19	3.07	0.62	96.31	83.11	16.89	91.99	78.87	91.27
56.0	93.78	6.22	2.89	0.60	96.51	82.73	17.27	92.49	79.63	91.78
54.0	93.76	6.24	2.71	0.58	96.71	82.33	17.67	92.95	80.37	92.26
52.0	93.73	6.27	2.55	0.56	96.89	81.93	18.07	93.39	81.09	92.72
50.0	93.71	6.29	2.39	0.54	97.07	81.52	18.48	93.81	81.78	93.15

TABLE B-4. - Recovery calculations for solution of 94.5 weight-percent CH_2Br_2 (component 1)--5.5 weight-percent C_2HCl_3 (component 2): Incremental condensation--2.0° F interval; specific gravity 2.40--Continued

MOLE-PERCENT COMP. 1= 18.57
MOLE-PERCENT COMP. 2= 1.43
MOLE-PERCENT AIR= 80.00
SATURATION TEMP.= 125.5 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT: CONDENSATE COMP. 1	CONDENSATE COMP. 2	TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT: COMP. 1	COMP. 2	TOTAL
110.0	95.02	4.98	12.88	1.17	85.95	91.70	8.30	35.45	24.11	34.82
100.0	94.84	5.16	10.04	1.01	88.95	90.84	9.16	51.36	36.31	50.53
90.0	94.66	5.34	7.75	0.87	91.38	89.87	10.13	63.47	46.52	62.53
85.0	94.57	5.43	6.78	0.81	92.41	89.33	10.67	68.39	51.00	67.44
80.0	94.48	5.52	5.91	0.75	93.34	88.76	11.24	72.70	55.12	71.73
78.0	94.45	5.55	5.60	0.73	93.68	88.52	11.48	74.27	56.68	73.30
76.0	94.41	5.59	5.29	0.70	94.01	88.27	11.73	75.75	58.18	74.79
74.0	94.38	5.62	5.00	0.68	94.32	88.02	11.98	77.16	59.64	76.19
72.0	94.35	5.65	4.72	0.66	94.62	87.76	12.24	78.49	61.04	77.53
70.0	94.32	5.68	4.46	0.64	94.90	87.49	12.51	79.75	62.41	78.80
68.0	94.28	5.72	4.21	0.62	95.17	87.21	12.79	80.94	63.73	80.00
66.0	94.25	5.75	3.97	0.60	95.43	86.93	13.07	82.07	65.00	81.13
64.0	94.22	5.78	3.74	0.58	95.68	86.64	13.36	83.14	66.24	82.21
62.0	94.19	5.81	3.53	0.56	95.91	86.33	13.67	84.16	67.44	83.24
60.0	94.16	5.84	3.32	0.54	96.14	86.02	13.98	85.11	68.60	84.20
58.0	94.12	5.88	3.13	0.52	96.35	85.70	14.30	86.02	69.72	85.12
56.0	94.09	5.91	2.94	0.50	96.55	85.37	14.63	86.88	70.80	85.99
54.0	94.06	5.94	2.77	0.49	96.75	85.03	14.97	87.68	71.86	86.81
52.0	94.03	5.97	2.60	0.47	96.93	84.68	15.32	88.45	72.88	87.59
50.0	94.00	6.00	2.44	0.45	97.11	84.32	15.68	89.17	73.86	88.33

MOLE-PERCENT COMP. 1= 13.93
MOLE-PERCENT COMP. 2= 1.07
MOLE-PERCENT AIR= 85.00
SATURATION TEMP.= 113.0 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT: CONDENSATE COMP. 1	CONDENSATE COMP. 2	TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT: COMP. 1	COMP. 2	TOTAL
110.0	95.35	4.65	12.96	1.03	86.01	92.64	7.36	8.01	5.08	7.85
100.0	95.14	4.86	10.11	0.90	88.99	91.87	8.13	30.64	20.30	30.07
90.0	94.95	5.05	7.81	0.77	91.42	91.00	9.00	47.86	33.04	47.05
85.0	94.85	5.15	6.84	0.72	92.45	90.52	9.48	54.88	38.64	53.98
80.0	94.76	5.24	5.97	0.66	93.37	90.00	10.00	61.01	43.78	60.06
78.0	94.72	5.28	5.64	0.64	93.71	89.79	10.21	63.24	45.73	62.28
76.0	94.69	5.31	5.34	0.62	94.04	89.57	10.43	65.35	47.60	64.38
74.0	94.65	5.35	5.05	0.60	94.35	89.34	10.66	67.35	49.42	66.37
72.0	94.61	5.39	4.77	0.58	94.65	89.10	10.90	69.25	51.18	68.26
70.0	94.58	5.42	4.50	0.56	94.93	88.86	11.14	71.05	52.88	70.05
68.0	94.54	5.46	4.25	0.55	95.20	88.61	11.39	72.75	54.53	71.75
66.0	94.51	5.49	4.01	0.53	95.46	88.36	11.64	74.36	56.13	73.36
64.0	94.47	5.53	3.78	0.51	95.71	88.09	11.91	75.88	57.67	74.88
62.0	94.43	5.57	3.56	0.49	95.94	87.82	12.18	77.33	59.17	76.33
60.0	94.40	5.60	3.36	0.48	96.16	87.54	12.46	78.69	60.61	77.70
58.0	94.36	5.64	3.16	0.46	96.38	87.25	12.75	79.98	62.02	78.99
56.0	94.33	5.67	2.97	0.45	96.58	86.95	13.05	81.20	63.37	80.22
54.0	94.30	5.70	2.80	0.43	96.77	86.64	13.36	82.36	64.69	81.39
52.0	94.26	5.74	2.63	0.42	96.95	86.32	13.68	83.45	65.96	82.49
50.0	94.23	5.77	2.47	0.40	97.13	86.00	14.00	84.48	67.19	83.53

TABLE B-4. - Recovery calculations for solution of 94.5 weight-percent CH_2Br_2 (component 1)--5.5 weight-percent C_2HCl_3 (component 2): Incremental condensation--2.0° F interval; specific gravity 2.40--Continued

MOLE-PERCENT COMP. 1= 11.14
MOLE-PERCENT COMP. 2= 0.86
MOLE-PERCENT AIR= 88.00
SATURATION TEMP.= 103.7 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR				
	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
100.0	95.39	4.61	10.16	0.81	89.02	92.58	7.42	9.84	6.18	9.64
90.0	95.16	4.82	7.85	0.70	91.45	91.78	8.22	32.19	21.15	31.58
85.0	95.08	4.92	6.87	0.65	92.47	91.34	8.66	41.30	27.73	40.55
80.0	94.98	5.02	6.00	0.60	93.40	90.87	9.13	49.26	33.78	48.41
78.0	94.94	5.06	5.68	0.58	93.74	90.67	9.33	52.15	36.06	51.27
76.0	94.90	5.10	5.37	0.57	94.06	90.46	9.54	54.90	38.27	53.98
74.0	94.87	5.13	5.08	0.55	94.37	90.25	9.75	57.50	40.40	56.56
72.0	94.83	5.17	4.80	0.53	94.67	90.04	9.96	59.96	42.47	59.00
70.0	94.79	5.21	4.53	0.51	94.95	89.81	10.19	62.30	44.47	61.32
68.0	94.75	5.25	4.28	0.50	95.22	89.58	10.42	64.51	46.41	63.51
66.0	94.71	5.29	4.04	0.48	95.48	89.35	10.65	66.60	48.29	65.59
64.0	94.67	5.33	3.81	0.47	95.73	89.10	10.90	68.58	50.10	67.56
62.0	94.63	5.37	3.59	0.45	95.96	88.85	11.15	70.45	51.86	69.43
60.0	94.60	5.40	3.38	0.44	96.18	88.59	11.41	72.23	53.56	71.20
58.0	94.56	5.44	3.18	0.42	96.39	88.32	11.68	73.91	55.21	72.88
56.0	94.52	5.48	3.00	0.41	96.60	88.05	11.95	75.50	56.81	74.47
54.0	94.48	5.52	2.82	0.39	96.79	87.76	12.24	77.00	58.35	75.97
52.0	94.45	5.55	2.65	0.38	96.97	87.47	12.53	78.42	59.85	77.40
50.0	94.41	5.59	2.49	0.37	97.14	87.16	12.84	79.76	61.30	78.74

MOLE-PERCENT COMP. 1= 9.28
MOLE-PERCENT COMP. 2= 0.72
MOLE-PERCENT AIR= 90.00
SATURATION TEMP.= 96.3 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR				
	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
90.0	95.37	4.63	7.88	0.65	91.47	92.37	7.63	16.47	10.37	16.13
85.0	95.27	4.73	6.90	0.60	92.49	91.95	8.05	27.67	17.83	27.13
80.0	95.17	4.83	6.03	0.56	93.41	91.51	8.49	37.47	24.70	36.76
78.0	95.13	4.87	5.70	0.54	93.75	91.33	8.67	41.03	27.29	40.27
76.0	95.09	4.91	5.40	0.52	94.08	91.14	8.86	44.41	29.80	43.60
74.0	95.04	4.96	5.10	0.51	94.39	90.94	9.06	47.61	32.22	46.76
72.0	95.00	5.00	4.82	0.49	94.69	90.74	9.26	50.64	34.57	49.76
70.0	94.96	5.04	4.55	0.48	94.97	90.53	9.47	53.51	36.84	52.60
68.0	94.92	5.08	4.30	0.46	95.24	90.31	9.69	56.23	39.04	55.29
66.0	94.88	5.12	4.06	0.45	95.50	90.09	9.91	58.81	41.17	57.84
64.0	94.84	5.16	3.83	0.43	95.74	89.86	10.14	61.25	43.24	60.26
62.0	94.80	5.20	3.61	0.42	95.97	89.63	10.37	63.55	45.23	62.55
60.0	94.76	5.24	3.40	0.40	96.20	89.38	10.62	65.74	47.17	64.72
58.0	94.72	5.28	3.20	0.39	96.41	89.13	10.87	67.81	49.04	66.77
56.0	94.68	5.32	3.01	0.38	96.61	88.87	11.13	69.76	50.85	68.72
54.0	94.64	5.36	2.83	0.36	96.80	88.61	11.39	71.61	52.60	70.57
52.0	94.61	5.39	2.67	0.35	96.98	88.33	11.67	73.36	54.30	72.31
50.0	94.57	5.43	2.50	0.34	97.16	88.04	11.96	75.01	55.95	73.96

TABLE B-4. - Recovery calculations for solution of 94.5 weight-percent CH_2Br_2 (component 1)--5.5 weight-percent C_2HCl_3 (component 2): Incremental condensation--2.0° F interval; specific gravity 2.40--Continued

MOLE-PERCENT COMP. 1= 7.43
MOLE-PERCENT COMP. 2= 0.57
MOLE-PERCENT AIR= 92.00
SATURATION TEMP.= 87.6 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	COMP. 2	TOTAL
85.0	95.51	4.49	6.93	0.55	92.52	92.65	7.35	7.17	4.38	7.02
80.0	95.40	4.60	6.06	0.51	93.44	92.24	7.76	19.72	12.36	19.32
78.0	95.35	4.65	5.73	0.49	93.77	92.07	7.93	24.29	15.37	23.80
76.0	95.31	4.69	5.42	0.48	94.10	91.90	8.10	28.62	18.28	28.05
74.0	95.27	4.73	5.13	0.46	94.41	91.72	8.28	32.72	21.10	32.08
72.0	95.23	4.77	4.85	0.45	94.70	91.53	8.47	36.61	23.83	35.90
70.0	95.18	4.82	4.58	0.43	94.99	91.34	8.66	40.29	26.47	39.53
68.0	95.14	4.86	4.32	0.42	95.26	91.14	8.86	43.78	29.02	42.97
66.0	95.10	4.90	4.08	0.41	95.51	90.93	9.07	47.08	31.50	46.22
64.0	95.06	4.94	3.85	0.39	95.76	90.72	9.28	50.21	33.89	49.31
62.0	95.01	4.99	3.63	0.38	95.99	90.51	9.49	53.17	36.21	52.23
60.0	94.97	5.03	3.42	0.37	96.21	90.28	9.72	55.97	38.46	55.00
58.0	94.93	5.07	3.22	0.36	96.42	90.05	9.95	58.62	40.64	57.63
56.0	94.89	5.11	3.03	0.34	96.62	89.81	10.19	61.13	42.74	60.11
54.0	94.85	5.15	2.85	0.33	96.81	89.56	10.44	63.50	44.78	62.47
52.0	94.81	5.19	2.68	0.32	97.00	89.31	10.69	65.74	46.76	64.70
50.0	94.76	5.24	2.52	0.31	97.17	89.05	10.95	67.86	48.67	66.81

MOLE-PERCENT COMP. 1= 5.57
MOLE-PERCENT COMP. 2= 0.43
MOLE-PERCENT AIR= 94.00
SATURATION TEMP.= 76.8 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	COMP. 2	TOTAL
76.0	95.63	4.37	5.45	0.42	94.12	92.79	7.21	2.21	1.31	2.16
74.0	95.57	4.43	5.16	0.41	94.43	92.62	7.38	7.82	4.71	7.65
72.0	95.52	4.48	4.88	0.40	94.73	92.46	7.54	13.13	8.00	12.85
70.0	95.47	4.53	4.61	0.39	95.01	92.28	7.72	18.17	11.18	17.78
68.0	95.43	4.57	4.35	0.37	95.28	92.11	7.89	22.93	14.26	22.46
66.0	95.39	4.61	4.11	0.36	95.53	91.92	8.08	27.45	17.24	26.89
64.0	95.34	4.66	3.88	0.35	95.78	91.73	8.27	31.73	20.13	31.09
62.0	95.30	4.70	3.65	0.34	96.01	91.54	8.46	35.77	22.92	35.07
60.0	95.25	4.75	3.44	0.33	96.23	91.34	8.66	39.61	25.63	38.84
58.0	95.21	4.79	3.24	0.32	96.44	91.13	8.87	43.23	28.25	42.41
56.0	95.16	4.84	3.05	0.31	96.64	90.91	9.09	46.67	30.79	45.79
54.0	95.12	4.88	2.87	0.30	96.83	90.69	9.31	49.91	33.25	48.99
52.0	95.07	4.93	2.70	0.29	97.01	90.46	9.54	52.98	35.63	52.03
50.0	95.03	4.97	2.54	0.28	97.18	90.22	9.78	55.88	37.94	54.89

TABLE B-4. - Recovery calculations for solution of 94.5 weight-percent CH_2Br_2 (component 1)--5.5 weight-percent C_2HCl_3 (component 2): Incremental condensation--2.0° F interval; specific gravity 2.40--Continued

MOLE-PERCENT COMP. 1= 5.11
MOLE-PERCENT COMP. 2= 0.39
MOLE-PERCENT AIR= 94.50
SATURATION TEMP.= 73.6 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR				
	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
72.0	95.61	4.39	4.88	0.38	94.73	92.72	7.28	4.57	2.72	4.47
70.0	95.56	4.44	4.62	0.37	95.01	92.55	7.45	10.10	6.09	9.88
68.0	95.52	4.48	4.36	0.36	95.28	92.38	7.62	15.34	9.34	15.01
66.0	95.47	4.53	4.11	0.35	95.54	92.20	7.80	20.29	12.49	19.86
64.0	95.43	4.57	3.88	0.34	95.78	92.02	7.98	24.99	15.54	24.47
62.0	95.38	4.62	3.66	0.33	96.01	91.83	8.17	29.43	18.50	28.83
60.0	95.34	4.66	3.45	0.32	96.23	91.64	8.36	33.64	21.36	32.97
58.0	95.29	4.71	3.25	0.30	96.44	91.43	8.57	37.62	24.13	36.88
56.0	95.25	4.75	3.06	0.29	96.64	91.23	8.77	41.39	26.81	40.59
54.0	95.20	4.80	2.88	0.28	96.84	91.01	8.99	44.96	29.41	44.10
52.0	95.16	4.84	2.71	0.27	97.02	90.79	9.21	48.33	31.93	47.42
50.0	95.11	4.89	2.55	0.27	97.19	90.56	9.44	51.51	34.36	50.57

MOLE-PERCENT COMP. 1= 4.64
MOLE-PERCENT COMP. 2= 0.36
MOLE-PERCENT AIR= 95.00
SATURATION TEMP.= 70.1 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR				
	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
70.0	95.70	4.30	4.62	0.36	95.02	92.84	7.16	0.41	0.24	0.40
68.0	95.61	4.39	4.37	0.35	95.29	92.67	7.33	6.21	3.70	6.07
66.0	95.57	4.43	4.12	0.33	95.54	92.50	7.50	11.70	7.04	11.44
64.0	95.52	4.48	3.89	0.32	95.79	92.32	7.68	16.89	10.28	16.53
62.0	95.48	4.52	3.67	0.31	96.02	92.14	7.86	21.82	13.42	21.35
60.0	95.43	4.57	3.46	0.30	96.24	91.95	8.05	26.47	16.45	25.92
58.0	95.39	4.61	3.26	0.29	96.45	91.76	8.24	30.88	19.39	30.25
56.0	95.34	4.66	3.07	0.28	96.65	91.56	8.44	35.05	22.24	34.35
54.0	95.29	4.71	2.89	0.27	96.84	91.35	8.65	39.00	25.00	38.23
52.0	95.25	4.75	2.72	0.26	97.02	91.13	8.87	42.73	27.67	41.90
50.0	95.20	4.80	2.55	0.26	97.19	90.91	9.09	46.26	30.26	45.38

TABLE B-5. - Recovery calculations for solution of 60.0 weight-percent CH_2Br_2 (component 1)-- 40.0 weight-percent C_2Cl_4 (component 2): Single flash condensation; specific gravity 2.05

MOLE-PERCENT COMP. 1= 52.96
MOLE-PERCENT COMP. 2= 37.04
MOLE-PERCENT AIR= 10.00
SATURATION TEMP.= 222.7 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	COMP. 2	TOTAL
110.0	58.62	41.38	7.97	2.53	89.50	75.93	24.07	98.32	99.24	98.69
100.0	58.68	41.32	6.25	1.94	91.80	76.31	23.69	98.71	99.43	99.00
90.0	58.71	41.29	4.86	1.48	93.67	76.70	23.30	99.02	99.57	99.24
85.0	58.73	41.27	4.27	1.28	94.45	76.90	23.10	99.15	99.63	99.34
80.0	58.75	41.25	3.73	1.11	95.16	77.10	22.90	99.26	99.69	99.43
78.0	58.75	41.25	3.54	1.05	95.42	77.18	22.82	99.30	99.70	99.46
76.0	58.76	41.24	3.35	0.99	95.66	77.27	22.73	99.34	99.72	99.49
74.0	58.76	41.24	3.17	0.93	95.90	77.35	22.65	99.38	99.74	99.52
72.0	58.77	41.23	3.00	0.88	96.12	77.44	22.56	99.41	99.75	99.55
70.0	58.77	41.23	2.84	0.82	96.34	77.52	22.48	99.44	99.77	99.57
68.0	58.77	41.23	2.69	0.77	96.54	77.61	22.39	99.47	99.78	99.60
66.0	58.78	41.22	2.54	0.73	96.73	77.69	22.31	99.50	99.80	99.62
64.0	58.78	41.22	2.40	0.68	96.92	77.78	22.22	99.53	99.81	99.64
62.0	58.79	41.21	2.26	0.64	97.09	77.87	22.13	99.56	99.82	99.66
60.0	58.79	41.21	2.14	0.60	97.26	77.96	22.04	99.59	99.83	99.68
58.0	58.79	41.21	2.01	0.57	97.42	78.05	21.95	99.61	99.84	99.70
56.0	58.80	41.20	1.90	0.53	97.57	78.14	21.86	99.63	99.85	99.72
54.0	58.80	41.20	1.79	0.50	97.71	78.23	21.77	99.65	99.86	99.74
52.0	58.80	41.20	1.68	0.47	97.85	78.32	21.68	99.67	99.87	99.75
50.0	58.81	41.19	1.59	0.44	97.98	78.41	21.59	99.69	99.88	99.77

MOLE-PERCENT COMP. 1= 41.19
MOLE-PERCENT COMP. 2= 28.81
MOLE-PERCENT AIR= 30.00
SATURATION TEMP.= 207.9 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	COMP. 2	TOTAL
110.0	57.98	42.02	7.89	2.57	89.55	75.44	24.56	93.59	97.01	94.96
100.0	58.17	41.83	6.20	1.97	91.83	75.93	24.07	95.08	97.77	96.16
90.0	58.33	41.67	4.83	1.49	93.68	76.41	23.59	96.25	98.34	97.09
85.0	58.39	41.61	4.24	1.29	94.47	76.65	23.35	96.73	98.58	97.47
80.0	58.45	41.55	3.72	1.12	95.17	76.88	23.12	97.16	98.78	97.80
78.0	58.47	41.53	3.52	1.05	95.42	76.98	23.02	97.31	98.85	97.93
76.0	58.49	41.51	3.34	0.99	95.67	77.07	22.93	97.46	98.92	98.04
74.0	58.51	41.49	3.16	0.93	95.91	77.17	22.83	97.60	98.98	98.15
72.0	58.53	41.47	2.99	0.88	96.13	77.26	22.74	97.73	99.05	98.26
70.0	58.54	41.46	2.83	0.83	96.34	77.36	22.64	97.86	99.10	98.36
68.0	58.56	41.44	2.68	0.78	96.55	77.45	22.55	97.98	99.16	98.45
66.0	58.58	41.42	2.53	0.73	96.74	77.55	22.45	98.10	99.21	98.54
64.0	58.59	41.41	2.39	0.69	96.92	77.64	22.36	98.21	99.26	98.63
62.0	58.60	41.40	2.26	0.65	97.10	77.74	22.26	98.31	99.31	98.71
60.0	58.62	41.38	2.13	0.61	97.26	77.83	22.17	98.41	99.35	98.78
58.0	58.63	41.37	2.01	0.57	97.42	77.93	22.07	98.50	99.39	98.86
56.0	58.64	41.36	1.89	0.53	97.57	78.03	21.97	98.59	99.43	98.92
54.0	58.65	41.35	1.78	0.50	97.72	78.13	21.87	98.67	99.47	98.99
52.0	58.67	41.33	1.68	0.47	97.85	78.22	21.78	98.75	99.50	99.05
50.0	58.68	41.32	1.58	0.44	97.98	78.32	21.68	98.82	99.53	99.11

TABLE B-5. - Recovery calculations for solution of 60.0 weight-percent CH_2Br_2 (component 1)--40.0 weight-percent C_2Cl_4 (component 2): Single flash condensation; specific gravity 2.05--Continued

MOLE-PERCENT COMP. 1= 29.42
MOLE-PERCENT COMP. 2= 20.57
MOLE-PERCENT AIR= 50.00
SATURATION TEMP.= 189.2 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT TOTAL
110.0	56.80	43.20	7.72	2.64	89.64	74.54	25.46	85.36	92.85	88.35
100.0	57.26	42.74	6.10	2.01	91.89	75.25	24.75	88.71	94.69	91.10
90.0	57.63	42.37	4.77	1.51	93.72	75.89	24.11	91.36	96.07	93.24
85.0	57.78	42.22	4.20	1.31	94.49	76.19	23.81	92.46	96.63	94.12
80.0	57.91	42.09	3.68	1.13	95.19	76.49	23.51	93.43	97.11	94.90
78.0	57.96	42.04	3.49	1.07	95.44	76.61	23.39	93.78	97.29	95.18
76.0	58.01	41.99	3.31	1.00	95.69	76.72	23.28	94.12	97.45	95.45
74.0	58.05	41.95	3.13	0.95	95.92	76.83	23.17	94.45	97.61	95.71
72.0	58.09	41.91	2.97	0.89	96.14	76.95	23.05	94.75	97.75	95.95
70.0	58.13	41.87	2.81	0.84	96.35	77.06	22.94	95.05	97.89	96.18
68.0	58.17	41.83	2.66	0.79	96.56	77.17	22.83	95.32	98.02	96.40
66.0	58.21	41.79	2.51	0.74	96.75	77.28	22.72	95.59	98.14	96.61
64.0	58.24	41.76	2.37	0.69	96.93	77.39	22.61	95.84	98.26	96.81
62.0	58.28	41.72	2.24	0.65	97.11	77.50	22.50	96.07	98.37	96.99
60.0	58.31	41.69	2.12	0.61	97.27	77.61	22.39	96.30	98.47	97.17
58.0	58.34	41.66	2.00	0.57	97.43	77.72	22.28	96.51	98.57	97.34
56.0	58.37	41.63	1.88	0.54	97.58	77.83	22.17	96.72	98.66	97.50
54.0	58.39	41.61	1.78	0.50	97.72	77.94	22.06	96.91	98.75	97.65
52.0	58.42	41.58	1.67	0.47	97.86	78.05	21.95	97.09	98.83	97.79
50.0	58.44	41.56	1.58	0.44	97.98	78.16	21.84	97.27	98.91	97.92

MOLE-PERCENT COMP. 1= 17.65
MOLE-PERCENT COMP. 2= 12.35
MOLE-PERCENT AIR= 70.00
SATURATION TEMP.= 163.0 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT TOTAL
110.0	54.02	45.98	7.35	2.81	89.84	72.34	27.66	67.58	82.27	73.46
100.0	55.11	44.89	5.87	2.11	92.02	73.58	26.42	74.69	87.00	79.61
90.0	55.97	44.03	4.63	1.57	93.80	74.63	25.37	80.43	90.48	84.45
85.0	56.33	43.67	4.09	1.36	94.55	75.10	24.90	82.85	91.87	86.46
80.0	56.64	43.36	3.60	1.17	95.23	75.54	24.46	85.01	93.06	88.23
78.0	56.76	43.24	3.42	1.10	95.48	75.71	24.29	85.80	93.49	88.88
76.0	56.87	43.13	3.24	1.03	95.72	75.88	24.12	86.56	93.89	89.49
74.0	56.97	43.03	3.08	0.97	95.95	76.04	23.96	87.29	94.27	90.08
72.0	57.07	42.93	2.92	0.91	96.17	76.20	23.80	87.98	94.63	90.64
70.0	57.17	42.83	2.76	0.86	96.38	76.35	23.65	88.64	94.97	91.17
68.0	57.26	42.74	2.62	0.80	96.58	76.51	23.49	89.26	95.28	91.67
66.0	57.35	42.65	2.48	0.75	96.77	76.66	23.34	89.86	95.58	92.15
64.0	57.43	42.57	2.34	0.71	96.95	76.80	23.20	90.42	95.86	92.60
62.0	57.51	42.49	2.21	0.66	97.12	76.95	23.05	90.96	96.13	93.03
60.0	57.58	42.42	2.09	0.62	97.29	77.09	22.91	91.48	96.38	93.44
58.0	57.65	42.35	1.97	0.58	97.44	77.23	22.77	91.96	96.61	93.82
56.0	57.72	42.28	1.86	0.55	97.59	77.37	22.63	92.43	96.83	94.19
54.0	57.78	42.22	1.76	0.51	97.73	77.51	22.49	92.87	97.04	94.54
52.0	57.84	42.16	1.66	0.48	97.87	77.64	22.36	93.29	97.23	94.87
50.0	57.90	42.10	1.56	0.45	97.99	77.77	22.23	93.68	97.42	95.18

TABLE B-5. - Recovery calculations for solution of 60.0 weight-percent CH_2Br_2 (component 1)--40.0 weight-percent C_2Cl_4 (component 2): Single flash condensation; specific gravity 2.05--Continued

MOLE-PERCENT COMP. 1= 11.77
MOLE-PERCENT COMP. 2= 8.23
MOLE-PERCENT AIR= 80.00
SATURATION TEMP.= 143.9 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR				
	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
110.0	50.54	49.46	6.87	3.02	90.11	69.46	30.54	48.15	67.40	55.85
100.0	52.40	47.60	5.59	2.24	92.18	71.41	28.59	58.82	76.42	65.86
90.0	53.88	46.12	4.46	1.65	93.89	73.00	27.00	67.73	82.93	73.81
85.0	54.49	45.51	3.96	1.41	94.63	73.69	26.31	71.58	85.49	77.14
80.0	55.04	44.96	3.50	1.21	95.29	74.32	25.68	75.04	87.67	80.09
78.0	55.24	44.76	3.33	1.14	95.54	74.56	25.44	76.33	88.45	81.18
76.0	55.43	44.57	3.16	1.07	95.77	74.79	25.21	77.56	89.18	82.21
74.0	55.61	44.39	3.00	1.00	96.00	75.02	24.98	78.74	89.87	83.19
72.0	55.79	44.21	2.85	0.94	96.21	75.24	24.76	79.86	90.52	84.13
70.0	55.95	44.05	2.70	0.88	96.42	75.45	24.55	80.94	91.13	85.02
68.0	56.11	43.89	2.56	0.82	96.61	75.65	24.35	81.97	91.70	85.86
66.0	56.26	43.74	2.43	0.77	96.80	75.85	24.15	82.95	92.24	86.66
64.0	56.40	43.60	2.30	0.72	96.98	76.05	23.95	83.88	92.74	87.43
62.0	56.53	43.47	2.18	0.68	97.15	76.24	23.76	84.78	93.21	88.15
60.0	56.66	43.34	2.06	0.63	97.31	76.42	23.58	85.63	93.66	88.84
58.0	56.78	43.22	1.95	0.59	97.46	76.60	23.40	86.44	94.07	89.49
56.0	56.90	43.10	1.84	0.56	97.61	76.78	23.22	87.21	94.47	90.11
54.0	57.01	42.99	1.73	0.52	97.75	76.95	23.05	87.94	94.83	90.70
52.0	57.12	42.88	1.64	0.49	97.88	77.12	22.88	88.64	95.18	91.25
50.0	57.21	42.79	1.54	0.45	98.00	77.29	22.71	89.30	95.50	91.78

MOLE-PERCENT COMP. 1= 8.83
MOLE-PERCENT COMP. 2= 6.17
MOLE-PERCENT AIR= 85.00
SATURATION TEMP.= 131.1 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR				
	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
110.0	47.14	52.86	6.41	3.23	90.36	66.51	33.49	31.68	50.79	39.32
100.0	49.71	50.29	5.30	2.36	92.34	69.16	30.84	44.75	64.76	52.76
90.0	51.78	48.22	4.28	1.72	93.99	71.31	28.69	56.12	74.74	63.57
85.0	52.65	47.35	3.82	1.47	94.71	72.23	27.77	61.13	78.62	68.13
80.0	53.43	46.57	3.40	1.25	95.35	73.06	26.94	65.70	81.92	72.19
78.0	53.71	46.29	3.24	1.17	95.59	73.38	26.62	67.41	83.09	73.68
76.0	53.98	46.02	3.08	1.10	95.82	73.68	26.32	69.06	84.19	75.11
74.0	54.24	45.76	2.93	1.03	96.04	73.97	26.03	70.63	85.22	76.47
72.0	54.49	45.51	2.78	0.97	96.25	74.25	25.75	72.15	86.18	77.76
70.0	54.72	45.28	2.64	0.90	96.45	74.52	25.48	73.60	87.09	79.00
68.0	54.95	45.05	2.51	0.85	96.64	74.78	25.22	74.99	87.94	80.17
66.0	55.16	44.84	2.38	0.79	96.83	75.03	24.97	76.32	88.73	81.28
64.0	55.36	44.64	2.26	0.74	97.00	75.27	24.73	77.59	89.47	82.35
62.0	55.55	44.45	2.14	0.69	97.17	75.51	24.49	78.81	90.17	83.35
60.0	55.74	44.26	2.02	0.65	97.33	75.74	24.26	79.97	90.83	84.31
58.0	55.91	44.09	1.92	0.61	97.48	75.96	24.04	81.08	91.44	85.22
56.0	56.08	43.92	1.81	0.57	97.62	76.18	23.82	82.14	92.01	86.09
54.0	56.23	43.77	1.71	0.53	97.76	76.39	23.61	83.15	92.55	86.91
52.0	56.38	43.62	1.62	0.49	97.89	76.59	23.41	84.11	93.05	87.69
50.0	56.52	43.48	1.52	0.46	98.01	76.79	23.21	85.02	93.53	88.43

TABLE B-5. - Recovery calculations for solution of 60.0 weight-percent CH_2Br_2 (component 1)--40.0 weight-percent C_2Cl_4 (component 2): Single flash condensation; specific gravity 2.05--Continued

MOLE-PERCENT COMP. 1= 7.06
MOLE-PERCENT COMP. 2= 4.94
MOLE-PERCENT AIR= 88.00
SATURATION TEMP.= 121.6 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	COMP. 2	TOTAL
110.0	43.92	56.08	5.97	3.43	90.60	63.55	36.45	17.86	32.61	23.76
100.0	47.08	52.92	5.02	2.49	92.50	66.87	33.13	32.40	52.09	40.28
90.0	49.69	50.31	4.11	1.80	94.09	69.57	30.43	45.55	65.94	53.71
85.0	50.81	49.19	3.69	1.53	94.78	70.73	29.27	51.49	71.29	59.41
80.0	51.81	48.19	3.29	1.30	95.41	71.77	28.23	56.98	75.80	64.51
78.0	52.18	47.82	3.14	1.21	95.64	72.16	27.84	59.06	77.40	66.39
76.0	52.53	47.47	3.00	1.13	95.87	72.53	27.47	61.05	78.90	68.19
74.0	52.87	47.13	2.85	1.06	96.08	72.89	27.11	62.98	80.30	69.91
72.0	53.19	46.81	2.72	0.99	96.29	73.23	26.77	64.83	81.62	71.55
70.0	53.49	46.51	2.58	0.93	96.49	73.56	26.44	66.62	82.84	73.11
68.0	53.78	46.22	2.46	0.87	96.67	73.88	26.12	68.33	83.99	74.59
66.0	54.06	45.94	2.33	0.81	96.85	74.19	25.81	69.98	85.06	76.01
64.0	54.32	45.68	2.21	0.76	97.03	74.48	25.52	71.56	86.06	77.36
62.0	54.57	45.43	2.10	0.71	97.19	74.77	25.23	73.07	87.00	78.64
60.0	54.81	45.19	1.99	0.66	97.35	75.04	24.96	74.52	87.88	79.86
58.0	55.03	44.97	1.89	0.62	97.50	75.31	24.69	75.91	88.70	81.02
56.0	55.25	44.75	1.78	0.58	97.64	75.56	24.44	77.23	89.47	82.13
54.0	55.45	44.55	1.69	0.54	97.77	75.81	24.19	78.50	90.19	83.17
52.0	55.65	44.35	1.59	0.50	97.90	76.05	23.95	79.71	90.86	84.17
50.0	55.83	44.17	1.51	0.47	98.03	76.28	23.72	80.86	91.49	85.11

MOLE-PERCENT COMP. 1= 5.88
MOLE-PERCENT COMP. 2= 4.11
MOLE-PERCENT AIR= 90.00
SATURATION TEMP.= 114.1 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	COMP. 2	TOTAL
110.0	40.91	59.09	5.56	3.61	90.83	60.65	39.35	6.33	13.08	9.03
100.0	44.55	55.45	4.75	2.61	92.65	64.57	35.43	21.62	38.50	28.37
90.0	47.65	52.35	3.94	1.87	94.19	67.81	32.19	35.99	56.55	44.21
85.0	48.99	51.01	3.56	1.58	94.86	69.20	30.80	42.64	63.49	50.98
80.0	50.20	49.80	3.19	1.34	95.47	70.45	29.55	48.88	69.33	57.06
78.0	50.65	49.35	3.05	1.25	95.70	70.91	29.09	51.25	71.40	59.31
76.0	51.08	48.92	2.91	1.17	95.92	71.36	28.64	53.54	73.33	61.46
74.0	51.49	48.51	2.78	1.09	96.13	71.78	28.22	55.77	75.14	63.51
72.0	51.88	48.12	2.65	1.02	96.33	72.19	27.81	57.92	76.82	65.48
70.0	52.26	47.74	2.53	0.95	96.52	72.59	27.41	59.99	78.39	67.35
68.0	52.61	47.39	2.40	0.89	96.71	72.96	27.04	61.99	79.86	69.14
66.0	52.95	47.05	2.29	0.83	96.88	73.32	26.68	63.92	81.23	70.84
64.0	53.27	46.73	2.17	0.78	97.05	73.67	26.33	65.78	82.51	72.47
62.0	53.58	46.42	2.06	0.72	97.21	74.01	25.99	67.56	83.70	74.02
60.0	53.87	46.13	1.96	0.68	97.37	74.33	25.67	69.27	84.82	75.49
58.0	54.15	45.85	1.85	0.63	97.51	74.64	25.36	70.91	85.86	76.89
56.0	54.42	45.58	1.76	0.59	97.66	74.94	25.06	72.48	86.84	78.23
54.0	54.67	45.33	1.66	0.55	97.79	75.22	24.78	73.99	87.75	79.49
52.0	54.91	45.09	1.57	0.51	97.92	75.50	24.50	75.43	88.60	80.70
50.0	55.13	44.87	1.49	0.48	98.04	75.77	24.23	76.81	89.39	81.84

TABLE B-5. - Recovery calculations for solution of 60.0 weight-percent CH_2Br_2 (component 1)--40.0 weight-percent C_2Cl_4 (component 2): Single flash condensation; specific gravity 2.05--Continued

MOLE-PERCENT COMP. 1= 4.71
MOLE-PERCENT COMP. 2= 3.29
MOLE-PERCENT AIR= 92.00
SATURATION TEMP.= 105.2 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR				
	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
100.0	41.00	59.00	4.37	2.77	92.86	61.18	38.82	8.05	16.57	11.46
90.0	44.69	55.31	3.70	1.98	94.33	65.16	34.84	23.40	41.43	30.61
85.0	46.33	53.67	3.36	1.67	94.97	66.88	33.12	30.77	50.97	38.85
80.0	47.83	52.17	3.04	1.40	95.56	68.44	31.56	37.82	58.98	46.29
78.0	48.39	51.61	2.91	1.31	95.78	69.01	30.99	40.53	61.82	49.05
76.0	48.93	51.07	2.79	1.22	95.99	69.57	30.43	43.18	64.45	51.69
74.0	49.45	50.55	2.67	1.14	96.19	70.10	29.90	45.76	66.91	54.22
72.0	49.94	50.06	2.55	1.06	96.39	70.61	29.39	48.27	69.20	56.64
70.0	50.41	49.59	2.44	0.99	96.57	71.09	28.91	50.71	71.34	58.96
68.0	50.86	49.14	2.32	0.92	96.75	71.56	28.44	53.07	73.33	61.17
66.0	51.29	48.71	2.21	0.86	96.93	72.01	27.99	55.36	75.18	63.29
64.0	51.70	48.30	2.11	0.80	97.09	72.43	27.57	57.57	76.91	65.31
62.0	52.10	47.90	2.01	0.75	97.25	72.84	27.16	59.71	78.52	67.23
60.0	52.47	47.53	1.91	0.70	97.40	73.24	26.76	61.77	80.02	69.07
58.0	52.83	47.17	1.81	0.65	97.54	73.62	26.38	63.75	81.42	70.82
56.0	53.16	46.84	1.72	0.60	97.68	73.98	26.02	65.66	82.72	72.49
54.0	53.49	46.51	1.63	0.56	97.81	74.33	25.67	67.49	83.94	74.07
52.0	53.79	46.21	1.54	0.52	97.94	74.66	25.34	69.25	85.07	75.58
50.0	54.08	45.92	1.46	0.49	98.05	74.98	25.02	70.94	86.13	77.01

MOLE-PERCENT COMP. 1= 3.53
MOLE-PERCENT COMP. 2= 2.47
MOLE-PERCENT AIR= 94.00
SATURATION TEMP.= 94.1 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR				
	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
90.0	40.14	59.86	3.32	2.14	94.54	60.82	39.18	6.49	13.84	9.43
85.0	42.16	57.84	3.06	1.80	95.14	63.03	36.97	14.34	28.15	19.86
80.0	44.05	55.95	2.80	1.50	95.70	65.05	34.95	22.11	40.16	29.33
78.0	44.77	55.23	2.70	1.40	95.90	65.81	34.19	25.16	44.40	32.85
76.0	45.46	54.54	2.59	1.30	96.10	66.54	33.46	28.17	48.34	36.24
74.0	46.13	53.87	2.49	1.21	96.30	67.24	32.76	31.14	52.02	39.49
72.0	46.77	53.23	2.39	1.13	96.48	67.91	32.09	34.06	55.43	42.61
70.0	47.39	52.61	2.29	1.05	96.66	68.55	31.45	36.93	58.61	45.60
68.0	47.99	52.01	2.19	0.98	96.83	69.16	30.84	39.73	61.57	48.46
66.0	48.56	51.44	2.10	0.91	96.99	69.75	30.25	42.46	64.32	51.21
64.0	49.11	50.89	2.00	0.85	97.15	70.32	29.68	45.13	66.88	53.83
62.0	49.64	50.36	1.91	0.79	97.30	70.86	29.14	47.73	69.25	56.34
60.0	50.14	49.86	1.82	0.73	97.45	71.37	28.63	50.25	71.46	58.74
58.0	50.62	49.38	1.73	0.68	97.59	71.87	28.13	52.70	73.52	61.03
56.0	51.08	48.92	1.65	0.63	97.72	72.34	27.66	55.07	75.43	63.21
54.0	51.52	48.48	1.57	0.59	97.85	72.79	27.21	57.36	77.20	65.30
52.0	51.93	48.07	1.49	0.54	97.97	73.22	26.78	59.57	78.86	67.28
50.0	52.33	47.67	1.41	0.51	98.08	73.64	26.36	61.70	80.39	69.18

TABLE B-5. - Recovery calculations for solution of 60.0 weight-percent CH_2Br_2 (component 1)--40.0 weight-percent C_2Cl_4 (component 2): Single flash condensation; specific gravity 2.05--Continued

MOLE-PERCENT COMP. 1= 3.24
MOLE-PERCENT COMP. 2= 2.26
MOLE-PERCENT AIR= 94.50
SATURATION TEMP.= 90.9 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT TOTAL
90.0	38.62	61.38	3.20	2.19	94.61	59.29	40.71	1.40	3.18	2.11
85.0	40.74	59.26	2.96	1.84	95.20	61.65	38.35	9.28	19.31	13.29
80.0	42.74	57.26	2.72	1.54	95.74	63.83	36.17	17.15	32.87	23.44
78.0	43.50	56.50	2.62	1.43	95.95	64.65	35.35	20.27	37.66	27.23
76.0	44.24	55.76	2.52	1.33	96.14	65.44	34.56	23.37	42.11	30.86
74.0	44.96	55.04	2.43	1.24	96.33	66.19	33.81	26.42	46.26	34.36
72.0	45.66	54.34	2.33	1.15	96.51	66.92	33.08	29.44	50.12	37.71
70.0	46.32	53.68	2.24	1.07	96.69	67.62	32.38	32.41	53.70	40.93
68.0	46.97	53.03	2.15	1.00	96.86	68.28	31.72	35.33	57.04	44.01
66.0	47.59	52.41	2.05	0.93	97.02	68.92	31.08	38.18	60.14	46.97
64.0	48.19	51.81	1.96	0.86	97.17	69.54	30.46	40.98	63.02	49.80
62.0	48.76	51.24	1.88	0.80	97.32	70.12	29.88	43.71	65.70	52.50
60.0	49.30	50.70	1.79	0.74	97.47	70.68	29.32	46.37	68.18	55.09
58.0	49.83	50.17	1.71	0.69	97.60	71.22	28.78	48.95	70.50	57.57
56.0	50.33	49.67	1.62	0.64	97.73	71.73	28.27	51.46	72.64	59.93
54.0	50.80	49.20	1.55	0.59	97.86	72.22	27.78	53.89	74.64	62.19
52.0	51.26	48.74	1.47	0.55	97.98	72.69	27.31	56.24	76.49	64.34
50.0	51.69	48.31	1.39	0.51	98.09	73.14	26.86	58.51	78.21	66.39

MOLE-PERCENT COMP. 1= 2.94
MOLE-PERCENT COMP. 2= 2.06
MOLE-PERCENT AIR= 95.00
SATURATION TEMP.= 87.4 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT TOTAL
85.0	39.11	60.89	2.84	1.89	95.27	60.04	39.96	3.77	8.39	5.61
80.0	41.22	58.78	2.62	1.58	95.80	62.38	37.62	11.69	23.84	16.55
78.0	42.03	57.97	2.53	1.47	96.00	63.27	36.73	14.86	29.31	20.64
76.0	42.83	57.17	2.44	1.37	96.19	64.12	35.88	18.01	34.39	24.56
74.0	43.60	56.40	2.35	1.27	96.38	64.94	35.06	21.14	39.12	28.34
72.0	44.34	55.66	2.27	1.18	96.55	65.73	34.27	24.25	43.53	31.96
70.0	45.06	54.94	2.18	1.10	96.73	66.49	33.51	27.32	47.62	35.44
68.0	45.76	54.24	2.09	1.02	96.89	67.22	32.78	30.34	51.43	38.78
66.0	46.44	53.56	2.00	0.95	97.05	67.92	32.08	33.32	54.97	41.98
64.0	47.08	52.92	1.92	0.88	97.20	68.59	31.41	36.24	58.25	45.05
62.0	47.71	52.29	1.84	0.82	97.35	69.23	30.77	39.11	61.30	47.98
60.0	48.31	51.69	1.75	0.76	97.49	69.85	30.15	41.90	64.13	50.80
58.0	48.88	51.12	1.67	0.70	97.62	70.43	29.57	44.64	66.76	53.49
56.0	49.43	50.57	1.60	0.65	97.75	71.00	29.00	47.29	69.20	56.06
54.0	49.95	50.05	1.52	0.60	97.88	71.53	28.47	49.88	71.47	58.51
52.0	50.45	49.55	1.45	0.56	97.99	72.04	27.96	52.38	73.57	60.86
50.0	50.93	49.07	1.37	0.52	98.11	72.53	27.47	54.81	75.53	63.09

TABLE B-6. - Recovery calculations for solution of 60.0 weight-percent CH_2Br_2 (component 1)-- 40.0 weight-percent C_2Cl_4 (component 2): Incremental condensation-- 2.0° F interval; specific gravity 2.05

MOLE-PERCENT COMP. 1= 52.96
MOLE-PERCENT COMP. 2= 37.04
MOLE-PERCENT AIR= 10.00
SATURATION TEMP.= 222.7 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR				
	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
110.0	58.18	41.82	12.98	0.28	86.74	97.89	2.11	97.17	99.91	98.27
100.0	58.33	41.67	10.29	0.16	89.55	98.45	1.55	97.83	99.95	98.68
90.0	58.45	41.55	8.06	0.09	91.85	98.88	1.12	98.34	99.97	98.99
85.0	58.50	41.50	7.10	0.07	92.83	99.05	0.95	98.56	99.98	99.13
80.0	58.55	41.45	6.24	0.05	93.71	99.21	0.79	98.74	99.99	99.24
78.0	58.56	41.44	5.92	0.04	94.04	99.26	0.74	98.81	99.99	99.28
76.0	58.58	41.42	5.61	0.04	94.35	99.31	0.69	98.88	99.99	99.32
74.0	58.59	41.41	5.32	0.03	94.65	99.36	0.64	98.94	99.99	99.36
72.0	58.61	41.39	5.04	0.03	94.93	99.41	0.59	99.00	99.99	99.40
70.0	58.62	41.38	4.77	0.03	95.20	99.45	0.55	99.05	99.99	99.43
68.0	58.63	41.37	4.51	0.02	95.46	99.49	0.51	99.11	99.99	99.46
66.0	58.65	41.35	4.27	0.02	95.71	99.53	0.47	99.16	99.99	99.49
64.0	58.66	41.34	4.03	0.02	95.95	99.57	0.43	99.21	100.00	99.52
62.0	58.67	41.33	3.81	0.02	96.17	99.60	0.40	99.25	100.00	99.55
60.0	58.68	41.32	3.60	0.01	96.39	99.63	0.37	99.30	100.00	99.58
58.0	58.69	41.31	3.40	0.01	96.59	99.66	0.34	99.34	100.00	99.60
56.0	58.70	41.30	3.20	0.01	96.79	99.69	0.31	99.37	100.00	99.62
54.0	58.71	41.29	3.02	0.01	96.97	99.71	0.29	99.41	100.00	99.65
52.0	58.72	41.28	2.85	0.01	97.15	99.74	0.26	99.45	100.00	99.67
50.0	58.72	41.28	2.68	0.01	97.31	99.76	0.24	99.48	100.00	99.69

MOLE-PERCENT COMP. 1= 41.19
MOLE-PERCENT COMP. 2= 28.81
MOLE-PERCENT AIR= 30.00
SATURATION TEMP.= 207.9 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR				
	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
110.0	56.54	43.46	11.86	0.78	87.36	93.83	6.17	90.11	99.07	93.69
100.0	57.01	42.99	9.59	0.47	89.94	95.30	4.70	92.24	99.45	95.12
90.0	57.41	42.59	7.63	0.28	92.09	96.50	3.50	93.96	99.69	96.25
85.0	57.58	42.42	6.77	0.21	93.02	97.01	2.99	94.70	99.77	96.72
80.0	57.74	42.26	5.99	0.16	93.86	97.46	2.54	95.35	99.83	97.14
78.0	57.79	42.21	5.70	0.14	94.17	97.63	2.37	95.60	99.85	97.30
76.0	57.85	42.15	5.41	0.12	94.47	97.79	2.21	95.83	99.86	97.44
74.0	57.90	42.10	5.14	0.11	94.75	97.94	2.06	96.05	99.88	97.58
72.0	57.95	42.05	4.88	0.10	95.02	98.08	1.92	96.26	99.90	97.71
70.0	58.00	42.00	4.63	0.08	95.29	98.21	1.79	96.46	99.91	97.84
68.0	58.04	41.96	4.39	0.07	95.54	98.34	1.66	96.65	99.92	97.96
66.0	58.09	41.91	4.16	0.07	95.78	98.46	1.54	96.84	99.93	98.07
64.0	58.13	41.87	3.94	0.06	96.01	98.57	1.43	97.01	99.94	98.18
62.0	58.17	41.83	3.73	0.05	96.22	98.68	1.32	97.18	99.95	98.29
60.0	58.21	41.79	3.52	0.04	96.43	98.78	1.22	97.34	99.95	98.38
58.0	58.24	41.76	3.33	0.04	96.63	98.87	1.13	97.49	99.96	98.48
56.0	58.28	41.72	3.15	0.03	96.82	98.96	1.04	97.63	99.96	98.57
54.0	58.31	41.69	2.97	0.03	97.00	99.04	0.96	97.77	99.97	98.65
52.0	58.34	41.66	2.80	0.02	97.17	99.12	0.88	97.90	99.97	98.73
50.0	58.37	41.63	2.64	0.02	97.34	99.19	0.81	98.02	99.98	98.80

TABLE B-6. - Recovery calculations for solution of 60.0 weight-percent CH_2Br_2 (component 1)--40.0 weight-percent C_2Cl_4 (component 2): Incremental condensation--2.0° F interval; specific gravity 2.05--Continued

MOLE-PERCENT COMP. 1= 29.42
MOLE-PERCENT COMP. 2= 20.57
MOLE-PERCENT AIR= 50.00
SATURATION TEMP.= 189.2 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT TOTAL
110.0	54.21	45.79	10.55	1.37	88.08	88.48	11.52	79.66	96.21	86.28
100.0	55.06	44.94	8.69	0.87	90.44	90.90	9.10	83.68	97.66	89.27
90.0	55.80	44.20	7.05	0.53	92.42	93.00	7.00	87.05	98.61	91.67
85.0	56.13	43.87	6.31	0.41	93.28	93.92	6.08	88.51	98.94	92.68
80.0	56.43	43.57	5.62	0.31	94.07	94.76	5.24	89.84	99.20	93.58
78.0	56.55	43.45	5.36	0.28	94.36	95.08	4.92	90.34	99.28	93.92
76.0	56.66	43.34	5.11	0.25	94.64	95.38	4.62	90.82	99.36	94.24
74.0	56.76	43.24	4.87	0.22	94.91	95.67	4.33	91.28	99.44	94.54
72.0	56.87	43.13	4.64	0.20	95.17	95.95	4.05	91.72	99.50	94.83
70.0	56.96	43.04	4.41	0.17	95.41	96.21	3.79	92.14	99.56	95.11
68.0	57.06	42.94	4.19	0.15	95.65	96.46	3.54	92.55	99.61	95.37
66.0	57.15	42.85	3.98	0.14	95.88	96.70	3.30	92.94	99.66	95.62
64.0	57.24	42.76	3.78	0.12	96.10	96.93	3.07	93.31	99.70	95.87
62.0	57.32	42.68	3.59	0.11	96.31	97.15	2.85	93.67	99.73	96.09
60.0	57.40	42.60	3.40	0.09	96.50	97.35	2.65	94.01	99.77	96.31
58.0	57.48	42.52	3.22	0.08	96.70	97.55	2.45	94.34	99.80	96.52
56.0	57.56	42.44	3.05	0.07	96.88	97.73	2.27	94.65	99.82	96.72
54.0	57.63	42.37	2.89	0.06	97.05	97.90	2.10	94.95	99.85	96.91
52.0	57.69	42.31	2.73	0.05	97.22	98.07	1.93	95.23	99.87	97.08
50.0	57.76	42.24	2.58	0.05	97.38	98.22	1.78	95.50	99.88	97.25

MOLE-PERCENT COMP. 1= 17.65
MOLE-PERCENT COMP. 2= 12.35
MOLE-PERCENT AIR= 70.00
SATURATION TEMP.= 163.0 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT TOTAL
110.0	50.33	49.67	8.75	2.18	89.07	80.09	19.91	61.03	86.14	71.08
100.0	51.65	48.35	7.37	1.45	91.18	83.56	16.44	67.95	90.98	77.17
90.0	52.85	47.15	6.12	0.93	92.95	86.77	13.23	73.91	94.31	82.07
85.0	53.41	46.59	5.54	0.74	93.73	88.25	11.75	76.57	95.54	84.16
80.0	53.93	46.07	5.00	0.58	94.43	89.66	10.34	79.03	96.54	86.03
78.0	54.13	45.87	4.79	0.52	94.69	90.20	9.80	79.96	96.88	86.73
76.0	54.33	45.67	4.58	0.47	94.95	90.72	9.28	80.85	97.20	87.39
74.0	54.52	45.48	4.39	0.42	95.19	91.22	8.78	81.72	97.48	88.03
72.0	54.71	45.29	4.20	0.38	95.42	91.71	8.29	82.56	97.75	88.64
70.0	54.89	45.11	4.01	0.34	95.65	92.19	7.81	83.38	97.98	89.22
68.0	55.07	44.93	3.83	0.30	95.87	92.64	7.36	84.16	98.20	89.78
66.0	55.24	44.76	3.65	0.27	96.07	93.09	6.91	84.92	98.40	90.31
64.0	55.41	44.59	3.48	0.24	96.27	93.51	6.49	85.65	98.58	90.82
62.0	55.57	44.43	3.32	0.21	96.47	93.92	6.08	86.36	98.74	91.31
60.0	55.73	44.27	3.16	0.19	96.65	94.32	5.68	87.04	98.88	91.78
58.0	55.88	44.12	3.01	0.17	96.83	94.69	5.31	87.69	99.01	92.22
56.0	56.03	43.97	2.86	0.15	96.99	95.06	4.94	88.32	99.13	92.65
54.0	56.17	43.83	2.71	0.13	97.16	95.40	4.60	88.93	99.24	93.05
52.0	56.31	43.69	2.57	0.11	97.31	95.73	4.27	89.51	99.33	93.44
50.0	56.44	43.56	2.44	0.10	97.46	96.04	3.96	90.07	99.41	93.81

TABLE B-6. - Recovery calculations for solution of 60.0 weight-percent CH_2Br_2 (component 1)--40.0 weight-percent C_2Cl_4 (component 2): Incremental condensation--2.0° F interval; specific gravity 2.05--Continued

MOLE-PERCENT COMP. 1= 11.77
MOLE-PERCENT COMP. 2= 8.23
MOLE-PERCENT AIR= 80.00
SATURATION TEMP.= 143.9 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP.,	EXIT CONDENSATE		COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR			ORGANIC VAPOR		LIQUID RECOVERY IN WEIGHT-PERCENT		
DEG.F.	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
110.0	46.92	53.08	7.48	2.75	89.77	73.10	26.90	43.40	70.21	54.13
100.0	48.54	51.46	6.38	1.89	91.74	77.15	22.85	52.76	79.99	63.65
90.0	50.06	49.94	5.37	1.26	93.38	81.04	18.96	60.93	86.93	71.33
85.0	50.78	49.22	4.90	1.01	94.09	82.91	17.09	64.61	89.57	74.59
80.0	51.47	48.53	4.45	0.80	94.74	84.70	15.30	68.05	91.74	77.52
78.0	51.74	48.26	4.28	0.73	94.98	85.39	14.61	69.35	92.50	78.61
76.0	52.01	47.99	4.12	0.67	95.22	86.07	13.93	70.62	93.20	79.65
74.0	52.27	47.73	3.95	0.60	95.44	86.74	13.26	71.85	93.85	80.65
72.0	52.52	47.48	3.79	0.55	95.66	87.40	12.60	73.05	94.44	81.61
70.0	52.77	47.23	3.64	0.49	95.87	88.04	11.96	74.21	94.99	82.52
68.0	53.02	46.98	3.49	0.45	96.07	88.66	11.34	75.34	95.49	83.40
66.0	53.26	46.74	3.34	0.40	96.26	89.27	10.73	76.44	95.95	84.24
64.0	53.49	46.51	3.19	0.36	96.45	89.86	10.14	77.50	96.37	85.05
62.0	53.72	46.28	3.05	0.32	96.62	90.44	9.56	78.52	96.75	85.82
60.0	53.94	46.06	2.92	0.29	96.79	91.00	9.00	79.52	97.10	86.55
58.0	54.16	45.84	2.78	0.26	96.96	91.54	8.46	80.48	97.42	87.26
56.0	54.37	45.63	2.66	0.23	97.12	92.06	7.94	81.42	97.71	87.93
54.0	54.58	45.42	2.53	0.20	97.27	92.56	7.44	82.32	97.97	88.58
52.0	54.78	45.22	2.41	0.18	97.41	93.05	6.95	83.19	98.20	89.19
50.0	54.98	45.02	2.29	0.16	97.55	93.51	6.49	84.03	98.42	89.78

MOLE-PERCENT COMP. 1= 8.83
MOLE-PERCENT COMP. 2= 6.17
MOLE-PERCENT AIR= 85.00
SATURATION TEMP.= 131.1 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP.,	EXIT CONDENSATE		COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR			ORGANIC VAPOR		LIQUID RECOVERY IN WEIGHT-PERCENT		
DEG.F.	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
110.0	44.33	55.67	6.64	3.13	90.23	68.00	32.00	29.13	52.30	38.40
100.0	46.13	53.87	5.71	2.18	92.11	72.34	27.66	40.34	67.37	51.15
90.0	47.84	52.16	4.85	1.48	93.67	76.60	23.40	50.18	78.23	61.40
85.0	48.67	51.33	4.44	1.20	94.35	78.67	21.33	54.65	82.42	65.76
80.0	49.47	50.53	4.06	0.97	94.97	80.71	19.29	58.82	85.92	69.66
78.0	49.78	50.22	3.91	0.89	95.20	81.50	18.50	60.42	87.15	71.11
76.0	50.09	49.91	3.77	0.81	95.42	82.29	17.71	61.97	88.29	72.50
74.0	50.40	49.60	3.63	0.74	95.63	83.06	16.94	63.48	89.35	73.83
72.0	50.70	49.30	3.49	0.67	95.84	83.82	16.18	64.95	90.33	75.10
70.0	51.00	49.00	3.35	0.61	96.04	84.57	15.43	66.38	91.23	76.32
68.0	51.29	48.71	3.22	0.55	96.23	85.31	14.69	67.78	92.06	77.49
66.0	51.57	48.43	3.09	0.50	96.41	86.03	13.97	69.13	92.83	78.61
64.0	51.85	48.15	2.96	0.45	96.58	86.74	13.26	70.44	93.54	79.68
62.0	52.13	47.87	2.84	0.41	96.75	87.43	12.57	71.72	94.19	80.71
60.0	52.40	47.60	2.72	0.37	96.91	88.11	11.89	72.96	94.78	81.69
58.0	52.67	47.33	2.60	0.33	97.07	88.76	11.24	74.17	95.32	82.63
56.0	52.93	47.07	2.49	0.30	97.21	89.41	10.59	75.34	95.82	83.53
54.0	53.18	46.82	2.38	0.26	97.36	90.03	9.97	76.47	96.27	84.39
52.0	53.43	46.57	2.27	0.23	97.49	90.63	9.37	77.57	96.68	85.22
50.0	53.68	46.32	2.17	0.21	97.63	91.22	8.78	78.64	97.06	86.00

TABLE B-6. - Recovery calculations for solution of 60.0 weight-percent CH_2Br_2 (component 1)--40.0 weight-percent C_2Cl_4 (component 2): Incremental condensation--2.0° F interval; specific gravity 2.05--Continued

MOLE-PERCENT COMP. 1= 7.06
MOLE-PERCENT COMP. 2= 4.94
MOLE-PERCENT AIR= 88.00
SATURATION TEMP.= 121.6 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP.,	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR				
DEG.F.	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
110.0	42.25	57.75	6.04	3.40	90.57	63.98	36.02	16.95	33.15	23.43
100.0	44.16	55.84	5.21	2.40	92.39	68.47	31.53	29.69	53.70	39.29
90.0	46.00	54.00	4.45	1.65	93.90	72.95	27.05	40.91	68.67	52.01
85.0	46.90	53.10	4.10	1.35	94.55	75.17	24.83	46.01	74.50	57.40
80.0	47.78	52.22	3.76	1.10	95.14	77.35	22.65	50.80	79.40	62.24
78.0	48.13	51.87	3.63	1.01	95.37	78.22	21.78	52.63	81.13	64.03
76.0	48.47	51.53	3.50	0.93	95.58	79.07	20.93	54.42	82.75	65.75
74.0	48.80	51.20	3.37	0.85	95.78	79.92	20.08	56.16	84.24	67.39
72.0	49.14	50.86	3.25	0.77	95.98	80.76	19.24	57.85	85.64	68.96
70.0	49.47	50.53	3.13	0.71	96.17	81.58	18.42	59.50	86.93	70.47
68.0	49.79	50.21	3.01	0.64	96.35	82.40	17.60	61.11	88.12	71.91
66.0	50.11	49.89	2.89	0.58	96.53	83.20	16.80	62.68	89.22	73.30
64.0	50.43	49.57	2.78	0.53	96.69	83.99	16.01	64.20	90.24	74.62
62.0	50.74	49.26	2.67	0.48	96.85	84.77	15.23	65.68	91.18	75.88
60.0	51.05	48.95	2.56	0.43	97.01	85.54	14.46	67.13	92.05	77.10
58.0	51.35	48.65	2.45	0.39	97.16	86.28	13.72	68.53	92.85	78.26
56.0	51.65	48.35	2.35	0.35	97.30	87.02	12.98	69.90	93.58	79.37
54.0	51.94	48.06	2.25	0.31	97.44	87.73	12.27	71.22	94.24	80.43
52.0	52.23	47.77	2.15	0.28	97.57	88.43	11.57	72.51	94.85	81.45
50.0	52.51	47.49	2.06	0.25	97.69	89.10	10.90	73.77	95.41	82.42

MOLE-PERCENT COMP. 1= 5.88
MOLE-PERCENT COMP. 2= 4.11
MOLE-PERCENT AIR= 90.00
SATURATION TEMP.= 114.1 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP.,	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR				
DEG.F.	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
110.0	40.50	59.50	5.57	3.61	90.82	60.68	39.32	6.25	13.13	9.00
100.0	42.49	57.51	4.83	2.57	92.60	65.25	34.75	20.29	39.29	27.89
90.0	44.43	55.57	4.14	1.79	94.07	69.87	30.13	32.69	58.48	43.01
85.0	45.37	54.63	3.82	1.47	94.71	72.18	27.82	38.34	66.01	49.41
80.0	46.31	53.69	3.51	1.20	95.29	74.47	25.53	43.65	72.37	55.14
78.0	46.68	53.32	3.39	1.11	95.50	75.38	24.62	45.69	74.63	57.26
76.0	47.05	52.95	3.27	1.02	95.71	76.28	23.72	47.67	76.73	59.30
74.0	47.41	52.59	3.16	0.93	95.91	77.18	22.82	49.61	78.69	61.24
72.0	47.77	52.23	3.05	0.86	96.10	78.07	21.93	51.49	80.52	63.10
70.0	48.13	51.87	2.94	0.78	96.28	78.96	21.04	53.33	82.21	64.88
68.0	48.48	51.52	2.83	0.71	96.45	79.83	20.17	55.13	83.79	66.59
66.0	48.83	51.17	2.72	0.65	96.62	80.70	19.30	56.87	85.25	68.22
64.0	49.17	50.83	2.62	0.59	96.79	81.55	18.45	58.58	86.60	69.79
62.0	49.51	50.49	2.52	0.54	96.94	82.40	17.60	60.24	87.85	71.28
60.0	49.85	50.15	2.42	0.49	97.09	83.23	16.77	61.85	89.01	72.71
58.0	50.18	49.82	2.33	0.44	97.23	84.05	15.95	63.43	90.07	74.08
56.0	50.50	49.50	2.23	0.40	97.37	84.85	15.15	64.96	91.05	75.40
54.0	50.82	49.18	2.14	0.36	97.50	85.64	14.36	66.45	91.95	76.65
52.0	51.14	48.86	2.05	0.32	97.63	86.41	13.59	67.90	92.78	77.85
50.0	51.45	48.55	1.96	0.29	97.75	87.16	12.84	69.31	93.53	79.00

TABLE B-6. - Recovery calculations for solution of 60.0 weight-percent CH_2Br_2 (component 1)-- 40.0 weight-percent C_2Cl_4 (component 2): Incremental condensation-- 2.0° F interval; specific gravity 2.05--Continued

MOLE-PERCENT COMP. 1= 4.71
MOLE-PERCENT COMP. 2= 3.29
MOLE-PERCENT AIR= 92.00
SATURATION TEMP.= 105.2 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT		TOTAL VAPOR			ORGANIC VAPOR		LIQUID RECOVERY IN WEIGHT-PERCENT		
	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
100.0	40.34	59.66	4.38	2.77	92.85	61.26	38.74	7.88	16.67	11.40
90.0	42.40	57.60	3.77	1.94	94.28	65.99	34.01	21.81	42.36	30.03
85.0	43.42	56.58	3.49	1.61	94.90	68.38	31.62	28.17	52.50	37.90
80.0	44.41	55.59	3.22	1.33	95.46	70.78	29.22	34.15	61.12	44.94
78.0	44.81	55.19	3.11	1.23	95.66	71.74	28.26	36.44	64.19	47.54
76.0	45.20	54.80	3.01	1.13	95.86	72.70	27.30	38.68	67.06	50.03
74.0	45.59	54.41	2.91	1.04	96.05	73.65	26.35	40.86	69.74	52.41
72.0	45.98	54.02	2.81	0.96	96.24	74.60	25.40	42.99	72.24	54.69
70.0	46.36	53.64	2.71	0.88	96.41	75.55	24.45	45.07	74.57	56.87
68.0	46.75	53.25	2.61	0.80	96.58	76.48	23.52	47.10	76.74	58.96
66.0	47.13	52.87	2.52	0.74	96.74	77.42	22.58	49.08	78.76	60.96
64.0	47.50	52.50	2.43	0.67	96.90	78.34	21.66	51.02	80.64	62.86
62.0	47.87	52.13	2.34	0.61	97.05	79.26	20.74	52.90	82.38	64.69
60.0	48.24	51.76	2.25	0.56	97.19	80.17	19.83	54.74	83.99	66.44
58.0	48.61	51.39	2.17	0.51	97.33	81.06	18.94	56.53	85.48	68.11
56.0	48.97	51.03	2.08	0.46	97.46	81.95	18.05	58.28	86.86	69.71
54.0	49.32	50.68	2.00	0.41	97.59	82.82	17.18	59.98	88.13	71.24
52.0	49.68	50.32	1.92	0.37	97.71	83.68	16.32	61.64	89.30	72.70
50.0	50.02	49.98	1.84	0.34	97.82	84.52	15.48	63.25	90.38	74.10

MOLE-PERCENT COMP. 1= 3.53
MOLE-PERCENT COMP. 2= 2.47
MOLE-PERCENT AIR= 94.00
SATURATION TEMP.= 94.1 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT		TOTAL VAPOR			ORGANIC VAPOR		LIQUID RECOVERY IN WEIGHT-PERCENT		
	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
90.0	39.69	60.31	3.32	2.14	94.54	60.86	39.14	6.39	13.89	9.39
85.0	40.75	59.25	3.08	1.79	95.13	63.32	36.68	13.71	28.52	19.63
80.0	41.83	58.17	2.85	1.48	95.67	65.81	34.19	20.62	41.02	28.78
78.0	42.25	57.75	2.76	1.37	95.86	66.81	33.19	23.27	45.49	32.16
76.0	42.68	57.32	2.68	1.27	96.06	67.82	32.18	25.86	49.68	35.39
74.0	43.10	56.90	2.59	1.17	96.24	68.82	31.18	28.39	53.61	38.48
72.0	43.52	56.48	2.50	1.08	96.41	69.83	30.17	30.86	57.28	41.43
70.0	43.94	56.06	2.42	1.00	96.58	70.84	29.16	33.27	60.71	44.25
68.0	44.35	55.65	2.34	0.92	96.74	71.85	28.15	35.62	63.92	46.94
66.0	44.77	55.23	2.26	0.84	96.90	72.85	27.15	37.92	66.91	49.52
64.0	45.18	54.82	2.18	0.77	97.05	73.85	26.15	40.16	69.70	51.98
62.0	45.59	54.41	2.10	0.71	97.19	74.85	25.15	42.36	72.30	54.33
60.0	46.00	54.00	2.03	0.65	97.32	75.84	24.16	44.49	74.71	56.58
58.0	46.40	53.60	1.96	0.59	97.45	76.83	23.17	46.58	76.96	58.73
56.0	46.80	53.20	1.88	0.54	97.58	77.81	22.19	48.62	79.04	60.79
54.0	47.20	52.80	1.81	0.49	97.70	78.78	21.22	50.61	80.97	62.75
52.0	47.59	52.41	1.74	0.44	97.81	79.74	20.26	52.55	82.75	64.63
50.0	47.98	52.02	1.68	0.40	97.92	80.69	19.31	54.44	84.40	66.43

TABLE B-6. - Recovery calculations for solution of 60.0 weight-percent CH_2Br_2 (component 1)--40.0 weight-percent C_2Cl_4 (component 2): Incremental condensation--2.0° F interval; specific gravity 2.05--Continued

MOLE-PERCENT COMP. 1= 3.24
MOLE-PERCENT COMP. 2= 2.26
MOLE-PERCENT AIR= 94.50
SATURATION TEMP.= 90.9 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP.,	EXIT CONDENSATE		COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR			ORGANIC VAPOR		LIQUID RECOVERY IN WEIGHT-PERCENT		
DEG.F.	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
90.0	38.62	61.38	3.20	2.19	94.61	59.29	40.71	1.40	3.18	2.11
85.0	39.93	60.07	2.97	1.84	95.20	61.76	38.24	9.04	19.45	13.21
80.0	41.00	59.00	2.75	1.53	95.73	64.27	35.73	16.23	33.41	23.10
78.0	41.44	58.56	2.66	1.42	95.92	65.28	34.72	19.00	38.40	26.76
76.0	41.87	58.13	2.58	1.31	96.11	66.30	33.70	21.70	43.08	30.25
74.0	42.30	57.70	2.50	1.21	96.29	67.32	32.68	24.33	47.47	33.59
72.0	42.73	57.27	2.42	1.12	96.47	68.34	31.66	26.91	51.57	36.77
70.0	43.16	56.84	2.34	1.03	96.63	69.36	30.64	29.42	55.42	39.82
68.0	43.58	56.42	2.26	0.95	96.79	70.39	29.61	31.88	59.01	42.73
66.0	44.01	55.99	2.18	0.87	96.94	71.41	28.59	34.28	62.37	45.51
64.0	44.43	55.57	2.11	0.80	97.09	72.43	27.57	36.62	65.50	48.17
62.0	44.85	55.15	2.03	0.74	97.23	73.45	26.55	38.91	68.42	50.71
60.0	45.27	54.73	1.96	0.67	97.36	74.46	25.54	41.14	71.13	53.14
58.0	45.69	54.31	1.89	0.62	97.49	75.47	24.53	43.32	73.66	55.46
56.0	46.10	53.90	1.82	0.56	97.62	76.48	23.52	45.45	76.01	57.67
54.0	46.51	53.49	1.76	0.51	97.73	77.47	22.53	47.53	78.18	59.79
52.0	46.91	53.09	1.69	0.46	97.85	78.46	21.54	49.56	80.20	61.81
50.0	47.32	52.68	1.63	0.42	97.95	79.44	20.56	51.54	82.06	63.75

MOLE-PERCENT COMP. 1= 2.94
MOLE-PERCENT COMP. 2= 2.06
MOLE-PERCENT AIR= 95.00
SATURATION TEMP.= 87.4 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP.,	EXIT CONDENSATE		COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR			ORGANIC VAPOR		LIQUID RECOVERY IN WEIGHT-PERCENT		
DEG.F.	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
85.0	38.97	61.03	2.84	1.89	95.27	60.04	39.96	3.75	8.40	5.61
80.0	40.10	59.90	2.63	1.57	95.79	62.57	37.43	11.27	24.09	16.40
78.0	40.54	59.46	2.55	1.46	95.99	63.59	36.41	14.16	29.71	20.38
76.0	40.98	59.02	2.47	1.35	96.17	64.61	35.39	16.99	34.98	24.19
74.0	41.42	58.58	2.40	1.25	96.35	65.65	34.35	19.74	39.93	27.82
72.0	41.86	58.14	2.32	1.16	96.52	66.68	33.32	22.44	44.57	31.29
70.0	42.30	57.70	2.24	1.07	96.69	67.72	32.28	25.07	48.91	34.61
68.0	42.73	57.27	2.17	0.99	96.84	68.76	31.24	27.64	52.97	37.78
66.0	43.17	56.83	2.10	0.91	96.99	69.80	30.20	30.15	56.77	40.80
64.0	43.60	56.40	2.03	0.83	97.14	70.84	29.16	32.61	60.32	43.69
62.0	44.03	55.97	1.96	0.77	97.28	71.87	28.13	35.00	63.63	46.45
60.0	44.46	55.54	1.89	0.70	97.41	72.91	27.09	37.34	66.71	49.09
58.0	44.89	55.11	1.82	0.64	97.53	73.95	26.05	39.63	69.58	51.61
56.0	45.31	54.69	1.76	0.59	97.65	74.97	25.03	41.86	72.25	54.01
54.0	45.74	54.26	1.69	0.54	97.77	76.00	24.00	44.04	74.72	56.31
52.0	46.16	53.84	1.63	0.49	97.88	77.02	22.98	46.17	77.02	58.51
50.0	46.57	53.43	1.57	0.44	97.99	78.02	21.98	48.24	79.15	60.61

TABLE B-7. - Recovery calculations for solution of 69.6 weight-percent CH_2Br_2 (component 1)--30.4 weight-percent C_2HCl_3 (component 2): Single flash condensation; specific gravity 2.05

MOLE-PERCENT COMP. 1= 57.03
MOLE-PERCENT COMP. 2= 32.97
MOLE-PERCENT AIR= 10.00
SATURATION TEMP.= 196.4 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP.,	EXIT CONDENSATE		COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR			ORGANIC VAPOR		LIQUID RECOVERY IN WEIGHT-PERCENT		
DEG.F.	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
110.0	63.63	36.37	8.65	8.01	83.34	51.94	48.06	98.18	97.09	97.85
100.0	63.57	36.43	6.78	6.38	86.85	51.52	48.48	98.63	97.77	98.37
90.0	63.53	36.47	5.26	5.03	89.71	51.10	48.90	98.97	98.30	98.77
85.0	63.51	36.49	4.61	4.45	90.94	50.90	49.10	99.11	98.52	98.93
80.0	63.49	36.51	4.04	3.93	92.04	50.70	49.30	99.23	98.71	99.07
78.0	63.49	36.51	3.82	3.73	92.44	50.62	49.38	99.27	98.78	99.12
76.0	63.48	36.52	3.62	3.54	92.83	50.53	49.47	99.32	98.84	99.17
74.0	63.47	36.53	3.43	3.37	93.21	50.45	49.55	99.36	98.90	99.22
72.0	63.47	36.53	3.24	3.20	93.56	50.37	49.63	99.39	98.96	99.26
70.0	63.46	36.54	3.07	3.03	93.90	50.29	49.71	99.43	99.02	99.30
68.0	63.46	36.54	2.90	2.87	94.23	50.21	49.79	99.46	99.07	99.34
66.0	63.45	36.55	2.74	2.72	94.54	50.13	49.87	99.49	99.13	99.38
64.0	63.45	36.55	2.59	2.58	94.83	50.05	49.95	99.52	99.17	99.42
62.0	63.45	36.55	2.44	2.44	95.11	49.97	50.03	99.55	99.22	99.45
60.0	63.44	36.56	2.30	2.31	95.38	49.89	50.11	99.58	99.26	99.48
58.0	63.44	36.56	2.17	2.19	95.64	49.81	50.19	99.60	99.31	99.51
56.0	63.43	36.57	2.05	2.07	95.88	49.73	50.27	99.63	99.34	99.54
54.0	63.43	36.57	1.93	1.96	96.11	49.65	50.35	99.65	99.38	99.57
52.0	63.43	36.57	1.82	1.85	96.33	49.57	50.43	99.67	99.42	99.59
50.0	63.42	36.58	1.71	1.75	96.54	49.49	50.51	99.69	99.45	99.62

MOLE-PERCENT COMP. 1= 44.36
MOLE-PERCENT COMP. 2= 25.64
MOLE-PERCENT AIR= 30.00
SATURATION TEMP.= 182.1 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP.,	EXIT CONDENSATE		COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR			ORGANIC VAPOR		LIQUID RECOVERY IN WEIGHT-PERCENT		
DEG.F.	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
110.0	64.36	35.64	8.75	7.85	83.40	52.74	47.26	92.90	88.99	91.71
100.0	64.15	35.85	6.84	6.28	86.89	52.14	47.86	94.68	91.55	93.73
90.0	63.98	36.02	5.29	4.97	89.74	51.59	48.41	96.01	93.52	95.25
85.0	63.90	36.10	4.64	4.40	90.96	51.33	48.67	96.55	94.34	95.88
80.0	63.84	36.16	4.06	3.89	92.05	51.07	48.93	97.02	95.06	96.42
78.0	63.82	36.18	3.84	3.70	92.46	50.97	49.03	97.19	95.32	96.62
76.0	63.80	36.20	3.64	3.51	92.85	50.88	49.12	97.35	95.57	96.81
74.0	63.77	36.23	3.44	3.34	93.22	50.78	49.22	97.50	95.81	96.99
72.0	63.75	36.25	3.26	3.17	93.57	50.68	49.32	97.65	96.04	97.16
70.0	63.73	36.27	3.08	3.01	93.91	50.58	49.42	97.78	96.25	97.32
68.0	63.72	36.28	2.91	2.85	94.23	50.49	49.51	97.91	96.46	97.47
66.0	63.70	36.30	2.75	2.71	94.54	50.39	49.61	98.03	96.65	97.61
64.0	63.68	36.32	2.60	2.57	94.84	50.30	49.70	98.15	96.84	97.75
62.0	63.67	36.33	2.45	2.43	95.12	50.21	49.79	98.26	97.01	97.88
60.0	63.65	36.35	2.31	2.30	95.39	50.12	49.88	98.36	97.18	98.00
58.0	63.63	36.37	2.18	2.18	95.64	50.02	49.98	98.46	97.34	98.12
56.0	63.62	36.38	2.05	2.06	95.89	49.93	50.07	98.55	97.49	98.23
54.0	63.61	36.39	1.94	1.95	96.12	49.84	50.16	98.64	97.63	98.33
52.0	63.59	36.41	1.82	1.84	96.34	49.75	50.25	98.72	97.76	98.43
50.0	63.58	36.42	1.71	1.74	96.55	49.66	50.34	98.80	97.89	98.52

TABLE B-7. - Recovery calculations for solution of 69.6 weight-percent CH_2Br_2 (component 1)--30.4 weight-percent C_2HCl_3 (component 2): Single flash condensation; specific gravity 2.05--Continued

MOLE-PERCENT COMP. 1= 31.68
MOLE-PERCENT COMP. 2= 18.32
MOLE-PERCENT AIR= 50.00
SATURATION TEMP.= 164.1 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR				
	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
110.0	65.64	34.36	8.93	7.56	83.51	54.14	45.86	83.13	75.28	80.74
100.0	65.16	34.84	6.94	6.10	86.96	53.24	46.76	87.40	80.85	85.41
90.0	64.77	35.23	5.36	4.86	89.78	52.45	47.55	90.58	85.23	88.95
85.0	64.61	35.39	4.69	4.31	90.99	52.09	47.91	91.86	87.05	90.40
80.0	64.46	35.54	4.10	3.82	92.08	51.75	48.25	92.98	88.67	91.67
78.0	64.41	35.59	3.88	3.64	92.48	51.62	48.38	93.38	89.27	92.13
76.0	64.36	35.64	3.67	3.46	92.87	51.49	48.51	93.76	89.83	92.57
74.0	64.31	35.69	3.47	3.29	93.24	51.36	48.64	94.12	90.37	92.98
72.0	64.26	35.74	3.28	3.13	93.59	51.23	48.77	94.46	90.88	93.38
70.0	64.22	35.78	3.10	2.97	93.93	51.11	48.89	94.79	91.37	93.75
68.0	64.17	35.83	2.93	2.82	94.25	50.99	49.01	95.09	91.84	94.10
66.0	64.13	35.87	2.77	2.67	94.56	50.87	49.13	95.38	92.28	94.44
64.0	64.09	35.91	2.61	2.54	94.85	50.75	49.25	95.65	92.70	94.75
62.0	64.06	35.94	2.47	2.40	95.13	50.63	49.37	95.91	93.10	95.06
60.0	64.02	35.98	2.33	2.28	95.40	50.52	49.48	96.15	93.48	95.34
58.0	63.99	36.01	2.19	2.16	95.65	50.40	49.60	96.38	93.84	95.61
56.0	63.95	36.05	2.07	2.04	95.89	50.29	49.71	96.60	94.19	95.87
54.0	63.92	36.08	1.94	1.93	96.12	50.18	49.82	96.81	94.52	96.11
52.0	63.89	36.11	1.83	1.83	96.34	50.07	49.93	97.00	94.83	96.34
50.0	63.87	36.13	1.72	1.72	96.55	49.97	50.03	97.18	95.12	96.56

MOLE-PERCENT COMP. 1= 19.01
MOLE-PERCENT COMP. 2= 10.99
MOLE-PERCENT AIR= 70.00
SATURATION TEMP.= 138.7 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR				
	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
110.0	68.43	31.57	9.31	6.95	83.74	57.25	42.75	59.08	47.15	55.45
100.0	67.40	32.60	7.18	5.71	87.11	55.73	44.27	69.63	58.27	66.18
90.0	66.56	33.44	5.51	4.61	89.88	54.42	45.58	77.44	67.32	74.37
85.0	66.20	33.80	4.81	4.12	91.07	53.84	46.16	80.56	71.17	77.71
80.0	65.87	34.13	4.19	3.67	92.14	53.30	46.70	83.27	74.63	80.64
78.0	65.75	34.25	3.96	3.50	92.54	53.09	46.91	84.24	75.91	81.71
76.0	65.64	34.36	3.74	3.34	92.92	52.89	47.11	85.16	77.14	82.72
74.0	65.53	34.47	3.54	3.18	93.28	52.69	47.31	86.03	78.31	83.68
72.0	65.42	34.58	3.34	3.02	93.63	52.50	47.50	86.86	79.42	84.60
70.0	65.32	34.68	3.16	2.88	93.97	52.31	47.69	87.63	80.49	85.46
68.0	65.22	34.78	2.98	2.74	94.28	52.13	47.87	88.36	81.52	86.28
66.0	65.13	34.87	2.81	2.60	94.59	51.95	48.05	89.06	82.49	87.06
64.0	65.04	34.96	2.65	2.47	94.88	51.78	48.22	89.71	83.42	87.80
62.0	64.95	35.05	2.50	2.34	95.16	51.61	48.39	90.33	84.31	88.50
60.0	64.87	35.13	2.36	2.22	95.42	51.45	48.55	90.91	85.16	89.16
58.0	64.80	35.20	2.22	2.11	95.67	51.29	48.71	91.46	85.96	89.79
56.0	64.72	35.28	2.09	2.00	95.91	51.13	48.87	91.98	86.73	90.38
54.0	64.65	35.35	1.97	1.89	96.14	50.97	49.03	92.47	87.47	90.95
52.0	64.58	35.42	1.85	1.79	96.36	50.82	49.18	92.93	88.16	91.48
50.0	64.52	35.48	1.74	1.69	96.57	50.68	49.32	93.37	88.83	91.99

TABLE B-7. - Recovery calculations for solution of 69.6 weight-percent CH_2Br_2 (component 1)--30.4 weight-percent C_2HCl_3 (component 2): Single flash condensation; specific gravity 2.05--Continued

MOLE-PERCENT COMP. 1= 12.67
MOLE-PERCENT COMP. 2= 7.33
MOLE-PERCENT AIR= 80.00
SATURATION TEMP.= 120.2 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT TOTAL
110.0	71.53	28.47	9.73	6.27	84.00	60.82	39.18	26.90	18.53	24.36
100.0	69.96	30.04	7.46	5.26	87.29	58.65	41.35	46.07	34.22	42.47
90.0	68.64	31.36	5.68	4.32	90.00	56.78	43.22	60.17	47.54	56.33
85.0	68.07	31.93	4.94	3.89	91.16	55.94	44.06	65.77	53.37	62.00
80.0	67.55	32.45	4.29	3.49	92.22	55.17	44.83	70.61	58.68	66.98
78.0	67.35	32.65	4.06	3.34	92.61	54.88	45.12	72.35	60.67	68.80
76.0	67.17	32.83	3.83	3.19	92.98	54.59	45.41	73.99	62.57	70.52
74.0	66.99	33.01	3.62	3.04	93.34	54.31	45.69	75.54	64.41	72.16
72.0	66.81	33.19	3.41	2.90	93.68	54.05	45.95	77.00	66.17	73.71
70.0	66.65	33.35	3.22	2.77	94.01	53.79	46.21	78.38	67.86	75.18
68.0	66.49	33.51	3.04	2.64	94.33	53.53	46.47	79.67	69.48	76.57
66.0	66.33	33.67	2.86	2.51	94.63	53.29	46.71	80.90	71.03	77.90
64.0	66.19	33.81	2.70	2.39	94.91	53.05	46.95	82.05	72.52	79.16
62.0	66.04	33.96	2.54	2.27	95.19	52.82	47.18	83.14	73.95	80.35
60.0	65.91	34.09	2.39	2.16	95.45	52.59	47.41	84.17	75.31	81.48
58.0	65.78	34.22	2.25	2.05	95.70	52.37	47.63	85.14	76.62	82.55
56.0	65.66	34.34	2.12	1.94	95.94	52.16	47.84	86.05	77.87	83.56
54.0	65.54	34.46	1.99	1.84	96.16	51.95	48.05	86.91	79.06	84.52
52.0	65.43	34.57	1.87	1.75	96.38	51.75	48.25	87.72	80.20	85.44
50.0	65.32	34.68	1.76	1.66	96.58	51.55	48.45	88.49	81.28	86.30

MOLE-PERCENT COMP. 1= 9.51
MOLE-PERCENT COMP. 2= 5.49
MOLE-PERCENT AIR= 85.00
SATURATION TEMP.= 107.8 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT TOTAL
100.0	72.26	27.74	7.70	4.86	87.44	61.33	38.67	21.24	14.10	19.07
90.0	70.57	29.43	5.84	4.06	90.10	59.00	41.00	42.05	30.34	38.49
85.0	69.82	30.18	5.07	3.68	91.25	57.95	42.05	50.31	37.62	46.46
80.0	69.13	30.87	4.39	3.32	92.29	56.97	43.03	57.42	44.36	53.45
78.0	68.87	31.13	4.15	3.18	92.67	56.60	43.40	59.97	46.90	56.00
76.0	68.62	31.38	3.91	3.05	93.04	56.24	43.76	62.38	49.36	58.42
74.0	68.37	31.63	3.69	2.91	93.39	55.89	44.11	64.65	51.73	60.72
72.0	68.14	31.86	3.48	2.79	93.73	55.55	44.45	66.78	54.02	62.90
70.0	67.92	32.08	3.28	2.66	94.06	55.22	44.78	68.80	56.22	64.97
68.0	67.70	32.30	3.09	2.54	94.37	54.90	45.10	70.69	58.35	66.94
66.0	67.49	32.51	2.91	2.42	94.66	54.59	45.41	72.48	60.39	68.80
64.0	67.29	32.71	2.74	2.31	94.95	54.29	45.71	74.16	62.36	70.57
62.0	67.10	32.90	2.58	2.20	95.22	53.99	46.01	75.75	64.25	72.25
60.0	66.91	33.09	2.43	2.09	95.48	53.71	46.29	77.24	66.07	73.84
58.0	66.74	33.26	2.29	1.99	95.72	53.44	46.56	78.64	67.81	75.35
56.0	66.57	33.43	2.15	1.89	95.96	53.17	46.83	79.97	69.48	76.78
54.0	66.40	33.60	2.02	1.80	96.18	52.91	47.09	81.22	71.08	78.14
52.0	66.25	33.75	1.90	1.71	96.40	52.66	47.34	82.39	72.62	79.42
50.0	66.10	33.90	1.78	1.62	96.60	52.42	47.58	83.50	74.09	80.64

TABLE B-7. - Recovery calculations for solution of 69.6 weight-percent CH_2Br_2 (component 1)--30.4 weight-percent C_2HCl_3 (component 2): Single flash condensation; specific gravity 2.05--Continued

MOLE-PERCENT COMP. 1= 7.60
MOLE-PERCENT COMP. 2= 4.40
MOLE-PERCENT AIR= 88.00
SATURATION TEMP.= 98.5 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	COMP. 2	TOTAL
90.0	72.34	27.66	5.98	3.81	90.20	61.08	38.92	23.22	15.36	20.83
85.0	71.44	28.56	5.19	3.48	91.33	59.84	40.16	34.26	23.69	31.05
80.0	70.61	29.39	4.49	3.16	92.35	58.69	41.31	43.75	31.50	40.03
78.0	70.30	29.70	4.23	3.04	92.73	58.25	41.75	47.16	34.48	43.31
76.0	69.99	30.01	3.99	2.91	93.10	57.82	42.18	50.37	37.37	46.42
74.0	69.69	30.31	3.76	2.79	93.44	57.40	42.60	53.39	40.17	49.37
72.0	69.41	30.59	3.55	2.68	93.78	57.00	43.00	56.24	42.88	52.18
70.0	69.13	30.87	3.34	2.56	94.10	56.60	43.40	58.92	45.51	54.84
68.0	68.86	31.14	3.15	2.45	94.40	56.22	43.78	61.44	48.06	57.37
66.0	68.61	31.39	2.96	2.34	94.70	55.85	44.15	63.81	50.52	59.77
64.0	68.36	31.64	2.79	2.24	94.98	55.49	44.51	66.04	52.89	62.04
62.0	68.12	31.88	2.62	2.13	95.25	55.15	44.85	68.15	55.18	64.20
60.0	67.89	32.11	2.47	2.03	95.50	54.81	45.19	70.12	57.39	66.25
58.0	67.66	32.34	2.32	1.94	95.75	54.48	45.52	71.99	59.51	68.20
56.0	67.45	32.55	2.18	1.84	95.98	54.16	45.84	73.74	61.56	70.04
54.0	67.25	32.75	2.05	1.75	96.20	53.86	46.14	75.39	63.52	71.78
52.0	67.05	32.95	1.92	1.67	96.41	53.56	46.44	76.94	65.41	73.44
50.0	66.86	33.14	1.80	1.58	96.62	53.27	46.73	78.40	67.23	75.01

MOLE-PERCENT COMP. 1= 6.34
MOLE-PERCENT COMP. 2= 3.66
MOLE-PERCENT AIR= 90.00
SATURATION TEMP.= 91.2 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	COMP. 2	TOTAL
90.0	73.96	26.04	6.12	3.59	90.29	63.02	36.98	3.76	2.29	3.31
85.0	72.95	27.05	5.30	3.30	91.40	61.63	38.37	17.69	11.35	15.77
80.0	72.00	28.00	4.58	3.01	92.41	60.32	39.68	29.66	19.96	26.71
78.0	71.64	28.36	4.31	2.90	92.79	59.82	40.18	33.96	23.26	30.71
76.0	71.28	28.72	4.07	2.79	93.15	59.33	40.67	38.00	26.49	34.50
74.0	70.94	29.06	3.83	2.68	93.49	58.86	41.14	41.81	29.63	38.11
72.0	70.61	29.39	3.61	2.57	93.82	58.39	41.61	45.39	32.69	41.53
70.0	70.29	29.71	3.40	2.47	94.14	57.94	42.06	48.76	35.66	44.78
68.0	69.97	30.03	3.20	2.36	94.44	57.51	42.49	51.93	38.55	47.86
66.0	69.67	30.33	3.01	2.26	94.73	57.08	42.92	54.91	41.35	50.79
64.0	69.38	30.62	2.83	2.16	95.01	56.67	43.33	57.72	44.07	53.57
62.0	69.10	30.90	2.66	2.07	95.27	56.27	43.73	60.36	46.70	56.20
60.0	68.82	31.18	2.50	1.97	95.53	55.88	44.12	62.84	49.24	58.71
58.0	68.56	31.44	2.35	1.88	95.77	55.50	44.50	65.17	51.70	61.08
56.0	68.31	31.69	2.21	1.79	96.00	55.14	44.86	67.37	54.07	63.33
54.0	68.06	31.94	2.07	1.71	96.22	54.78	45.22	69.44	56.36	65.46
52.0	67.83	32.17	1.94	1.63	96.43	54.44	45.56	71.38	58.57	67.48
50.0	67.60	32.40	1.82	1.55	96.63	54.11	45.89	73.21	60.69	69.40

TABLE B-7. - Recovery calculations for solution of 69.6 weight-percent CH_2Br_2 (component 1)--30.4 weight-percent C_2HCl_3 (component 2): Single flash condensation; specific gravity 2.05--Continued

MOLE-PERCENT COMP. 1= 5.07
MOLE-PERCENT COMP. 2= 2.93
MOLE-PERCENT AIR= 92.00
SATURATION TEMP.= 82.6 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	COMP. 2	TOTAL
80.0	73.91	26.09	4.70	2.81	92.50	62.61	37.39	7.82	4.78	6.90
78.0	73.49	26.51	4.43	2.71	92.87	62.04	37.96	13.51	8.43	11.96
76.0	73.08	26.92	4.17	2.61	93.22	61.47	38.53	18.85	12.01	16.77
74.0	72.68	27.32	3.92	2.52	93.56	60.92	39.08	23.88	15.53	21.34
72.0	72.29	27.71	3.69	2.42	93.88	60.38	39.62	28.60	18.97	25.67
70.0	71.91	28.09	3.47	2.33	94.19	59.86	40.14	33.05	22.33	29.79
68.0	71.54	28.46	3.27	2.24	94.49	59.35	40.65	37.23	25.62	33.70
66.0	71.18	28.82	3.07	2.15	94.78	58.85	41.15	41.17	28.83	37.42
64.0	70.83	29.17	2.89	2.06	95.05	58.36	41.64	44.86	31.96	40.94
62.0	70.49	29.51	2.71	1.97	95.31	57.89	42.11	48.34	35.00	44.29
60.0	70.17	29.83	2.55	1.89	95.56	57.44	42.56	51.61	37.96	47.46
58.0	69.85	30.15	2.39	1.81	95.80	56.99	43.01	54.68	40.83	50.47
56.0	69.54	30.46	2.25	1.72	96.03	56.56	43.44	57.57	43.62	53.33
54.0	69.24	30.76	2.11	1.65	96.25	56.14	43.86	60.28	46.32	56.04
52.0	68.96	31.04	1.98	1.57	96.46	55.73	44.27	62.83	48.93	58.60
50.0	68.68	31.32	1.85	1.49	96.65	55.34	44.66	65.22	51.45	61.04

MOLE-PERCENT COMP. 1= 3.80
MOLE-PERCENT COMP. 2= 2.20
MOLE-PERCENT AIR= 94.00
SATURATION TEMP.= 71.8 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	COMP. 2	TOTAL
70.0	74.35	25.65	3.59	2.13	94.28	62.80	37.20	5.79	3.46	5.08
68.0	73.91	26.09	3.38	2.05	94.57	62.19	37.81	11.74	7.17	10.35
66.0	73.47	26.53	3.17	1.98	94.85	61.59	38.41	17.33	10.83	15.36
64.0	73.05	26.95	2.98	1.90	95.12	61.01	38.99	22.59	14.42	20.11
62.0	72.64	27.36	2.80	1.83	95.37	60.44	39.56	27.53	17.94	24.62
60.0	72.24	27.76	2.62	1.76	95.62	59.88	40.12	32.17	21.39	28.90
58.0	71.84	28.16	2.46	1.69	95.85	59.34	40.66	36.53	24.77	32.96
56.0	71.46	28.54	2.31	1.62	96.08	58.81	41.19	40.63	28.07	36.81
54.0	71.09	28.91	2.16	1.55	96.29	58.30	41.70	44.47	31.29	40.46
52.0	70.73	29.27	2.03	1.48	96.49	57.80	42.20	48.08	34.42	43.93
50.0	70.38	29.62	1.90	1.41	96.69	57.31	42.69	51.47	37.47	47.22

TABLE B-7. - Recovery calculations for solution of 69.6 weight-percent CH_2Br_2 (component 1)--30.4 weight-percent C_2HCl_3 (component 2): Single flash condensation; specific gravity 2.05--Continued

MOLE-PERCENT COMP. 1= 3.49
MOLE-PERCENT COMP. 2= 2.01
MOLE-PERCENT AIR= 94.50
SATURATION TEMP.= 68.7 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	COMP. 2	TOTAL
68.0	74.69	25.31	3.41	1.99	94.60	63.15	36.85	2.20	1.29	1.93
66.0	74.24	25.76	3.20	1.92	94.87	62.53	37.47	8.42	5.05	7.40
64.0	73.80	26.20	3.01	1.85	95.14	61.91	38.09	14.26	8.76	12.59
62.0	73.36	26.64	2.82	1.78	95.40	61.31	38.69	19.75	12.40	17.52
60.0	72.94	27.06	2.65	1.71	95.64	60.73	39.27	24.91	15.99	22.19
58.0	72.52	27.48	2.48	1.65	95.87	60.15	39.85	29.75	19.50	26.63
56.0	72.12	27.88	2.33	1.58	96.09	59.60	40.40	34.30	22.94	30.85
54.0	71.72	28.28	2.18	1.51	96.30	59.05	40.95	38.57	26.31	34.84
52.0	71.34	28.66	2.04	1.45	96.51	58.52	41.48	42.58	29.59	38.63
50.0	70.97	29.03	1.91	1.39	96.70	58.01	41.99	46.34	32.80	42.22

MOLE-PERCENT COMP. 1= 3.17
MOLE-PERCENT COMP. 2= 1.83
MOLE-PERCENT AIR= 95.00
SATURATION TEMP.= 65.3 DEG.F.
TEMP. INCREMENT=SAT. TEMP.-EXIT TEMP.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	COMP. 2	TOTAL
64.0	74.65	25.35	3.04	1.79	95.17	62.96	37.04	4.12	2.42	3.60
62.0	74.19	25.81	2.86	1.73	95.42	62.33	37.67	10.27	6.18	9.03
60.0	73.75	26.25	2.68	1.66	95.66	61.71	38.29	16.06	9.89	14.18
58.0	73.31	26.69	2.51	1.60	95.89	61.10	38.90	21.49	13.54	19.08
56.0	72.88	27.12	2.35	1.54	96.11	60.51	39.49	26.60	17.12	23.72
54.0	72.46	27.54	2.20	1.47	96.32	59.93	40.07	31.39	20.64	28.12
52.0	72.05	27.95	2.06	1.41	96.52	59.37	40.63	35.88	24.08	32.30
50.0	71.65	28.35	1.93	1.35	96.72	58.82	41.18	40.10	27.45	36.25

TABLE B-8. - Recovery calculations for solution of 69.6 weight-percent CH_2Br_2 (component 1)-- 30.4 weight-percent C_2HCl_3 (component 2): Incremental condensation-- 2.0° F interval; specific gravity 2.05

MOLE-PERCENT COMP. 1= 57.03
MOLE-PERCENT COMP. 2= 32.97
MOLE-PERCENT AIR= 10.00
SATURATION TEMP.= 196.4 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	COMP. 2	TOTAL
110.0	64.26	35.74	5.45	13.19	81.36	29.23	70.77	98.83	95.08	97.69
100.0	64.11	35.89	3.96	11.00	85.04	26.46	73.54	99.18	96.08	98.24
90.0	63.97	36.03	2.83	9.08	88.10	23.76	76.24	99.44	96.88	98.66
85.0	63.91	36.09	2.37	8.21	89.42	22.42	77.58	99.53	97.22	98.83
80.0	63.86	36.14	1.98	7.40	90.62	21.11	78.89	99.62	97.52	98.98
78.0	63.84	36.16	1.84	7.10	91.06	20.59	79.41	99.65	97.64	99.03
76.0	63.82	36.18	1.71	6.80	91.49	20.07	79.93	99.67	97.75	99.09
74.0	63.80	36.20	1.58	6.51	91.90	19.56	80.44	99.70	97.85	99.14
72.0	63.78	36.22	1.47	6.23	92.30	19.05	80.95	99.72	97.95	99.18
70.0	63.77	36.23	1.36	5.97	92.68	18.54	81.46	99.74	98.05	99.23
68.0	63.75	36.25	1.26	5.71	93.04	18.04	81.96	99.76	98.14	99.27
66.0	63.73	36.27	1.16	5.45	93.39	17.54	82.46	99.78	98.23	99.31
64.0	63.72	36.28	1.07	5.21	93.72	17.04	82.96	99.80	98.31	99.35
62.0	63.70	36.30	0.99	4.97	94.04	16.55	83.45	99.82	98.40	99.38
60.0	63.69	36.31	0.91	4.75	94.34	16.07	83.93	99.83	98.47	99.42
58.0	63.67	36.33	0.84	4.53	94.64	15.59	84.41	99.85	98.55	99.45
56.0	63.66	36.34	0.77	4.32	94.92	15.11	84.89	99.86	98.62	99.48
54.0	63.64	36.36	0.71	4.11	95.18	14.64	85.36	99.87	98.69	99.51
52.0	63.63	36.37	0.65	3.91	95.44	14.17	85.83	99.88	98.76	99.54
50.0	63.62	36.38	0.59	3.73	95.68	13.71	86.29	99.89	98.82	99.57

MOLE-PERCENT COMP. 1= 44.36
MOLE-PERCENT COMP. 2= 25.64
MOLE-PERCENT AIR= 30.00
SATURATION TEMP.= 182.1 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	COMP. 2	TOTAL
110.0	65.77	34.23	7.02	10.65	82.33	39.71	60.29	94.23	84.86	91.38
100.0	65.40	34.60	5.19	8.98	85.83	36.64	63.36	95.91	87.76	93.43
90.0	65.09	34.91	3.78	7.49	88.73	33.54	66.46	97.12	90.13	94.99
85.0	64.94	35.06	3.20	6.81	89.98	31.98	68.02	97.59	91.14	95.63
80.0	64.81	35.19	2.70	6.18	91.12	30.42	69.58	97.99	92.06	96.19
78.0	64.75	35.25	2.52	5.94	91.54	29.80	70.20	98.14	92.41	96.40
76.0	64.70	35.30	2.35	5.71	91.94	29.17	70.83	98.27	92.74	96.59
74.0	64.65	35.35	2.19	5.48	92.33	28.55	71.45	98.40	93.06	96.77
72.0	64.61	35.39	2.04	5.26	92.70	27.92	72.08	98.51	93.36	96.95
70.0	64.56	35.44	1.89	5.05	93.06	27.29	72.71	98.62	93.66	97.11
68.0	64.51	35.49	1.76	4.84	93.40	26.67	73.33	98.73	93.94	97.27
66.0	64.47	35.53	1.63	4.64	93.73	26.04	73.96	98.82	94.21	97.42
64.0	64.43	35.57	1.51	4.44	94.05	25.42	74.58	98.91	94.47	97.56
62.0	64.39	35.61	1.40	4.25	94.35	24.80	75.20	98.99	94.73	97.70
60.0	64.35	35.65	1.30	4.07	94.63	24.18	75.82	99.07	94.97	97.83
58.0	64.31	35.69	1.20	3.89	94.91	23.56	76.44	99.15	95.20	97.95
56.0	64.27	35.73	1.11	3.72	95.17	22.94	77.06	99.21	95.43	98.06
54.0	64.23	35.77	1.02	3.55	95.42	22.33	77.67	99.28	95.64	98.17
52.0	64.19	35.81	0.94	3.39	95.66	21.71	78.29	99.33	95.85	98.27
50.0	64.16	35.84	0.87	3.24	95.89	21.10	78.90	99.39	96.05	98.37

TABLE B-8. - Recovery calculations for solution of 69.6 weight-percent CH_2Br_2 (component 1)--30.4 weight-percent C_2HCl_3 (component 2): Incremental condensation--2.0° F interval; specific gravity 2.05--Continued

MOLE-PERCENT COMP. 1= 31.68
MOLE-PERCENT COMP. 2= 18.32
MOLE-PERCENT AIR= 50.00
SATURATION TEMP.= 164.1 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR				
	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
110.0	67.52	32.48	8.05	8.98	82.97	47.29	52.71	84.68	70.47	80.36
100.0	66.97	33.03	6.02	7.61	86.36	44.18	55.82	88.99	75.94	85.03
90.0	66.47	33.53	4.44	6.39	89.17	40.98	59.02	92.15	80.43	88.58
85.0	66.23	33.77	3.78	5.84	90.38	39.34	60.66	93.39	82.37	90.04
80.0	66.01	33.99	3.21	5.32	91.47	37.68	62.32	94.45	84.13	91.32
78.0	65.93	34.07	3.01	5.12	91.88	37.01	62.99	94.84	84.80	91.78
76.0	65.84	34.16	2.81	4.92	92.27	36.34	63.66	95.19	85.43	92.23
74.0	65.76	34.24	2.63	4.74	92.64	35.66	64.34	95.53	86.05	92.65
72.0	65.68	34.32	2.45	4.55	93.00	34.99	65.01	95.84	86.64	93.04
70.0	65.60	34.40	2.28	4.37	93.34	34.31	65.69	96.14	87.21	93.42
68.0	65.53	34.47	2.13	4.20	93.67	33.62	66.38	96.41	87.75	93.78
66.0	65.45	34.55	1.98	4.03	93.98	32.94	67.06	96.67	88.28	94.12
64.0	65.38	34.62	1.84	3.87	94.29	32.25	67.75	96.92	88.79	94.45
62.0	65.31	34.69	1.71	3.71	94.57	31.56	68.44	97.14	89.28	94.75
60.0	65.24	34.76	1.59	3.56	94.85	30.87	69.13	97.36	89.75	95.04
58.0	65.17	34.83	1.47	3.41	95.11	30.17	69.83	97.55	90.21	95.32
56.0	65.10	34.90	1.37	3.27	95.37	29.48	70.52	97.74	90.65	95.58
54.0	65.03	34.97	1.26	3.13	95.61	28.78	71.22	97.91	91.07	95.83
52.0	64.97	35.03	1.17	2.99	95.84	28.09	71.91	98.08	91.48	96.07
50.0	64.91	35.09	1.08	2.86	96.06	27.39	72.61	98.23	91.87	96.29

MOLE-PERCENT COMP. 1= 19.01
MOLE-PERCENT COMP. 2= 10.99
MOLE-PERCENT AIR= 70.00
SATURATION TEMP.= 138.7 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR				
	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
110.0	70.12	29.88	9.08	7.32	83.60	55.37	44.63	60.01	44.24	55.22
100.0	69.35	30.65	6.86	6.24	86.90	52.35	47.65	70.94	54.25	65.87
90.0	68.62	31.38	5.11	5.28	89.62	49.19	50.81	79.01	62.50	73.99
85.0	68.28	31.72	4.38	4.83	90.78	47.56	52.44	82.22	66.09	77.32
80.0	67.95	32.05	3.75	4.42	91.84	45.88	54.12	84.98	69.36	80.23
78.0	67.82	32.18	3.51	4.26	92.23	45.20	54.80	85.98	70.58	81.30
76.0	67.69	32.31	3.29	4.10	92.60	44.51	55.49	86.91	71.77	82.31
74.0	67.56	32.44	3.08	3.95	92.96	43.81	56.19	87.79	72.91	83.26
72.0	67.44	32.56	2.89	3.81	93.31	43.11	56.89	88.61	74.01	84.17
70.0	67.32	32.68	2.70	3.66	93.64	42.41	57.59	89.39	75.07	85.04
68.0	67.20	32.80	2.52	3.53	93.95	41.69	58.31	90.12	76.10	85.86
66.0	67.08	32.92	2.35	3.39	94.26	40.97	59.03	90.81	77.09	86.63
64.0	66.97	33.03	2.20	3.26	94.54	40.25	59.75	91.45	78.04	87.37
62.0	66.85	33.15	2.05	3.13	94.82	39.52	60.48	92.05	78.96	88.07
60.0	66.74	33.26	1.91	3.01	95.09	38.78	61.22	92.62	79.85	88.74
58.0	66.63	33.37	1.77	2.89	95.34	38.04	61.96	93.15	80.70	89.37
56.0	66.52	33.48	1.65	2.77	95.58	37.30	62.70	93.65	81.53	89.96
54.0	66.42	33.58	1.53	2.66	95.81	36.55	63.45	94.12	82.33	90.53
52.0	66.31	33.69	1.42	2.55	96.03	35.79	64.21	94.55	83.10	91.07
50.0	66.21	33.79	1.32	2.44	96.24	35.03	64.97	94.96	83.84	91.58

TABLE B-8. - Recovery calculations for solution of 69.6 weight-percent CH_2Br_2 (component 1)--30.4 weight-percent C_2HCl_3 (component 2): Incremental condensation--2.0° F interval; specific gravity 2.05--Continued

MOLE-PERCENT COMP. 1= 12.67
MOLE-PERCENT COMP. 2= 7.33
MOLE-PERCENT AIR= 80.00
SATURATION TEMP.= 120.2 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	COMP. 2	TOTAL
110.0	72.23	27.77	9.70	6.31	83.99	60.61	39.39	27.07	18.00	24.32
100.0	71.32	28.68	7.37	5.40	87.23	57.74	42.26	46.65	32.45	42.33
90.0	70.46	29.54	5.53	4.58	89.90	54.69	45.31	61.20	44.39	56.09
85.0	70.04	29.96	4.76	4.20	91.04	53.10	46.90	67.01	49.58	61.71
80.0	69.63	30.37	4.08	3.85	92.07	51.46	48.54	72.02	54.34	66.65
78.0	69.47	30.53	3.83	3.71	92.45	50.79	49.21	73.83	56.12	68.45
76.0	69.31	30.69	3.60	3.58	92.82	50.11	49.89	75.53	57.85	70.15
74.0	69.16	30.84	3.38	3.45	93.17	49.42	50.58	77.13	59.51	71.77
72.0	69.00	31.00	3.16	3.33	93.51	48.72	51.28	78.64	61.11	73.31
70.0	68.85	31.15	2.96	3.21	93.83	48.02	51.98	80.06	62.66	74.77
68.0	68.70	31.30	2.77	3.09	94.14	47.31	52.69	81.40	64.16	76.16
66.0	68.55	31.45	2.59	2.97	94.43	46.59	53.41	82.66	65.60	77.47
64.0	68.40	31.60	2.42	2.86	94.71	45.86	54.14	83.84	67.00	78.72
62.0	68.26	31.74	2.26	2.75	94.98	45.13	54.87	84.95	68.34	79.90
60.0	68.11	31.89	2.11	2.65	95.24	44.38	55.62	86.00	69.64	81.03
58.0	67.97	32.03	1.97	2.54	95.49	43.63	56.37	86.98	70.90	82.09
56.0	67.83	32.17	1.83	2.44	95.72	42.87	57.13	87.90	72.11	83.10
54.0	67.70	32.30	1.71	2.35	95.94	42.11	57.89	88.77	73.28	84.06
52.0	67.56	32.44	1.59	2.25	96.16	41.34	58.66	89.58	74.41	84.97
50.0	67.43	32.57	1.48	2.16	96.36	40.56	59.44	90.34	75.50	85.83

MOLE-PERCENT COMP. 1= 9.51
MOLE-PERCENT COMP. 2= 5.49
MOLE-PERCENT AIR= 85.00
SATURATION TEMP.= 107.8 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMP. 1	EXIT CONDENSATE COMP. 2	COMPOSITIONS IN MOLE-PERCENT TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	TOTAL VAPOR AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT COMP. 1	COMP. 2	TOTAL
100.0	72.79	27.21	7.69	4.87	87.44	61.22	38.78	21.34	13.80	19.04
90.0	71.84	28.16	5.79	4.14	90.07	58.28	41.72	42.54	28.85	38.38
85.0	71.38	28.62	4.99	3.81	91.20	56.74	43.26	51.04	35.41	46.29
80.0	70.92	29.08	4.29	3.49	92.22	55.14	44.86	58.38	41.41	53.22
78.0	70.74	29.26	4.04	3.37	92.59	54.48	45.52	61.03	43.67	55.75
76.0	70.56	29.44	3.79	3.25	92.95	53.82	46.18	63.52	45.85	58.15
74.0	70.38	29.62	3.56	3.14	93.30	53.14	46.86	65.88	47.95	60.43
72.0	70.21	29.79	3.34	3.03	93.63	52.46	47.54	68.09	49.98	62.59
70.0	70.04	29.96	3.13	2.92	93.95	51.77	48.23	70.18	51.95	64.64
68.0	69.86	30.14	2.94	2.81	94.25	51.07	48.93	72.15	53.84	66.59
66.0	69.69	30.31	2.75	2.71	94.54	50.36	49.64	74.01	55.67	68.43
64.0	69.53	30.47	2.57	2.61	94.82	49.64	50.36	75.75	57.44	70.18
62.0	69.36	30.64	2.40	2.51	95.09	48.91	51.09	77.39	59.15	71.85
60.0	69.19	30.81	2.25	2.42	95.34	48.17	51.83	78.94	60.79	73.42
58.0	69.03	30.97	2.10	2.32	95.58	47.42	52.58	80.39	62.39	74.92
56.0	68.87	31.13	1.95	2.23	95.81	46.67	53.33	81.75	63.93	76.33
54.0	68.71	31.29	1.82	2.15	96.03	45.90	54.10	83.04	65.41	77.68
52.0	68.55	31.45	1.70	2.06	96.24	45.13	54.87	84.24	66.85	78.95
50.0	68.40	31.60	1.58	1.98	96.44	44.34	55.66	85.37	68.23	80.16

TABLE B-8. - Recovery calculations for solution of 69.6 weight-percent CH_2Br_2 (component 1)--30.4 weight-percent C_2HCl_3 (component 2): Incremental condensation--2.0° F interval; specific gravity 2.05--Continued

MOLE-PERCENT COMP. 1= 7.60
MOLE-PERCENT COMP. 2= 4.40
MOLE-PERCENT AIR= 88.00
SATURATION TEMP.= 98.5 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT: CONDENSATE COMP. 1	CONDENSATE COMP. 2	TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT: COMP. 1	COMP. 2	TOTAL
90.0	72.95	27.05	5.97	3.83	90.19	60.93	39.07	23.34	14.97	20.80
85.0	72.46	27.54	5.16	3.52	91.31	59.43	40.57	34.57	22.74	30.98
80.0	71.97	28.03	4.44	3.24	92.32	57.87	42.13	44.29	29.85	39.90
78.0	71.77	28.23	4.18	3.12	92.69	57.23	42.77	47.80	32.52	43.15
76.0	71.58	28.42	3.93	3.02	93.05	56.58	43.42	51.11	35.10	46.24
74.0	71.39	28.61	3.69	2.91	93.39	55.92	44.08	54.23	37.59	49.17
72.0	71.20	28.80	3.47	2.81	93.72	55.25	44.75	57.17	40.00	51.95
70.0	71.01	28.99	3.25	2.71	94.04	54.57	45.43	59.95	42.33	54.59
68.0	70.83	29.17	3.05	2.61	94.34	53.89	46.11	62.56	44.58	57.10
66.0	70.64	29.36	2.86	2.52	94.62	53.19	46.81	65.03	46.75	59.47
64.0	70.46	29.54	2.68	2.42	94.90	52.48	47.52	67.35	48.85	61.73
62.0	70.28	29.72	2.51	2.33	95.16	51.76	48.24	69.53	50.88	63.86
60.0	70.10	29.90	2.34	2.25	95.41	51.03	48.97	71.59	52.84	65.89
58.0	69.92	30.08	2.19	2.16	95.65	50.29	49.71	73.53	54.73	67.81
56.0	69.74	30.26	2.04	2.08	95.88	49.54	50.46	75.35	56.56	69.64
54.0	69.56	30.44	1.91	2.00	96.09	48.78	51.22	77.06	58.33	71.36
52.0	69.39	30.61	1.78	1.92	96.30	48.01	51.99	78.67	60.03	73.00
50.0	69.22	30.78	1.65	1.85	96.50	47.23	52.77	80.18	61.68	74.55

MOLE-PERCENT COMP. 1= 6.34
MOLE-PERCENT COMP. 2= 3.66
MOLE-PERCENT AIR= 90.00
SATURATION TEMP.= 91.2 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP., DEG.F.	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT: CONDENSATE COMP. 1	CONDENSATE COMP. 2	TOTAL VAPOR COMP. 1	TOTAL VAPOR COMP. 2	AIR	ORGANIC VAPOR COMP. 1	ORGANIC VAPOR COMP. 2	LIQUID RECOVERY IN WEIGHT-PERCENT: COMP. 1	COMP. 2	TOTAL
90.0	73.96	26.04	6.12	3.59	90.29	63.02	36.98	3.76	2.29	3.31
85.0	73.37	26.63	5.29	3.31	91.40	61.56	38.44	17.76	11.15	15.75
80.0	72.86	27.14	4.56	3.04	92.40	60.04	39.96	29.89	19.26	26.66
78.0	72.65	27.35	4.29	2.93	92.77	59.41	40.59	34.27	22.31	30.63
76.0	72.45	27.55	4.04	2.83	93.13	58.78	41.22	38.40	25.26	34.41
74.0	72.25	27.75	3.80	2.73	93.47	58.13	41.87	42.30	28.11	37.99
72.0	72.05	27.95	3.57	2.64	93.79	57.48	42.52	45.98	30.86	41.39
70.0	71.85	28.15	3.35	2.55	94.10	56.81	43.19	49.45	33.52	44.61
68.0	71.65	28.35	3.14	2.46	94.40	56.13	43.87	52.73	36.09	47.67
66.0	71.45	28.55	2.95	2.37	94.69	55.45	44.55	55.81	38.57	50.57
64.0	71.26	28.74	2.76	2.28	94.96	54.75	45.25	58.72	40.97	53.32
62.0	71.06	28.94	2.58	2.20	95.22	54.04	45.96	61.46	43.29	55.93
60.0	70.87	29.13	2.42	2.12	95.47	53.32	46.68	64.04	45.53	58.41
58.0	70.68	29.32	2.26	2.04	95.70	52.59	47.41	66.46	47.70	60.76
56.0	70.49	29.51	2.11	1.96	95.93	51.85	48.15	68.75	49.79	62.98
54.0	70.30	29.70	1.97	1.89	96.14	51.10	48.90	70.90	51.81	65.09
52.0	70.11	29.89	1.84	1.81	96.35	50.33	49.67	72.92	53.77	67.09
50.0	69.93	30.07	1.71	1.74	96.55	49.56	50.44	74.81	55.65	68.99

TABLE B-8. - Recovery calculations for solution of 69.6 weight-percent CH_2Br_2 (component 1)--30.4 weight-percent C_2HCl_3 (component 2): Incremental condensation--2.0° F interval; specific gravity 2.05--Continued

MOLE-PERCENT COMP. 1= 5.07
MOLE-PERCENT COMP. 2= 2.93
MOLE-PERCENT AIR= 92.00
SATURATION TEMP.= 82.6 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP.,	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR				
DEG.F.	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
80.0	74.00	26.00	4.70	2.81	92.50	62.61	37.39	7.83	4.76	6.90
78.0	73.77	26.23	4.42	2.71	92.86	62.00	38.00	13.54	8.33	11.95
76.0	73.55	26.45	4.16	2.62	93.22	61.39	38.61	18.93	11.77	16.75
74.0	73.34	26.66	3.92	2.53	93.55	60.76	39.24	24.01	15.10	21.30
72.0	73.12	26.88	3.68	2.44	93.88	60.12	39.88	28.81	18.32	25.62
70.0	72.91	27.09	3.46	2.36	94.18	59.48	40.52	33.35	21.43	29.72
68.0	72.70	27.30	3.25	2.27	94.48	58.82	41.18	37.62	24.44	33.61
66.0	72.49	27.51	3.05	2.19	94.76	58.15	41.85	41.65	27.34	37.30
64.0	72.28	27.72	2.86	2.11	95.03	57.47	42.53	45.45	30.15	40.80
62.0	72.07	27.93	2.68	2.04	95.29	56.77	43.23	49.03	32.87	44.12
60.0	71.87	28.13	2.51	1.96	95.53	56.07	43.93	52.41	35.49	47.26
58.0	71.66	28.34	2.34	1.89	95.77	55.35	44.65	55.58	38.03	50.25
56.0	71.46	28.54	2.19	1.82	95.99	54.63	45.37	58.58	40.48	53.07
54.0	71.25	28.75	2.05	1.75	96.20	53.89	46.11	61.39	42.85	55.76
52.0	71.05	28.95	1.91	1.68	96.41	53.14	46.86	64.04	45.14	58.30
50.0	70.85	29.15	1.78	1.62	96.60	52.37	47.63	66.53	47.35	60.70

MOLE-PERCENT COMP. 1= 3.80
MOLE-PERCENT COMP. 2= 2.20
MOLE-PERCENT AIR= 94.00
SATURATION TEMP.= 71.8 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP.,	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT							LIQUID RECOVERY IN WEIGHT-PERCENT		
	CONDENSATE		TOTAL VAPOR			ORGANIC VAPOR				
DEG.F.	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
70.0	74.35	25.65	3.59	2.13	94.28	62.80	37.20	5.79	3.46	5.08
68.0	74.11	25.89	3.38	2.05	94.57	62.17	37.83	11.76	7.11	10.35
66.0	73.89	26.11	3.17	1.98	94.85	61.52	38.48	17.40	10.64	15.34
64.0	73.66	26.34	2.97	1.91	95.11	60.87	39.13	22.71	14.05	20.08
62.0	73.44	26.56	2.79	1.84	95.37	60.20	39.80	27.72	17.35	24.57
60.0	73.22	26.78	2.61	1.78	95.61	59.52	40.48	32.45	20.54	28.83
58.0	72.99	27.01	2.45	1.71	95.84	58.83	41.17	36.90	23.62	32.86
56.0	72.77	27.23	2.29	1.65	96.06	58.13	41.87	41.10	26.60	36.69
54.0	72.55	27.45	2.14	1.59	96.27	57.41	42.59	45.05	29.48	40.32
52.0	72.33	27.67	2.00	1.53	96.47	56.68	43.32	48.77	32.27	43.76
50.0	72.11	27.89	1.87	1.47	96.66	55.94	44.06	52.27	34.97	47.01

TABLE B-8. - Recovery calculations for solution of 69.6 weight-percent CH_2Br_2 (component 1)--30.4 weight-percent C_2HCl_3 (component 2): Incremental condensation--2.0° F interval; specific gravity 2.05--Continued

MOLE-PERCENT COMP. 1= 3.49
MOLE-PERCENT COMP. 2= 2.01
MOLE-PERCENT AIR= 94.50
SATURATION TEMP.= 68.7 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP.,	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT		TOTAL VAPOR			ORGANIC VAPOR		LIQUID RECOVERY IN WEIGHT-PERCENT		
DEG.F.	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
68.0	74.69	25.31	3.41	1.99	94.60	63.15	36.85	2.20	1.29	1.93
66.0	74.35	25.65	3.20	1.92	94.87	62.52	37.48	8.43	5.03	7.39
64.0	74.11	25.89	3.01	1.85	95.14	61.87	38.13	14.30	8.64	12.58
62.0	73.88	26.12	2.82	1.79	95.39	61.21	38.79	19.84	12.13	17.49
60.0	73.65	26.35	2.64	1.72	95.63	60.54	39.46	25.06	15.51	22.16
58.0	73.42	26.58	2.48	1.66	95.86	59.86	40.14	29.98	18.78	26.58
56.0	73.19	26.81	2.32	1.60	96.08	59.16	40.84	34.62	21.94	30.77
54.0	72.97	27.03	2.17	1.54	96.29	58.46	41.54	38.99	24.99	34.74
52.0	72.74	27.26	2.02	1.48	96.49	57.73	42.27	43.11	27.95	38.50
50.0	72.52	27.48	1.89	1.43	96.68	57.00	43.00	46.98	30.80	42.06

MOLE-PERCENT COMP. 1= 3.17
MOLE-PERCENT COMP. 2= 1.83
MOLE-PERCENT AIR= 95.00
SATURATION TEMP.= 65.3 DEG.F.
TEMP. INCREMENT= 2.0 DEG.F.

EXIT TEMP.,	EXIT CONDENSATE COMPOSITIONS IN MOLE-PERCENT		TOTAL VAPOR			ORGANIC VAPOR		LIQUID RECOVERY IN WEIGHT-PERCENT		
DEG.F.	COMP. 1	COMP. 2	COMP. 1	COMP. 2	AIR	COMP. 1	COMP. 2	COMP. 1	COMP. 2	TOTAL
64.0	74.65	25.35	3.04	1.79	95.17	62.96	37.04	4.12	2.42	3.60
62.0	74.37	25.63	2.85	1.73	95.42	62.31	37.69	10.29	6.14	9.03
60.0	74.13	25.87	2.68	1.66	95.66	61.65	38.35	16.11	9.73	14.17
58.0	73.89	26.11	2.51	1.60	95.89	60.98	39.02	21.60	13.21	19.05
56.0	73.66	26.34	2.35	1.55	96.11	60.29	39.71	26.78	16.57	23.67
54.0	73.42	26.58	2.20	1.49	96.32	59.59	40.41	31.65	19.82	28.05
52.0	73.19	26.81	2.05	1.43	96.51	58.88	41.12	36.24	22.96	32.20
50.0	72.96	27.04	1.92	1.38	96.70	58.15	41.85	40.56	26.00	36.14

APPENDIX C.--INSTRUCTIONS FOR USE OF THE PROGRAM

The program is written to accomplish two objectives: (1) To calculate a saturation curve for a binary organic liquid of any composition in air; and (2) to calculate the percent of each liquid that can be recovered by cooling any gaseous mixture of air and the binary organic vapor to any temperature below the saturation temperature of the mixture. The compositions of vapor and liquid streams leaving the condenser are also computed.

In order to use the program, the following data cards must be supplied:

Card A.--This card is for identification purposes. The composition of the binary organic liquid under consideration should be punched in columns 1-80. Any combination of FORTRAN characters is acceptable, except that columns 1-4 must not all be blanks. The information punched on this card will be printed verbatim above the saturation curve in the output.

Card B.--Punch the name of component 1 in columns 1-30 and the name of component 2 in columns 31-60.

Card C.--Punch the constants for the Clausius-Clapeyron equation, A_1, B_1, and C_1, for component 1 as floating point numbers in columns 1-20, 21-40, and 41-60, respectively. Punch the molecular weight of component 1 as a floating point number in columns 61-80.

Card D.--Repeat for component 2.

Card E.--Punch a temperature in ° F in columns 1-10 as a floating point number. This temperature should be between the boiling points of the two organic liquids under consideration.

Card F.--Punch the weight fraction of component 1 in the liquid as a floating point number in columns 1-10.

Card G.--Punch the numbers of exit temperatures for which recovery calculations are desired as a right-justified integer in columns 1-3. The maximum number is 20.

Card Group H.--Punch the exit temperatures in descending order in ° F as floating point numbers in columns 1-10, 11-20, 21-30, etc., until the number of temperatures specified in Card G has been obtained.

Card I.--Punch the number of air-organic mixtures for which recovery calculations are desired at the temperatures specified in Card Group H as a right-justified integer in columns 1-3. The maximum number is 20.

Card Group J.--Punch the volume fractions of air, starting with the lowest amounts of air first, referred to in Card I as floating point numbers in columns 1-10, 11-20, 21-30, etc., until the number of compositions specified on Card I is obtained.

Card K.--Punch a temperature in ° F as a floating point number in columns 1-10. This temperature must be a reasonable guess of the saturation temperature of the first air-organic mixture for which recovery calculations are desired. If an incremental flash-type calculation is desired, punch the integer 1 in column 16 and the temperature increment for the calculation in ° F as a floating point number in columns 21-30. If a single equilibrium flash calculation is desired, punch the integer 0 in column 16 and 0.0 in columns 21-30.

This completes the data required by the program. Execution is terminated by placing a blank card after the last data card. If the user wishes to repeat the calculation for the same organic components but in different proportions, Card K should be followed by a card containing identification information analogous to Card A in the original data set. The data cards following this card are analogous to cards F through K. This feature enables the user to examine binary organic solutions of different composition without rerunning the program. A blank card after the last data card is again used to terminate execution.

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