Josh whitehead Ch En 3853 Page 1

1.a) @ T= 650°C and P= 2.5 MPA, U,= 3378.2 11, = 3800.4

@T= 200°C and P=0.4 MPa, U2= 2647.2

:. Du= u2-u, = 886009 2647.2-3378.2 = -731. FT DH=H2-H,= 2860.9-3800.4 = -940. KT

1. b) CP/R=4.04, R=8.314 == T2=200°C, T=650°C

TELEPROPER = TO G) = HID (- TD9)] = HID

= 4.04 -8.314 -- 450 = -151149 may

-7-15114.9 = 18.015 \$ [--839. KJ

P

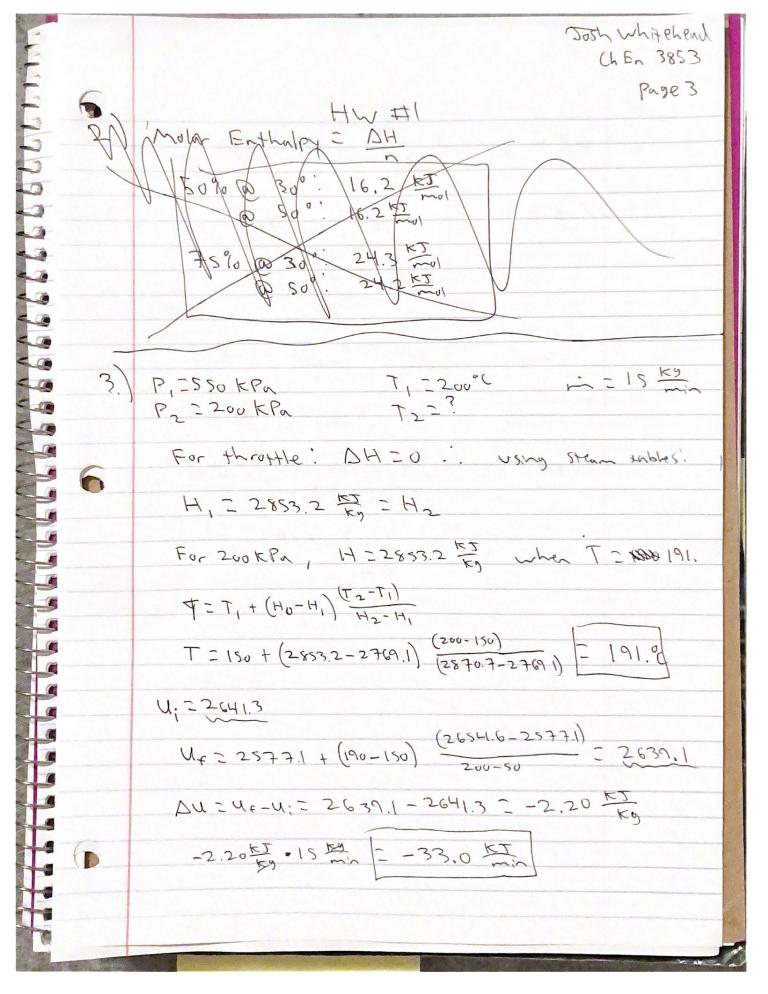
Cv=Cp-R: Cv=4.04(8.314 = 8.314 = 8.314 = 1

(v2 25.27 5

DU = St. CV dT = 25.27 = 189 = -631. Kg

Josh whitehead Ch B ~ 3853 Page 2 Hw #1 m = 25 g n = 250 = 0.321 mal DHunp=30.77 @ 50%: T1=298.15K = 25°C-7 T2

T2=30315K = 1. 25°C-7 80°C 2 n DH unp DH300 = = 1 (SCP,B, LAT + SCP,B, LAT + DHVAP, B + SCP, B, NAT) DHSoc = = = (SCP,B,LAT + SCP,B, LAT + DHrups + SCP,B,VAT) 4nl: 4, -9Tz @ 75% vap: 3 nd: Ti -780 T, 2298.15 K 34~N:80->12 T2 2303.15 OR 323.15 3 n Altunp DH 30°C = 4n SCP1B, LAT + 3n (SCR1B, LAT + DH MP + SCP, B, NAT) DI+50°C = 4 ~ SCD'B'T'YT + 3 ~ (SCD'B'T 92 + 70Hrab + 353 total H Molor H 5090 mp@ 30°C: 5.58 KJ 17.4 5 @ 50°C : 6.31 KJ 19.7 KT 25.8 ET/mul 75% vap @ 30°C: 8,26 KT (50°C : 8.90 KJ Molor H = Total H



AH°M @ 29815 K. 5 [Vi] DH° - 5[Vi] DH° Products reactouts :. Q= 2 (-393.51) +3 (-285.83) - (-83.82) - = = (0) - 41/2 - (-20 X103 KZ @ Youk Z N; (AHRY SCPAT) - Z N; (DHr + Scp IT) CP=A+BF+CT2+DT3 2-1.55 x103