

FIGURE C-5.1

TYPE S

HEAT EXCHANGER SPECIFICATION SHEET

X(1)

1	CUSTOMER YPFB - McKee Co		JOB NO. 5005.-	
2	ADDRESS		REFERENCE NO.	
3	PLANT LOCATION COCHABAMBA		PROPOSAL NO.	
4	SERVICE OF UNIT WET SOLVENT CONDENSER		DATE 20-05-76	
5	SIZE 17.25" X 16'0" TYPE AJS		ITEM NO. 2E 606	
6	SQ. FT. SURF./UNIT (HORIZ.) 505		SHELLS/UNIT ONE	
7	SQ. FT. SURF./SHELL (EFF.) 50.5		SQ. FT. SURF./SHELL (HORIZ.) 50.5	
8	PERFORMANCE OF ONE UNIT-			
9	FLUID CIRCULATED		SHELL SIDE TUBE SIDE	
10	TOTAL FLUID ENTERING		WET FURFURAL COOLING WATER.	
11	VAPOR		7073 lbs/h 51.800	
12	LIQUID		6379 " 51.800	
13	STEAM		694 " "	
14	NON-CONDENSABLES		6379 " "	
15	FLUID CONDENSED		694 " "	
16	STEAM CONDENSED		694 " "	
17	GRAVITY (Liq)		1.1 @ 120°F	
18	VISCOSITY (Liq) cks		0.7 @ 120°F	
19	MOLECULAR WEIGHT		61.4 TOTAL @ INLET	
20	SPECIFIC HEAT		BTU/LB.°F	
21	THERMAL CONDUCTIVITY		BTU/HR-FT.°F	
22	LATENT HEAT		BTU/LB	
23	TEMPERATURE IN		216 °F 75 °F	
24	TEMPERATURE OUT		120 °F 120 °F	
25	OPERATING PRESSURE		3 PSIA 20 PSIG	
26	NO. PASSES PER SHELL		DIVIDED FLOW FOUR	
27	VELOCITY		FT/SEC	
28	PRESSURE DROP		PSI	
29	FOULING RESISTANCE (MIN.)		0.003 0.002	
30	HEAT EXCHANGED-BTU/HR		2,321,000 MTD CORRECTED °F 70.71	
31	TRANSFER RATE-SERVICE		65.0 CLEAN	
32	CONSTRUCTION OF ONE SHELL			
33	DESIGN PRESSURE		75 E F.V. PSIG 75 PSIG	
34	TEST PRESSURE		PER CODE PSI PER CODE PSI	
35	DESIGN TEMPERATURE		270 °F 170 °F	
36	TUBES C-STL		NO. 164 O.D. 3/4" WG 10 LENGTH 16'0" PITCH 1" □	
37	SHELL C-STL		I.D. 17 1/4" O.D. SHELL COVER C-STL (REMOV)	
38	CHANNEL OR BONNET C-STL		CHANNEL COVER C-STL	
39	TUBESHEET-STATIONARY C-STL		TUBESHEET-FLOATING C-STL	
40	BAFFLES-CROSS C-STL		TYPE DBL. SIGHT (3) FLOATING HEAD COVER C-STL	
41	BAFFLES-LONG		TYPE (vertical 25%) IMPINGEMENT PROTECTION	
42	TUBE SUPPORTS			
43	TUBE TO TUBESHEET JOINT			
44	GASKETS			
45	CONNECTIONS-SHELL SIDE		IN 12" (1) OUT 2-3" RATING 150 # RF	
46	CHANNEL SIDE		IN 4" OUT 4" RATING 150 # RF	
47	CORROSION ALLOWANCE-SHELL SIDE		1/8" TUBE SIDE 1/8"	
48	CODE REQUIREMENTS ASME VIII DIV 1, 12570-27A1		TEMA CLASS R	
49	REMARKS (1) SHELL INLET TO BE ON 12" CENTRAL VAPOR BELT			
50	(2) LOOP SEAL BOTTOM TWO TUBE ROWS FOR FURFURAL SUBCOOLING			
51	(3) FOR BAFFLE DETAILS SEE ATTACHED SHEET			
52	BAROMETRIC CONDITIONS: 8400 Ft @ 109 PSIA			

169 total 10-10-76 1094 691

*Handwritten signature*