

Air-Cooled Heat Exchanger Specification Sheet

1	Client: Newfield										
2	Location:										
3	Service of Unit: Cooling Sweet Wet Nat Gas										
4	Item No.: 160651 & 160652 & 160653										
5	Date: 6/30/2016				Rev No.:						
6	Size & Type	7.97	/	5.24	ft	Type	Forced	Number of Bays	1		
7	Surf/Unit-Finned Tube			2,102	ft ²	Bare area/bundle	131	ft ²	Area ratio	16.1	
8	Heat exchanged			0.09	MBTU/h	MTD, Eff		19.18	F		
9	Transfer rate	4			Bare, Service	34.09	Clean	75.35	BTU/(h*ft ² *F)		
10	PERFORMANCE DATA - TUBE SIDE										
11	Fluid Circulated	Sweet Wet Nat Gas				In/Out					
12	Total Fluid Entering	lb/h		4,629		Density, Liq	lb/ft ³	60.426	/	61.281	
13		MMSCFD		1.5		Density, Vap	lb/ft ³	0.429	/	0.43	
14	Temperature	F		125	/	100	Specific Heat, Liq	BTU/(lb*F)	1.1529	/	1.1531
15	Liquid	lb/h		10	/	38	Specific Heat, Vap	BTU/(lb*F)	0.4724	/	0.4613
16	Vapor	lb/h		53	/	25	Therm. Cond, Liq	BTU/(ft*h*F)	0.369	/	0.36
17	Noncondensable	lb/h		4,566	/	4,566	Therm. Cond, Vap	BTU/(ft*h*F)	0.016	/	0.015
18	Steam	lb/h		/			Freeze Point	F			
19	Water	lb/h		/			Bubble / Dew point	F	-389.16	/	130.82
20	Molecular wt, Vap			27.55	/	27.55	Latent heat	BTU/lb			
21	Molecular wt, NC						Inlet pressure (abs)	psi	94.7		
22	Viscosity, Liq	cp		0.5437	/	0.7005	Pres Drop, Allow/Calc	psi	10	/	4.53
23	Viscosity, Vap	cp		0.0107	/	0.0103	Fouling resistance	ft ² *h*F/BTU	0.001		
24	PERFORMANCE DATA - AIR SIDE										
25	Air Quantity, Total	97,000	lb/h			Altitude	100	ft			
26	Air Quantity/Fan	22,841	ft ³ /min			Temperature In	90	F			
27	Static Pressure	0.51	inH ₂ O			Temperature Out	94	F			
28	Face Velocity	13.87	ft/s	Bundle velocity	3,536	lb/h/ft ²	Design Ambient	90	F		
29	DESIGN-MATERIALS-CONSTRUCTION										
30	Design/Vac./Test Pres	400	/	/	psi	Design temperature	300	F			
31	TUBE BUNDLE		Header			Tube					
32	Size	7.97	ft	Type	Plug	Material	Carbon Steel				
33	Number/bay	1		Material	Carbon Steel	Specifications					
34	Tube Rows	4		Passes	4	OD	0.625	Min Thk.	0.065	in	
35	Arrangement			Plug Mat.		No./Bun	138	Lng	6	ft	
36	Bundles	1	par	Gasket Mat.		Pitch	1.625	/	1.407	30 deg	
37	Bays	1	par	Corr. Allow.	in	Fin					
38	Bundle frame			Inlet Nozzle	1 2.624 in	Type	L-finned				
39	MISCELLANEOUS			Outlet nozzle	1 2.624 in	Material	Aluminum 1060				
40	Struct. Mount.			Special Nozzles		OD	1.5	Tks	0.016	in	
41	Surf.Prepare			Rating	300 ANSI	No. 10 #/in	DesTemp F				
42	Louvers			TI	PI	Code	ASME Code Sec VIII Div 1				
43	Vibration Switches			Chem Cleaning		Stamp	Yes	Specs			
44	MECHANICAL EQUIPMENT										
45	Fan, Mfr., Model			Driver, Type			Speed Reducer, Type				
46	No./Bay	1	RPM	Mfr.			Mfr.&Model				
47	Dia.	3.5	ft	Blade(s)			No./Bay	No./Bay			
48	Pitch	Angle					RPM	Rating			
49	Blade(s)	Hub					Enclosure	Ratio			
50	hp/Fan	3	hp	MinAmb			V/Phase/Hz	Support			
51	Control Action on Air Failure-						Louvers				
52	Degree Control of Outlet Process Temperature										
53	Recirculation						Steam Coil		No		
54	Plot Area	ft ²	Drawing No.	Wt.Bundle	3,078	Wt. Unit	3,078 lb				
55	Notes:										
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