

Air-Cooled Heat Exchanger Specification Sheet

1	Client: Lime Rock Resources										
2	Location: North Dakota										
3	Service of Unit: Cooling Wet Natural Gas										
4	Item No.: 230110										
5	Date: 2/22/2024										
6	Size & Type	30	/	11	ft	Type	Forced	Number of Bays	1		
7	Surf/Unit-Finned Tube			32,579	ft²	Bare area/bundle	1,514	ft²	Ratio (Total/	21.51	
8	Heat exchanged			4026515	BTU/h		MTD, Eff		52.31	°F	
9	Transfer rate	3.38		Bare, Service		50.82	Clean		87.03	BTU/(h-ft²-F)	
10	PERFORMANCE DATA - TUBE SIDE										
11	Fluid Circulated	Wet Natural Gas					In/Out				
12	Total Fluid Entering	lb/h		23,961		Density, Liq	lb/ft³		/	59.001	
13		MM SCFD		7.5		Density, Vap	lb/ft³		0.258	/ 0.302	
14	Temperature	°F		210	/ 110	Specific Heat, Liq	BTU/(lb-F)		/	1.1489	
15	Liquid	lb/h		/	2606	Specific Heat, Vap	BTU/(lb-F)		0.5172	/ 0.4763	
16	Vapor	lb/h		2826	/ 220	Therm. Cond, Liq	BTU/(ft-h-F)		/	0.788	
17	Noncondensable	lb/h		21135	/ 21135	Therm. Cond, Vap	BTU/(ft-h-F)		0.022	/ 0.017	
18	Steam	lb/h		/		Freeze Point	°F				
19	Water	lb/h		/		Bubble / Dew point	°F		-393.79	/ 204.76	
20	Molecular wt, Vap			24.44	/ 24.44	Latent heat	BTU/lb				
21	Molecular wt, NC					Inlet pressure (abs)	psi		74.7		
22	Viscosity, Liq	cp		0.0000	/ 0.6309	Pres Drop, Allow/Calc	psi		10	/ 4.03	
23	Viscosity, Vap	cp		0.0121	/ 0.0108	Fouling resistance	ft²-h-F/BTU		0.001		
24	PERFORMANCE DATA - AIR SIDE										
25	Air Quantity, Total	765,000	lb/h			Altitude	2,500	ft			
26	Air Quantity/Fan	98,811	ft³/min			Temperature In	95	°F			
27	Static Pressure	0.6	inH2O			Temperature Out	117	°F			
28	Face Velocity	12.01	ft/s	Bundle velocity	2,791	lb/h/ft²	Design Ambient	95	°F		
29	DESIGN-MATERIALS-CONSTRUCTION										
30	Design/Vac./Test Pres	1,200	/	/	psi	Design temperature	300	°F			
31	TUBE BUNDLE		Header			Tube					
32	Size	30	ft	Type	Box	Material	Carbon Steel				
33	Number/bay	1		Material	Carbon Steel	Specifications					
34	Tube Rows	4		Passes	2	OD	1	Min Thk.	0.109	in	
35	Arrangement			Plug Mat.		No./Bun	214	Lng	28	ft	
36	Bundles	1	par	Gasket Mat.		Pitch	2.25	/ 1.9486	30	deg	
37	Bays	1	par	Corr. Allow.	in	Fin					
38	Bundle frame			Inlet Nozzle	2 6 in	Type	L-finned				
39	MISCELLANEOUS			Outlet nozzle	2 6 in	Material	Aluminum 1060				
40	Struct. Mount.			Special Nozzles		OD	2.25	Tks	0.016	in	
41	Surf.Prepare			Rating	600 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	V-belt	Speed Reducer, Type					
46	No./Bay	2	RPM	Mfr.		Mfr.&Model					
47	Dia.	8	ft	Blade(s)	No./Bay	No./Bay					
48	Pitch		Angle	RPM		Rating					
49	Blade(s)		Hub	Enclosure		Ratio					
50	hp/Fan	20	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	ft²	Drawing No.	Wt.Bundle	21,074	Wt. Unit	21,074	lb			
55	Notes:										
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