

### Air-Cooled Heat Exchanger Specification Sheet

1	Client: Oasis												
2	Location: North Dakota												
3	Service of Unit: Cooling Oil & Produced Water												
4	Item No.: 160821												
5	Date: 8/24/2016					Rev No.:							
6	Size & Type	31.0	/	14.5	ft	Type	Forced	Number of Bays	1				
7	Surf/Unit-Finned Tube	53,577			ft2	Bare area/bundle	1,245	ft2	Area ratio	21.51			
8	Heat exchanged	7.82			MBTU/h	MTD, Eff		31.71	F				
9	Transfer rate	4.75	Bare, Service		98.98	Clean	133.05		BTU/(h*ft2*F)				
10	<b>PERFORMANCE DATA - TUBE SIDE</b>												
11	Fluid Circulated	Oil & Produced Water					In/Out						
12	Total Fluid Entering	lb/h	103,806			Density, Liq	lb/ft3	51.489	/	54.461			
13						Density, Vap	lb/ft3	/					
14	Temperature	F	190	/	100	Specific Heat, Liq	BTU/(lb*F)	0.8337	/	0.7646			
15	Liquid	lb/h	103,806	/	103,806	Specific Heat, Vap	BTU/(lb*F)	/					
16	Vapor	lb/h	0	/	0	Therm. Cond, Liq	BTU/(ft*h*F)	0.455	/	0.539			
17	Noncondensable	lb/h	0	/	0	Therm. Cond, Vap	BTU/(ft*h*F)	/					
18	Steam	lb/h	/			Freeze Point	F						
19	Water	lb/h	/			Bubble / Dew point	F						
20	Molecular wt, Vap	/			Latent heat	BTU/lb							
21	Molecular wt, NC	/			Inlet pressure (abs)	psi	85						
22	Viscosity, Liq	cp	0.2539	/	0.5422	Pres Drop, Allow/Calc	psi	5	/	1.56			
23	Viscosity, Vap	cp	/			Fouling resistance	ft2*h*F/BTU	0.001					
24	<b>PERFORMANCE DATA - AIR SIDE</b>												
25	Air Quantity, Total	1,136,000	lb/h	Altitude			2,500	ft					
26	Air Quantity/Fan	145,167	ft3/min	Temperature In			90	F					
27	Static Pressure	0.81	inH2O	Temperature Out			118	F					
28	Face Velocity	12.67	ft/s	Bundle velocity	2,976	lb/h/ft2	Design Ambient	90	F				
29	<b>DESIGN-MATERIALS-CONSTRUCTION</b>												
30	Design/Vac./Test Pres	245	/	/	psi	Design temperature	250	F					
31	<b>TUBE BUNDLE</b>		<b>Header</b>			<b>Tube</b>							
32	Size	31.0 ft			Type	Box	Material	Carbon Steel					
33	Number/bay	2			Material	Carbon Steel	Specifications						
34	Tube Rows	5			Passes	4	OD	1	Min Thk.	0.109	in		
35	Arrangement	/			Plug Mat.	No./Bun			168	Lng	29	ft	
36	Bundles	2 par			Gasket Mat.	Pitch			2.375	/	2.0568	30	deg
37	Bays	1 par			Corr. Allow.	in			<b>Fin</b>				
38	Bundle frame	/			Inlet Nozzle	1	5.761	in	Type	L-finned			
39	<b>MISCELLANEOUS</b>		/			Outlet nozzle	1	5.761	in	Material	Aluminum 1060		
40	Struct. Mount.	/			Special Nozzles	OD			2.25	Tks	0.016	in	
41	Surf.Prepare	/			Rating	150	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	<b>MECHANICAL EQUIPMENT</b>												
45	Fan,Mfr., Model	/			Driver, Type	V-belt	Speed Reducer, Type	/					
46	No./Bay	2	RPM	Mfr.			Mfr.&Model						
47	Dia.	10	ft	Blade(s)	No./Bay			No./Bay					
48	Pitch	Angle			RPM	Rating							
49	Blade(s)	Hub			Enclosure	Ratio							
50	hp/Fan	30	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	14,378	Wt. Unit	28,756	lb					
55	Notes:												
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