FORM U-1 MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS As Required by the Provisions of the ASME Code Rules, Section VIII, Division

ALFA LAVAL THERMAL INC., 5400 International Trade Dr., Richmond, VA 23231 (Name and address of Manufacturer) 2. Manufactured for M.W. KELLOGG, P.O. Box 4557, Houston, Tx 77210-4557 (Name and address of Purchaser) 3. Location of installation PHILLIPS PETROLEUM, PASADENA, TX (Name and address) VERT. PIATE HEAT EXCHANGER 30102-83		
(Name and address of Purchaser) 3. Location of installation PHILLIPS PETROLEUM, PASADENA, TX (Name and address)		
(Name and address)	;	
VEDO.		
4. Type:	<u>040</u>	
88130-111 -C.3 9501 1995 (CRN) (Orawing No.) (Nat'l. 8d. No.) (Yeer b.		
(Marine) 1007 (1007), (1007),	л	
5. ASME Code, Section VIII, Div. 1 1992 A93 Edition and Addende (Idate) Code Case No. Special Service per UG;120	d)	
Items 6-11 incl. to be completed for single wall vessels, jackets of jacketed vessels, shell of heat exchangers, or chamber of multi-chamber vessels. 6. Shell (a) No. of course(s): (b) Overall length (ft & in.): 3 ' X 7'		
	Heat Treatment	
No. Diameter, in. Length (It & in.) Spec./Grade or Type Nom. Mr. Type Full, Spot, None Eff. Type Full, Spot, None Eff. Tem	Time	
SA-240-304 0.D16		
7. Heads: (a) SA-516-70 (b) SA-516-70 (Met'l Spec. No., Grade or Type) H.T. – Time & Temp.		
Location (Top. Thickness Redius Elliptical Location (Top. Side to Pressure Category	ну А	
Cocation (Top. Bottom, Ends) Min. Corr. Crown Knuckle Retio Xpx 計算 Xpx 可能	None Eff.	
(a) Fixed 2 B/4" 45 K 107" FLAT		
(b) Movable 2 3/8" 45 X 101" FLAT		
If removable, bolts used (describe other fastening) SA-193-B7, (6) 1 1/2" & (4) 2" DIA. (Mat'l Spec. No., Grade, size, No.)	BOLTS	
the contract of the contract o	1-	
8. Type of jacket closure	1.5	
8. Type of jacket closure (Describe as ogee & weld, ber, atc.)	• .5	
If bar, give dimensions If bolted, de	scribe or sketch.	
If bar, give dimensions If bolted, de	scribe or sketch.	
If bar, give dimensions 9. MAWP 100+FV psi at max. temp. 212 or Min. design metal temp5 or at		
If bar, give dimensions 9. MAWP 100+FV psi at max. temp. 212 or Min. design metal temp5 or at		
If bar, give dimensions 9. MAWP 100+FV [Internal] psi at max. temp. 212 or Min. design metal temp5 or at		
If bar, give dimensions 9. MAWP 100+FV [Internal] psi at max. temp. 212 (internal) or Min. design metal temp5 or at	LOO±FVpsi.	
If bar, give dimensions 9. MAWP 100+FV psi at max. temp. 212 (internal) (external) or Min. design metal temp5 or at	LOO±FVpsi.	
If bolted, decomposed weld, bar, stc.] If bolted, decomposed weld, bar, stc.] If bolted, decomposed weld, bar, stc.]	LOO±FVpsi.	
If bar, give dimensions If bolted, described as oges & weld, bar, stc.]	LOO±FVpsi.	
If bar, give dimensions 9. MAWP 100+FV psi at max. temp. 212 (internal) oF Min. design metal temp5 oF at 10. Impact test NO (Impact Exemption UCS 66 (b) (1)) [Indicate yas or no and the component(s) impact tested] 11. Hydro., pack No. (Impact test press. 172 proof test Items 12 and 13 to be completed for tube sections. 12. Tubesheet: Stationary (Mat'l Spec. No.) Dia., in. (subject to press.) Nom. thk., in. Corr. Allow., in. Attachment (we Floating (Mat'l Spec. No.) Dia., in. (Attachment 13. Tubes:	100±FVpsi.	
If bar, give dimensions 9. MAWP 100+FV (Internal) psi at max. temp. 212 (Internal) of Min. design metal temp. —5 of at — 10. Impact test NO (Impact Exemption UCS 66 (b) (1)) Indicate yes or no and the component(s) impact testad 11. Hydro., processionary (Mat'l Spec. No.) Dia., in. (subject to press.) Nom. thk., in. Corr. Allow., in. Attachment (we fooling (Mat'l Spec. No.) Dia., in. (subject to press.) Nom. thk., in. Corr. Allow., in. Attachment (we little see that in the second of the second	LOO±FVpsi.	
If bar, give dimensions 9. MAWP 100+FV (Internal) psi at max. temp. 212 (internal) (external) or Min. design metal temp. -5 or at -5 or at	LOO+FVpsi.	
If bar, give dimensions 9. MAWP 100+FV (Internal) psi at max. temp. 212 (Internal) of Min. design metal temp. —5 of at — 10. Impact test NO (Impact Exemption UCS 66 (b) (1)) (Indicate year or no and the component(s) impact testad) 11. Hydro., product and 13 to be completed for tube sections. 12. Tubesheet: Stationary (Mat'l Spec. No.) Dia., in. (subject to press.) Nom. thk., in. Corr. Allow., in. Attachment (we flowing (Mat'l Spec. No.) Grade or Type O.D., in. Nom. thk., in. or gauge Number Type (Sittlems 14–18 incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers. 14. Shell (a) No. of course(s) (b) Overall length (ft & in.):	LOO+FVpsi.	
If bar, give dimensions 19. MAWP 100+FV (Internal) psi at max. temp. 212 (internal) (external) o°F Min. design metal temp. -5 o°F at	LOO+FVpsi.	
If bar, give dimensions 9. MAWP 100+FV (Internal) psi at max. temp. 212 (internal) (external) or Min. design metal temp. -5 or at -5 or at	LOO+FVpsi.	
If bar, give dimensions If bolted, de 9. MAWP 100+FV	LOO+FVpsi.	
If bar, give dimensions 9. MAWP 100+FV (Internal) psi at max. temp. 212 (Internal) of Min. design metal temp5 of at - 10. Impact test NO (Impact Exemption UCS 66 (b) (1) (Internal) (I	LOO+FVpsi.	
If bar, give dimensions 9. MAWP 100+FV (internal) psi at max. temp. 212 (external) of Min. design metal temp. —5 of at — 10. Impact test NO (Impact Exemption UCS 66 (b) (1)) Illudicate year on and the componential impact tested; 11. Hydro., *** **Internal*** **Int	ded or bolted)	
If bar, give dimensions If bolted, de	ded or bolted)	
If bar, give dimensions If bolted, de Sexternal If	ded or bolted)	
If bar, give dimensions If bolted, de	ded or bolted)	

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FORM U-1 (Back)

'Hydro., pneu., or Nozzles, inspectio					[Indicate	yes or no and th	e component(s) in	npect tested)			
Nozzles, inspectio	comb. tes	st press			Proof	test					
	n, end sa	fety valve ope	nings:								
·					terial	Nozzle T	ickness		How At	tached	
, Purpose (Inlet, Ouder, Drain, etc.)	No.	Diameter or Size	Range	Nozzle	1		Corr.	Reinforcement Material	Nozzie	Flange	Location (Insp. Open.
nlet	2	14!	Type		Hange	7 1 11	Corr.	Metaries	Nozzie		тимр. Орин.
utlet	2	14"			193,B						
uciec	4	14	51	JDS SA	193,B	7 1"					
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										_	
Supports: Skirt		Lugs		Legs .	o	thers	Fe	eta	ttached	<u>Bolte</u>	<u>d</u>
	(Yes or	na)	(No.)		(No.)		(Descrit	pe)		(Where I	and how)
List the name of		·									
Remarks:	· Cu	<u>istomer</u>									
			TAG#:	41-5		E 1		WTT#	4100103	36	
			DO Cre	# 88	130 -	III M DI	e				
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