A	IS Required by the I	Provisions of the ASM	E Code Rules, Secti	SURE VESSELS on VIII, Division 1		
1. Manufactured byAt]	las Industrial	Manufacturing C	o., 81 Somerse	t Place, Clift	on, N. J.	
. Manufactured forHo	offmann-La Rocl	he, Nutley, N. J		ər)		
3. Location of installation	Hoffmann-La	Roche, Belvidere	nd address of purchased	ODF NO CO	E- 2300	
. Type Horiz. Ht. H	Exch. Vessel No.		(Name and address) D-7969	-2 4184		
Horiz, or vert. 5. The chemical and physi	tank)	(Mfgr's Serial No.)	(CRN) (Drawin	ng) (Nat'l Brd No.)		
VESSEL CODE. The desi Sum 81 and	gn, construction, and Code Case no.	workmanship conform to	ASME Rules, Section	cations of the ASME B N VIII, Division 1 $- \frac{19}{(Y)}$	OILER AND PRESSU	
(Date) Manufacturers' Partial C	ata Reports properly	identified and signed b		ectors have been furn	ished for the follow:	
items of the report: Exr	ansion Joint,	Item #8 Zallea	Bros. Inc.			
S/N 43389-4	1		niber, ningris name and h	uentirying stamp)		
tems 6-11 incl. to be compl 316L SA-24 6. Shell: Material <u>SA-24</u> (Spec. No.,	<i>leted for <u>xinghexaaling</u> 10 Nominal Thicki Grade)</i>	txessels; jackets of jack ness1/4_in. Corrosion	<i>sted xessels; sor shells</i> Allowance <u>0</u> in. Di	of heat exchangers am. <u>3</u> ft <u>2</u> in. I	Length <u>11</u> ft	
7. Seams: Longitudinal Time Girth <u>We</u>]	Welded, Dbl. H (Welded, Dbl. Sn Lded, Dbl. But!	Butt R.1 gl., Lap. Butt) t, Dbl. Fillet,	None (Spot or Full) Single RT	fficiency 70 %	H.T. Temp	
8. Heads: (a) Material	(Welded	Dbl., Sngl., Lap, Butt)	(b) Material	Spot, Partial or Full)	. of courses	
······································	(Spec. No	o., Grade)		(Spec. No., G	rade)	
Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	
(a) . (b)						
Conical		Hemisoberical	[
Apex Angl	e	Radius -	Diameter	Con	(Convex or Concave)	
.(a)						
(b)						
If removable, bolts used	J (describe other faste	mings) Welded	(Material Spe	No Gr Size No.)		
9. Type of Jacket			Proof Test			
10. Jacket Closure	e as ogee & weld, bar, e	If bar, give dimensi	ons	if bol	ted, describe or sketc	
11. Constructed for max. all	lowable working press	sure <u>75</u> psi at max	. temp. <u>300</u> F N	lin. temp. (when less t	han –20 F)	
Hydrostatic, presentation	SOK BOTHDINACION test p	pressure <u>113</u> psi				
12. Tubesheets: Stationary-	-Material <u>SS-316</u>	s . <u>SA-240</u> Diam.		Nominal Thickness	5/8 in Corroria	
Allowance 0 in	(Spe Attachment We	c. No. Gr.) đeđ Eloatino M	Subject to pressure)	Homma Hinckness		
	(Weld	ed, Boited)	(Spec	. No., Grade)	Diam i	
Nominal Inickness	SA-249 OD	Allowance in. 3/4 in Nominal Thick	Attachment	Alumber 16		
13 Tubes Material 316L,	ec. No., Gr.)		1999 VINVOI Band	la lanubat 1	VN9	
13. Tubes: Material <u>316L</u> , (Sp					(Streight or "U")	
13. Tubes: Material <u>316L,</u> (Sp <i>tems 14-17 incl. to be comp</i> 14. Shell: Material SA-2	oleted for XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	est/4 in Corrosion A	r channels of heat exp Πρωγροφ Ω in Di	changers.	(Streight or "U")	
13. Tubes: Material <u>316L</u> , (Sp <i>Items 14-17 incl. to be com</i>) 316L 14. Shell: Material <u>SA-2</u> (Spec. No	bleted for XNXKCHANN 40 Nominal Thickne , Gr.)	ber XX for Koes reference ssl/4 in. Corrosion A	<i>ir channels of heat exc</i> llowance <u>0</u> in. Die	changers. am. <u>3</u> ftin.	(Streight or "U") Length 2 ft 6	
13. Tubes: Material <u>316L</u> , (Sp <i>Items 14-17 incl. to be com</i>) 14. Shell: Material <u>SA-2</u> (Spec. No 15. Seams: Longitudinal <u>W</u>	oleted for home characteria 40 Nominal Thickne 5, Gr.) 101ded , Dbl. Bu Nelded, Dbl., Sngl. Lap. E	Butt) (Spot or Full	<i>C channels of heat exc</i> llowance <u>0</u> in. Dia Efficiency <u>70</u>	changers. am. 3ft2 in. 1 % H.T. Temp	(Streight or "U") Length <u>2</u> ft <u>6</u> F Time	
13. Tubes: Material <u>316L</u> , (Sp <i>items 14-17 incl. to be comj</i> 14. Shell: Material <u>SA-2</u> (Spec. No (15. Seams: Longitudinal W (1 Girth <u>Db1. Fill</u> (Welde	oleted for XXXXXCTXXXX 40_Nominal Thickne , Gr.) Gelded, Dbl., Bu Welded, Dbl., Sngl. Lap. E et, Sngl. d, Dbl., Sngl., Lap, Butt)	Butty None 11t R.T. None Butty (Spot or Full) R.T. R.T.	r channels of heat exc llowance 0 in. Dia Efficiency 70 None (Spot, Partial, c	shangers. am. <u>3</u> ft in. 1 % H.T. Temp sr Full}	(Streight or "U") Length 2 ft 6 F Time o. of courses1	
 Tubes: Material <u>316L</u>, (Sp (Sp <i>tems 14-17 incl. to be com</i>) Shell: Material <u>SA-2</u> (Spec. No 15. Seams: Longitudinal <u>W</u> (M Girth <u>Dbl. Fill</u> (Welde 16. Heads: (a) Material <u></u> 	pleted for XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	Butt R.T. None Butt R.T. R.T.	r channels of heat exc llowance <u>0</u> in. Did Efficiency <u>70</u> <u>None</u> (Spot, Partial, c 	changers. am. 3ft _2 in. 1 % H.T. Temp or Full} N	(Streight or "U") Length 2 ft 6 F Time o. of courses1	
 Tubes: Material <u>316L</u>, (Sp. (Sp. 14. Shell: Material <u>SA-2</u> (Spec. No. 15. Seams: Longitudinal M (Girth <u>Db1. Fill</u> (Weide 16. Heads: (a) Material 	pleted for indexciterin 40_Nominal Thickne ., Gr.) Ielded, Dbl., Bu Nelded, Dbl., Sngl. Lap. E et, Sngl. d, Dbl., Sngl., Lap, Butt) SA-515-70 (Spec. N	Butty Station and Statistics Iss1/4_ in. Corrosion A Itt R.T. None Butt) (Spot or Full) Butt) R.T. Io., Grade) Correction	F channels of heat exc llowance 0 in. Dia Efficiency 70 None (Spot, Partial, c (b) Material	changers. am. 3ft2 in. % H.T. Temp or Full) (Spec. No.,	(Streight or "U") Length 2 ft 6 F Time o. of courses 1 Gr.)	
 Tubes: Material <u>316L</u>, (Sp (Sp <i>items 14-17 incl. to be com</i>) Shell: Material <u>SA-2</u> (Spec. No 15. Seams: Longitudinal <u>M</u> (Girth <u>Db1. Fill</u> (Welde 16. Heads: (a) Material Location (Top, Bottom, Ends) 	Ale	Itt R.T. None Butt) (Spot or Full R.T. R.T. None Butt) (Spot or Full R.T. R.T. Io., Grade) Corrosion Allowance	Free channels of heat exc llowance 0 in. Dia Efficiency 70 None (Spot, Partial, c (b) Material Crown Radius	changers. am. <u>3</u> ft <u>2</u> in. 1 	(Streight or "U") Length 2 ft 6 1 4 	
 13. Tubes: Material <u>316L</u>, (Sp (Sp (Sp (Sp)) 14. Shell: Material <u>SA-2</u> (Spec. No (Spec. No (C) 15. Seams: Longitudinal <u>N</u> (N Girth <u>Dbl. Fill</u> (Welde 16. Heads: (a) Material <u>Location</u> (Top, Bottom, Ends) (a) Ends 	All for indexcitering All Nominal Thicknes S. Gr.) Melded, Dbl. Bu Welded, Dbl., Sngl. Lep. I et, Sngl. Model, Sngl. Lap, Butt) SA-515-70 (Spec. N Minimum Thickness 1 7/8"	State of the second sec	Free channels of heat execution of the e	changers. am. 3ft _2in. % H.T. Temp or Full} (Spec. No., Knuckle Radius	(Streight or "U") Length 2 ft 6 1 4 	
13. Tubes: Material <u>316L</u> , (Sp <i>tems 14-17 incl, to be com</i> , 14. Shell: Material <u>SA-2</u> (Spec. No 15. Seams: Longitudinal <u>M</u> (Girth <u>Db1. Fill</u> (Welde 16. Heads: (a) Material <u>Cocation</u> (Top, Bottom, Ends) (a) <u>Ends</u> (b)	pleted for index cite in a second sec	bbbs:XX ; in. Corrosion A in. Corrosion A itt R.T. None Butt) (Spot or Fu R.T. Io., Grade) Corrosion Allowance 0	Free channels of heat exe llowance 0 in. Dia Efficiency 70 None (Spot, Partial, c (b) Material Crown Radius	changers. am. <u>3</u> ft2_ in. % H.T. Temp or Full) (Spec. No., Knuckle Radius	(Streight or "U") Length 2 ft 6 1 - F Time	
13. Tubes: Material <u>316L</u> , (Sp <i>Items 14-17 incl. to be com</i>) 14. Shell: Material <u>SA-2</u> (Spec. No 15. Seams: Longitudinal W (Girth <u>Db1. Fill</u> (Weide 16. Heads: (a) Material Location (Top, Bottom, Ends) (a) Ends (b) Conical Apex Angl	e	BARY CALL STREAM OF A CONTROL	Flat	changers. am. 3ft _2_ in. 1 % H.T. Temp or Full} (Spec. No., Knuckle Radius Si (Cor	(Streight or "U") Length 2 ft 6 1 4 	
13. Tubes: Material <u>316L</u> , (Sp <i>items 14-17 incl. to be com</i> , 14. Shell: Material <u>SA-2</u> (Spec. No 15. Seams: Longitudinal M (Girth <u>Db1. Fill</u> (Weide 16. Heads: (a) Material Location (Top, Bottom, Ends) (a) Ends (b) (a) (a) (a)	e	bbbt XX jacketeckvetsvetsvetsvetsvetsvetsvetsvetsvetsvets	Flat	changers. am. 3ft _2in. % H.T. Temp or Full} (Spec. No., Knuckle Radius Si (Cor	(Streight or "U" Length 2 ft 6 4 	

If removable, bolts used (describe other fastenings) A.S. SA-193-B7 3/4" 160 (Material, Spec. No., Gr., Size, No.)

(12/31/77)

This form (E00108) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017

7. Constructed for max.	allowable worl	king pressure	F0 75	RM U-1 (BACK) psi at max temp.	<u>300</u> F. Min. te	mp. (when less than -2	'0 F)
Hydrostatic, preservat	ic xorxcombitter	Noin test press	sure <u>113</u>	3 psi .		•	
ms below to be comple	ted for all vess	els where ap	plicable				
. Safety Valve Outlets:	Number	·····	Size		Location		
. Nozzies: *							
 Purpose (Inlet, Outlet, Drain) 	Number	Diam. or Size	Түре	Material	Nominal Thickness	Reinforcement Material	How Attached
Outlet	1	12"	L.J.	316L,SA-24	0		Welded
Inlet	1	8"	L.J.	316L,SA-240)		Welded
Inlet	1	4"	L.J.	316L,SA-312	W		Welded
Drain	1	3"	L.J.	<u> 316L.SA-31</u> 2	W		Welded
. Inspection Openings:							
Manholes No.		Size		Locati	ion		
Handholes No		Size	· · · · · · · · · · · · · · · · · · ·	Locati	ion		
Threaded No.		Size	<u>.</u>	Locati	ion		
. Supports: Skirt	Lugs	Legs2	2 Oth	er(De-	A	ttached <u>Shell-We</u>	lded
. Remarks: <u>Column</u> Hoffma Atlas	#4 Reboi nn-La Rocl Job No. :	ler Tema he P. O. 4644	Type Al No: E- See U-4	EL 741255-B Ec Form Attac	nuip. Code #C	SF-23000	
Ve certify that the state	ments made in	this report a	CERTIFIC/ re correct a	ATE OF COMPL and that all details	IANCE of design, material,	construction, and work	manship of thi
vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1. Date 7-17-32 Signed Atlas Industrial Mfg. Co. by framework to the				llow			
"U" Certificate of Autho	prization No	5027			expires	April 30,	19
and state that, to the b Code, Section VIII, Divis By signing this certificat described in the Manuf personal injury or prop Date <u>7-22-82</u> Signed	est of my know sion 1. te neither the ir facturers' Data erty damage or thespector)	viedge and be nspector nor it Report. Furth r a loss of any	elief, the M his employ eermore, h y kind arisi	fanufacturer has d er makes any war either the Inspect ng from or conne Commission	constructed this pre- ranty, expressed or i or nor his employer cted with this inspec s (Nat'l Bo	ssure vessel in accordant implied, concerning the shall be liable in any r ction. $\sqrt{B4100}$ ard, State, Province and No	nce with ASM pressure vesse manner for an p.)
		CERTIFICA	ALE OF C	UMPLIANCE PU	JA FIELD WURK		
vessel conform to the A	SME Code for	n this report a Pressure Ves	re correct a sels, Section	and that all details on VIII, Division 1.	of design, material, 	construction, and work	manship of th
"U" Certificate of Auth	orization No		(Ma	snufacturer)	expires _	(Representative)	, 19
	<u> </u>	CERTIFIC	ATE OF I	FIELD ASSEMB	LY INSPECTION	, <u></u>	
I, the undersigned, hold	ding a valid co	mmission iss	ued by the	National Board o	f Boiler and Pressur	e Vessel inspectors and	l/or the State o
vessel and state that p been inspected by me	arts referred to and that, to the	have con as data item e best of my	npared the s knowledge	statements in thi	 by	ata Report with the desi the certificate of shop in nstructed and assemble	cribed pressur nspection, hav d this pressur
vessel in accordance w	ith ASME Code	e, Section VIII, nd subjected	, Division 1 to a hydro	static test of	nei		
By signing this certific vessel described in this for any personal injury Date	ate neither the s Manufacturer or property da	e Inspector no rs' Data Repo mage or a los	or his emp ort. Further ss of any k	bloyer makes any more, neither the ind arising from o	warranty, expresse Inspector nor his e or connected with th	d or implied, concernir mployer shall be liable is inspection.	ng the pressur in any manne
Signed				Commisison	s		

(Authorized Inspector)

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... Commisisons

(Nat'l Board, State, Province and No.)

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