S.H.E. Order # 98-250

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

Item no. 0242-32-298

				, a o a		7110101		10 7 11			, -			D			
1. M	anufactured and	certified by	So	uthern							ntgom	ery F	lighway	Tusc	aloosa	a, AL	
2. M	anufactured for	Bay	er Co	rporation	on, Bushy	Park, S	SC		Manufactu								
21.	anting of installa	* :	Paus	r Corne	ration D.	•			Purchase	er)							
3. LC	ocation of installa		Бауе	Corpo	oration, Bu		(Name		ess)								
4. Ty	pe Verti	cal		He	at Exchan				-250	No	ne S	SB- 3	3563-2	. ,	9905	1	1998
	(Horiz,ver	,sphere)	(Tan		tor,jl /essel		n,etc.)	(mfg. s	ser. no.)	(CR			g. No.)		. Bd. No		built)
5. A	SME Code, Sect	ion VIII,Div	:1 _		1995, A				1	None				N	one		
14	-0 44:				ion and Adde					le Case I						G-120(d)	1
	s 6 - 11 incl. to b		_		vessels, jack	ets of jac	cketed v	essels,							amber v	essels	
6. SI	nell (a) No. of	course(s).	2						(b) Ove	rall lengt	n (π & ır	יי: –	10'-	U			
	(OD) Cou	ırse(s)		140	aterial	Thick	2000		Long Join	+ /Ca+ A	,	Cira	um laint	Cot A I	2 0 0 1	Llast 3	
No.	Diameter, in.		& in\		ade or Type	Nom.	Corr.	Туре	Long Join		Eff.	Туре	Full,Sp	` 	Eff.	Heat Temp.	Time
1	8 5/8"	1'-1 1/			6 GR. B	.322"	1/8"	S	No		85%	1		oot	-	Temp.	Titile
1	8 5/8"	8'-0 3/			6 GR. B	.322"	1/8"	S	+	ne	85%	1		oot	-	-	
一	0 0/0	3 0 3/	.	O/1-10	O OIX. D	.522	170		+	110	0070		1 - 0,	301		-	
7 H	eads: (a)	SA-51	6 GR	70		L			(b)		2-403	VVD 3	316L (T	uhe Si	de)		
7. 11	(a)				rade or Type)	HT.T	ma & Te	mn					ade or Ty			& Temp	
	Location		ness	7		lliptical	Conic		lemisph.	Flat	- 1		ressure	/pe/11.1		ory A	
Τ.	op.Bottom,Ends	Min.	Corr.	 	Knuckle	Ratio	Apex A		Radius				Concave	Туре		ot.None	Eff.
(a)		3/8"	1/8"		D.D. Flange								X	N/A		ne	<u></u>
(b)	End	.322"	1/8"		3" Std. Wt.					1411.1	1	\dashv	$\frac{\hat{x}}{x}$	N/A		ne	
147				1(J 010. 111.	001100	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1000	,,,,	L,,				1 10/1			
If rer	novable, bolts us	sed (descri	he othe	r fastenir	na)	Welde	ed .										
		(4444)			.3/				(Mat	I. Spec.	No., Gra	ade, siz	ze, no.)				
8. Ty	pe of jacket	None						Jac	ket closur	re							
								•				(Desc	ribe as o	gee & w	eld, bar,	etc.)	
If ba	r, give dimensior	s Nor	ne											If bolter	d, descri	be or ske	etch.
9. M	AWP <u>188</u>	N/A	р	si at max	. temp	400	N/A	° F.	Min. de:	sign met	al temp		20	° F. at	188	psi	
	(internal) (externa	•		•	ternal)	(externa	ai)									
10. I	mpact test	No per	UG-20)(f) & U	HA-51												
					-	Indicate	yes or n	o and	the compo	onent(s)	impact	tested)					
11. I	Hydro., pneu., or	comb. test	press	28	35 psi	g hydro		Proof	test								
	s 12 and 13 to b				ns												
12.	Tubesheet:		40 316			13 1	/2"		1	1/4"		3/10	6" 		Weld	ded	
	St	ationary (N	latil. Sp	ec. No.)	Dia., in	. (subjec	t to pres	sure)	Nom	. thk., in.	C	orr. Allo	ow., in.	Attachr	nent (we	elded or t	bolted)
	_																
		oating (Ma	ti. Spec	. N o.)		Dia.,				. thk., in.		orr. Allo	ow., in.		Attach		
13.	Tubes SA-24	9 316L			3/4"	-	1	4 BV	VG.		4	6	_		Stra		
		pec. No., C			O.D., in.				or gauge			nber		Ту	pe (Stra	ight or U)
	s 14 - 16 incl. to		_	nner cha	mbers of jack	ceted ves	ssels or	channe	els of heat	exchan	gers.						
14. \$	Shell (a) No. of	course(s):	3_						(b) Ove	rall lengt	th (ft & i	n): _	7'-9 9	/16"			
						,											
<u> </u>		rse(s)			aterial	Thick	rness		Long Joir			Circ	cum Joint			Heat	Treat.
No.	Diameter, in.	Length (ft			ade or Type	Nom.	Corr.	Туре	Full,Spo	ot.None	Eff.	Туре	Full,Sp	ot None	Eff.	Temp.	Time
1	8 5/8"	0'-4 7/			12 316L	.322"	1/16"	E	No	ne	85%	1	S	pot	-	-	
1	8 5/8"	0'-9 5/			12 316L		1/16"	E	No	ne	85%	1		pot	-	-	<u> </u>
1	18"	4'-6'			12 316L	.375	1/16"	E	No	ne	85%	1		pot		<u> </u>	<u> </u>
15. i	Heads (a)	SA-40	3 WF	316L					(b	<i>'</i> ———	<u> 4-403</u>						
	T	(Ma	at'l Spec	. No., G	rade or Type)	H.T Ti	me & Te	emp		(Mat			rade or T	ype) H.1	Time	& Temp	
	Location	Thic	kness	+	adius E	Elliptical	Coni	cal	Hemisph.	Flat	Sic		ressure	<u> </u>	·	gory A	
1		ds Min	Corr.	Crown	Knuckle	Ratio	Apex A	Ingle	Radius	Diamete	er Cor	ovex (Concave	Туре	Full.Sp	ot.None	Eff.
-	Top.Bottom,En																1
(a)	End	3/8"	1/16			2:1							X	N/A		one	
(a) (b)	End					2:1	60	•					X	N/A		one pot	
	End	3/8"	1/16			2:1	60	•			1						

(Mat'l. Spec. No., Grade, size, no.)

Impact test		N/A external)	psi at m	ах. тепір.	400 (internal	N/A • F (external)		ign metal		_ ```	at <u>188</u>	psi
	No	per UHA	-51									
						ite yes or no a	•	nent(s) im	pact tested)			
lydro., pneu.,				230	psig hyd	iro Pro	oof test			(1.6	W-16.1)	
ozzles, inspe	ction, ar	Diameter		nings:	Mai	erial	No	zle Thk.	Reinforcement	, 	Attached	Location
rpose (inlet, et, Drain, etc.	No.	or size	Type	No	ozzle	Flange			Material	Nozzie		(Insp. Opn.)
attached fo								1				
	Γ			<u> </u>								
								_				<u> </u>
	<u> </u>	<u> </u>		<u> </u>						-	ļ	_
	<u> </u>		<u> </u>									
	 -	 		 								
Supports: Skir		No	Lugs	N/A	Legs	N/A	Others	(3) Le	gs Attach	ed	Shell, V	/elded
Jupports. Okn		s or No)	2090	(No.)		(No.)	_	(Descri			(Where a	nd How)
Remarks:	UG-4	ю(а)										
					EDTIEIC	ATE OF SI	IOP COM	PLIANC	E			
Un ma-1/E : 11 - 1	Abo etc.	ome=te =:=	do in 46.						construction, and v	rorkmane	ship of this v	essel conform
the ASME C							ilis oi desigii,	material,	construction, and v	Orkinaria	onp or and v	C3301 0011101111
Certificate					7037		Expire	s 11	/29		.19	99
. 1	_			······································			•			``	 / .	
ate <u>//-/</u>	<u> 12 -92</u>	g Nai	meS	outherr		changer C	orporation	\$	Signed /Ja	nel	MIN	0/hm
				,		anufacturer)	HOD INC	ECTIO	N	(Repr	esentative)	
the undersia	ned hol	dina a valid	t commis						Vessel Inspectors	and the S	State or Prov	ince of GA
nd employed	hv		Com	mercial	Union In	surance C	ompany		of Bos	ston, M	a ha	ve inspected
ne pressure v	essel de	escribed in	this Man	ufacturer's	s Data Repo	ort on	12 19	A ,an	d state that, to the	best of m	ny knowledg	e and belief,
ne Manufactu	rer has	constructed	d this pre	essure ves	ssel in accor	dance with AS	SME Code, S	ection VIII,	DIVISION 1. By SIG	ning this	certificate n	eitner the
nspector nor l	nis empl	oyer make	s any wa	irranty, ex	pressed or	implied, conce	rning the pre	sure vess	el described in this	Manufa	cturer's Data	Report.
				employer	shall be liab	oie in any man	ner for any p	ersonai inji	ury or property dan	nage or a	i loss of any	Kind ansing
rom or conne	Stea with	ii tiiis iiispe	CGOH.	/								
Date 11-	・ノフ・	- B sig	ned	100		Z	960	ommissi	ons <u>NB1159</u>	9A	GA419	9
-						d Inspector)			it'l Board incl. endo	rsement	, State, Prov	ince and No.)
						F FIELD A					*** **	
				ort are co	rrect and th	at the field ass	sembly constr	uction of a	III parts of this vess	sel confor	rms with the	requirements
of ASME Code J Certificate							Expir	25			.19	
) Certificate	; OI Aut	HUHZAUUH	-									
		Na	me						Signed			
Date						Assembler)				(Repr	resentative)	
Date				CERTI	FICATE	OF FIELD	ACCEMBI	VINIOD	ECTION			
	ned, ho	olding a vali	d commi			National Board			Vessel Inspectors		State or Pro	vince of
, the undersig	by by			ission issu	ued by The i		l of Boiler and	Pressure	Vessel Inspectors	of _		
, the undersig	by by			ission issu anufacture	ued by The I	port with the d	of Boiler and escribed pres	Pressure	Vessel Inspectors	of arts refer	red to as dat	a items
, the undersignand employed	by	tatements i	n this Ma	ission issu anufacture not inc	ued by The I er's Data Re luded in the	port with the d	of Boiler and escribed pres	Pressure sure vess n, have b	Vessel Inspectors el and state that pa een inspected by n	of arts refer ne and to	red to as dat	a items my knowledge
, the undersigned employed nave compare and belief, the	d by ed the st	tatements i	n this Ma	anufacture not inc	ued by The I er's Data Re luded in the assembled t	port with the decentificate of states	escribed preschop inspection	Pressure sure vess in, have be	Vessel Inspectors el and state that pa een inspected by n h ASME Code, Se	of arts reference and to ction VIII	red to as dat the best of Division 1.	a items my knowledge The described
, the undersigned employed nave compare and belief, the vessel was in warranty, exp	ed the steement of the steemen	acturer has and subjector implied, or	n this Ma constructed to a concerni	anufacture not incicted and a hydrostating the pre	er's Data Reduced in the assembled to tic test of essure vessure vessure assembled to the second sec	port with the d certificate of s his pressure vpsi. B el described in	escribed prescribed pr	sure vess n, have be dance wit certificate turer's Da	el and state that pa een inspected by n h ASME Code, Se neither the Inspecta ta Report. Further	of arts reference and to ction VIII, tor nor hi more, ne	red to as dat the best of Division 1. is employer ither the Ins	a items my knowledge The described makes any pector nor his
the undersigned employed have compare and belief, the vessel was in warranty, exp	ed the steement of the steemen	acturer has and subjector implied, or	n this Ma constructed to a concerni	anufacture not incicted and a hydrostating the pre	er's Data Reduced in the assembled to tic test of essure vessure vessure assembled to the second sec	port with the d certificate of s his pressure vpsi. B el described in	escribed prescribed pr	sure vess n, have be dance wit certificate turer's Da	vessel Inspectors el and state that pa een inspected by n h ASME Code, Se neither the Inspec	of arts reference and to ction VIII, tor nor hi more, ne	red to as dat the best of Division 1. is employer ither the Ins	a items my knowledge The described makes any pector nor his
and employed have compare and belief, the vessel was in warranty, exp	ed the steement of the steemen	acturer has and subjector implied, or	n this Ma constructed to a concerni	anufacture not incicted and a hydrostating the pre	er's Data Reduced in the assembled to tic test of essure vessure vessure assembled to the second sec	port with the d certificate of s his pressure vpsi. B el described in	escribed prescribed pr	sure vess in, have be dance wit certificate turer's Da s of any k	el and state that pa een inspected by n h ASME Code, Se neither the Inspecta ta Report. Further	of arts reference and to ction VIII, tor nor hi more, ne	red to as dat the best of Division 1. is employer ither the Ins	a items my knowledg The describe makes any pector nor his

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FORM U.4 MANUFACTURER'S DATA REPORT SUPPLEMENTARY SHEET

nanui	actured and certi	neu by		uleill i	leat Exchanger	Corporation 610 (Name and	Addres	s of Man	ufacturer)	,	3410004,74	00400		
lanut	actured for	Bayer	Corpora	ation, B	ushy Park, SC	(Name and Add	ress of F	Purchase	r)	·····				
.ocati	on of installation	В	ayer Cor	poratio	n, Bushy Park, S	sc			,					
_		4:1		,			and Ad	dress)			00.050			
ype:	(Horiz., Ve	ertical	Sohere)		Heat Exchanger (Tank, Separator, Heat Exch., etc.)						98-250 (Mfg's. Serial No.)			
	(110112., 41	o. t., o. t	opricie)		(ram,	Coparator, viola Eno	, 0.0.,			,		,		
	None				SB	3563-2			9905			1998		
	(CRN)			-		wing No.)			(National Board N	lo.)	•	(Year Built)		
	Purpose (inlet,		Diameter	Fiange	Mat	erial	- Nozzle	e Thk.	Reinforcement	How	Attached	Location		
	Out/t, Drain,etc)	No.	or size	Туре	Nozzle	Flange	Nom.	Corr.	Material	Nozzle	Flange	(Insp. Opi		
	Inlet	1	4"	150#	SA-312 316L	SA-182 F 316L	.337"	1/16"	Inherent	е	RFSO			
	Outlet	1	2"	150#	N/A	SA-182 F 316L	N/A	1/16"	Inherent	е	Studd. Out			
	Outlet	1	4"	150#	SA-312 316L	SA-182 F 316L	.337"	1/16"	Inherent	е	RFSO			
	Misc.	2	3"	150#	SA-312 316L	SA-182 F 316L	.300"	1/16"	Inherent	е	RFSO			
	Misc.	1	2"	150#	SA-312 316L	SA-182 F 316L	.218"	1/16"	Inherent	е	RFWN			
	Misc.	1	1 1/2"	150#	SA-312 316L	SA-182 F 316L	.200"	1/16"	Inherent	е	RFSO			
	Spare	1	3"	150#	SA-312 316L	SA-182 F 316L	.300"	1/16"	Inherent	е	RFSO			
	Hand Hole	1	6"	150#	SA-312 316L	SA-182 F 316L	.280"	1/16"	Inherent	е	RFSO			
	Inlet/Outlet	2	2"	150#	SA-106 GR. B	SA-105	.343"	1/8"	Inherent	e.	RFWN			
	Vent	1	2"	150#	SA-106 GR. B	SA-105	.343"	1/8"	Inherent	e e	RFWN	İ		
	Vent/Drain	2	3/4"	6000	N/A	SA-105	N/A	1/8"	Inherent	b	Thd. Cplt.			
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Name Southern Heat Exchanger Composation HINO/ac (representative) NB11599A GA419 Commission

(Nat'l. Board incl. endorsement, state, province and no.)