	P	PO#		•	FOR	M U-1 MANUI	FACTURE	R'S DATA	A REP	PORT	FOR PRESS	URE \	/ESSEI	LS _				
		l/or Project		. As R	Required I	by the Provisior	ns of the ASN	ME Boiler a	and Pre	essure	Vessel Code Ru	ules, S	ection V	III, Division 1				
1. M			tified by	Tayl	or For	ge Engineer	ed Systen	ns, Inc.,						na, 74117, U	SA			
2. M	anufacture	_{d for} KF	ENGI	NEER	RING, 5	555 OLD JA	CKSONVI	LLE HW			l address of Ma Texas, 7570							
3 17	ocation of ir		UNK	NOW	'N			(Na	ame ar	nd add	ress of Purchas	er)						
								LIEATEV		,	e and address)							
4. T		Hori rizontal, ve	zontal rtical, or	sphere	e)		(Tank, sepa	HEAT EX rator, jkt. v			xch., etc.)			(Manufa	1203- acturer's s	05 erial numbe	er)	
_		N/A	1)				1203-05-A1 (Drawing nu					(Nat	30				2016 (ear built)	
5. /	ASME Code	(-	,	v. 1			15/ N/A	illiber)			(National Board number) N/A				N/A			
		•	,		[E	[Edition and Addenda, if applicable (date)]					(Code Ca		mber)	[S	pecial Se	rvice per UC	G-120(d)]	
	Items 6-11	incl. to b	e compl	eted f	or single	e wall vessels	, jackets of	f jacketed	vesse	els, sh	ell of heat exc	chang	ers, or	chamber of m	ulticham	ber vesse	els.	
6. Sł	nell: (a) Nu	mber of c	ourse(s)	2		(b) Over	rall length	n			20' 2	.750"			_		
	Сог	urse(s)			Mat	terial	Thic	kness		Lo	ng. Joint (Cat. A	A) Circun		m. Joint (Cat. A,	B, & C)	Heat T	reatment	
No.	Diameter	r	Length		Spec./Gra	ade or Type	Nom.	Corr.	.	Type I	ull, Spot, None	Eff.	Type F	ull, Spot, None	Eff.	Temp.	Time	
2	34.0" ID		8' 0"			16-70	4375"	0.125		1	SPOT	.85	1	SPOT	.85	N/A	N/A	
1	34.0" ID	4	2.750"		SA5	16-70	4375"	0.125	5"	1	SPOT	.85	1	SPOT	.85	N/A	N/A	
				-				Body Flan	ges on	Shells								
No.	Туре	II		DD	Flange Thk	Min Hub Thk	Mate	erial		ow ched	Location	Num	& Size	Bolting		(OD, ID,	Washer	
1	RFWN	34"	40.	0625"		7/16"	SA105		WELD		END	32 - 1		Material SA193B7	N/A	nk)	Material N/A	
7. H	leads: (a)			'	SA51		!				(b)			N/A		!		
		(Materi	al spec.	numbe		or type) (H.T 1	time and tem	np.)			(Ma	terial s	pec. nur	mber, grade or	type) (H.T	time and	I temp.)	
	Location (To Bottom, End	.1.1	Thickr lin.	iess Coi	rr	Radiu Crown	s Knuckle	Elliptica Ratio		iical Ap Angle	ex Hemispheric Radius			Side to Pressure Convex Concave		Category Full, Spo		
(a)	END		327"	0.12		N/A	N/A	2:1		N/A	N/A		N/A	Х	1	Sp		
		•	•		•		E	Body Flang	es on	Heads			•	•	•	•		
	1 6	_		_	0.0	E. T.	Min Hub				A.I. I. I.				Bolting	(0.5.)		
No.	Location	Туре		D	OD	Flange Thk	Thk	Mate	eriai		ow Attached	Nur	n & Size	Bolting Mate		ner (OD, , thk)	asher Material	
(a)	N/A	N/A	N/A		N/A	N/A	N/A	N/A		N/A	1			N/A	N/A	N/	Α	
8. Ty	pe of jacke	t				N/A				Jack	et closure				/A			
If I	oar, give dir	mensions	· if holte	d des	scribe o	r sketch						NI/A	(D	escribe as oge	e & weld,	bar, etc.)		
			, ii boite	u, uot	301100 0						Min	N/A	an mot	al tomp				
9. MA		216 psi (Internal)			(ternal)	at max. tem	0. <u>15</u>	o °F		150 (Exterr	<u>' </u>	. uesi	grimea	al temp.	-20 °F	at	216 psi	
10. In	npact test	(Internal)		(L)	(torriar)		`	NO		`	,			at	test tem	perature o	of N/A	
11. Hv	dro., pneu., o	or comb. te	st pressi	ıre	Hvdro.	[Indicate yes o	or no and the Proof te		nt(s) in	npact t	ested]		N	/A				
	•																	
	ubesheet	and 13 to be completed for tube et (1) SA516-70N									2.750"			0.250"		BOLTED		
		[S			rial spec.	no.)]	[Diameter	(subject to	press	.)]	(Nominal thickr	ness)	(C	corr. allow.)	Attac		ded or bolted)	
	_			N/A				N/A			N/A			N/A	_	N/A		
13. Tı	_	[]	Floating (,	al spec. r	no.)]	(N/A Diameter)			N/A (Nominal thickr	ness)	(C	N/A Corr. allow.)		N/A (Attachn		

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4. 8	hell: (a) No) <u>1</u>			(b) Overall length			0' 12.250"			Circum. Joint (Cat. A, B, & C)					
NI.		urse(s)		. 11.	Mat			kness		ong. Joint (Cat. A	,		,				reatment	
No. Diameter		Lenç		Spec./Grade or Type		Nom.	Corr.		Full, Spot, None			ull, Spot,		Eff.	Temp.	Time		
1	34.0" ID		0' 12.2	250"	SA51	16-70	0.4375"	0.125"	1	SPOT	.85	1	SPOT	I	.85	1150°	1 HOU	
								Body Flang	es on Shell	S					- 14:			
No. Type			ID	OD	Flange Thk	Min Hub Thk	Mate	erial	How Attached	Location	Nun	n & Size	Bolt Mate	lting	olting Washer (th	. , , ,	Washe Materia	
7.0. 7.1.1		N 34"	N 34		40.0625"	3-5/16"	7/16"	SA105	,	WELDED	END	32 - 1	-1/8"	SA193-	3-B7	N/A	ı	N/A
		3	34"	40.0625"	3-5/8"	7/16"	SA105	,	WELDED	END	32 - 1	-1/8"	SA193-B7		N/A	ı	N/A	
5. I	Heads: (a)	(Ma	aterial si			SA516-70N or type) (H.T		np)		(b) (Ma	nterial:	spec nur	nber gra	N/A	ype) (H.T.	- time and	I temp)	
	Location (To		Thicknes		., g	Radius		Elliptical	Conical A	pex Hemispheric			Side to Pressure					
	Bottom, End		Min.	Со	rr.	Crown	Knuckle	Ratio	Angle	Radius			Convex C		Туре		ot, None	
(a)	END		3"	0.12	25"	N/A	N/A	N/A	N/A	N/A	4	0-1/16"			N/A	N/	/A	
							E	Body Flange	s on Head	s								
No. Location		_					Min Hub							Bolting				
		1	уре	ID	OD	Flange Thk	Thk	Mater	iai i	How Attached	Nu	m & Size	Bolting Mater		erial Washer (OD, ID, thk)		asher Mat	
/ A															, וט,	uik)		
		N/A 225 p	osi nal)	N/A -15 p	N/A osi nal)	N/A t max. temp.	N/A 150 (Intern	N/A °F nal)	150 °		N/A lesign	ı metal t	N/A		N/A	N/	A 225 ps	
6. I			osi nal)				150 (Intern		'	A PF Min. c		ı metal t	N/A	-2	N/A	N/	225 ps	
6. 1	MAWP		osi nal)		esi a		150 (Intern	°F nal)	150 (Extern	PF Min. c		ı metal t	N/A	-2	N/A	N/	225 ps	
6. l 7. l	MAWP	225 p (Intern		15 p (Extern	p si a	t max. temp.	150 (Intern	°F nal)	150 (Extern	PF Min. c		ı metal t	N/A	-2	N/A	N/	225 ps	
6. f 7. l 8. l	MAWP	225 p (Intern	r comb	-15 p (Extern	esi a nal) [Ind	t max. temp. dicate yes or Hydro	150 (Intern	°F nal)	150 (Extern	PF Min. c		ı metal t	N/A	-2 at te	N/A	N/	225 ps	
6. I 7. I 8. I	MAWP	225 p (Intern	r comb	-15 p (Extern	[Incompanies of the second sec	t max. temp. dicate yes or Hydro ings:	150 (Intern	°F nal) NO componel	150 (Extern nt(s) impa Proof test	PF Min. c			N/A emp	-2 at te	N/A 0 °F est tempe	at	225 ps	
6. i 7. l 8. l	MAWP; mpact test Hydro., pne	225 p (Intern	r comb	-15 p (Extern	esi a nal) [Ind	t max. temp. dicate yes or Hydro ings:	150 (Intern	°F nal) NO componel	150 (Extern nt(s) impa Proof test	PF Min. c	lesigr	ement	N/A emp	-2 at te	N/A 0 °F est tempe	at	225 ps	
6. i 7. l 8. l	MAWP	225 p (Intern	r comb	-15 p (Extern	[Incompanies of the second sec	t max. temp. dicate yes or Hydro ings:	150 (Interr	°F nai) NO componei	150 (Extern	Ct tested] Thickness F	lesigr	ement rial	N/A emp	at te	N/A 0 °F est tempe	at	225 ps	
6. i 7. I	mpact test Hydro., pne Nozzles, ins se (Inlet, Outlet, etc.)	225 p (Intern	r comb	-15 p (Extern test pressafety val Diameter or Size	[Incomplete Incomplete Inco	dicate yes or Hydro ings: Noz. Noz.	150 (Interr	°F nal) NO componer si Flange	150 (Extern nt(s) impa Proof test Nozzle Nom.	Ct tested] Thickness Corr. 0.125" I	lesigr Reinforc Mate	ement rial RAL	N/A emp	at te	N/A 0 °F est tempe	at	225 ps	
6. I. 7. I. 8. 9. I.	mpact test Hydro., pne Nozzles, ins etc.) SH INLET	225 p (Intern	r comb on, and No.	-15 p (Extern . test pressafety val Diameter or Size 6"	[Incomplete Incomplete Inco	dicate yes or Hydro ings: Noz. Noz. NN SA10	150 (Intern	°F nal) NO componer Flange SA105	150 (Extern nt(s) impa Proof test Nozzle Nom. 0.432"	PF Min. c al) ct tested] Thickness F Corr. 0.125" I	lesigr Reinforc Mate NTEG	ement rial RAL RAL	N/A emp Atta Nozzle UW16.	-2 at te	N/A 0 °F est tempe	at	225 ps	
6. f	mpact test Hydro., pne Nozzles, ins se (Inlet, Outlet, etc.) SH INLET SH OUTLET	225 p (Intern	r comb on, and No.	-15 p (Extern . test pressafety val Diameter or Size 6" 6"	[Incomplete Incomplete Inco	dicate yes or Hydro ings: Noz No SA10 (N SA10 (N SA10	150 (Intern	Flange SA105	150 (Extern nt(s) impa Proof test Nozzle Nom. 0.432" 0.432"	PF Min. c al) ct tested] Thickness F Orr. 0.125" I 0.125" I 0.125" I	Reinforc Mate NTEG	ement rial RAL RAL	N/A emp Atta Nozzle UW16. UW16.	-2 at te	N/A 0 °F est tempe Details Flange WELDED WELDED	at	225 ps	
6. ! 7. I 8. 9. !	mpact test Hydro., pne Nozzles, ins se (Inlet, Outlet, etc.) SH INLET SH OUTLET CH INLET	225 p (Intern	r combon, and	-15 processafety value or Size 6" 6" 6" 6" 1"	[Incomplete Incomplete Inco	t max. temp. dicate yes or Hydro ings: Noz No SA10 N SA10 N SA10 N SA10 N SA10 N SA10 N SA10	150 (Intern Intern Intern Intern Intern Intern Intern Intern Internet Inter	Flange SA105 SA105	150 ° (Extern nt(s) impa Proof test Nozzle Nom. 0.432" 0.432" 0.562"	Thickness Corr. 0.125" 0.12	Reinforc Mate NTEG NTEG NTEG	ement rial RAL RAL RAL RAL RAL	N/A emp Atta Nozzle UW16. UW16. UW16.	at to achment I very large very l	N/A O °F est tempe Details Flange WELDED WELDED WELDED	at	225 ps	
6. I	mpact test Hydro., pne Nozzles, ins se (Inlet, Outlet, etc.) SH INLET SH OUTLET CH INLET	225 p (Intern	r comb on, and No. 1 1 1 1	-15 p (Extern test pressafety val Diameter or Size 6" 6" 1" 1"	[Incomplete Incomplete Inco	t max. temp. dicate yes or Hydro ings: Noz NSA10 N SA10	150 (Intern Intern Intern Intern Intern Intern Intern Intern Internet Inter	Flange SA105 SA105 SA105	150 ° (Extern nt(s) impa Proof test Nozzle Nom. 0.432" 0.562" 0.562" 0.250"	Thickness Corr. 0.125" 0.12	Reinforc Mate NTEG NTEG NTEG NTEG NTEG	ement rial RAL RAL RAL RAL RAL RAL	N/A emp Atta Nozzle UW16. UW16. UW16. UW16.	at te	N/A O °F est tempe Details Flange WELDED WELDED WELDED WELDED WELDED WELDED WELDED	at	225 ps	
6. I	mpact test Hydro., pne Nozzles, ins se (Inlet, Outlet, etc.) SH INLET SH OUTLET CH INLET CH OUTLET H AUXILIAR H AUXILIAR	225 p (Intern	n combon, and No. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-15 p (Extern test pressafety val Diameter or Size 6" 6" 6" 1" 1"	[Independent of the content of the c	t max. temp. dicate yes or Hydro ings: Noz. Noz. NN SA10 NN SA10	150 (Interr	Flange SA105 SA105 SA105 SA105 SA105	150 °(Extern nt(s) impa Proof test Nozzle Nom. 0.432" 0.562" 0.250" 0.250" 0.250"	Thickness Corr. 0.125" 0.12	Reinforc Mate NTEG NTEG NTEG NTEG NTEG	ement rial RAL RAL RAL RAL RAL RAL	N/A emp Atta Nozzle UW16. UW16. UW16. UW16. UW16. UW16.	-2 at te	O°F Details Flange WELDED WELDED WELDED WELDED WELDED WELDED WELDED WELDED	at	225 ps	
6. I 7. I 8. 9. II 9.	mpact test Hydro., pne Nozzles, ins se (Inlet, Outlet, etc.) SH INLET SH OUTLET CH OUTLET H AUXILIAR	225 p (Intern	n combon, and No. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-15 p (Extern test pressafety val Diameter or Size 6" 6" 1" 1"	[Incomplete Incomplete Inco	t max. temp. dicate yes or Hydro ings: Noz. Noz. NN SA10 NN SA10	150 (Interr	Flange SA105 SA105 SA105 SA105 SA105 SA105 SA105	150 ° (Extern nt(s) impa Proof test Nozzle Nom. 0.432" 0.562" 0.562" 0.250"	Thickness Corr. 0.125" 0.12	Reinforc Mate NTEG NTEG NTEG NTEG NTEG	ement rial RAL RAL RAL RAL RAL RAL	N/A emp Atta Nozzle UW16. UW16. UW16. UW16. UW16. UW16.	-2 at te	N/A O °F est tempe Details Flange WELDED WELDED WELDED WELDED WELDED WELDED WELDED	at	225 ps	
16. I	mpact test Hydro., pne Nozzles, ins se (Inlet, Outlet, etc.) SH INLET SH OUTLET CH INLET CH OUTLET H AUXILIAR H AUXILIAR	225 p (Intern	n combon, and No. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-15 p (Extern test pressafety val Diameter or Size 6" 6" 6" 1" 1"	[Independent of the content of the c	t max. temp. dicate yes or Hydro ings: Noz. Noz. NN SA10 NN SA10	150 (Interr	Flange SA105 SA105 SA105 SA105 SA105 SA105 SA105 SA105	150 °(Extern nt(s) impa Proof test Nozzle Nom. 0.432" 0.562" 0.250" 0.250" 0.250"	Thickness Corr. 0.125" 0.12	Reinforc Mate NTEG NTEG NTEG NTEG NTEG	ement rial RAL RAL RAL RAL RAL RAL	N/A emp N Atta Nozzle UW16. UW16. UW16. UW16. UW16. UW16. UW16.	-2 at te	O°F Details Flange WELDED WELDED WELDED WELDED WELDED WELDED WELDED WELDED	at	225	

21. Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report (list the name of part, item number, Manufacturer's name, and identifying number):

N/A

22. Remarks

Length of tubes: 20'0"

IMPACTS EXEMPT PER UG-20 (f, UCS-66 over pressure protection per UG-125 (a) (2)

FORM U1-(Cont'd)

NB Number 3041

We cer ASME	tify that the statem BOILER AND PRE	nents in this report ESSURE VESSEL	CERTIFICATE OF SHOP are correct and that all details of design, CODE, Section VIII, Division 1. U Certification	, material, construction, ar	nd workmanship nber 47294	o of this vessel conform to the Expires March 12, 2017
Date	07/07/2016	Name	Taylor Forge Engineered Syster	ms, Inc.	Signed	Hall III
			(Manufacturer)		-	(Representative)
			CERTIFICATE OF SHOP	INSPECTION		
I. the u	ındersianed, hold	ing a valid comm	ission issued by the National Board of	Boiler and Pressure Ve	ssel Inspectors	s and employed by
•	•	•	and Insurance Company of Connec			J 3.1.4 3.1.4.2.5 2.2.5
			ped in this Manufacturer's Data Report or		, and state t	hat,
VESSE conceri	EL CODE, Section in ning the pressure v	VIII, Division 1. By vessel described in	Manufacturer has constructed this press by signing this certificate neither the Inspe n this Manufacturer's Data Report. Furth damage or a loss of any kind arising from	sure vessel in accordance ector nor his/her employer nermore, neither the Inspe	r makes any wa ector nor his/her	rranty, expressed or implied,
Dat	to 07/07/004/	signed '	Qual 1 Hunton	Commissions:	444	
Da	te <u>07/07/2016</u>	j Signed /	Ronald & Hunter (Authorized Inspector)			48AB, OK713 d (incl. endorsements)]
			(Authorized inspector)	L	INational Doard	(III.)
			CERTIFICATE OF FIELD ASSE eport are correct and that the field assem L CODE, Section VIII, Division 1. U Certi	nbly construction of all par	ımber ————	Expires
Date_		Name	(Assembler)		Signed	(Representative)
			(Assembler)			(Representative)
			CERTIFICATE OF FIELD ASSE			
I, the un	ıdersigned, holdin	ıg a valid commis	ssion issued by The National Board of	Boiler and Pressure Ves	ssel Inspectors	and employed by
belief, th Section the Insper	ne Manufacturer ha VIII, Division 1. Thector nor his/her er	not ing as constructed and he described vesse employer makes an aspector nor his/he	facturer's Data Report with the described included in the certificate of shop inspection dispersion assembled this pressure vessel in account el was inspected and subjected to a hydromy warranty, expressed or implied, conce er employer shall be liable in any manner	on, have been inspected by dance with the ASME BC rostatic test ofrning the pressure vessel	by me and to the DILER AND PRI By By described in thi	e best of my knowledge and ESSURE VESSEL CODE, signing this certificate neither is Manufacturer's Data Report.
Dat	te	Signed	(Authorized Inspector)	Commission	[National Board	l (incl. endorsements)]

2555534 exe: v6.4.28