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

1.	Manufactured and certified by CMS Heat Transfer Division, Inc. 55 Greene Street Bay Shore NY 11706 USA 59. FT																						
2.	(Name and address of Manufacturer)  Manufactured for Hanover, 20602 E. 81st St., Broken Arrow, OK 74014																						
	(Name and address of Purchaser)																						
	(Name and address)																						
4. Type: Horizontal Heat Exchanger 1913.3 (Horiz., vert., or sphere) (Tank, separator, jkt. vessel, heat exch., etc.) (Mfr.'s serial											al No.)												
	N/A 10.19133.00 761 2007 (CRN) (Drawing No.) (Nat'l. Bd. No.) (Year built)																						
(CRN) (Drawing No.)  5. ASME Code, Section VIII, Div. 1 2004 Edition, 2006 Addenda											(Nat'l, Ed. No.) (Year Duilt) none none												
200	[Edition and Addenda (date)] (Code Case No.) [Special Service per UG-120(d)]													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):  4 (b) Overall length (it & in.):  35'-3.25"																							
Course(s) Material								=	Thick	Thickness Long. Joint (Cat. A) Circum. Joint (Cat. A, B									& C)	Heat Tre	eatment		
No	. Dia	meter, In.	Leng	gth (ft &	in.)	Sp	ec./Grade	ог Туре	Nom.	Cor	rr. T	урө	Full,	Spot, None	Eff.	Туре	Full, Sp	ot, None	Eff.	Temp.	Time		
3		24		10'-0"			SA-516 Gr	70N		1.0*	.06	3	1		Full	100%	1	F	ull	100%		•	
1		24		5'-3.25"			SA-516 Gr	70N		1.0"	.06	3	1		Full	100%	1	F	ull	100%	·	•	
·		-		•						•	•		٠		•		•			•	-	•	
7. Heads: (a) none (b) none																							
(Mat'l Spec. No., Grade or Type) (H.T Time & Temp) (Mat'l Spec. No., Grade or Type) (H.T Time & Temp)													)										
	ı	ocation (Te	ор	Thick	ness	Ra	dius	Elliptical	C	Conical		Hemi	Ispher	ical	Flat		e to Pre				itegory A		
_	-	lottom, En	is)	Min.	Corr.	Crown	Knuckle	Ratio	Ap	ex Angl	9	R	Radius	_	Dlameter	Conv	ex C	oncave	Туре	Full, Sp	ot, None	Eff.	
(a	_		_	•	•	•	•	-		·	4				_	•			-	-			
(b	-	•	_1	•	•		•			•	_	_						•	•		•		
If re	svome	ble, bolts	used	(describ	oe other	fastening)									none					-			
8.	(Mat'l Spec. No., Grade, size, No.) 3. Type of jacket losure N/A																						
	(Describe as ogee & weld, bar, etc.)																						
	If ba	r, give dim	ensi	ons:						N/	A								If I	oolted,	describe o	or sketch.	
9.	MAV	VP 18	585				psi at ma	ax. temp. 13	30			•		°F	Min. design	metal	emp.	-20	°F	at	1585	psl.	
10	Imne	(interact test	rnal)		(exter	nal)		(interi no per		C 66/4)		ternal	1)						at test te	moara	ture of	- °F	
10.	impe	-					(Indica)	a yes or no and	_	_	-		nnact t	ester	d)					mpora	_		
11.	Hyd	го., рявих	BR	валж t	est pres	s	2,061	Proo				(3)	ipaori				non	θ					
		and 13 to	be co	ompletea	SA-516			3	30.25	5				3.8	875		.12	25			Welded		
		-	SA	[Station		t'l Spec. N	0.)]	[Dia., In. (sul 30.25	bjec	t to pre	press.)] (Nom. thk., in.) (Corr. Allow., in.) [Atte								[Atta	achment (welded or bolted)] Welded			
		[Float		Mat'l Spe	100		(	Dla., in.)			(No	m. thi	k., in.)	)	(Ce	orr. Alk	w., in.)			(Attac	hment)		
13.	Tube				Sa-214			1.0	1					.1	109		2	227			Straight		
101	1676					de or Type		(O.D.,							In. or gauge)		(Nu	mber)		Туре (	Stralght or	· U)]	
	ns 14 Shel			complete course(s		ner chamb	ers of Jacke	led vessels or c	hanr				<i>angen</i> I lengti		€ in }·				4'-9"				
[·*.	Ollei			oursels	, <u> </u>				_		•			-			Clean	m. Joint (		e C)	I Wood To	reatment	
No	Ini	Cours meter, in.		alb /6 0	in \		Materia pec./Grade			Nom.			Туре		Joint (Cat. A , Spot, None		Туре		oot, None	-	Temp.	Time	
No 2	-	24	Len	2'-2"		0	SA-106		_	1.219	-	_	S	1 dil	None	85%	1,00	1 011, 01		-	1200 F	4 hrs.	
-	+	-	-		-		-			1.210	ļ		-	-		-		-		<b>.</b>			
-	+				_				_	-	١.	. +		_		T .	·			1.			
40	Hee	ds:(a)					E10.0-70				_		(h)		-			SA-516	Gr 70				
15.	Hea	os:(a)		//	Ini'l Con	172.0	1-516 Gr 70		Ton	100	_		(b)	-	/Mal	'I Sooo	No. G	-		- Time	& Templ		
Г	T	Location (T	on		kness		de or Type	(H.T Time & Elliptical	-	Conical	П	Hem	nisohe			-	Side to Pressu		de or Type) (H.T		egory A		
	- 1	Bottom, En	100	Min.	Corr.	Crown	Knuckle	Ratio	1000	oex Ang	200	2.00	Hemispherical Radius		Dlameter	-		Concave			Full, Spot, None		
(	a)	END		1.0	.063		-	2:1	_							1		х	S	N	ONE	85%	
	-																		-			-	
_	_	able, bolts	used	d (descri	be other	fastening	(b)												uts				

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

16.	MAWP 11	00			psl at max, temp.	175 -	۰F	. Min. d	esign metal temp.	20	Fat	1100	psl.			
(Internal) (external)			ernal)	(Internal) (external) no per UCS-66(a)(1)(a) at test temperature of - °F.												
	Impact test				(Indicate yes or no ar	(Indicate yes or no and the component(s) Impact tested)										
	8. Hydro., press, exceptly test press. 1,430 Proof test none															
19. Nozzles, Inspection, and safety valve openings:  Purpose (Inlet, Diameter Flange Material Nozzle Thickness Reinforcement How Attached Location													$\neg$			
1		No	Shirtney		Nozzle	Flange	Nom.	Nozzle	Flange	(Insp. Oper						
-01	utlet, Drain, etc.)					SA-105	.864	.063	Material SA-516 Gr 70	welded welded		shell	-			
_	Inlet	1	6	WN900#	SA-106B		.864	.063	SA-516 Gt 70	welded	welded	shell	$\dashv$			
	Outlet	1	6	WN900#	SA-106B	SA-105				-	-	bonnets	$\dashv$			
_	Inlet	1	10	WN600#	SA-106B	SA-105	1.125	.063	SA-516 Gr 70	welded	welded					
	Outlet	1	10	WN600#	SA-106B	SA-105	1.125	.063	SA-516 Gr 70	welded	welded	bonnets				
_	Vent	2	3/4	6000#	SA-106B	SA-105	.308	.063	none	welded	welded	bonnets	_			
	-															
20.	. Supports: Skirt no Lugs none Legs 2 Others none Attached shell-welded															
	(Yes or no) (No.) (No.) (Describe) (Where and how)															
	1. 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, mfr.'s name and identifying number) Shell cylinder, SN-K1402-02-1, Made by Labarge Pipe & Steel Co.,1300 N. Labarge Ave.,Wagoner,OK 74467															
22.1	Remarks: PO#	44171	98			7										
	Equipment # E-2	20 for	US-106187								1					
	Equipment # E-220 for US-106187															
		-			OFFIT	FICATE OF SHOP CO	MDI IAM	)E			distance de grand		$\neg$			
١,	No certify that th	a state	ements In th	ls report ar		ills of design, material, co			kmanship of this vessel							
	conform to the ASME Code for Pressure Vessels, Section VIII, Division 1.															
'	U Certificate of Authorization No. 28,741 Expires 12/21/2007															
-	Date 7/12/07 Name CMS Heat Transfer Division, Inc. Signed En Decor															
	(Manufacturer) (Representative)															
_	(manufactorer) (respressments)															
	CERTIFICATE OF SHOP INSPECTION  I, the undersigned, holding a valid commission issued by the National Board of Boller and Pressure Vessel Inspectors and/or the State or Province															
		d, hold					e vessei i			IIICO						
	of New York	-			d by OneBeacon America		111	01 808	iton, MA				-			
					In this Manufacturer's Da		29	10	000			, and	9			
						constructed this pressure										
						mployer makes any warra				essure						
						er the Inspector nor his er		all be liat	ole in any manner for any							
	personal Injury o	prop	erty damage	or a loss o	f any kind arising from the	connected with this inspe	ction.		10 000/00	/ .	10-	-107	H			
	Date 7/12/0	100	Signe	ed 🦯	16	uly -	Commis	sions	NB 9376AN	- N	14.5	100	andra .			
	7			-	(Authorized In	spector		7.5	(Nat'l Board Incl. endors	ements, S	tate, Prov	ince and No.	)			
	We corlify that th	a etal	lamente en t	ble report s	CERTIFICAT	E OF FIELD ASSEMBI	Y COM	LIANCE	essel conforms with the							
					rision 1. U Certificate of				Expires							
١.		HOINE			ision i. O continuate of	TOTAL COLOR TO		Olean	_ `			-				
	Date		— Nam	10				Signe					- 1			
						(Assembler)			(Кер	resentativ	θ)					
_					CEDTIEICA	TE OF FIELD ASSEME	UVINSD	ECTION								
	the undersione	d. hol	ding a valld	commission	Issued by the National B	oard of Boiler and Pressu	e Vessel	Inspectors	s and/or the State or Prov	rince						
	of -	.,		ind employ												
1				ina employ		have compared the sta	tements in	this Man	ufacturer's Data Report v	vith the de	scribed p	ressure vesse	el l			
	of - and state that pa	rte so	forced to ac	data ltems					not included in the certific				- 1			
					doe and helief the Manu	facturer has constructed a	ind assam									
										1		ps	<sub>st.</sub>			
						s inspected and subjected						p	**			
						any warranty, expressed				al.						
						Inspector nor his employe	r snall be	B Al elosi	ny manner for any persor	idi						
	injury or propert	/ dam	age or a loss	of any kin	d arising from or connecte	ed with this Inspection.							ı			
1	Date		Sign	ed			Commi	ssions		•			_			
					(Authorized In	nspector)			(Nat'l Board Incl. endors	ements, S	state, Prov	ince and No.	)			



## FORM U-2 MANUFACTURER'S PARTIAL DATA REPORT A Part of a Pressure Vessel Fabricated by One Manufacturer for Another Manufacturer As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

1.	Manufactured and certified by LaBarge Pipe & Steel Company, 1300 N. LaBarge Avenue, Wagoner, Oklahoma 74467 (Name and address of Manufacturer)																			
2.	Manufactured for CMS Heat Transfer Division , Inc. 55 Greene Street Bay Shore , NY 11706  (Name and address of Purchaser)																			
3.	8. Location of installation UNKNOWN (Name and address)																			
4.	Туре:	le)	K1402-02-1 N/A (Mfg's serial No.) (CRN)																	
and the second s														207						
	(Nat'l. Bd			awing	No.)				rawing p		2007 (Year built)									
E.	ASME Code, Sectio		•		2004	2006					/A				NI/	I/A				
٥.	ASIAL Code, Section	ii viii, biv. i				denda (da	ate)			Code C		10.		Special	al Service per UG-120(d)					
Itei	ms 6 – 11 incl. to b	e completed f	or single wall ve	essels,	jackets of	jacketed	vessels,	shel	ll of heat exc	hangers,	or ch	amber of	multi-cha	mber ve	ssels.					
6.	Shell (a) No. of co		4				ngth ft &				4"									
N	o. Diameter, In.	Length ft & In.	Materia Spec./Grade or		Thie Nom.	Тур		Long Joint (C Full, Spot, N		Eff.	Circu		(Cat. A, E	8 & C) Eff.	Heat T	reatment Time				
3	THE RESERVE THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED I	10'-0"	SA516 GR7		1.000"	Corr.	1	_	Full		00	1		111	100	N/A	N/A			
	1 24"O.D.	5'-3 1/4"	SA516GR70	N	1.000"	0	1		Full	1	100	1	Fi	ull	100	N/A	N/A			
7.	. Heads: (a) (b) (Mat'l Spec. No., Grade or Type) H.T. – Time & Temp (Mat'l Spec. No., Grade or Type) H.T. – Time & Temp																			
	Location (Top,	Thicknes	s I	Radius		Elliptical Confe			Hemispherl	Flat		Side to Pro	essure	sure		tegory A				
	Bottom, Ends)			Crown Knuckle			Apex Angle	cal Radius		Dlameter		Convex Concave		Туре	Type Full, S		Eff.			
(a	1)						rangie		Kodios											
(t	)							$\perp$												
	f removable, bolts used (describe other fastening)  (Mat'l Spec. No., Grade, Size, No.)  3. Type of jacket																			
	If bar, give dimen	slons												I	f bolted,	describe	or sketch.			
9.	MAWP (Interna		cternal)	psi at r	nax. temp		ernal)		(external)	-F	Min. d	esign meta	l temp.							
10.	. Impact test	No				(Indica	ite yes or	no a	at tes	t temper	rature	of No	one							
11	. Hydro., pneu., or	comb test no	220				Proof to													
	ms 12 and 13 to be															ß				
12.	12. Tubesheet:  Stationary (Mat'l Spec. No.)  Dia., in. (subject to press.)  Nom. thk., in.  Corr. Allow., in.  Attachment (welded or bolted)																			
	Floating (Ma	t'i Spec. No.)	-	Di	a., In.			Nor	m. thk., in.			Corr. Allov	v., in.			Attachment				
13. Tubes:  Mat'l Spec No., Grade or Type O.D., in. Nom. thk., in. or gauge Number Type (St											(Straight o	Straight or U)								
Ite	ms 14 - 18 incl. to	be completed	for inner cham	bers of	jacketed	vessels o	r channel	ls of	f heat exchar	ngers.										
14	. Shell (a) No. of	course(s):					(b) Ove	erall	l length (ft &	in.):										
	Course(	s)	Materia	1	Thi	ckness	Т		Long Joint (	Cat. A)		Circu	m, Joint	(Cat. A, E	3 & C)	Heat T	reatment			
N	lo. Diameter, In.	Length ft & in			Nom.	Corr.	Туј		Full, Spot, I		Eff.	Туре		pot,None	Eff.	Temp	Time			

## Form U-2 (Back)

15.	Heads (a)	(Mat1	Spec. No., Gra	ade or Type )	H.T Time	e & Temp	(b)	(M	at1 Spec. No	. Grade or T	voe ) H.T	. – Time	R Temn	
	Location (Top,	Thicknes	s I I	Radius	Elliptical	Conical	Hemispherical	Flat		Pressure	[		egory A	
/2	Bottom, Ends)	Min. C	Corr. Crown	Knuckle	Ratio	Apex Angle	Radius	Diameter			Туре	Full, S	pot, None	Eff.
(a)												-		
If re	movable, bolts used	d (describe	other fastenin	g)										
								t'i Spec. No	., Grade, Siz	e, No.)				
16.	MAWP (internal)	(6	external)	psi at ma	x. temp _	(internal)	(externa	oF M	lin. design m	etal temp.	-	°F a	t	ps
17.	Impact test					Indianta was a	r no and the com	annest(a) is	annel tected					
22.20														
	Hydro., pneu., or c						Proof test							
19.	Nozzles, inspection	, and safet	y valve openin	ngs:										
	Purpose (inlet, Outlet, Drain, etc.	No.	Diameter Or Size	Flange Type	Nozzle	laterial Flange	Nozzle Thic	kness Corr.	Reinforceme Material		low Attac	hed Flange	Locati (Insp. O	
-	Obtlet, Drain, etc.	110.	Or Size	1700	1402216	range	Nom.	COII.	Proterior	NOZ	zie	riange	(Insp. O	pen.)
-					-									
-					-	_				_				
				-										
-			-		1									
20.	Supports: Skirt		Lu	igs	l e	gs	Others				Attache	od		
		(Yes or N	No)	(No.)		(No.)			(Describe)		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	(	Where and	How)
21.	Remarks: FOR I	NFORMAT	TON ONLY:											
	The v	veld proces	dure used on	this item ha	s also bee	en								
	qualif	ied in a po	st weld heat	treated con-	dition.									
	Certi	fied to mat	terial & works	manship onl	v.									
			tonar or mont	Transing on										
	P.O.	47414												
								-						
				CE	DTIEIC/	TE OF SH	OP/FIELD C	OMPLYA	NCE					
										20 20				
	We certify that the conform to the ASM						tails of materia	l, construc	tion, and w	orkmanship	of this	pressure	vessel par	t
	J Certificate of Aut			11,876		xpires		July 19		,		200	7	
	Date 5-25-07		Name	12	Barge Ding	e & Steel Cor	nnany	Sign	od CA	21.	+1	180	1/1	
1	Date 5-25-07		Name	La		ufacturer)	прану	Sign	- J	ance	Repres	entative)	18-10	_
-														
				CE	RTIFIC	ATE OF SH	OP/FIELD I	NSPECT	ION					
	, the undersigned, I	olding a va	alid commissio			al Board of Bo	iller and Pressui				or Provinc	-	Oklahom	-
	and employed by pressure vessel part	described i	n this Manufac		Report on	May 25th	, 20	0f . and	state that,	C T	of my kn		inspected	
10	Aanufacturer has co	nstructed th	his pressure ve	essel part in	accordance	with ASME C	ode, Section VI	II, Division	1. By signin	a this certif	icate nei	ther the 1	nspector no	or
	nis employer makes Inspector nor his em	any warran ployer shal	ity expressed.	or implied, c	oncerning or any pers	the pressure	vessel part desc property dama	ribed in this ge or a loss	Manufacture of any kind	er's Data R arising from	eport. Fi	urthermore	e, neither i	the
^		, ,	A (1)		Lary pure	)	Later and addition	J1 0 1000	Killu	1101		Jacom III		- water (1)
1	Date 5-25-07	Signe	d Mc		1	فسا	Commiss		OK#697					
			6	(Authoriz	ed Inspec	tor)		(Na	at'l Board in	cl. endorse	ment, St	ate, Prov	rince and I	10.)