	ional Drawii			(Alternativ	1A MANUFACT ve Form for Single Cone Provisions of the A	Chamber, Complete	ely Shop or F	Field Fabrio	cated Vessels O	nly)					
			,	Harsco Industrial Air-X-Changers, 5215 Arkansas Road, Catoosa, Oklahoma, 74015, USA											
2. Manufac	tured for	Ch	evron, P.O.	BOX 1392,	, BAKERSFIEL	D, California,	93302, U	ISA	of manufacturer))					
3. Location	of Install	ation	UNKNOW	N		(Nam	ne and addre	ess of pure	,						
(Ho	4. Type Heat Exchanger (Horizontal or vertical, tank) The chemical and physical properties of all parts metals. 12326501.2 (Manufacturer's serial number of all parts metals)					N/A (CRN)			-2, REV5 ng number)		80579 onal Board num PRESSUR		2013 (Year built)		
CODE.	The des	ign, c	construction,	and workma	anship conform t	to ASME Rules, N/		'III, Divisi	ion 1 201		A1 ddenda, if appl		_		
		(Code	de Case numbers)			(Special Service		J))							
6. Shell:	6. Shell: SA516 70N (Material spec. number, grade) (Nomina					0.125 (Corr. a			N/A (Inner diamete	er)	[Len	N/A ngth (overall)]			
7. Seams:			er Joint bl., sngl., lap, butt)]	N/A R.T.(Spot o		1150 °F (H.T. temp)	0.75 Time (hr)	[Gir	N/A rth. (welded, dbl., s		N/A		N/A No. of Courses		
8. Heads:	(a) Mater	rial			A516 70N pec. no., grade)		(b) Ma	aterial		SA5 ²	16 70N no., grade)				
	n (Top, Botto Ends)	iom,	Minimum Thickness	Corrosion	n Crown Radius	s Knuckle Radius	us Elliptical Ratio		al Hemispheri gle cal Radius	Flat Diameter		Pressure (Co Concave)	nvex or		
(a) TO	OP, BTM	士	.5"	0.125	N/A	N/A	N/A	1 '	N/A N/A			N/A			
(/	ENDS	<u></u>	.5"	0.125	N/A	N/A	N/A	N/A	N/A	SEE REMARKS	3	N/A			
If removable	e, bolts us	sed (d	describe othe	r fastenings)			(Material sp	N/A ec. number, grade,	. size. number)					
9. MAWP_			0 psi		N/A	at	ıt max. tem		400 °F	=	N/A				
Min doci	' atal	,	ternal)		(External)				(Internal)	,	(External)	•			
`	ign metal t	temp	o. 0 °F	at	200 ps	<u>ii </u>		pneu., o	or comb. test p	oressure	HYDRO). at 260 ps	<u> </u>		
Proof test 10. Nozzles,		on an	nd safety valve	e openings:			N/A								
Purpose (Inlet, Ou		No.	Diameter	Туре	Mate		Nozzle Thio		Reinforcement			Locat			
etc.)		2	or Size	CPLG	Nozzle	Flange SA105	Nom. 6000#	Corr.	Material Weld	Nozzle Welded	Flange Welded	(Insp. C			
IN/OU		1	4"	150# RFWN	SA106 GR.B		SCH-160		Weld	Welded	Welded	Head			
IN/OU	Т	1	8"	150# RFWN	SA234 WPB	SA105	SCH-80		Weld	Welded	Welded	Неас	der		
44 Supports	- Chirt		··· Lug	- NI/A	1 a 20 NI/A	Othar		2:		Attached		- " 1			
11. Supports	_	(Yes	s or no)	(Number)	Legs N/A (Number)			Structu (Describe	e)	Nhere and how)					
					entified and signed b BB, Martin Ser	rvice Company	ıy			following items of th	ie report:		_		
					(Name of part, it	item number, Manufact	cturer's name a		.,	. 10 2500					
Straig (A)TU	ght len UBES: 1	ngth 113 :	of tubes x 1" OD,	Gauge: 1	ns OR Header stance betwe 16BWG, Mate	een the head erial: SA249	ders: 42 9 316 R	2' 0.0 olled	Tube Shee	t (B)INSP.		5:			
			/ 8X12UNF - ' e Attached U-4.		, Material:	SA105 (C)	IMPACT I	REQUIR	EMENTS: I	MPACT EXEMP	T PER:	_			
				CER.	TIFICATE OF S	SHOP/FIELD C	COMPLIA	NCF							
				s report are co	orrect and that all d	details of design, m	naterial, con	struction,		hip of this vessel c December 3		e ASME BOIL	LER		
Date 12/0	05/2013		Co. name			Industrial Air-X-C	hangers		Si	gned	Represe	epsper			
					,	ATE OF SHOP	FIELD IN	SPECT	TON		(Inchioos				
	ed, holding a	a valic	d commission is	ssued by The	strial Air-X-Change National Board of	rs Boiler and Pressu	ire Vessel In	nspectors	and/or the State		<u> </u>	L D-ta Dana	I, the		
Novem PRESSURE the pressure	nber 20, 201 E VESSEL re vessel de	013 _ CODI lescrib	DE, Section VIII, ped in this Manu	it, to the best o , Division 1. B ufacturer's Dat	of my knowledge ar By signing this certi ta Report. Further	ificate neither the larmore, neither the I	nufacturer ha Inspector no	as constru or his/her e	icted this pressu employer make	s any warranty, ex	rdance with A	ASME BOILE mplied, conce	R AND erning		
property da Date	•	a loss c 15/201	•		onnected with this in	nspection.	Commission	ions		11672A,					
				UZ-	_Ukutherizeds Ingle	Gtor)			(National Bo	oard (incl. endorsemen	its), State, Prov	vince and number	er)		

1885228 exe: v6.4.41 Form and version: U1A-17

FORM U-4 MANUFACTURER'S DATA REPORT SUPPLEMENTARY SHEET

As Required by the Provisions of the ASME Boiler and Pressure Vessel Code Rules, Section VIII, Division 1

1. Manufactured and certified by Harsco Indu	ustrial Air-X-Changers, 5215 Arkansas Roa (Name and add	ad, Catoosa, Oklahoma, 74015, USA Iress of Manufacturer)	\				
Manufactured for Chevron, P.O. BOX 139	O2 BAKEDSEIEI D. California 03302 LISA	,					
2. Manufactured for Chevron, F.O. BOX 138	(Name and address of						
3. Location of installation UNKNOWN							
	(Name and	l address)					
4. Type Heat Exchanger (Horizontal, vertical, or sphere)	N/A (Tank, separator, heat exch., etc.)	12326501.2 (Manufacturer's serial number)					
N/A	HDR-2, REV5	80579	2013				
(CRN) Data Report	(Drawing number)	(National Board number)	(Year built)				
Item Number		Remarks					
dditional Remarks:							
G-20(f). Constructed in conforma	nce with Appendix 28.						
) Shell Thickness & Diameter: 2@	1" x 6.0625"/2@1" x 8.3125"/2@1"	x 9.1875"/2@1 x 5.1875"					
) Flat Diameter: 2@.5" x 4" x 5.	0625/2@.5" x 4" x 7.3125"/2@5" x	4" x 8.1875"/2@0.5" x 4" x					
.1875"							
Certificate of Authorization: Type "U"	No. <u>4241</u>	Expires December 31, 2014	4.1				
Date 12/05/2013 Name	Harsco Industrial Air-X-Changers	Signed	Cosper				
	(Manufacturer)		epresentative)				
Date 12/05/2013 Signed	Commissi						
Ulm	(Action ed Alm Special)	(National Board Authorized Inspecto	or Commission number)				

80579

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

	Manufactured and certified byMartin Service Company 3123 N. Lewis Ave. Tulsa, Oklahoma (Name and address of manufacturer)																		
2.	Manufactured for Harsco Industrial Air-X-Changers 5215 Arkansas Rd. Catoosa OK.																		
3.	(Name and address of purchaser) 3. Location of installation Not Known (Name and address)																		
4.	Type Air-	coole	dexcha	nger			(Nan	ne and addres		-511	3.2 FT FE	BTB	в.						
	370- 3-0-	(Desc	iption of ve	ssel part	* The state of the	-piece head, t	ube bundle))	"	•	(Mfg's seria					(CRN)		
	(Nat'l Bd. N	0.)			123265	01.2 ng No.)					angers	•)13		
5.	ASME Code, 8	51/20 F	and the second	<i>1</i> .		10/2011			(Diar	viilig pi	epared by)					(Year built)		
6.	Shell: (a) No. o	of cour	se(s):			and Addenda		Overall le	Code Case I					Specia	Service per	UG-1	20 (d)		
_	Course	(e)													0			_	_
No	No. Diameter, in. Length(ft.&in.)			Material) Spec./Grade or Type			Thickness Nom. Corr.			Long. Joint (Cat A				1	oint (Cat. A, B,&C)				
110.	Diameter, in. Lenguint.din.		Spec./Grade or Type		or Type	NOIII.	COIT.	Type		Spot,None	CII.	Eff. Type Full		Full,Spot,None Eff.		Temp. Time		me	
										- 7				1				-	
7	Hoods: (a)			SA-516	701													_	
7.	Heads: (a)	-	Material S			poe) H.TTo	me & Temp.		(b)		(Mate		No. Grad		oe) H.TTo	me & 1	emp.		-
	Location (Top.		hicknes	. 1	Pa	dius	Elliptical	Conical	Homioobo										
	Bottom, Ends	Mi		orr.	Crown	Knuckle	Elliptical Ratio	Conical Apex Angle	77.0		Flat Diameter		ide to Pressur				ategory A Full,Spot,None		Fff
(a)												-		-			, , , , , , , , , , , , , , , , , , , ,		
(b)																			
8. 9.	MAWP Inter Impact test Hydro., pneu.	nal	Ex	ternal	psi at m	ax. temp.	(Indic	rnal ate yes or no				gn me			1370	F. a			psi.
	Nozzles, insp								PIO	or tes	St								
_	urpose (inlet,		Diameter			inigo.	Material		Noz	zle T	hickness	R	einforce	ment	Тн	ow At	tached	Loca	ation
1	tlet, Drain, etc.		or Size			Nozzle		Flange			Corr.	57.0				_			
	INLET	-	3"150#	RFW	_	234-WPB			No	////			Mater		Noz	zzle	Flange	(Insp.	
	OUTLET		1"150#	RFW			SA-1	105	SCH		1/8"		Mater		_		Welded	(Insp.	
	Drain		and the second			-106B	SA-1		SCH	180	1/8" 1/8"		Mater		Wel	ded ded		(Insp.	
		2	"6000#	Coup					SCH	180	1/8"		Mater		Wei	ded ded	Welded	(Insp.	
	Vent	2	"6000#						SCH	180	1/8" 1/8"		Mater		Wel	ded ded	Welded	(Insp.	
12. 13.	Supports: Skirt		s or No)	Coup	SA-		SA-1	(No.)	SCH SCH 1/2"	180 180 ners	1/8" 1/8" 1/8"	7		Atta	Weld Weld Weld	ded ded ded	Welded Welded		w)
12. 13.			s or No)	Lugs .625x58	SA-	(No.)	SA-1 Legs x58.25End.	(No.) 5"x3.6875"x	SCH SCH 1/2" Oth	H80 H80 hers	1/8" 1/8" 1/8" (Desc)"End.5"	×3.6875	Atta	Weld Weld Weld	ded ded ded	Welded Welded		w)
12. 13.	Supports: Skirt		s or No)	Lugs .625x58	SA-	(No.) s.5"x3.6875.	Legs x58.25End.	(No.) 5"x3.6875"x	SCH SCH 1/2" Oth 44.750"T/P1 End.5"x3.68	H80 H80 ners "x8.31	1/8" 1/8" 1/8" (Desc 125"x58.25(3.875"PP.5')"End.5" 'x4'X52.	×3.6875	Atta	Weld Weld Weld	ded ded ded	Welded Welded		w)
	Supports: Skirt	(Ye	s or No) T/P1"x6	Lugs .625x58	SA	(No.) s.5"x3.6875. S875"x7.875	Legs x58.25End. "T/P1"x5.1	(No.) 5"x3.6875"x 875"x58.25"	SCH 1/2" Oth (4.750"T/P1 End.5"x3.68	180 180 ners "x8.31 875"x:	1/8" 1/8" 1/8" (Desc 125"x58.25(3.875"PP.5"	"End.5" 'x4'X52. E	×3.6875	Atta	Weld Weld Weld Weld Weld Weld Weld Weld	ded ded ded	Welded Welded (Where as		w)
We	Supports: Skirt Remarks	(Ye	s or No) T/P1"x6	Lugs .625x58	SA-25 Wraps End.5"x3.6	(No.) s.5"x3.6875. 8875"x7.875 CERT	Legs x58.25End. "T/P1"x5.1	(No.) 5"x3.6875"x 875"x58.25"	SCH 1/2" Oth (4.750"T/P1 End.5"x3.68	180 180 ners "x8.31 875"x:	1/8" 1/8" 1/8" (Desc 125"x58.25(3.875"PP.5"	"End.5" 'x4'X52. E	×3.6875	Atta	Weld Weld Weld Weld Weld Weld Weld Weld	ded ded ded	Welded Welded (Where as		w)
We to th	Supports: Skirt Remarks certify that the sta	(Ye	s or No) T/P1"x6 ts made ii	Lugs .625x58	SA-25 Wraps End.5"x3.6	(No.) s.5"x3.6875. 8875"x7.875 CERT	Legs x58.25End. "T/P1"x5.1	(No.) 5"x3.6875"x 875"x58.25"	SCH 1/2" Oth (4.750"T/P1 End.5"x3.68	180 180 ners "x8.31 875"x:	1/8" 1/8" 1/8" (Desc 125"x58.250 3.875"PP.5"	"End.5" 'x4'X52. E	x3.6875 25" nis press	Atta	Weld Weld Weld Weld Weld Weld Weld Weld	ded ded ded	Welded Welded (Where as		w)
We to th	Supports: Skirt Remarks certify that the state ASME Code for certificate of Author	(Ye	s or No) T/P1"x6 ts made in ure Vesso	Lugs .625x58	SA-25 Wrappend ST	(No.) s.5"x3.6875 8875"x7.875 CERT prrect and thivision 1. 591 n Service Co	Legs x58.25End. "T/P1"x5.11 iFiCATE at all details	(No.) 5"x3.6875"x 875"x58.25"	Oth A4.750"T/P1 Find.5"x3.66 7 FIELD	180 180 ners "x8.31 875"x:	1/8" 1/8" 1/8" (Desc 125"x58.250 3.875"PP.5"	"End.5" 'x4'X52. E ship of the	x3.6875 25" nis press	Atta	Weld Weld Weld Weld Weld Weld Weld Weld	ded ded ded	Welded Welded (Where as		w)
We to th	Supports: Skirt Remarks certify that the state ASME Code for certificate of Author	(Ye	s or No) T/P1"x6 ts made ii ure Vesso	Lugs .625x58	SA-25 Wrappend ST	(No.) s.5"x3.6875. 8875"x7.875 CERT orrect and the division 1. 591 n Service Company	Legs x58.25End. s"T/P1"x5.16 iFiCATE at all details company	(No.) 5"x3.6875"x 875"x58.25"	Oth A4.750"T/P1 End.5"x3.66 / FIELD construction Expires	H80 H80 hers "x8.3" COM	1/8" 1/8" 1/8" (Desc. 125"x58.250 3.875"PP.5" WPLIANC ne workman May	"End.5" "x4'X52 E ship of the control of the con	x3.6875 25" nis press	Atta	Weld Weld Weld Weld Weld Weld Weld Weld	ded ded ded	Welded Welded (Where as		w)
We to th U C Date	Supports: Skirt Remarks certify that the state ASME Code for certificate of Author	(Yeartement Press	s or No) T/P1"x6 ts made ii	Lugs .625x58 this replace, Section	SA-25 Wrappend ST	(No.) s.5"x3.6875. S875"x7.875 CERT breet and the division 1. 591 n Service C. (Mar	Legs x58.25End. TT/P1"x5.1: IFICATE at all details company pulacturer)	(No.) 5"x3.6875"x 875"x58.25" OF SHOP s of material	Oth 4.750"T/P1 End.5"x3.66 / FIELD construction Expires	180 180 ners "x8.31 COM	1/8" 1/8" 1/8" (Desc 125"x58.25(3.875"PP.5" VIPLIANC ne workman May Signed	"x4'X52 E ship of the 26 201	x3.6875' 25" nis press	Atta	Well Well well well well well well well	ded ded ded ded	Welded Welded (Where as		w)
We to the U C Date	Supports: Skirt Remarks certify that the state ASME Code for sertificate of Authorities	(Yeatement Pressonization	s or No) T/P1"x6 ts made ii	Lugs .625x58 E n this repels, Section	SA-25 Wrappend Signature of the control of the cont	(No.) s.5"x3.6875. S875"x7.875 CERT breet and the division 1. 591 n Service C. (Mar	Legs x58.25End. TT/P1"x5.1: IFICATE at all details company pulacturer)	(No.) 5"x3.6875"x 875"x58.25" OF SHOP s of material	Oth 4.750"T/P1 End.5"x3.66 / FIELD construction Expires	180 180 ners "x8.31 COM	1/8" 1/8" 1/8" (Desc 125"x58.25(3.875"PP.5" VIPLIANC ne workman May Signed	"x4'X52 E ship of the 26 201	x3.6875 25" alis press (Rep	Atta	Well Well Well "x9.1875" ssel part co	ded ded ded ded	Welded Welded (Where a		w)
We to the U C Date	Supports: Skirt Remarks certify that the state ASME Code for certificate of Authore e	(Year	ts made in ure Vessel No.	Lugs 625x58 8 8 9 9 1 this repels, Section Name	SA-25 Wrappend Signature of the control of the cont	(No.) s.5"x3.6875. S875"x7.875 CERT orrect and the division 1. 591 n Service C. (Man CERT y The Nation	Legs x58.25End. "T/P1"x5.1! IFICATE that all details company cutacturer) TIFICATE that Board of	(No.) 5"x3.6875"x 875"x58.25" OF SHOP s of material	Oth 4.750"T/P1 End.5"x3.66 / FIELD construction Expires	180 180 ners "x8.31 COM	1/8" 1/8" 1/8" (Desc 125"x58.250 3.875"PP.5 WPLIANC ne workman May Signed	"x4'X52. E ship of the 26 201	x3.6875°25" his press (Reg	Atta	Well Well Well Well Trx9.1875' ssel part co	ded ded ded ded	Welded Welded (Where a	and Hov	w)
We to the U C Date	Supports: Skirt Remarks certify that the state ASME Code for certificate of Authore e undersigned, he employed by	(Year) (Year)	ts made in ure Vessor No. valid con CIS Insuraed in the	Lugs .625x58 En this repels, Section Name	SA-25 Wrappend ST	(No.) s.5"x3.6875 S875"x7.875 CERT orrect and the division 1. 591 n Service Co (Man CERT y The Nation atte Report o	Legs x58.25End. "T/P1"x5.1! iFiCATE that all details company total	(No.) 5"x3.6875"x 875"x58.25" OF SHOP s of material	Oth A.750"T/P1 End.5"x3.68 / FIELD I, construction Expires P / FIELD Pressure Vo.	H80	1/8" 1/8" 1/8" (Desc. 125"x58.25(3.875"PP.5" WPLIANC The workman May Signed SPECTION Inspectors	"'x4'X52 E ship of the 26 201	x3.6875	Atta "x7"T/P ure ves	Well Well Well Well Inched Inc	ded ded ded 'x58.2	Welded Welded (Where as 50"	and Hov	w)
We to the U C Date	Supports: Skirt Remarks certify that the state ASME Code for certificate of Author e	(Year) (Year)	ts made in ure Vessor No. valid concils Insura	Lugs 625x58 that this replace, Section Name Name Name Name Name Name Name Name	S. 25 Wrappend S. 25	(No.) s.5"x3.6875. S875"x7.875 CERT orrect and the division 1. 591 n Service Co (Man CERT by The Nation at Report of in accordants	Legs x58.25End. TT/P1"x5.1: IFICATE teat all detail: company pulacturer) TIFICATE nal Board of	(No.) 5"x3.6875"x 875"x58.25" OF SHOP s of material	Oth 4.750"T/P1 End.5"x3.66 / FIELD construction Expires P / FIELD pressure Very of control o	H80	1/8" 1/8" 1/8" (Desc 125"x58.25(3.875"PP.5" VPLIANC ne workman May Signed SPECTION Inspectors a and s on 1. By sig	"x4'X52E ship of the 26 201	x3.6875	Atta "x7"T/P ure ves present	Well Well Well well well well well well	ded ded ded ded inspector	Welded Welded (Where as 550" OK ected the d belief, the	and Hov	w)
We to the U C Date I, the and press	Supports: Skirt Remarks certify that the state ASME Code for certificate of Author e	(Your atterner or Press of American Ame	ts made in ure Vessor No. valid concils Insurated in the ed this pregranty, expression of the control of the c	Lugs .625x58 In this replace, Section of the s	25 Wrappend Send Send Send Send Send Send Send S	(No.) s.5"x3.6875. S875"x7.875 CERT orrect and the division 1. 591 in Service C (Mar CERT y The Nation site Report of in accordant, concerning	Legs x58.25End. "T/P1"x5.1: IFICATE that all detail: TFICATE that all detail:	(No.) 5"x3.6875"x 875"x58.25" OF SHOP s of material	Oth 4.750"T/P1 End.5"x3.66 / FIELD construction Expires P / FIELD pressure Vo ection VIII, I art describe	H80	1/8" 1/8" 1/8" 1/8" (Desc 125"x58.250 3.875"PP.5" VIPLIANC ne workman May Signed SPECTION Inspectors and son 1. By signis Manufac	"x4'X52E ship of the 26 201	x3.6875	Atta "x7"T/P present	Well Well well well well well well well	ded ded ded ded inspector	Welded Welded (Where as: 50" OK ected the d belief, the	and Hov	w)