FORM U-1 MANUFACTURERS' DATA REPORT FOR PRESSURE VESSELS

as required by the provisions of the ASME Code rules, Section VIII, Division 1

lactured and	certified by	OHMSTEDI	E. INC.	- LAPO	RTE PLAN	NT 12415 d address of manu	LAPORTE R	D. LAPOR	re, TX 77571
afactured for l	1.W. KEI	LOGG/ TEN	NNECO O	IL CO.	P.O. BO	OX 1307 I	LAPORTE, T	X 77572	-1307
tion of install	.tion	TENNEC	0 01L	CO. 12			LAPORTE, T	X 77571	
HORIZ, HT	EXCH.	28383 Imfr s serial no	,	N/A		28383 (drawing no.)	166 (Nat') Bd	l no)	1991 (year built)
chemical and SEL CODE. Th	physical pro e design, co	operties of all onstruction an	parts meel d workmar	the require	ements of morm to ASMI	naterial specifi E Code, Sectio	cations of the A n VIII, Division	ASME BOILE	R AND PRESSURE 1989 ,
		(Code	N/A_Case no)		e en en eren	tspec	N/A ial service per UG-1	20(d))	
11 in~'usive to	be comple	ted for single	wall vess	els, jackets	of jacketed	d vessels, or s	hells of heat e	cchangers.	
	-70	.875 ¹	ckness (in))		.125"	2!	- 10 ¹¹ (dia ID (ft & in))	22 ! (lengt	- 1 15/16" h (overall) (ft. & in))
ns: DBL-B	UTT								3
								partial, or fully	(no. of courses)
18: (a) <u>U112</u>		(mat'l (spec n	o . graden				(mal'l (spe	c no. grade))	
Location (top. bottom, ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (convex or concave)
END	.875"	.125"			2:1				CONCAVE
novable, bolts	used (desc	ribe other fast	enings): (44) 1 1	/8" SA1	93 BY STU	DS WITH SA	194-HH N	UTS
						(mat'l, s	sec no.gr.size.ni	0)	
of lacket: N	/A		Proof t	est:					
									describe or sketch.
VP: 640	at max. tem	p. 300°.	Min design	metal temp).:_10° ('F)	at 640	Hydro., XXXXX	kXXXXXX.testp	ressure 960 .
and 13 to be	completed	for tube sect	ions					*	•
esheets:S	A350-LF2	2 ic no grin idia	36.125"	lo pressure))	3,687	5 ¹¹ kness (in i)	.125"	n)) (atta	BOLTED chment (welded, bolted))
\$	A350-LF	2	33.625"		3.687	5"	.125"		TUBES
(lloat	ing mat'l (spec	no grij	(dia (in))	(nom thic	11 011 32001		n))	
0101	,		2//11		00211 /				(allachment)
	pec no griji		3/4"	(nom	.083" (MM) or gaugen	734	(1	
	pec no griji		3/4"	(nom	.083" (MM) or gaugen	734	(1	TRAIGHT
1-17 inclusive	pec no gril to be comp		3/4"	(nom	.083" (MW) or gaugen or channels of 2	734	ers.	TRAIGHT
I: SA516 (mail (sp	4 to be comp -70		3/4" ob (iii) r chamber 75" bickness (in)) 85%	(nom s of jackete	.083" (thickness (in ed vessels (1/8" fcorr allow (i) 0° 1 H	MW) or gauge) or channels of 2 n.)) R. DB	734 heat exchange 1 - 10" idia ID (It 8 in)) W SI	ers.	TRAIGHT ype (straight or U)) - 8 15/16 ¹¹ gth (overall) (ft. 8 in))
I-17 inclusive SA516 (mat1 (sp. Ths: DBW (long (c	4 pec no grji 10 be comp -70 ec no grji	leted for inne	3/4" od (m) r chamber 75" ockness (m) 85% iii) - LF2	s of jackets	.083" (thickness (in ed vessels (1/8" foor allow (i))° 1 H	MW) or gauge) or channels of 2 n) R. DB e) (guith (db)	734 heat exchange 1 - 10" ida 10 (II & in)) W SH sngl)) (RT (spo	ers. 1 (ien POT 1 partial, or full))	TRAIGHT ype (straight or U)) - 8 15/16 ¹¹ gth (overall) (ff. & in)) 1 (no of courses)
I-17 inclusive SA516 (mat1 (sp. Ths: DBW (long (c	4 pec no grji 10 be comp -70 ec no grji	leted for inne . 8 (noin the SPOT (Pi (spot or bu)	3/4" od (m) r chamber 75" ockness (m) 85% iii) - LF2	s of jackets	.083" (thickness (in ed vessels (1/8" foor allow (i))° 1 H	MW) or gauge) or channels of 2 n) R. DB e) (guith (db)	734 heat exchange 1 - 10" ida 10 (II & in)) W SH sngl)) (RT (spo	ers. 1 (ten POT It partial, or full)) ER: SA516	TRAIGHT ype (straight or U)) - 8 15/16 ¹¹ gth (overall) (ff. & in)) 1 (no of courses)
I: SA516 (mail (sp those coation (top) Location (top)	4 pec no griji to be comp -70 ec no griji NNEL CO' Minimum Thickness 3 9/16 ¹¹	SPOT (PT (spot or to VER: SA35 (matt (spec or Altowance)	3/4" on (m) r chamber 75" nickness (m) 85% reff (0-LF2 no grade) Crown	(norm s of jackete 3 1150 3 1150 Knuckie	.083" (thickness in ed vessels is 1/8" (corr allow is)° 1 H p (*F) (time (b)	MW) or gauge) or channels of 2 n) R. DB e) (girth (dbl) FLOATING	734	POT The partial, or full)) ER: SA516 ec no. grade))	TRAIGHT ype (straight or U)) - 8 15/16 ¹¹ gth (overall) (ft. & in)) 1 (no of courses) -70 Side to Pressure
I: SA516 (mat1 (sp ms: DBW (llong (c ds: (a) CHA Location (top. bottom, ends) END	4 pec no griji to be comp -70 ec no griji NNEL CO Minimum Thickness 3 9/16 ¹¹ 1 3/4 ¹¹	Reted for inne .8 (noin the SPOT (Pi (spot or lucture)) VER: SA35 (mall I (spec or Altowance)) .125" .125"	3/4" od (m) r chamber 75" ockness (n)) 857 iii) reff (0-LF2 o grade)) Crown Radius	(noin s of jackets 3 1150 %)) (HT tem) Knuckle Radius	.083" (thickness in ed vessels of 1/8" (corr allow in)° 1 H p (*Fi) (time (b) Elliptical Ratio	MW) or gauge)) or channels of 2 n)) R. DB e) (grif (db)) FLOATING Conical Apex Angle	734	POT (len Pot	TRAIGHT ype (straight or U)) - 8 15/16 ¹¹ gth (overall) (It. & in.)) 1 (no of courses) -70 Side to Pressure (convex or concave)
I: SA516 (mat1 (sp ms: DBW (llong (c ds: (a) CHA Location (top. bottom, ends) END	4 pec no griji to be comp -70 ec no griji NNEL CO Minimum Thickness 3 9/16 ¹¹ 1 3/4 ¹¹	Reted for inne .8 (noin the SPOT (Pi (spot or lucture)) VER: SA35 (mall I (spec or Altowance)) .125" .125"	3/4" od (m) r chamber 75" ockness (n)) 857 iii) reff (0-LF2 o grade)) Crown Radius	(noin s of jackets 3 1150 %)) (HT tem) Knuckle Radius	.083" (thickness in ed vessels of 1/8" (corr allow in)° 1 H p (*Fi) (time (b) Elliptical Ratio	MW) or gauge)) or channels of 2 n)) R. DB e) (girlh (db)) FLOATING Conical Apex Angle	734	POT (len POT (len POT (len partial, or full)) ER: SA516 (len or grade)) Flat (lameter len partial, or full)) 40,875" 29,625" NUTS	TRAIGHT ype (straight or U)) - 8 15/16 ¹¹ gth (overall) (ft. & in)) 1 (no of courses) -70 Side to Pressure (convex or concave) FLAT
I: SA516 (mat1 (sp ms: DBW (llong (c ds: (a) CHA Location (top. bottom, ends) END	4 pec no griji to be comp -70 ec no griji NNEL CO Minimum Thickness 3 9/16 ¹¹ 1 3/4 ¹¹	SPOT (Pi (spot or lu VER: SA35 (mal) (spec or Corrosion Allowance	3/4" on (min) r chamber 75" nickness (min) 85% reff (0-LF2 no grade)) Crown Radius 24" tenings): ((norm s of jackete 3 1150 S 1150 Knuckle Radius	.083" (thickness in ed vessels if foor allow it)° 1 H p (°F) (firm) (b) Elliptical Ratio	MW) or gauge) or channels of 2 n) R. DB e) (girth (db)) FLOATING Conical Apex Angle	734	POT (ten POT) (t	TRAIGHT ype (straight or U)) - 8 15/16 ¹¹ gth (overall) (ft. & in)) 1 (no of courses) -70 Side to Pressure (convex or concave) FLAT BOTH
	tion of install. HORIZ, HT thoriz or veri chemical and disel CODE. The 1989 A raddenda (Da 1 inc'usive to SA516- (mat'l ispectors: DBL-Bi (long (dbl.) Location (top. boltom, ends) END novable, bolts of jacket: Net closure: N et closure: N vp: 640 (psi) and 13 to be esheets: S (statio	tion of installtion HORIZ.HT.EXCH. thoriz or vert lank) themical and physical prosection of installtion HORIZ.HT.EXCH. thoriz or vert lank) themical and physical prosection of including	tion of installtion TENNE(HORIZ.HT.EXCH. 28383 (horiz or vert lank) imits serial not interest and physical properties of all SEL CODE: The design, construction and 1989 A (addenda (Date)) (Code of inclusive to be completed for single of inclusive to the series of jacket: N/A (describe as ugee & weld bar et of jacket: N/A (describe as uge	tion of installtion TENNECO OIL HORIZ.HT.EXCH. 28383 themical and physical properties of all parts meet SEL CODE: The design, construction and workman 1989 A N/A (addenda (Date)) (Code Case no.) 1 inclusive to be completed for single wall vessor (mat'l ispec no gradel) (nom thickness (in.)) ins: DBL-BUTT FULL 100% (inc) (dbl. sngl.)) (RT (spot or full)) (eff. (%)) (is: (a) SA516-70 Location (top. Minimum Corrosion Radius END875"125" (or of jacket: N/A Proof to describe as used (describe other fastenings): (or of jacket: N/A Proof to describe as used (describe other fastenings): (or of jacket: N/A Proof to describe as used we'd bar etc.) VP: 640 at max. temp. 300° Min design and 13 to be completed for tube sections (scheets: SA350-LF2 (stationary mat! (spec no. grain (da. (in visubject)))	tion of installtion TENNECO OIL CO. HORIZ.HT.EXCH. 28383 N/A (hours or vert lank) times serial no. COMB. The design, construction and workmanship conformation and workmanship conformat	tion of install. tion TENNECO OIL CO. P.O. Be (name and address) HORIZ, HT. EXCH. 28383 N/A (CPN) thoriz or vert tank) imits seriating. (CPN) themical and physical properties of all parts meet the requirements of m (SEL CODE. The design, construction and workmanship conform to ASME (Addenda (Date)) (Code Case no.) 1 inn'usive to be completed for single wall vessels, jackets of jacketed (SA516-70 (RT (spot or full)) (eff (*5)) (HT temp (*F)) (time) Is: (a) SA516-70 (mat'l (spec no. grade)) Location (top. Minimum Thickness (Allowance Radius Radi	Infance and address of manustrated for M. W. KELLOGG/ TENNECO OIL CO. P.O. BOX 1307 Infance and address of purchaser) Ition of installtion TENNECO OIL CO. 1200 N. BROADWAY I (name and address) HORIZ.HT.EXCH. 28383 N/A 28383 (Information of installtion (Information of installtion) (Information of install.	Interview to be completed for single wall vessels, jackets of jacketed vessels, or shells of heat etc. SASSIG-70 (matti spec no gradel) (matti spec	Iter to form with the form of install. Time the form of install time the form of install. Time the form of install time the form of install. Time the form of install time the form of install. Time the form of install time the form of the for

FORM U-1 (back)

18 Nozzles inspection and safety valve openings: PER IIG 125 NOTE 39

Purpose (inlet. outlet, drain, etc.)	Number	Dia or Size	Type	Mat'i	Nom Thickness	Reinforcement Material	How Atlached	Localor
SHELLSIDE	I							sechi ce c
INLET	1	12"300LB	RFLWN	SA105	1.687"	INTEGRAL.	MELDED	TOP
OUTLET	1 1	12"300LB	RFLWN	SA105	1.687"	INTEGRAL	WELDED	BOTTOM
TUBESIDE								
INLET	11	8" 300LB	RFLWN	SA105	1.3125"	INTEGRAL	METDED	BOTTOM
OUTLET	1	8" 300LB	RFLIL	SA105	1.3125"	INTEGRAL,	TRELIDED	L. TOP .
VENT, DRAIN	1 EA.	1"6000LB	CPLG	SA105		INTEGRAL	WELDED	SHELL CVR

9.	Supports:	Skirt NO	Lugs	N/A	Legs	N/A	Other.	SADDLES	Attached	BOTTOM	WELDED
		(yes or no)		(00)	3 6 5 5 5	(no)		(describa)		thhè	to any pow;

20. Remarks: Manufacturers' Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report MINIMUM DESIGN METAL TEMPERATURE PER UG-20 (name of part item number refers name and identifying stamp)

ROLLED AND WELDED CYLINDERS FABRICATED BY OHMSTEDE, INC. - LAKE CHARLES PLANT UNDER AUTHORIZATION # 17397 AND SERIAL #'S: 28383-1, 28383-2 AND 28383-3.

CUSTOMER ITEM # 06E-101

CUSTOMER ITEM # 06E-101
CERTIFICATE OF SHOP COMPLIANCE
We certify that the statements made in this report are correct and that all details of design material, construction and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII. Division 1 "U" Certificate of Authorization no. 18673. expires. JUNE 27, 19.92 Date 9-30-91 Name OHMSTEDE, INC LAPORTE PLANT Signed epresentatives
CERTIFICATE OF SHOP INSPECTION
Vessel constructed by OHMSTEDE, INC. at LAPORTE, TX
I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the state of province of
Report on 9-30 , 19 91 , and state that, to the best of my knowledge and belief, the manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1.
By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel
described in the Manufacturers' Data Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any tier
sonal injury or property damage or a loss of any kind arising from or connected with this inspection. Date 9-30-91 Signed Commissions NB 9263 (Authorized Inspection) (Nat'l Bid finet andorsemental state prov. and rec.
CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE
We certify that the field assembly construction of all parts of this vessel conforms with the requirements of Section VIII. Division 1 of the ASME BOILER AND PRESSURE VESSEL CODE "U" Certificate of Authorization no
Date Signed
CERTIFICATE OF FIELD ASSEMBLY INSPECTION
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vossel Inspectors and the state of provi
ince of and employed by of have compared the statements in this Manulacturers Data
Report with the described pressure vessel and state that parts referred to as data items
certificate of shop inspection, have been inspected by me and that to the best of my knowledge and belief, the manufacturer has con-
structed and assembled this pressure vessel in accordance with ASME Code, Section VIII, Division 1. The described vessel was inspected
and subjected to a hydrostatic test ofpsi.
By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vetset
described in the Manufacturers' Data Report. Furthermore, neither the inspector nor his employer shall be liable in any minuter for any per-
sonal injury or property damage or a loss of any kind arising from or connected with this inspection.
Date Signed

FORM U-2A MANUFACTURERS' PARTIAL DATA REPORT (ALTERNATIVE FORM) A Part of a Pressure Vessel Fabricated by One Manufacturer for Another Manufacturer of as required by the provisions of the ASME Code rules, Section VIII, Division 1

1 49 cs 1.315

FORM U-2A MANUFACTURERS' PARTIAL DATA REPORT (ALTERNATIVE FORM)

A Fart 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 3201 Swisco Rd. 1. Manufactured and certified by Ohmstede, Inc., Lake Charles Plant, Sulphur, LA (name and address of manufacturer) 2. Manufactured for Ohmstede, Inc., LaPorte Plant, 12415 LaPorte Rd., (name and address of purchased) 3. Location of Installation ____ Unknown (name and address) 4. Typ Unknown Unknown 28383_2 (horiz or vari, tank) (mir's, serial no. of pari) 28383 R-0 (Nat'l. Bd. no.) 5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The construction, and workmanship conform to ASME Code, Section VIII, Division 1:____1989 (Code Case no.) (addenda (date)) (apecial service per UG-120(d)) 6. (a) Drawing prepared by Ohmstede, Inc. (b) Description of part inspected <u>Cylinder</u> 7. Postweld heat treatment; temperature. .°F. Time. 8. Shall: Shall (spec. no., grade)) 2110" Unknown 1' 8 15/16" (nom. thickness (in.)) (dla. ID (ft. & in.)) (corr. allow. (in.)) (length (oversil) (ft. & in.)) (no. of courses) 85 9. Seams: __DRI__ BUTT (011, (%)) (dirth) IRD 10. Heads: (a)_ (b) (mat'l. (spec. ng. grade)) (mat'l. (spec. no. grade)) Location (top, Side to Pressure Minimum Corresion Elliptical Hemispherical Apax Angle Redlus (convex or concave) If removable, bolts used (describe other fastenings): (mat'i. spec. no., gr., size, no.) __at max. temp.___(*F) _Min. design metal temp.: Test press.: (hydro, pneu, or comb.(psi)) 12. Nozzies and Inspection openings: Purpose (iniet, outlet, arein, etc.) Hominal Reinforcement Type Material Thickness Attached Location 13. Supports: Skirt Luga Legs Other Attached Design data by others 14. Remarks: Item #10 through #13 are non-applicable Formed in accordance with UCS 79(d) CERTIFICATE OF SHOP COMPLIANCE We certify that the statements made in this report are correct and that all details of material, construction, and workmanship of this vessel part conform to the ASME Code for Pressure Vessels, Section VIII, Division 1. "U" Certificate of Authorization no. 17, 397 8-2-9/ Name Ohmstede Inc. (manufacturer) CERTIFICATE OF SHOP INSPECTION I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the state or prov-Ince of Louisiana and employed by H.S.B.I. & I. CO. _have inspected the pressure vessel part described in this Manufacturers' Data Report on_ and state that to the best of my knowledge and bellef, the manufacturer has constructed this part of a pressure vessel in accordance with the

This form may be obtained from The National Board of Boller and Pressure Vessel Inspectors, 1055 Crupper Ave., Columbus, OH 43229

(Authorized Inspector)

ASME Code Section VIII, Division 1. By signing this certificate neither the inspector nor his employer makes any warranty, expressed or impiled, concerning the pressure vessel part described in the Manufacturers' Data Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any personal niury or property damage or a loss of any kind arising from or connected with this inspection.

Date 3 - 2 19 9 Signed Carlot Commissions 4 1148

(Nat'l. Bd. (incl. endorsements) state, prov. and no.)

FORM U-2A MANUFACTURERS' PARTIAL DATA REPORT (ALTERNATIVE FORM)

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

-							Market Committee		1	5-1
1.	Manufactured and certified	by_Ohmste	ie, Inc	., Lake	Charles	Plant, S	201 Swisco ulphur, LA	Rd. 70669	-	-
2.	Manufactured for <u>Ohmst</u>	ede, Inc.	LaPor	te Plan	t, 12415			te. TX	77572	-
3.	Location of Installation	U	nknown		(nam	(seerbbs bns e				_
4,	Type: Unknown (hors or vers, tank)	28383- (mir's, serial no.	-3 of part)	(CAN)		28383-S (drawing no.)	C R-0	na.)	1991 (year built)	-
	The chemical and physical VESSEL CODE. The constr							1989	R AND PRESSUR	E -
	A 90 (atel)	(Code Ca	10 no.)			(special	service per UG-120(d			-
8.	(a) Drawing prepared by	2,000	92A 2888A				pected Cyl	inder		
	Postweld heat treatment: to				ſime		01 11	1 /01	•	-
8.	Shell: SA516-70N (mat'l. (spec. no., grade))	7/8 thickness	s (in.))	(corr. allow.	(in.))	2 10" (dla 10 (H. & in.))	(length (oversit)	the same of the sa	(no. of courses)	
^	Seams: Dbl. Butt		Full		100			=		
у.	Seams: DDI: BUCC		(FII)		(e1f. (%))		(girth)		(R1)	-
10.	Heads: (a)				(b		~~~			_
		(mai'l. (spec. n	o. gradeti				(mst1. (spec	r uor disqe))		٦
	Location (top, bottom, ends) Minimum Thickness		Crown Recius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Fiat Diameter	Side to Pressure (convex or conceve)	9
	(a)		ļ							4
L	(b)	1								٦
	If removable, bolts used (de	escribe other fa	stenings):			(matil, s	pec. na. gr., size, na.	1		
11.	MAWPat max. tem	pMin	m ngleeb .	etal temp.:		Tes	press.:	_In the	(position)	-
	Nozzles and inspection op				5 4 675 9 0					
Ī	Purpose (Intet, outlet, drain, etc.)		Dia. or Size	Тура	Material	Nominal Thickness	Reinforcement Material	How Attach]
-										1
							<u> </u>			٦
13.	Supports: Skirt	Lugs	l.egs_	0	her	Attacl	ned			_
14.	United Was	data by ot								-
		0 through in accorda				<u> </u>				
	Formed	in accorda	UCE AT	cu uca	19101					
										-
			CERT	IFICATE O	F SHOP CO	MPLIANCE				
We	certify that the statements	made in this	eport are	correct and	that all deta	sils of materia	l, construction, a	and workma	nanip of this yes	301
	t conform to the ASME Co		Vessels, 1 , 397	Section VII	200,000	(1)	Jur	ne 4	. 19 94	
	Certificate of Authorization				expires		Sloned	Come	hala	
Da	O Carlet Nam	e	AGA_AIM	alunam)	cturer)			(res	presentative)	
-			CER	TIFICATE	OF SHOP IN	SPECTION				
	he undersigned, holding a v	alld commission	d beusel no		onal Board o		ressure Vessel I	nspectors a	nd the state or pr	.OA-
of	Hartford, CT	ave inspected	he pressu	re vessel pa	art described	in this Manuf	acturers' Data Re	port on	1-2 199	1
an	d state that to the best of m	v knowledge ar	d bellef, th	ne manufac	turer has co	nstructed this	part of a pressu	re vessel in	accordance with	the
AS	MF Code Section VIII. Divis	sion 1. By signi	ng this cer	rtificate ne	ther the Ins	pector nor his	employer makes	any warrar	ity, expressed or	ım.
pll	ed, concerning the pressure	e vessel part de	scribed in	the Manuf	acturers' Dai	a Report, Furt	nermore, neithe	connected	with this inspect	lon.
	all be liable in any manner		Jular Ade	property of	mage of a lo	Les of any kind	long > Va.	11-19-		
Oa.	10_000	L Signed	(Aui	horized Inspe	ilor)	Commiss	(Nat'l. Bd. (II	ncl. endorseme	nts) state, prov. and no	5.)

FORM R-1 REPORT OF WELDED X REPAIR OR ALTERATION as required by the provisions of the National Board Inspection Code

1 Work performed by

CUST-O-FAB, INC.

(name of repair or alteration organization)

94-250P

(PO no. job no. etc.)

8888 WEST 21st STREET, SAND SPRINGS, OKLAHOMA 74063

(address)

2 Owner

QUANTUM USI DIVISION

(nama)

HIGHWAY 30 WEST, CLINTON, IA 52732

(address)

3. Location of installation

QUANTUM USI DIVISION

(name)

HIGHWAY 30 WEST, CLINTON, IA 52732

(address)

4. Unit identification

HEAT EXCH.

Name of original manufacturer

OHMSTEDE MACHINE WORKS, INC.

5. Identifying nos

(boiler, pressure vessel) 2537

166

100

1979

2

(mfr's surial no)

(original National Board no.)

(junsdiction no.)

(other)

(year built)

6 Description of work

RETUBED HEAT EXCHANGER USING (2184) 0 750" OUTSIDE DIAMETER x 0.083" MINIMUM

(use back, separate sheet, or sketch if necessary)

WALL THICKNESS x 360 'LONG x SA-179 TUBES. SEAL WELDED ALL TUBES AT EACH END TO BOTH TUBESHEETS UTILIZING TUNGSTON INERT GAS FUSION WELDING (GTAW). ROLLER EXPANDED ALL TUBES TO TUBESHEETS AFTER SEAL WELDING WAS COMPLETE. PT EXAMINED ALL TUBE-TO-TUBESHEET SEAL WELDS AFTER ROLLER EXPANSION OF TUBES INTO TUBESHEETS WAS COMPLETED.

SHELL SIDE

Pressure test, if applied

450

psi

 Replacement Parts. Attached are Manufacturers' Partial Data Reports properly identified and signed by Inspectors for the following items of this report

(name of part, item number, mfr's name and identifying stamp)

8 Remarks

49-360 TEMA TYPE "NEN" HEAT EXCHANGER

ITEM NO.: C 0145D

PURCHASE ORDER NO.: SC12290

SERVICE PROPLYENE COMPRESSOR DISCHARGE CONDENSER

(reverse side of form)

CERTIFICATE OF SHOP/ FIELD COMPLIANCE
We verify that the statements made in this report are correct and that this conforms to the National Board Inspection Code REPAIR
"R" Certificate of Authorization no R2913 expires APRIL 15 .19 96 Jurisdictional Authorization no expires .19
Date MAY 4 . 19 94 CUST-O-FAB, INC. Signed Sould. Herresertation
CERTIFICATE OF SHOP/ FIELD INSPECTION
I. the undersigned, holding a valid Commission issued by The National Board of Boiler and Pressure Vessel Inspectors and certificate of complete is issued by the state or province of OKLAHOMA and employed by COMMERCIAL UNION INSURANCE COMPANY of BOSTON, MASSACHUSETTS have
inspected the work described in this report on 5-1, 19 and state that to the best of my knowledge and believe this work has been done in accordance with the National Board Inspection Code. By signing this certificate, neither the undersigned nor my employer makes any warranty, expressed or implied, concerning the work described in this report. Furthermore, neither the undersigned nor my employer shall be liable in any manner for any personal injury, properly damage or loss of any kind arising from or connected with this inspection.
Date 5-72 .19 97 Signed Commissions Commissions Commissions (Inspector) (Inspector) (National Breakford environments state prov. Breakford)