

④420792

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 & certified by **EXCHANGER INDUSTRIES, A Division of Premetalco Inc. 5505 - 52 Street S.E., Calgary, Alberta T2A 6A8**
(Name and address of Manufacturer)

2. Manufactured for **Delta Hudson Engineering Ltd, #400, 8500 Macleod Trail S., Calgary, Alberta T2H 2N7**
(Name and address of Purchaser)

3. Location of installation **Canadian Natural Resources, Seibert Lake Heavy Oil Battery, AB LSD: NE 1/4-21-63-08-W4M**
(Name and address)

4. Type **Horizontal Heat Exchanger 97-1630**
(Honz., vert., or sphere) (Tank, separator, jkt. vessel, heat exch., etc.) (Mfg's serial No.)
N-5243.2 97-1630 n/a 1997
(CRN) (Drawing No.) (Nat'l. Bd No.) (Year Built)

5. ASME Code, Section VIII, Div 1 **1995-1995 n/a n/a**
Edition and Addenda (date) Code Case No. Special Service per UG-120(d)

Items 6-11 to be completed for single wall vessel, jacket of jacketed vessel, shells of heat exchanger, or chamber of multi-chambered vessel.

6. Shell (a) No. of Course(s): **3** (b) Overall length (ft & in.): **20'9"**

Course(s)			Material		Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B, & C)			Heat Treatment	
No.	Diameter, in.	Length (ft & in.)	Spec./Grade or Type		Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	27 1/4"	10'0"	SA-516-70N		.375"	1/16"	1	spot	85	1	spot	85	n/a	n/a
1	27 1/4"	8'0"	SA-516-70N		.375"	1/16"	1	spot	85	1	spot	85	n/a	n/a
1	27 1/4"	2'9"	SA-516-70N		.375"	1/16"	1	spot	85	1	spot	85	n/a	n/a

7. Heads. (a) **n/a** (b) **SA-516-70N**
(Mat'l Spec. No. Grade or Type) H.T Time & Temp. (Mat'l Spec. No. Grade or Type) H.T Time & Temp.

	Location (Top Bottom, Ends)	Thickness		Radius		Elliptical	Conical	Hemispherical	Flat	Side to Pressure		Category A		
		Min.	Corr.	Crown	Knuckle	Ratio	Apex Angle	Radius	Diameter	Convex	Concave	Type	Full, Spot, None	Eff.
(a)														
(b)	End	.375	1/16"			2:1					x			

if removable, bolts used (describe other fasteners)

n/a

8. Type of Jacket **n/a** Jacket Closure **n/a**
(Mat'l Spec. No. Grade, size No.) (Describe as Ogee & weld, bar, etc.)

if bar, give dimensions

n/a

if bolted, describe or sketch.

9. M.A.W.P.: **120 n/a** psi at max. temp. **325 n/a** °F Min. design metal temp. **-20** °F at **120** psi
(internal) (external) (internal) (external)

10. Impact test **No - exempt per UG-20(f).**

(Indicate yes or no and the component(s) impact tested)

11. Hydro. test press. **180 psi** Proof test **n/a**

Items 12-13 to be completed tube sections.

12. Tubesheet. **SA-516-70N 27 1/4" 2" 1/8" bolted**
Stationary (Mat'l Spec. No.) Dia., in. (subject to press.) Nom. thk. in. Corr. Allow., in. Attachment (Welded or Bolted)
n/a n/a n/a n/a n/a

13. Tubes: **SA-179 3/4" 14 BWG M/W 254 U**
Floating (Mat'l Spec. No.) Dia., in. Nom. thk. in. Corr. Allow., in. Attachment
Mat'l Spec. No., Grade or Type O.D., in. Nom. thk., in. or gauge Number Type (Straight or U)

Items 14-17 incl. to be completed for inner chamber of jacketed vessels or channels of heat exchangers.

14. Shell (a) No. of Course(s): **1** (b) Overall length (ft & in.): **0'11"**

Course(s)			Material		Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B, & C)			Heat Treatment	
No.	Diameter, in.	Length (ft & in.)	Spec./Grade or Type		Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	27 1/4"	0'11"	SA-516-70N		.375"	1/16"	1	spot	85	1	spot	85	n/a	n/a

15. Heads (a) **SA-516-70N** (b) **n/a**
(Mat'l Spec. No. Grade or Type) H.T Time & Temp. (Mat'l Spec. No. Grade or Type) H.T Time & Temp.

	Location (Top Bottom, Ends)	Thickness		Radius		Elliptical	Conical	Hemispherical	Flat	Side to Pressure		Category A		
		Min.	Corr.	Crown	Knuckle	Ratio	Apex Angle	Radius	Diameter	Convex	Concave	Type	Full, Spot, None	Eff.
(a)	End	.375	1/16"			2:1					x			
(b)														

if removable, bolts used (describe other fasteners)

n/a

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

① 420792

17. Impact test

No - exempt per UG-20(f).

18. Hydrotest press.

120 psi

Proof test

n/a

19. Nozzles, inspection, and safety valve openings:

[illegible]

20. Supports:	Skirt	n/a	Lugs	n/a	Legs	n/a	Other	saddles	Attached	welded to shell
	Yes/no		No.		No.			(Describe)		(Where and how)

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, mfg's name and identifying number)

22. Remarks. **P.S.V. on piping.**

CRN DRWE. 97-1539 REV 1

SERVICE: Sales Oil Cooler

* = SA-106B

ITEM #: 3HT-1601

4 = SA-105N

CAPACITY: 81.9 cu.ft.

SURFACE AREA: 1980 sq.ft.

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.

5983

Expires

March 30, 1999

Date 5 Sept 97

Name

Exchanger Industries, A Div of Premetalco Inc.
(Manufacturer)

Signed

(Representative)

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of **ALBERTA** and employed by **ALBERTA BOILERS SAFETY ASSOCIATION** of **CALGARY, ALBERTA** have inspected the pressure vessel described in the Manufacturer's Data Report on SEPT. 5TH, 1997, 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 Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 97-09-05 Signed _____

Signed

(Authorized Inspector)

Commissions

AB 55(R)
(Nat'l Board incl. endorsements, State, Prov. and No.)

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.

Expires

Date _____

Name _____

(Manufacturer)

Signed

(Representative)

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of _____ and employed by _____ of _____ have compared the statements in the Manufacturer's Data Report with the description of the pressure vessel and state that the parts referred to as data items _____, not included in the certificate of shop inspection, have been inspected by me and to the best of my knowledge and belief, the Manufacturer has constructed 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 of _____ psi. By signing this certificate neither the inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in the Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date _____

Signed

(Authorized Inspector)

Commissions

(Nat'l Board Incl. endorsements State Prov. and No.)