

FORM U-1A MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS

(Alternative Form for Single Chamber Completely Shop-Fabricated Vessels Only)

As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

2401844

1. Manufactured and certified by Keng Industries Inc., 2312 - 8th Street, Nisku, Alberta T9E 7Z2
 2. Manufactured for: On-Line Production Services, 300, 400 - 5th Avenue SW, Calgary, Alberta T2P 0L6
 3. Location of Installation Unknown

4. Type Horizontal 1289 L-7484.2 1176-1/2 R.2 1999
 (Horiz or vert tank) Mfg's Serial No CRN Drawing No National Bd No Year Built

5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The design construction and workmanship conform to ASME Rules, Section VIII, Division 1, 1998 to 1999
 year Addenda (Date) Code Case No Special service per UG 120(d)

6. Shell SA516-70N 1 5/8" 0.063" 7'-0" 10'-0"
 Matl (Spec No, Grade) Nom Thk (in) Corr Allow (in) Diam ID (ft & in) Length (overall (ft & in))

7. Seams Welded Dbl Full 1.0 1150 1 1/4 Type 1 Full 1
 Long (Welded Dbl RT (Spot Eff (%) H T Temp (°F) Time Girth (Welded Dbl RT (Spot No of
 Sngl Lap Butt) or full) H T Temp (°F) Sngl Lap Butt) Partial or Full Courses

8. Heads (a) Matl SA-516-70N (b) Matl SA-516-70N
 (Spec No, Grade) (Spec No, Grade)

Location, Top Bottom Ends	Minimum Thick	Corrosion Allow	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diam	Side to pressure (Convex/concave)
Left	1.625"	0.063"			2:1				Concave
Right	1.625"	0.063"			2:1				Concave

If removable bolts used (describe other fastenings)

(Matl, Spec No, G, Size, No)

9. MAWP 720 psi at max temp 130 °F
 Min. design metal temp -40 °F at 720 psi. Hydro, pneu or comb test pressure 930 psi (new & cold)

10. Nozzles, inspection and safety valve openings

Purpose (Inlet, Outlet, Drain)	No	Diam or Size	Type	Material	Nom Thk	Reinforcement Matl	How Attached	Location
Inlet	1	4"	300# RF'HB'	SA350LF2	1.40"	-	UW-16.1(c)	Shell
Outlet	1	4"	300# RF'HB'	SA350LF2	1.40"	-	UW-16.1(c)	Shell
Drain	2	3"	300# RFLWN	SA350LF2, SA420WPL6	0.30"	-	UW-16.1(c)	Shell
Water Out	1	3"	300# RFLWN	SA350LF2	0.81"	-	UW-16.1(c)	Head

11. Supports: Skirt No Lugs No Legs No Other Saddles Attached Shell, welded
 (Yes or No) (No) (If No) (Describe) (Where and how)

12. Remarks: Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report
 Shell, n, CESSCO, 55375. Form U-4 attached

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

- Vessel volume is 487.6 cu. ft. Fabricated to Dwg. 1176-1/2 R.3.

- Vessel hydrotested on horizontal position.

- Vessel to be used as separator. PSV attached to piping by other.

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-1 Certificate of Authorization No. 27, 889 expires August 8, 2000.

Date November 15, 1999

Co name Keng Industries Inc.
 (Manufacturer)

Signed

Shelley
 (Representative)

CERTIFICATE OF SHOP INSPECTION

Vessel constructed by Keng Industries Inc. at Nisku, Alberta. 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 have inspected the component described in this Manufacturer's Data Report on November 15, 1999 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 this Manufacturer's Data Report. Furthermore, neither the inspector nor his employer shall be liable in any manner for any personal injury, property damage or a loss of any kind arising from or connected with this inspection.

Date November 15, 1999

Signed

Shelley
 Authorized Inspector

Commissions Alberta #31

Not a part of the equipment. Date Exp. Ind.

FORM U-4 MANUFACTURER'S DATA REPORT SUPPLEMENTARY SHEET

As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

A401844

- 1 Manufactured and certified by: **Keng Industries Inc.**
2312 - 8th Street
Nisku, Alberta T9E 7Z2
- 2 Manufactured for: **On-Line Production Services**
300, 400 - 5th Avenue SW
Calgary, Alberta
T2P 0L6
- 3 Location of Installation: **Unknown**

4 Type: Horizontal 1289
(Horizontal, vert., or sphere) (Mfg's serial No.)

L-7484.2 1176-1/2 R.2 1999
(CRN) (Drawing No.) (National Bd. No.) (Year built)

10. Nozzles, inspection and safety valve openings

Purpose	No	Diam or Size	Type	Material	Nom Thk	Reinf	How attach	Loc
Oil Out	1	3"	300# RFLWN	SA350LF2	0.81"	-	UW-16.1(c)	Head
LC (Water)	1	3"	300# RFLWN	SA350LF2	0.81"	-	UW-16.1(c)	Head
LC (Oil)	1	3"	300# RFLWN	SA350LF2	0.81"	-	UW-16.1(c)	Head
PSV	2	2"	300# RFLWN	SA350LF2/SA333.6	0.343"	-	UW-16.1(c)	Shell
Manway	1	24"	300# RFLWN	SA350LF2	2.810"	-	UW-16.1(c)	Head
PI	1	1/2"	3000# NPT	SA350LF2	0.187"	-	UW-16.1(c)	Head
GG	8	1/4"	3000# NPT	SA350LF2	0.218"	-	UW-16.1(c)	Head
TI	1	1/4"	3000# NPT	SA350LF2	0.218"	-	UW-16.1(c)	Head
Samples	2	1/2"	3000# NPT	SA350LF2	0.187"	-	UW-16.1(c)	Head
Sample	1	1/4"	3000# NPT	SA350LF2	0.218"	-	UW-16.1(c)	Head
Steam	2	1"	3000# NPT	SA350LF2	0.250"	-	UW-16.1(c)	Head

Certificate of Authorization Type C No 27,889 Expires August 8, 2000

Date: November 15, 1999 Co. name Keng Industries Inc.
(Manufacturer)

Signed [Signature]
(Representative)

Date: November 15, 1999 Signed [Signature]
Authorized Inspector

Commissions Alberta #31
(If all Board include endorsements, State, Prov. and Loc)

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

4401844

1. Manufactured and certified by Cessco Fabrication and Engineering Ltd. 7310 - 99 St. Ed.monton Alberta Canada T6E-3R8
(Name and address of Manufacturer)

2. Manufactured for Keng Industries Inc 2312 - 8th St Nisku
(Name and address of Purchaser)

3. Location of installation Unknown
(Name and address)

4. Type: Shell S5375
(Description of vessel part (shell, two-piece head, tube bundle)) (Mfg's serial No.) (CRN)

1999
(Nat'l. Bd. No.) (Drawing No.) (Drawing prepared by) (Year built)

5. ASME Code, Section VIII, Div. 1 1998
Edition and Addenda (date) Code Case No. Special Service per UG-120(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): ONE (b) Overall length, ft & in.: 10' - 0"

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	84	10' - 0"	SA516-70N	1 5/8"		1	Full	100%	--	-----	----		

7. Heads: (a) (Mat'l Spec. No., Grade or Type) H.T.-Time & Temp. (b) (Mat'l Spec. No., Grade or Type) H.T.-Time & Temp.

	Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure		Category A		
		Min.	Corr.	Crown	Knuckle					Convex	Concave	Type	Full	Spot
(a)														
(b)														

If removable, bolts used (describe other fastening) (Mat'l Spec. No., Grade, Size, No.)

8. Type of jacket Jacket closure
(Describe as ogee & weld, bar, etc.)

If bar, give dimensions If bolted, describe or sketch.

9. MAWP psi at max. temp. °F Min. design metal temp. °F at psi
(internal) (external) (internal) (external)

10. Impact test Yes Impact Tested Base metal and Long Seam Weld by Cessco
(Indicate yes or no and the component(s) impact tested)

11. Hydro., pneu., or comb. test press. Proof test
Items 12 and 13 to be completed for tube sections.

12. Tubesheet: Stationary (Mat'l. Spec. No.) Dia., in. (subject to press.) Nom. thk., in. Corr. Allow., in. Attachment (welded or bolted)

Floating (Mat'l Spec. No.) Dia., in. Nom. thk., in. Corr. Allow., in. Attachment

13. Tubes: Mat'l Spec. No., Grade or Type O.D., in. Nom. thk., in. or gauge Number Type (Straight or U)

Items 14 - 18 incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers.

14. Shell (a) No. of course(s): (b) Overall length, ft & in.:

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

④ 401844

No Design or Engineering Function by CESSCO
To Be Hydrotested by Others
To Be PWHT by Others
Material CESSCO Plate Log# 17685

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 Alberta have inspected the pressure vessel part described in this Manufacturer's Data Report on Sept 15, 1999, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel part 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 part described in this 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 Sept 15 1999 Signed R Hajos Commissions Alberta # 39R
(Authorized Inspector) (Nat'l Board incl. endorsement, State, Province and No.)