

# 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

1. Manufactured and certified by **LARSEN & D'AMICO MFG. LTD. 9806 - 51 Avenue, Edmonton, Alberta T6E 4W8** (Name and Address of Manufacturer) A 448985
2. Manufactured for **ARGO SALES LTD., P.O. BOX 1160, NISQU, ALBERTA, T9E 8A8** (Name and Address of Purchaser) 98-10-23
3. Location of installation **RESALE** (Name and Address)
4. Type: **Vertical** (Horz. Vert. Tank, etc.) **C-9041** (Mfg's serial No.) **N3078.213** (CRN) **LD-3300-A REV 1** (Drawing No.) **N/A** (Mat'l Bd No.) **1998** (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 **1995** to **1997** (Year) Addenda (Date)
- N/A** Code Case Numbers **N/A** Special Services per UG-120(d)
6. Shell: **SA-516-70N** (Mat'l Spec No., Grade) **1.0"** (Nom Thk inch) **(25.40)** (mm) **1/8"** (3.2) (Corr Allow inch) **(mm)** **20"** (Diam ID / O D inch) **(mm)** **O.D. (508)** **336"** (Length Overall inch) **(8534)** (mm)
7. Seams: **TYPE 1** Long. (Welded, Dbl Sngl., Lap, Butt) **FULL** R T (Spot or Full) **100** Eff (%) **1150 °F** **621.1 °C** H T Temp **60** Time (hr) **TYPE 1** Girth (Welded, Dbl Sngl., Lap, Butt) **FULL UW11(a)** R T (Spot/Partial/Full) **3** No of Courses
8. Heads: (a) Mat'l **SA-516-70 N** (Spec No Grade) (b) Mat'l **SA-516-70 N** (Spec No Grade)

|     | Location (Top, Bottom, Ends) | Minimum Thickness<br>in (mm) | Corrosion Allowance<br>in (mm) | Crown Radius<br>in (mm) | Knuckle Radius<br>in (mm) | Elliptical Ratio | Conical Apex Angle | Hemispherical Radius | Flat Diameter | Side to Pressure<br>(Concave or Convex) |
|-----|------------------------------|------------------------------|--------------------------------|-------------------------|---------------------------|------------------|--------------------|----------------------|---------------|---|
| (a) | TOP                          | 0.9375 (23.81)               | 1/8" (3.2)                     | 0" (0.00)               | 0" (0.00)                 | 2:1              |                    |                      |               | CONCAVE                                 |
| (b) | BOTTOM                       | 0.9375 (23.81)               | 1/8" (3.2)                     | 0" (0.00)               | 0" (0.00)                 | 2:1              |                    |                      |               | CONCAVE                                 |

If removable, bolts used (describe other fastenings)

**N/A**  
(Mat'l, Spec No, Gr., Size No)

9. MAWP **1440 psi** **9928 Kpa** at max. temp. **100 °F** **37.84 °C** Min design metal temp **-20 °F** **-28.88 °C**  
 at **1440 psi** **9928 Kpa** Hydro Test pressure **2160 psi** **14893 Kpa**

10. Nozzles, inspection and safety valve openings:

| Purpose<br>(inlet, outlet, drain) | No | Diam<br>or Size | Type | Mat'l | Nom<br>Thk | Reinforcement<br>Mat'l | How<br>Attached | Location |
|-----------------------------------|----|-----------------|------|-------|------------|------------------------|-----------------|----------|
| <b>SEE ATTACHED U4 FORM</b>       |    |                 |      |       |            |                        |                 |          |

11. Supports: Skirt **YES** (Yes or No) Lugs **N/A** (No) Legs **N/A** (No) Other **N/A** (Describe) Attached **BTM HEAD / WELDED** (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: **IMPACT TESTS EXEMPT PER UG-20(f) PARAGRAPHS 1-5** **\*\*\*HEAD CALCULATED Min. 0.9375 in. (23.81 mm)**  
**AND UCS-66(c) ITEM #21**

Type: **CONTACTOR TOWER** **\*\* PRESSURE RELIEF DEVICE PROVIDED BY** WC# **3784** Item # **C**  
 Weight: **8425 lbs.** **4275.18 (kg)** **OTHERS IN THE PIPING** Hydrotest Position: **HORIZONTAL**  
 Capacity: **50.22 cu ft.** **1.42 (cu. Meters)** Fabrication Drawing No **LD-3300-A REV 3**

### 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. 14254 Expires October 23, 2001

Date OCT 23/98 Company Name Larsen & D'Amico Manufacturing Ltd Signed [Signature]  
 (Manufacturer) (Representative)

### CERTIFICATE OF SHOP INSPECTION

Vessel constructed by: Larsen & D'Amico Manufacturing Ltd. at 9806-51 Avenue, Edmonton, Alberta 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 have inspected the component described in this Manufacturer's Data Report on OCTOBER 23, 1998 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 or property damage or a loss of any kind arising from or connected with this inspection.

Date 98-10-23 Signed [Signature] Commissions Alberta 426  
 (Authorized Inspector) (National Board (include Endorsements) State Prov and No)

# FORM U-4 MANUFACTURER'S DATA REPORT SUPPLEMENTARY SHEET

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

1. Manufactured and certified by **LARSEN & D'AMICO MFG. LTD. 9805 - 51 Avenue, Edmonton, Alberta T6E 4W8**  
 (Name and Address of Manufacturer)
2. Manufactured for **ARGO SALES LTD., P.O. BOX 1160, NISKU, ALBERTA, T9E 8A8**  
 (Name and Address of Purchaser)
3. Location of installation **RESALE**  
 (Name and Address)
4. Type **Vertical**      **CONT. TOWER**      **C-9041**      **N3078.213**      **LD-3300-A REV 1**      **N/A**      **1988**  
 (Horz, Vert, or Sphere)      (Tank, Sep, Heat      (Mfg's Serial No.)      (CRN)      (Drawing No.)      (Matl. Bd. No.)      (Year Built)
 Exh., Etc.)

A 448985

98-10-23

| Purpose<br>(Inlet, Outlet, Drain) | Item<br>No. | Diameter<br>or Size | Type            | Material   | Nominal<br>Thk. | Reinforcement<br>Material | How *<br>Attached | Location |
|-----------------------------------|-------------|---------------------|-----------------|------------|-----------------|---------------------------|-------------------|----------|
| INLET                             | N1          | 3"                  | 600# RFWN       | SA-105     | SCH XXH         |                           | WELDED            | SHELL    |
|                                   |             | 3"                  | PIPE            | SA-106-B   | SCH XXH         |                           |                   |          |
|                                   |             | 3"                  | ELBOW           | SA-234-WPB | SCH 80          |                           |                   |          |
| GAS OUTLET                        | N2          | 7.5"                | REPAD           |            | 3/8"            | SA-516-70                 | WELDED            | TOP HEAD |
|                                   |             | 3"                  | PIPE            | SA-105     | SCH XXH         |                           |                   |          |
|                                   |             | 7.5"                | REPAD           |            | 3/8"            | SA-516-70                 |                   |          |
| DRAIN                             | C1          | 1"                  | COUPLING        | SA-105     | 6000#           |                           | WELDED            | BTM HEAD |
|                                   |             | 1"                  | PIPE            | SA-106-B   | SCH XXH         |                           |                   |          |
|                                   |             | 1"                  | ELBOW           | SA-234-WPB | SCH XXH         |                           |                   |          |
| WATER OUT                         | C2          | 1"                  | COUPLING        | SA-105     | 6000#           |                           | WELDED            | SHELL    |
| COIL                              | C3 A-D      | 1"                  | COUPLING        | SA-105     | 6000#           |                           | WELDED            | SHELL    |
| LG OIL                            | C4 A-B      | 3/4"                | COUPLING        | SA-105     | 6000#           |                           | WELDED            | SHELL    |
| INSPECTION                        | C5 A/B      | 2.375 ID            | COUPLING        | SA-105     | 6000#           |                           | WELDED            | SHELL    |
| TRAY DRAINS                       | C6 A-I      | 1"                  | COUPLING        | SA-105     | 6000#           |                           | WELDED            | SHELL    |
| LG WATER                          | C7 A/B      | 3/4"                | COUPLING        | SA-105     | 6000#           |                           | WELDED            | SHELL    |
| LC WATER                          | C8          | 2"                  | COUPLING        | SA-105     | 6000#           |                           | WELDED            | SHELL    |
| TI                                | C9          | 3/4"                | COUPLING        | SA-105     | 6000#           |                           | WELDED            | SHELL    |
| PI                                | C10         | 1/2"                | COUPLING        | SA-105     | 6000#           |                           | WELDED            | SHELL    |
| GLYCOL OUT                        | C11         | 1"                  | COUPLING        | SA-105     | 6000#           |                           | WELDED            | SHELL    |
| GLYCOL IN                         | C13         | 1"                  | COUPLING        | SA-105     | 6000#           |                           | WELDED            | SHELL    |
| PSV                               | C14         | 2"                  | COUPLING        | SA-105     | 6000#           |                           | WELDED            | SHELL    |
| OIL OUT                           | C15         | 1"                  | COUPLING        | SA-105     | 6000#           |                           | WELDED            | SHELL    |
| LC OIL                            | C16         | 2"                  | COUPLING        | SA-105     | 6000#           |                           | WELDED            | SHELL    |
| HLSD                              | C17         | 2"                  | COUPLING        | SA-105     | 6000#           |                           | WELDED            | SHELL    |
| BREAK FLANGES                     | 21          | 20"                 | 600# RFWN       | SA-105     | SCH 80          |                           | WELDED            | SHELL    |
|                                   |             | 20"                 | 600# Flex Gsk'l | 316 SS     |                 |                           |                   |          |
|                                   |             | 1-5/8"ø             | STUDS           | SA-193-B7M |                 |                           |                   |          |
|                                   |             | 1-5/8"ø             | NUTS            | SA-194-2H  |                 |                           |                   |          |

Certificate of Authorization.      Type **U**      No. **14254**      Expires **OCTOBER 28 2001**

Date Oct 23/98      Name **LARSEN & D'AMICO MFG. LTD.**      Signed [Signature]  
 (Manufacturer)      (Representative)

Date 98-10-23      Name [Signature]      Commission **Alberta 926**  
 (Authorized Inspector)      (Nat'l Board incl. Endorsement, State, Province and No.)