

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

(Alternative Form For Single Chamber, Completely Shop-Fabricated Vessels Only) EXPORT

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

Ⓐ 419306

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: **NUMAC ENERGY LTD., c/o GAS LIQUIDS ENG. LTD., #300, 2749-39TH AVE. N.E., CALGARY, ALTA., T1Y 4T8**  
(Name and Address of Purchaser)
3. Location of installation: **LSD: 15-01-86-22-W6**  
(Name and Address)
4. Type: **Horizontal** (Horz, Vert, Tank, etc.) **BC-8401** (Mfg's serial No) **N8847.21** (CRN) **LD-3484-A REV. 1** (Drawing No) **N/A** (Nat'l Bd No) **1997** (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 **1996**  
(Year) (Addenda (Date))

**N/A** Code Case Numbers **N/A** Special Services per UG-120(d)

6. Shell: **SA-516-70 MT** (Mat'l (Spec No., Grade)) **1.5"** (38.10) (Nom. Thk inch (mm)) **1/8"** (3.2) (Corr Allow inch (mm)) **30"** (762) (Diam ID / OD inch (mm)) **72"** (1829) (Length Overall inch (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) **120 MIN.** (Time (hr)) **TYPE 1** (Girth (Welded, Dbl Sngl, Lap, Butt)) **FULL UW11(a)** (R.T (Spot/Partial/Full)) **1** (No of Courses)

8. Heads: (a) Mat'l **SA-516-70 MT** (Spec No Grade) (b) Mat'l **SA-516-70 MT** (Spec No Grade)

	Location (Top, Bottom, Ends)	Minimum Thickness in (mm)	Corrosion Allowance in (mm)	Crown Radius in (mm)	Knuckle Radius in (mm)	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Concave or Convex)
(a)	ENDS	1.454 (36.93)	1/8 (3.2)	0 (0.00)	0 (0.00)	2:1				CONCAVE
(b)	ENDS	1.454 (36.93)	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 **1415 psi** **9756 Kpa** at max. temp. **120 °F 48.96 °C** (Hydro Test pressure) Min. design metal temp. **-14 °F -25.54 °C** (14638 Kpa)

10. Nozzles, inspection and safety valve openings:

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

11. Support: Skirt **NO** (Yes or No) Lugs **N/A** (No) Legs **2** (No) Other **N/A** (Describe) Attached **SHELL / 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** (ITEM 6 & 8 PER FIG. UCS-66 & TABLE UCS-66 CURVE D ITEM 7 PER UCS-66(g)) **\*\*HEAD CALCULATED Min. 1.4375 in. (33.51 mm)**

Type: **BLOW-OFF** (PRESSURE RELIEF DEVICE PROVIDED BY OTHERS IN THE PIPING) WO# **3627** (Hydrotest Position: **HORIZONTAL**) Item # **EC** (Fabrication Drawing No. **LD-3484-A REV. 1**)  
Weight: **5425 lbs. 2460.78 (kg)** Capacity: **36 cu.ft. 0.99 (cu. Meters)**

### 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. 14264 Expires October 28, 1998

Date Nov 24 97 Company Name Larsen & D'Amico Manufacturing Ltd (Manufacturer) Signed [Signature] (Representative)

### CERTIFICATE OF SHOP INSPECTION

Vessel constructed by: Larsen & D'Amico Manufacturing Ltd. at 9805-51 Avenue, Edmonton, 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 Nov 26, 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 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 12/1/97 Signed [Signature] (Authorized Inspector) Commissions Alberta #21 (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) A 409306
2. Manufactured for: **NUMAC ENERGY LTD., c/o GAS LIQUIDS ENG. LTD., #300, 2749-39TH AVE. N.E., CALGARY, ALTA., T1Y 4T8**  
(Name and Address of Purchaser)
3. Location of installation: **LSD: 15-01-86-22-W6**  
(Name and Address)
4. Type: **Horizontal** **BLOWCASE** **BC-8401** **N8847.21** **LD-3484-A REV. 1** **N/A** **1997**  
(Horz. Vert. or Sphere) (Tank, Sep., Heat (Mfg'r's Serial No.) (CRN) (Drawing No) (Nat'l Bd No) (Year Built)  
Exh. Etc.)

Purpose (Inlet, Outlet, Drain)	Item No.	Diameter or Size	Type	Material	Nominal Thk.	Reinforcement Material	How* Attached	Location
INLET	N1	2"	600# RFWN	SA 105 N	SCH. 160		WELDED	SHELL
		2"	PIPE	SA 106 B	SCH. 160			
		2"	ELBOW	SA 234 WPB	SCH. 160			
CONDENSATE OUT	N2	3"	600# RF "HB"	SA 350 LF2	1.24"		WELDED	SHELL
POWER GAS OUT	N3	2"	600# RFWN	SA 105 N	SCH. 160		WELDED	SHELL
		2"	PIPE	SA 106 B	SCH. 160			
PRESS EQUAL.	N4	2"	600# RFWN	SA 105 N	SCH. 160		WELDED	SHELL
		2"	PIPE	SA 106 B	SCH. 160			
PSV	N5	3"	600# RF "HB"	SA 350 LF2	1.24"		WELDED	SHELL
DRAIN	N6	2"	600# RFWN	SA 105 N	SCH. 160		WELDED	SHELL
		2"	PIPE	SA 106 B	SCH. 160			
		2"	ELBOW	SA 234 WPB	SCH. 160			
BRIDLE	N7 A/B	2"	600# RFWN	SA 105 N	SCH. 160		WELDED	SHELL
		2"	PIPE	SA 106 B	SCH. 160			
		2"	ELBOW	SA 234 WPB	SCH. 160			
PI	N8	2"	600# RFWN	SA 105 N	SCH. 160		WELDED	SHELL
		2"	PIPE	SA 106 B	SCH. 160			
TI	N9	2"	600# RFWN	SA 105 N	SCH. 160		WELDED	SHELL
		2"	PIPE	SA 106 B	SCH. 160			
INSPECTION	N10 A/B	3"	600# RF "HB"	SA 350 LF2	1.24"		WELDED	SHELL

Certificate of Authorization: Type **U** No. **14254** Expires **OCTOBER 29** 19 **98**

Date **Nov 24 97** Name **LARSEN & D'AMICO MFG. LTD.** Signed **[Signature]**  
(Manufacturer) (Representative)

Date **97/11/26** Name **[Signature]** Commission **Alberta #21**  
(Authorized Inspector) [Nat'l Board incl. Endorsement, State, Province and No.]