

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. 9605 - 51 Avenue, Edmonton, Alberta T6E 4W8**
(Name and Address of Manufacturer)
2. Manufactured for: **BURLINGTON RESOURCES CANADA ENERGY LTD. BOX 4366, STATION C, CALGARY, ALBERTA T2T 5N2**
(Name and Address of Purchaser)
3. Location of installation: **10-16-97-10 W6M**
(Name and Address)

4. Type: **HORIZONTAL SEPARATOR** (Horz, Vert, Tank, etc) **HS-10803** (Mfg's serial No) **P5767.2** (CRN) **LD-4470-A1/A2 REV 0** (Drawing No.) **N/A** (Mat'l Bld No.) **2001** (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 2000 Addenda (Date)

N/A Special Services per UG-120(d)

6. Shell: **SA-516-70N** (Mat'l Spec No, Grade) **1.5"** Nom Thk **(38.10)** (mm) **1/16"** (1.6) Cor Allow **(mm)** **72"** I.D. **(1829)** (mm) **288"** Length Overall **(7315)** (mm)

7. Seams: **TYPE 1** Long, (Welded, Dbl Sngl, Lap, Butt) **FULL** R T (Spot or Full) **N/A** H T Temp **N/A** Time (hr) **TYPE 1** Girth (Welded, Dbl Sngl, Lap, Butt) **FULL UW11(a)** R T (Spot/Partial/Full) **2** No of Courses

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

	Location (Top, Bottom, Ends)	Minimum Thickness (mm)	Corrosion Allowance (mm)	Crown Radius (mm)	Knuckle Radius (mm)	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Concave or Convex)
(a)	ENDS	1.38" (35.05)	1/16" (1.6)	0" (0.00)	0" (0.00)	2:1				CONCAVE
(b)	ENDS	1.38" (35.05)	1/16" (1.6)	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 **720** psi **4964** Kpa at max temp **124 F** **51.18 C** Min. design metal temp. **-20 F** **-28.88 C**
at **720** psi **4964** Kpa Hydro Test pressure **936** psi **6453** Kpa

10. Nozzles, inspection and safety valve openings:

Purpose (inlet, outlet, drain)	No.	Lugs	N/A	Legs	N/A	Other	(2) SADDLES	Attached	SHELL / WELDED	Location
							(Describe)		(Where and How)	

SEE ATTACHED U4 FORM

12. Remarks: Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: **N/A**

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

IMPACT TEST EXEMPT PER FIG. UG-20(f) PARAGRAPHS 1-5 EXCEPT: ITEMS 18, 19, 23, 24 EXEMPT PER UCS-66 CURVE D.
AND ITEMS 7, 8, 9, 14 EXEMPT PER UCS-66(g)
ITEMS 1 & 2 HAVE BEEN PRODUCTION IMPACT TESTED

Type **HORIZONTAL SEPARATOR**
Weight **43920** lbs **19822.11** (kg)
Capacity **745** cu ft **21.10** (cu Meters)

****HEAD CALCULATED Min. 1.38 in (35.95 mm)**

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 28, 2001**

Date **Aug 16/01** Company Name **Larsen & D'Amico Manufacturing Ltd** Signed **[Signature]** (Manufacturer)

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 of **Alberta** and employed by **Alberta Boilers Safety Association** have inspected the component described in this Manufacturer's Data Report on **Aug 16/01**

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 **Aug 7, 2001** Signed **[Signature]** (Authorized Inspector) **Alberta #187** (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: **BURLINGTON RESOURCES CANADA ENERGY LTD. BOX 4365, STATION C, CALGARY, ALBERTA T2T 9N2**
(Name and Address of Purchaser)
3. Location of installation: **10-16-97-10 WSM**
(Name and Address)
4. Type: **Horizontal** (Horiz. Vert. or Sphere)
SEPARATOR (Tank Sep., Heat Exh., Etc.) **HS-10803** (Mfg.'s Serial No.)
P5767 2 (CRN)
LD-4470-A1/A2 REV 0 (Drawing No.)
N/A (Nat'l Bd. No.)
2001 (Year Built)

Purpose (Inlet, Outlet, Drain)	No.	Diameter or Size	Type	Material	Nominal Thk.	Reinforcement Material	How Attached	Location
N1-INLET	1	8" ID	300# RFLWN	SA-350-LF2	1.13"		1	SHELL
N2-GAS OUTLET	1	8" ID	300# RFLWN	SA-350-LF2	1.13"		1	SHELL
N3-A/B-BRIDGE	2	2" NPS	300# RFLWN	SA-105N	SCH 160		2	SHELL
	2	2" NPS	ELBOW	SA-234-WPB	SCH 160			
N4-COND. OUT	2	2" NPS	PIPE	SA-106-B	SCH 160			
N5A-INTERFACE	1	3.83" ID	300# RF"HB"	SA-350-LF2	1.40"		1	SHELL
BRIDGE	1	2" NPS	300# RFLWN	SA-105N	SCH 160		2	SHELL
N5B-INTERFACE	1	2" NPS	300# RFLWN	SA-105N	SCH 160		2	WB SHELL
BRIDGE	1	2" NPS	PIPE	SA-106-B	SCH 160			
N6-WATER OUT	1	3" ID	300# RFLWN	SA-105N	0.81"		1	WB SHELL
N7-DRAIN	1	2" NPS	300# RFLWN	SA-105N	SCH 160		2	SHELL
	1	2" NPS	PIPE	SA-106-B	SCH 160			
N8-DRAIN	1	2" NPS	300# RFLWN	SA-105N	SCH 160		2	WB HEAD
	1	2" NPS	ELBOW	SA-234-WPB	SCH 160			
N9 A/B-LSOH	2	2" NPS	300# RFLWN	SA-106-B	SCH 160		2	SHELL
N10 A/B-LSOL	2	2" NPS	300# RFLWN	SA-106-B	SCH 160		2	WB SHELL
	2	2" NPS	PIPE	SA-105N	SCH 160			
N11-PSV	1	3" ID	300# RF"HB"	SA-350-LF2	0.81"		1	SHELL
N12-TI	1	2" NPS	300# RF"HB"	SA-105N	SCH 160		2	SHELL
N13-VENT	1	2" NPS	PIPE	SA-106-B	SCH 160			
	1	6.0" ID	300# RFLWN	SA-350-LF2	1.06"		1	SHELL
N14-PI	1	2" NPS	300# RFLWN	SA-105N	SCH 160		2	SHELL
	1	2" NPS	PIPE	SA-106-B	SCH 160			
MN-MANWAY	2	24" ID	300# RF"HB"	SA-350-LF2	2.81"		2	SHELL
WB-WATER BOOT	1	20" OD		SA-516-70N	1.25"	SA-516-70N	1	SHELL
	1	20" OD	SE HEAD	SA-516-70N	1.125" min			WB SHELL

* 1) PER UW-16.1(c), 2) PER UW16.1 (a1)

Certificate of Authorization:

Type L No 14254

Expires OCTOBER 28 2001

Date Aug 17/01

Name LARSEN & D'AMICO MFG. LTD.

Signed (Manufacturer)

(Representative)

Alberta H87

Date Aug 17, 2001

Name

Commission

(Not Board and Endorsement State Province and No.)

N465472

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)
2. Manufactured for: **BURLINGTON RESOURCES CANADA ENERGY LTD. BOX 4365, STATION C, CALGARY, ALBERTA T2T 5K2**
(Name and Address of Purchaser)
3. Location of installation: **STOCK**
(Name and Address)

4. Type: **HORIZONTAL SEPARATOR** **HS-10903** **F5767.21** **LD-4470-A1/A2 REV 0** **N/A** **2001**
(Horz, Vert, Tank, etc.) (Mfg's serial No.) (CRN) (Drawing No.) (Natl 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 1995 to 2000
(Year) Addenda (Date)

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

6. Shell: **SA-516-70N** **1.5"** **(38.10)** **1 1/16"** **(1.6)** **72"** **I.D. (1628)** **200"** **(7316)**
Materl (Spec No., Grade) Norm. Thick inch Corr Allow inch Diam I.D. / O.D. inch Length Overall inch (mm)

7. Seams: **TYPE 1** **FULL** **N/A °F** **N/A °C** **N/A** **TYPE 1** **FULL URV11(a)** **2**
Long (Welded, Dbl R.T. (Spot H.T. Temp Time (hr) Grith (Welded, Dbl. R.T. (Spot/Partial/Full) No. of
Sngl., Lap, Butt) or Full) Singl., Lap, Butt) Courses

8. Heads: (a) Materl **SA-516-70 N** (b) Materl **SA-516-70 N**
(Spec No. Grade) (Spec No. Grade)

(a)	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	1.38" (35.05)	1 1/16" (1.6)	0" (0.00)	0" (0.00)	2:1				CONCAVE
(b)	ENDS	1.38" (35.05)	1 1/16" (1.6)	0" (0.00)	0" (0.00)	2:1				CONCAVE

If removable, bolts used (describe other fastenings)

N/A
(Materl, Spec. No., Gr., Size, No.)

9. MAWP **720 psi** **4964 Kpa** at max. temp. **124 °F** **51.18 °C** Min. design metal temp. **-20 °F** **-28.88 °C**
at **720 psi** **4964 Kpa** Hydro Test pressure **936 psi** **6463 Kpa**

10. Nozzles, inspection and safety valve openings:

Purpose (Inlet, outlet, drain)	No.	Legs	Type	Materl	Norm. Thick	Reinforcement	How Attached	Location
SEE ATTACHED U4 FORM								

11. Supports: Skirt **NO** **N/A** **Legs** **N/A** **Other** **(2) SADDLES** **Attached** **SHELL / WELDED**
(Yes or No) (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: **N/A**

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

IMPACT TEST EXEMPT PER FIG. UG-39(f) PARAGRAPHS 1-4 EXCEPT: ITEMS 18, 19, 21, 24 EXEMPT PER UCS-66 CURVE D,
AND ITEMS 7, 8, 9, 14 EXEMPT PER UCS-66(g)

ITEMS 1 & 2 HAVE BEEN PRODUCTION IMPLCT TESTED. M11 AND M12 CORRECTED O₂ U4

Type: **HORIZONTAL SEPARATOR**

Weight: **43920 lbs** **19922.11 (kg)**
Capacity: **745 cu.ft.** **21.10 (cu. Meters)**

WOB: **4271** **HS**
Hydrotest Position: **HORIZONTAL**
Fabrication Drawing No: **LD-4470-A1/A2 REV 1**

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 28, 2004

Date **Dec 20, 2001** 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**, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of **Alberta** and employed by **Alberta Boilers Safety Association** have inspected the component described in this Manufacturer's Data Report on **11/29/01** **2001** 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 **Dec 20, 2001** Signed **[Signature]** **#87** **Alberta**
(Authorized Inspector) (National Board (include Endorsement) State, Prov. and No.)

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

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Certificate of Authorization: Type: U No. 14254

Date Dec 20/61 Name LARSEN & D'AMICO MFG. LTD.

Date Dec 20, 2001 Name Edward Luke
(Authorized Inspector)

U
EX-105 OCTOBER 23 1964

Signed _____
(Manufacturer)

Commission Alberta 187
[Net] Board and Entertainment State Property and