

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 and certified by Old Dominion Fabricators, Div. of Adamson Co., Inc., 13200 Ramblewood Dr., Chester, Va. 23831
(Name and address of manufacturer)

2. Manufactured for LaRoche Industries, Inc., 1165 North 1600 West, Orem, VT 84057
(Name and address of purchaser)

3. Location of installation Same
(Name and address)

4. Type Vert. Heat Exch. 89-52 - D-89-52-R1 49114 1989
(Horiz. or vert., tank) (Mfr's serial No.) (CRN) (Drawing) (Nat'l. 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 1986
Year

12/31/88 - -
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, or shells of heat exchangers

6. Shell: SA-240 Tp. 304L 1/4" 1/16" 54-5/8" ID 12'-7"
Matl. (Spec. No., Grade) Nom. Thk. (in.) Corr. Allow. (in.) ID/OD (Length Overall) (ft & in.)

7. Seams: Wld. Dbl. Butt Spot 85% -
Long. (Dbl., Sngl.) R.T. (Spot or Full) Eff. (%) H.T. Temp. (°F)

- Wld. Dbl. Butt Spot 2
Time Girth (Dbl., Sngl.) R.T. (Spot, Partial, or Full) No. of Courses

8. Heads: (a) Matl. SA-240 Tp. 304L (Spec. No., Grade) (b) Matl. SA-240 Tp. 304L (Spec. No., Grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)										
(b)										

If removable, bolts used (describe other fastenings)

(Matl., Spec. No., Gr., Size, No.)

9. Type of Jacket None Proof Test None

10. Jacket Closure None (Describe as ogee & weld, bar, etc.) If bar, give dimensions None If bolted, describe or sketch.

11. MAWP 75 psi at max. temp. 100 °F. Min. design metal temp. - °F at - psi.
Hydrostatic test pressure 115 psi.

Items 12 and 13 to be completed for tube sections

12. Tubesheets: SA-240 Tp. 304L 55-3/4" 1-3/4" 1/16" Bolted
Stationary Matl. (Spec. No., Gr.) Diam. (in.) (Subject to pressure) Nom. Thk. (in.) Corr. Allow. (in.) Attach (Welded, Bolted)

SA-240 Tp. 304L 53-5/8" 2" 1/16" Welded
Floating Matl. (Spec. No., Gr.) Diam. (in.) Nom. Thk. (in.) Corr. Allow. (in.) Attach

13. Tubes: SA-249 Tp. 304L 9/16" 16 Ga. 1507 Straight
Matl. (Spec. No., Gr.) O.D. (in.) Nom. Thk. (in. or Gauge) Number Type (Straight or "U")

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

14. Shell: SA-240 Tp. 304L 1/4" 1/16" 50-1/8" Top 1'-6"
Matl. (Spec. No., Grade) Nom. Thk. (in.) Corr. Allow. (in.) ID/OD (Length Overall) (ft & in.)

Btm. 3'-5-5/8"

15. Seams: Wld. Dbl. Butt Spot 85% -
Long. (Dbl., Sngl.) R.T. (Spot or Full) Eff. (%) H.T. Temp. (°F)

- Wld. Dbl. Butt Spot 1
Time Girth (Dbl., Sngl.) R.T. (Spot, Partial, or Full) No. of Courses

16. Heads: (a) Matl. SA-240 Tp. 304L (Spec. No., Grade) (b) Matl. SA-240 Tp. 304L (Spec. No., Grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)	Top, Btm.	1/4"	1/16"	50"	3-1/8"					Concave
(b)										

If removable, bolts used (describe other fastenings)

SA-193 Gr. B8 Cl. 1 5/8" dia. 36

(Matl., Spec. No., Gr., Size, No.)

17. MAWP 40 psi at max. temp. 400 °F. Min. design metal temp. - °F at - psi.
Hydrostatic test pressure 60 psi.

Form U-1 (Back)

18. Nozzles, Inspection and Safety Valve Openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diam. or Size	Type	Matl.	Nom. Thk.	Reinforcement Matl.	How Attached	Location
Unknown	2	10"150#	FFSO	SA-312-304L	.365	Inherent	Welded	Shell
"	1	18"150#	FF Ring	SA-240-304L	1/4"	"	"	Chann.
"	1	16"150#	"	"	1/4"	"	"	"
"	1	2"150#	RFSO	SA-312-304L	.154	"	"	Head
"	1	1"150#	"	"	.133	"	"	Shell
Vent, Drain	2	1/4"	NPT	SA-240-304L	-	-	Tapped	Tubesheet

19. Supports: Skirt No Lugs 4 Legs - Other - Attached Welded to Shell
 (Yes or no) (No.) (No.) (Describe) (Where and how)

20. Remarks: Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: _____
 (Name of part, item number, mfg's. name and identifying stamp)

Nitric Acid Condenser

* UHA-51

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. 13347 expires May 7 1991
 Date 3-29-90 Co. name OLD DOMINION FABRICATORS Signed [Signature]
 (Manufacturer) (Representative)

CERTIFICATE OF SHOP INSPECTION

Vessel constructed by OLD DOMINION FABRICATORS at Chester, Virginia

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 Ohio/Pa. and employed by Hartford Steam Boiler I & I Co.

of Hartford, Connecticut have inspected the pressure vessel described in this Manufacturer's Data Report on MAR 29 1990, 19____, 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 loss of any kind arising from or connected with this inspection.
 Date MAR 29 1990 Signed [Signature] Commissions NB 5766, VA. 586
 (Authorized Inspector) (Nat'l Board, State, Province and No.)

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the field assembly construction of all parts of this vessel conforms with the requirements of Section VIII, Division 1 of the ASME Boiler and Pressure Vessel Code.

"U" Certificate of Authorization No. _____ expires _____, 19____
 Date _____ Co. name _____ Signed _____
 (Assembler that certified and constructed field assembly) (By Representative)

CERTIFICATE OF FIELD ASSEMBLY INSPECTION

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 this Manufacturer's Data Report with the described pressure vessel and state that parts referred to as data items _____, not included in the certificate of shop inspection, have been inspected by me and that, 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 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 _____ Signed _____ Commissions _____
 (Authorized Inspector) (Nat'l Board (incl. endorsements), State, Prov., and No.)

FORM R-2 REPORT OF ALTERATION

in accordance with provisions of the National Board Inspection Code

1a. Construction performed by <u>ELLETT INDUSTRIES LTD.</u>	<u>2</u>	
(name of R organization responsible for construction)	(Form R No.)	
<u>1575 KINGSWAY AVE., PORT COQUITLAM, B.C. CANADA V3C 4E5</u>		<u>P.O. 2156 Job 43624</u>
(address)		(P.O. No. Job No. etc.)
1b. Design performed by <u>ELLETT INDUSTRIES LTD.</u>	<u>2</u>	
(name of R organization responsible for design)	(Form R No.)	
<u>1575 KINGSWAY AVE., PORT COQUITLAM, B.C. CANADA V3C 4E5</u>		<u>P.O. 2156 Job 43624</u>
(address)		(P.O. No. Job No. etc.)
2. Owner <u>Geneva Nitrogen LLC</u>		
(name)		
<u>1165 North 1600 West, Vineyard, Utah 84057 USA</u>		
(address)		
3. Location of installation <u>Geneva Nitrogen LLC</u>		
(name)		
<u>1165 North 1600 West, Vineyard, Utah 84057 USA</u>		
(address)		
4. Unit identification <u>Heat Exchanger</u> Name of original manufacturer <u>Old Dominion Fabricators</u>		
(boiler, pressure vessel)		
5. Identifying nos.: <u>89-52</u> <u>49114</u> <u>None</u> <u>D-89-52-R1</u> <u>1989</u>		
(mfg serial no.)	(National Board No.)	(jurisdiction no.)
(other)	(year built)	
6. NBIC Edition / Addenda: <u>2004</u> -		
(edition)	(addenda)	
Original Code of Construction for Item: <u>ASME Section VIII, Div.1</u> <u>1986 Ed. / 12/31/88 Add.</u>		
(name/section/division)	(edition/addenda)	
Construction Code Used for Alteration Performed: <u>2004</u> -		
(name/section/division)	(edition/addenda)	
7a. Description of construction work: <u>Replace both existing channel flanges with new flanges (SA-182-F304/L).</u>		
(use supplemental sheet, Form R-4, if necessary)		
<u>Trim bottom channel for approximately 3/16" (see drawing H4-1908-1).</u>		
<u>Replace 2" nozzle E (SA-312-TP304/L SMLS., 2" - SCH.80S nozzle neck) complete with flange (SA-182-F304/L,</u>		
<u>2" - 150# ASME R.F.S.O.).</u>		
<u>Attach Alteration Nameplate below original nameplate onto shell section.</u>		
7b. Description of design scope: <u>Re-rate tube side design pressure to 50 psig (was 40 psig).</u>		
(use supplemental sheet, Form R-4, if necessary)		
-		
-		
-		
Pressure Test, if applied <u>86</u> psi. MAWP <u>50</u> psi.		
8. Replacement Parts. Attached are Manufacturer's Partial Data Reports or Form R-3s properly completed for the following items of this report:		
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-		
-		
-		
-		
-		
-		
-		
-		
(name of part, item number, data report type, mfg's. name and identifying stamp)		
9. Remarks: <u>Over pressure protection is the RESPONSIBILITY OF THE OWNER/USER per UG-125.</u>		
<u>No impact test required per UHA-51(d)(1)(a), UNF-65.</u>		
<u>Top & Bottom Channels of 54 5/8" I.D. Cooler Condenser. Equip. No. E-388.</u>		
<u>Correction: 5. Identifying nos.: Drawing No. (others) and (year built) corrected as per original manufacturer's</u>		
<u>U-1 data report.</u>		
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DESIGN CERTIFICATION

I, Boris Savovic, certify that to the best of my knowledge and belief the statements in this report are correct and that the Design Change described in this report conforms to the National Board Inspection Code.

National Board "R" Certificate of Authorization No. R-6373 expires on Dec 30, 2008

Date Oct 4, 2006 ELLETT INDUSTRIES LTD. Signed [Signature]
(name of design organization) (authorized representative)

CERTIFICATE OF DESIGN CHANGE REVIEW

I, Mical Olsen, holding a valid Commission issued by The National Board of Boiler and Pressure Vessel Inspectors and certificate of competency issued by the jurisdiction of _____ and employed by the British Columbia Safety Authority (BCSA) of British Columbia, Canada have reviewed the design change as described in this report and state that to the best of my knowledge and belief such change complies with the applicable requirements of the National Board Inspection Code.

By signing this certificate, neither the undersigned nor my employer makes any warranty, expressed or implied, concerning the work described in this report. Furthermore, neither the undersigned nor my employer shall be liable in any manner for any personal injury, property damage or loss of any kind arising from or connected with this inspection.

Date Oct 4, 2006 Signed [Signature] Commissions N.B. 12227 A / BC #72
(inspector) (National Board and jurisdiction no.)

CONSTRUCTION CERTIFICATION

I, Bing Hu, certify that to the best of my knowledge and belief the statements in this report are correct and that all material, construction, and workmanship on this Alteration conforms to the National Board Inspection Code.

National Board "R" Certificate of Authorization No. R-6373 expires on Dec 30, 2008

Date Oct 4, 2006 ELLETT INDUSTRIES LTD. Signed [Signature]
(name of construction organization) (authorized representative)

CERTIFICATE OF INSPECTION

I, Mical Olsen, holding a valid Commission issued by The National Board of Boiler and Pressure Vessel Inspectors and certificate of competency issued by the jurisdiction of _____ and employed by the British Columbia Safety Authority (BCSA) of British Columbia, Canada have

inspected the work described in this report on Aug 18, 2006 and state that to the best of my knowledge and belief this work complies with the applicable requirements of the National Board Inspection Code.

By signing this certificate, neither the undersigned nor my employer makes any warranty, expressed or implied, concerning the work described in this report. Furthermore, neither the undersigned nor my employer shall be liable in any manner for any personal injury, property damage or loss of any kind arising from or connected with this inspection.

Date Oct 4, 2006 Signed [Signature] Commissions N.B. 12227 A / BC #72
(inspector) (National Board and jurisdiction no.)