

A0491800- ABSORBER DATA REPORT- FEB 2003

1060-04

Canadian Natural Resources Limited  
Production - Facilities Engineering  
A0491800 Vertical Absorber Manufacturers Data  
Report

Content Date Range: 2/11/2003 to 2/11/2003

**Vessel Integrity**

Inspection Data

Open: 1/24/2007 Close:

CC+2 OP P



00759038

Vital: Yes  
Original: Yes  
Confidential: No



**FORM U-1A MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS**  
 (Alternative Form for Single Chamber, Completely Shop or Field Fabricated Vessels Only)  
 As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

④ 491800

1. Manufactured and certified by Opasco Energy Industries Ltd., 2601 Centre Ave East, Calgary, AB T2A 2L1  
 (Name and address of manufacturer)

2. Manufactured for Anadarko Canada Ltd. 425 - 1st St. S.W., Box 2595 STN. M Calgary, AB T2P 4V4  
 (Name and address of purchaser)

3. Location of installation Prespatou B.C. LSD:b-A-16-E/94-H-7  
 (Name and address)

4. Type Vert., Absorber 02-3812-1 L9722.21 SN-VAB-C R.P.Q N/A 2003  
 (Horiz or vert. tank) (Mfg's serial No.) (CRN) (Drawing No.) (Nat'l Bd No) (Year built)

5. The chemical and physical properties of all parts meet the requirements of material specification of the ASME BOILER AND PRESSURE VESSEL CODE. The design, construction, and workmanship conform to ASME Rules, Section VIII, Division 1 2001  
 Year

to 2001 N/A N/A  
 Addenda (date) Code Case Nos. Special service per UG-1 20(d)

6. Shell: SA-516-70 N 1" 0.125" 1'-10" 26' - 0"  
 Mat'l (Spec. No., Grade) Nominal Thk. (in.) Corr. Allow. (in.) Diam. I.D. (ft. & in.) Length (overall) (ft. & in.)

7. Seams: Type 1 Full 100% 1150 1 Type 1 \*Full 3  
 Long (Welded Dbl. Sngl., Lap, Butt) R.T. (Spot or Full) Eff. (%) H.T. Temp. (F) Time (hr) Girth (Welded Dbl., Sngl., Lap, Butt) R.T. (Spot, Partial or Full) No. of Courses

8. Heads: (a) Mat'l SA-516-70 N (b) Mat'l SA-516-70 N  
 (Spec. No. Grade) (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 Pres (Con c/Co nv)
(a)	<u>Top Bottom</u>	<u>.9375"</u>	<u>0.125"</u>			<u>2:1</u>				<u>Concave</u>
(b)										

if removable, bolts used (describe other fasteners)

9. MAWP 1410 psi at max. temp 150 °F  
 (Mat'l Spec. No., Gr., Size, No.)

Min. Design Metal Temp. \*\*20 °F at 1410 Psi Hydro., pneu, or comb. test 2115 psi.

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
<u>Inlet</u>	<u>1</u>	<u>4"</u>	<u>CI 600 RFLWN</u>	<u>SA-105 N</u>	<u>1"</u>	<u>Integral</u>	<u>Fig. UW-16.1(c)</u>	
<u>Outlet/INSP</u>	<u>1</u>	<u>4"</u>	<u>CI 600 RFWN</u>	<u>SA-333-Gr. 6/SA-105N</u>	<u>.674"</u>	<u>Integral</u>	<u>Fig. UW-16.1(c)</u>	<u>Head</u>
<u>WD/Insp</u>	<u>1</u>	<u>3"</u>	<u>CI 600 RFLWN</u>	<u>SA-105 N</u>	<u>.810"</u>	<u>Integral</u>	<u>Fig. UW-16.1(c)</u>	<u>Shell</u>
<u>WLC</u>	<u>1</u>	<u>2"</u>	<u>CI 600 RFLWN</u>	<u>SA-105 N</u>	<u>.660"</u>	<u>Integral</u>	<u>Fig. UW-16.1(c)</u>	
<u>WLG/GLG</u>	<u>4</u>	<u>0.75"</u>	<u>CI 600 RFLWN</u>	<u>SA-105 N</u>	<u>.570"</u>	<u>Integral</u>	<u>Fig. UW-16.1(c)</u>	
<u>Pressure Ind.</u>	<u>1</u>	<u>0.5"</u>	<u>CI 600 RFLWN</u>	<u>SA-105 N</u>	<u>.500"</u>	<u>Integral</u>	<u>Fig. UW-16.1(c)</u>	
<u>Temp. Ind.</u>	<u>1</u>	<u>1"</u>	<u>CI 600 RFLWN</u>	<u>SA-105 N</u>	<u>.560"</u>	<u>Integral</u>	<u>Fig. UW-16.1(c)</u>	
<u>Drain/RTA/TI/SPARES</u>	<u>15</u>	<u>2"</u>	<u>CI 600 RFWN</u>	<u>SA-106B/SA-234WPB/SA-105N</u>	<u>.343"</u>	<u>Integral</u>	<u>Fig. UW-16.1(c)</u>	
<u>PSV</u>	<u>1</u>	<u>1.5"</u>	<u>CI 600 RFWN</u>	<u>SA-333-Gr. 6/SA-105N</u>	<u>.400"</u>	<u>Integral</u>	<u>Fig. UW-16.1(c)</u>	
<u>LSHH</u>	<u>1</u>	<u>3"</u>	<u>CI 600 RFLWN</u>	<u>SA-105 N</u>	<u>.810"</u>	<u>Integral</u>	<u>Fig. UW-16.1(c)</u>	
<u>LGI/RGO/HE</u>	<u>4</u>	<u>1"</u>	<u>CI 600 RFWN</u>	<u>SA-333-Gr. 6/SA-105N</u>	<u>.358"</u>	<u>Integral</u>	<u>Fig. UW-16.1(c)</u>	

11. Supports: Skirt YES Lugs Legs Other Attached Btm Head Welded  
 (Yes or no) (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:

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

Impact Testing: \*\*Exempt as per UCS-66(a) and UG-20(f)[1-5] Radiography per: \* As per UW-11(a) and UW-51

Tag No.: V-301 Volume: 71.5 Cu. ft. (2.02 Cu. M)

A No: CONSTRUCTION DWG. NO.: V-02-3812-2322 R.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. 21,356 expires July 21, 2004

Date: February 11, 2003 Co. Name Opasco Energy Industries Ltd. Signed [Signature]  
 (mm/dd/yy) (Manufacturer) (Representative)

**CERTIFICATE OF SHOP INSPECTION**

Vessel constructed by Opasco Energy Industries Ltd. at Calgary, Alberta, Canada  
 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 ABSA, Alberta Boilers Safety Association

have inspected the component described in the Manufacturer's Data Report on 02/11/03, 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 a loss of any kind arising from or connected with this inspection.

Date February 11, 2003 Signed [Signature] Commissions Alberta 175  
 (mm/dd/yy) (Authorized Inspector) (Nat'l Brd (incl endorsements), State, Prov and No.)



CERTIFIED BY  
**Opso** ENERGY  
INDUSTRIES LTD.

CALGARY, ALBERTA, CAN.

M.A.W.P. 1410 P.S.I. AT 150 °F

M.D.M.T. -20 °F AT 1410 P.S.I.

SERIAL #02-3812-1 YEAR BUILT 2003

C.R.N. L9722.21 TAG # V-301

VESEL TYPE: ABSORBER C.A. 125"

SH. WT.: 1.00

HD. WT.: .9375 MIN.

PROV. REG. (A)