

A0510409 - SEPARATOR INSPECTION / DATA - FEB 2004

1060-04

Canadian Natural Resources Limited
Production - Facilities Engineering
A0510409 Vertical Separator Certificate of Inspection
and Manufacturers Data Report

Content Date Range: 2/25/2004 to 2/25/2004

Vessel Integrity
Inspection Data

Open:	2/2/2007	Close:		Vital:	Yes
CC+2	0P		P	Original:	Yes
				Confidential	No



00763261

Certificate of Inspection

ANADARKO CANADA CORPORATION
PO BOX 2595 STN M
425-1 STREET SW
ATTN GORDON TUNNICLIFFE
CALGARY, AB
T2P 4V4

MIDSTREAM
MAR 08 2004

PREFERRED RE-INSP. INTERVAL: Yr.

YEAR BUILT: 2003

CRN: P3289.2

SERIAL #: 134-79-03

VOLUME: 0.281 M3

HEATING SURFACE:

SURFACE AREA:

COMPANY CODE:

DESCRIPTION: VERTICAL SEPARATOR

LOCATION: STOCK, CALGARY

MANUFACTURER: NUSCO SUPPLY & MANUFACTURING INC

Safety Valves

PART	MAX. AUTHORIZED WORKING PRESSURE	MAX. TEMP	MIN. TEMP	VALVE ID	SETTING	CAPACITY	LOCATION
VESSEL	10204 KPA	38 C	-29 C	SV1			TO BE INSTALLED

OWNER INSTRUCTIONS/REMARKS:


NOT SUBJECT TO ANNUAL FEES AS PER INFORMATION BULLETIN IB03-003 (i)
VESSELS HAVING A VOLUME NOT EXCEEDING 0.5 M3 (500 LITRES) THAT ARE LOCATED IN WELL HEAD PLANTS OR BATTERIES;

OWNER TO VERIFY INTEGRITY OF VESSEL BY PERIODIC INSPECTION PROGRAM.

VERIFY THAT VESSEL/BOILER IS PROTECTED BY AN ACCEPTABLE ASME CODE PRESSURE RELIEF VALVE, OF ADEQUATE CAPACITY, SET AT NO MORE THAN MAXIMUM PRESSURE AUTHORIZED AND INSTALLED IN ACCORDANCE WITH THE SAFETY CODES ACT & REGULATIONS.

VESSEL/BOILER TO BE INSTALLED IN ACCORDANCE WITH THE SAFETY CODES ACT AND REGULATIONS.

Safety Codes Officer: BENTLEY, BILL

Signature: 

REQUIREMENTS OF THE SAFETY CODES ACT AND THE REGULATIONS ISSUED THEREUNDER:

The owner or person in charge shall report all accidents involving a boiler, pressure vessel or pressure piping system to the district Safety Codes Officer immediately and shall send a full report in writing to the Administrator as required by the Act. No repairs or alterations may be made unless authorized by a Safety Codes Officer.

A370409
CLK

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

1. Manufactured and Certified by: MAR-QUINN INDUSTRIES LTD., 7115 SPARROW DRIVE, LEDUC, ALBERTA, CANADA, T9E 7L1
(Name and Address of Manufacturer)

Manufactured for: ANADARKO CANADA CORPORATION 425 - 1st. St. S.W. Calgary Alberta T2P 4V4
(Name and Address of Purchaser)

3. Location of installer: stock
(Name and Address)

4. Type: Vert Separator 134-79-03 P3289.21 # 264 Rev E N/A 2003
(Hertz. or Vert., tank) (Mfg's serial No.) (L.R.N.) (Drawing No.) (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**
2001
Year

to 2002 N/A N/A
Addenda (date) Code Case No.s Special Service per UG-120(d)

6. Shell: SA-106-B .844 in. 0.0625 16 in. OD 96 in.
Mat'l (Spec. No., Grade) Nom. Thk. (In.) Corr. Allow. (In.) Diam. I. D. (ft. & In.) Length (overall) (ft. & In.)

7. Seams: Smls Smls 100 N/A N/A Type # 1 Spot 1
Long. (Welded, Dbl., Sngl., Lap, Butt.) R. T. Eff. (%) H. T. Temp. (F) Time (hr.) Girth (Welded, Dbl., Sngl., Laps, Butt) R. T. (Spot, Partial, or Full) No. of Courses

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

Location (Top, Bottom, Ends)	Minimum Thickness	C.A.	Crown Radius	Knuckle Radius	Elliptical Radius	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a) TOP	0.6175	0.0625	N/A	N/A	2:1	N/A	N/A	N/A	Concave
(b) BOTTOM	0.6175	0.0625	N/A	N/A	2:1	N/A	N/A	N/A	Concave

If removable, bolts used (describe other fastenings) N/A
(Mat'l., Spec., No., Gr., Size., No.)

9. MAWP 1480 psi at max. temp. 100 °F
Min. design metal ten. -20 °F at 1480 psi. Hydro., pneu., or comb. test pressure 1924

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
Gas Inlet/Outlet	2	3 in. NPS	600# RFWN	SA-105N/SA-106B	0.600 in.	N/A	UW16.1(c)	Shell/Top Head
Drain	1	2 in. NPT	Pipe	SA-106-B	0.344 in.	N/A	UW16.1(c)	Bottom Head
Water & Oil LLC;s	2	2 in. NPT	Coupling	SA-105N	3000#	N/A	UW16.1(a)	Shell
LLSD,HLSD,Inspection	2	2 in. NPT	Coupling	SA-105N	3000#	N/A	UW16.1(a)	Shell
Water/Oil Out,PSV	3	1 in. NPT	Coupling	SA-105N	6000#	N/A	UW16.1(a)	Shell
PI,TI	2	0.75 in. NPT	Coupling	SA-105N	6000#	N/A	UW16.1(a)	Shell
LG	4	0.75 in. NPT	Coupling	SA-105N	6000#	N/A	UW16.1(a)	Shell

11. Supports: Skirts Yes Lugs N/A Legs N/A Other N/A Attached: Btm Head by Welding
(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: N/A
(Name of part, Item number, Mfg's name, and Identifying stamp)

Volume: 9.93 cubic feet. Construction Dwg # 134-77-85-03-A Rev 0 Impact test exempt as per UG 20(f) 1 thru 5.
Hydostatic test conducted in the vertical position.Spot RT as per UW 11(a)5(b).Vertical Three Phase Separator.PSV by others.

CERTIFICATE OF SHOP / FIELD 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. 33,420 expires 9-Jul-05

Date 02/25/04 Co. name Mar-Quinn Industries Ltd. Signed [Signature]
(Manufacturer) (Representative)

CERTIFICATE OF SHOP / FIELD INSPECTION

Vessel constructed by Mar-Quinn Industries Ltd. at 7115 - Sparrow Drive Leduc Alberta Can. T9E 7L1
I, the undersigned, hold 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 FEB 25, 2004, 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 loss of any kind arising from or connected with this inspection.

Date FEB 25, 2004 Signed [Signature] Commissions AB # 1
(Authorized Inspector) (NAT'l Board Incl. Endorsement, State, Prov. And No.)

@ Amadaiko Separator
134-79-03
510909B

FORM U-3 MANUFACTURER'S CERTIFICATE OF COMPLIANCE
COVERING PRESSURE VESSELS TO BE STAMPED WITH THE UM SYMBOL, SEE U-1(i)

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

1. Manufactured and Certified by: Mar-Quinn Industries Ltd., 7115 Sparrow Drive, Leduc, Alberta, T9E 7L1
(Name and Address of manufacturer)
2. Manufactured for: Stock
(Name and Address of Purchaser)
3. Location of installation: _____
(Name and Address)
4. Type: Vertical Scrubber 134-56-03
(Horiz., vert., or sphere) (Tank, separator, ect.) (Mfg'r's serial No.)
- OH5414.213 280 Rev. A N/A 2003
(CRN) (Drawing No.) (Nat'l Bd. No.) (Year built)
5. ASME Code, Setion VIII, Div. 1 2001, A2003 N/A
Edition and Addenda (date) Code Case No.

Item 6-11 incl. To be completed for single wall vessels, jackets of jacketed vessels, shell of heat exchangers, or chamber of multi-chamber vessels.

6. Shell (a) No. of course(s): 1 (b) Overall length (ft. & in.): 30 in.

No.	Course(s)		Material		Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A,B,& C)			Heat Treatment		
	Diameter, in.	Length (ft. & in.)	Spec./Grade or Type	Corr.	Nom.	Corr.	Full	Spot	None	Eff.	Full	Spot	None	Eff.	Temp.
1	8.625 in.	30 in.	SA-106-B		0.322	0.125	Smls	N/A	N/A	N/A	#1	None	85%	N/A	N/A

7. Heads: (a) SA-234-WPB (b) SA-234-WPB
(Mat'l Spec., No., Grade, or Type) H.T. - Time & Temp. (Mat'l Spec., No., Grade, or Type) H.T. - Time & Temp.

	Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diame	Side To Pressure		Category A		
		Min.	Corr.	Crown	Knuckle					Convex	Concave	Type	Full	Spot
(a)	Top	0.25	0.125	N/A	N/A	2:01	N/A	N/A	N/A	N/A	Yes	#1	None	85%
(b)	Bottom	0.25	0.125	N/A	N/A	2:01	N/A	N/A	N/A	N/A	Yes	#1	None	85%

If removable, bolts used (describe other fastening) N/A
(Mat'l Spec., No., Grade, Size, No.)

8. Type of jacket N/A Jacket clousure N/A
If bar, give dimensions ; If bolted describe or sketch. N/A

- 9 MAWP 300 N/A psi at max. temp. 200 N/A Min. design metal temp. -20 °F at 300 psi
(internal) (external) (internal) (external)

10 Impact test Exempt as per UG 20(f) 1 thru 5
(Indicate yes or no and the component(s) impact tested)

11. Hydro., pneu., or comb. Test press. 390 psi Proof test N/A

12. Nozzles, inspection, and safety valve openings:

Purpose Inlet, Outlet, Drain, etc.	No.	Diam. Or Size	Flange Type	Material		Nozzle Thickness		Reinforcement Material	How Attached		Location
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
Inlet	1	1.0 in.	T.O.L.	SA-105N	N/A	3000#	0.125	N/A	UW16.1(a)	N/A	Shell
Outlet	1	2.0 in.	CPLG.	SA-105N	N/A	3000#	0.125	N/A	UW16.1(a)	N/A	Top Head
Drain	1	1.0 in.	T.O.L.	SA-105N	N/A	3000#	0.125	N/A	UW16.1(a)	N/A	Bottom Head
Inspection	1	1.0 in.	T.O.L.	SA-105N	N/A	3000#	0.125	N/A	UW16.1(a)	N/A	Shell

13. Supports: Skirts Yes Lugs N/A Legs N/A Others N/A Attached: Welded to Btm. Head
(Yes or No) (No.) (No.) (Describe) (Where and How)

14. Manufacturer's Partial Data Report properly indetified and signed by Commissioned Inspectors have been finished for the following items of the report: (List the name of part, item number, mfg's. name and identifying number)

15. Remarks: Vol. 1.04 cubic feet. Construction Dwg. 134-38-69-03-A Rev. 0
Hydrostatic test conducted in vertical position.

Certificate of Shop Compliance

We certify that the statements made in this report are correct and that all details of desig, material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessles, Section VIII, Division 1.

Certificate of Authorization No. 33,420 Expires 9-Jul-05
Date 02/18/04 Name Mar-Quinn Industries Ltd. Signed [Signature]
(Manufacturer) (Representative)

Signed [Signature]
(Certified Individual)