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

Ⓐ 6.21487

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

1 Manufactured and certified by Cameron Canada Corporation 9423 Shepard Rd. Calgary, Alberta T2C 4R6 Canada
(Name and address of Manufacturer)

2. Manufactured for Canadian Natural Resources Ltd. Suite 2500, 324 8th Avenue SW Calgary, AB. T2P 2Z2
(Name and address of Purchaser)

3. Location of installation LSD: 01-36-080-22-W4M
(Name and address)

4 Type Horizontal (Horiz. vert. or sphere) Treater (Tank separator, jkt vessel, heat exc., etc.) 9414-03 (Mfg's serial No.) V5138.2 (CRN) RD-9406-03 Rev 1 (Drawing No.) -- (Nat'l Bd. No.) 2012 (Year built)

5 ASME Code, Section VIII, Div. 1 2007 Edition 09 Addenda (Edition and 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, shell of heat exchangers, or chamber of multi-chamber vessels.

6 Shell: (a) No. of course(s) 7 (b) Overall length 70'

Course(s)			Material	Thickness		Long Joint (Cat. A)			Circum. Joint (Cat. A, B & C)			Heat Treatment	
No	Diameter	Length	Spec./Grade or Type	Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp	Time
7	12 OD	10'	SA516-70N	0.500"	0.125"	1	Full	100%	1	Full	100%	1150°F	1 Hour

7 Heads: (a) SA516-70N 1150°F 1 Hour (Mat'l Spec. No., Grade or Type) (H.T. – Time & Temp) (b) SA516-70N 1150°F 1 Hour (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 Diameter	Side to Pressure		Category A		
		Min	Corr.	Crown	Knuckle					Convex	Concave	Type	Full, spot, none	Eff.
a	End	0.750"	0.125"			2:1 SE					Concave			
b	End	0.420"	0.125"			2:1 SE					Concave			

If removable, bolts used (describe other fastenings): -- (Mat'l., Spec. No., Grade, size, No.)

8. Type of Jacket -- Jacket closure -- (Describe as ogee & weld, bar, etc.)
If bar, give dimensions -- If bolted, describe or sketch.

9. MAWP 75 PSI (internal) -- (external) at max. temp. 347°F (internal) -- (external). Min. design metal temp -20°F at 75 PSI.

10. Impact Test No (Indicate yes or no and the component(s) impact tested) at test temperature of --.

11. Hydro., pneu., or comb. test press. 98 PSI Proof test --

Items 12 and 13 to be completed for tube sections

12. Tubesheet: -- (Stationary (Mat'l. Spec. No.)) -- (Dia. (subject to press.)) -- (Nom. thk.) -- (Corr. allow.) -- (Attachment (welded or bolted))
-- (Floating (Mat'l. Spec. No.)) -- (Dia.) -- (Nom. thk.) -- (Corr. allow.) -- (Attachment)

13. Tubes -- (Mat'l. Spec. No., Grade or Type) -- (O.D.) -- (Nom. thk.) -- (Number) -- (Type (Straight or U))

Items 14 – 18 incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers.

Shell: (a) No. of course(s): 13 (b) Overall length: 21 3/4'

Course(s)			Material	Thickness		Long Joint (Cat. A)			Circum. Joint (Cat. A, B & C)			Heat Treatment	
No.	Diameter	Length	Spec./Grade or Type	Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	2"	11 ¼"	SA106B	0.344"	*	S	--	--	1	Full	100%	1150°F	1 Hour
2	2"	5'	SA106B	0.344"	*	S	--	--	1	Full	100%	1150°F	1 Hour
6	2"	3"	SA234WPB	0.344"	*	S	--	--	1	Full	100%	1150°F	1 Hour
2	2"	3"	SA106B	0.344"	*	S	--	--	1	Full	100%	1150°F	1 Hour
2	2"	3"	SA106B	0.344"	*	S	--	--	1	Full	100%	1150°F	1 Hour

14. Heads: (a) N/A (Mat'l Spec. No., Grade or Type) (H.T. – Time & Temp) (b) N/A (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 Diameter	Side to Pressure		Category A		
		Min.	Corr	Crown	Knuckle					convex	concave	Type	Full, spot, none	Eff.
(a)														
(b)														

If removable, bolts used (describe other fastenings): (Mat'l., Spec. No., Grade, size, No.)

FORM U-1 (Back)

15 MAWP 260 PSI (internal) 75 PSI (external) at max. temp. 347°F (internal) 347°F (external) Min design metal temp -20°F at 75 PSI

16 Impact Test No (Indicate yes or no and the component(s) impact tested) at test temperature of

17 Hydro., pneu., or comb. test pressure 338 PSI Proof test

18. Nozzles, inspection and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material		Nozzle Thickness		Reinforcement Material	How Attached		Location (Insp. Open)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
See attached U-4 form											

19. Supports: Skirt No (Yes or no) Lugs No (No.) Legs No (No.) Others 2 Saddles (Describe) Attached Welded to shell (Where and how)

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

21. Remarks: Mechanical Heater-Treater (V-200F) Volume: 8286 Cu Ft Fab Dwg: D-9414-03 Sheet 1 of 5 Rev 3

Impact test exempt per UCS-66(a)(g)& UG-20(f)1-5

*Internal 0.0625", External 0.125"

(2) Firetubes 30' O/A, each with 8 section shell, 30" OD, 1"/ 0.625" thick, SA 51670N, 1 return bend, 0.44" SA 51670N /106B, type 1 joints

CERTIFICATE OF SHOP COMPLIANCE

We certify that the statements 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. 11313 Expires SEPT. 9, 2013

Date SEP 2 6 2012 Name CAMERON CANADA CORPORATION (Manufacturer) Signed (Representative)

CERTIFICATE OF SHOP 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 ALBERTA and employed by ABSA of ALBERTA, CANADA, have inspected the pressure vessel described in this Manufacturer's Data Report on SEP 2 6 2012 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: SEP 2 6 2012 Signed (Authorized Inspector) Commissions AB 249 NB 12900 A (Nat'l Board incl. Endorsements, State, Prov., and No.)

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the statements on this report are correct and that the field assembly construction of all parts of this vessel conforms with the requirements of ASME Code, Section VIII, Division 1.
U Certificate of Authorization No. Expires

Date Name (Assembler) Signed (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 to the best of my knowledge and belief, the Manufacturer has constructed and assembled this pressure vessel in accordance with the 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 Authorized Inspector Commissions (Nat'l Board incl. Endorsements, State, Prov., and No.)

FORM U-4 MANUFACTURE'S DATA REPORT SUPPLEMENTARY SHEET
As Required by the Provisions of the ASME Boiler and Pressure Vessel Code Rules, Section VIII, Division (A) 621484

1. Manufactured and certified by Cameron Canada Corporation 9423 Shepard Rd. S.E. Calgary, AB. T2H 2H3
(Name and address of manufacturer)
2. Manufactured for Canadian Natural Resources Ltd. Suite 2500, 324 8th Avenue SW Calgary, AB. T2P 2Z2
(Name and address of purchaser)
3. Location of Installation LSD: 01-36-080-22-W4M
(Name and address)
4. Type Horizontal (Horizontal, Vertical, or Sphere) Treater (Tank, separator, heat exch., etc.) 9414-03 (Manufacturer's serial number)

V5138.2 (CRN) RD-9406-03 Rev 1 (Drawing Number) -- (National Board number) 2012 (Year built)

Data Report Item Number — Remarks

Purpose	No.	Size	Nozzles Type	Nozzles Rate	Material Nozzle	Material Flange	Thickness Nom	Thickness Corr	Reinforc. Material	Attachment Nozzle	Attachment Flange	Where
EMULSION INLET	N1 (1)	10"	RFWN	CL 150	SA 106B	SA 105N	0.500"	0.125"	SA51670N	UW16.1(c)	Type 1	SHELL
Gas Outlet	N2 (1)	4"	RFWN	CL 150	SA 106B	SA 105N	0.531"	0.125"	--	UW16.1(c)	Type 1	SHELL
RELIEF	N3 (1)	6"	RFWN	CL 150	SA 106B	SA 105N	0.432"	0.125"	SA51670N	UW16.1(c)	Type 1	SHELL
OIL OUT	N4A-B(2)	4"	RFWN	CL 150	SA 106B	SA 105N	0.531"	0.125"	--	UW16.1(c)	Type 1	SHELL
DRAIN	N5A-C (3)	6"	RFWN	CL 150	SA 106B	SA 105N	0.432"	0.125"	SA51670N	UW16.1(c)	Type 1	SHELL
FREE WATER OUT	N6A (1)	6"	RFWN	CL 150	SA 106B	SA 105N	0.432"	0.125"	SA51670N	UW16.1(c)	Type 1	SHELL
TREATED WATER OUT	N6B (1)	6"	RFWN	CL 150	SA 106B	SA 105N	0.432"	0.125"	SA51670N	UW16.1(c)	Type 1	SHELL
OIL LC (FUTURE)	N7 (1)	4"	RFWN	CL 150	SA 106B	SA 105N	0.531"	0.125"	--	UW16.1(c)	Type 1	SHELL
1-4" CL150 RF BLIND FLANGE SA105N; 5/8" X 3-1/2" STUDS SA193B7M; 5/8" NUTS SA1947M; UNC												
LSHH	N9 (1)	4"	RFWN	CL 150	SA 106B	SA 105N	0.531"	0.125"	--	UW16.1(c)	Type 1	SHELL
1-4" CL150 RF BLIND FLANGE SA105N; 5/8" X 3-1/2" STUDS SA193B7M; 5/8" NUTS SA1947M; UNC												
FG PREHEAT	N11A/B (2)	2"	RFWN	CL 150	SA106B	SA 105N	0.344"	0.125"	--	UW16.1(c)	Type 1	SHELL
TT	N12ab(2)	2"	RFWN	CL150	SA106B	SA105N	0.344"	0.125"	--	UW16.1(c)	TYPE 1	SHELL
TSHH	N13ab(2)	2"	RFWN	CL150	SA106B	SA105N	0.344"	0.125"	--	UW16.1(c)	TYPE 1	SHELL
TG	N14a-p(16)	2"	RFWN	CL150	SA106B	SA105N	0.344"	0.125"	--	UW16.1(c)	TYPE 1	SHELL
PIT	N15(1)	2"	RFWN	CL150	SA106B	SA105N	0.344"	0.125"	--	UW16.1(c)	Type 1	SHELL
LG	N16A-D(4)	2"	RFWN	CL150	SA106B	SA105N	0.344"	0.125"	--	UW16.1(c)	Type 1	SHELL
DESLUDGE DRAIN	N17A-C(3)	3"	RFWN	CL150	SA106B	SA105N	0.438"	0.125"	--	UW16.1(c)	Type 1	SHELL
LSLL	N19(1)	4"	RFWN	CL150	SA106B	SA105N	0.531"	0.125"	--	UW16.1(c)	Type 1	SHELL
1-4" CL150 RF BLIND FLANGE SA105N; 5/8" X 3-1/2" STUDS SA193B7M; 5/8" NUTS SA1947M; UNC												
DESAND DRAIN	N20A-G(7)	3"	RFWN	CL150	SA106B	SA105N	0.438"	0.125"	--	UW16.1(c)	Type 1	SHELL
DESAND FLUSH	N21A-G(7)	3"	RFWN	CL150	SA106B	SA105N	0.438"	0.125"	--	UW16.1(c)	Type 1	SHELL
F/T DESAND FLUSH	N22A-D(4)	3"	RFWN	CL150	SA106B	SA105N	0.438"	0.125"	--	UW16.1(c)	Type 1	SHELL
F/T DESAND FLUSH	N23A-D(4)	3"	RFWN	CL150	SA106B	SA105N	0.438"	0.125"	--	UW16.1(c)	Type 1	Firetube
ENTRANCE BUSHING	N24A-B(2)	4"	RFWN	CL150	SA106B	SA105N	0.531"	0.125"	--	UW16.1(c)	Type 1	SHELL
SPARE	N25(1)	10"	RFWN	CL150	SA106B	SA105N	0.500"	0.125"	SA51670N	UW16.1(c)	Type 1	SHELL
TT	N26(1)	2"	RFWN	CL150	SA106B	SA105N	0.344"	0.125"	--	UW16.1(c)	Type 1	SHELL
SAMPLE (FUTURE)	N27(1)	2"	RFWN	CL150	SA106B	SA105N	0.344"	0.125"	--	UW16.1(c)	Type 1	SHELL
1-2" CL150 RF BLIND FLANGE SA105N; 5/8" X 3-1/2" STUDS SA193B7M; 5/8" NUTS SA1947M; UNC												
I/F LC	N28A-C(3)	2"	RFWN	CL150	SA106B	SA105N	0.344"	0.125"	--	UW16.1(c)	Type 1	Firetube
1-2" CL150 RF BLIND FLANGE SA105N; 5/8" X 3-1/2" STUDS SA193B7M; 5/8" NUTS SA1947M; UNC												
I/F LC	N29A-C(3)	2"	RFWN	CL150	SA106B	SA105N	0.344"	0.125"	--	UW16.1(c)	Type 1	SHELL
SAMPLE	N30A-M(13)	2"	RFWN	CL150	SA106B	SA105N	0.344"	0.125"		UW16.1(c)	Type 1	SHELL
13-2" CL150 RF BLIND FLANGE SA105N; 5/8" X 3-1/2" STUDS SA193B7M; 5/8" NUTS SA1947M; UNC												
AGAR FLUSH	N31(1)	2"	RFWN	CL150	SA106B	SA105N	0.344"	0.125"	--	UW16.1(c)	Type 1	SHELL
SAMPLE	N32A-E(5)	2"	RFWN	CL150	SA106B	SA105N	0.344"	0.125"	--	UW16.1(c)	Type 1	SHELL
LG/BRIDLE	N33A-B(2)	4"	RFWN	CL150	SA106B	SA105N	0.531"	0.125"	--	UW16.1(c)	Type 1	SHELL
SPARE	N34A-B(2)	6"	RFWN	CL150	SA106B	SA105N	0.432"	0.125"	SA51670N	UW16.1(c)	Type 1	SHELL
2-6" CL150 RF BLIND FLANGE SA105N; 3/4" X 4" STUDS SA193B7M; 3/4" NUTS SA1947M; UNC												
SPARE	N35A-B(2)	3"	RFWN	CL150	SA106B	SA105N	0.438"	0.125"	--	UW16.1(c)	Type 1	SHELL
2-3" CL150 RF BLIND FLANGE SA105N; 5/8" X 3-1/2" STUDS SA193B7M; 5/8" NUTS SA1947M; UNC												
DENSITY PROBE	N36(1)	4"	RFWN	CL150	SA106B	SA105N	0.531"	0.125"	--	UW16.1(c)	Type 1	SHELL
BOX SLUDGE FLUSH	N37(1)	2"	RFWN	CL150	SA106B	SA105N	0.344"	0.125"	--	UW16.1(c)	Type 1	SHELL
INSTR. CONNECTION	N38A-B(2)	3"	RFWN	CL150	SA106B	SA105N	0.438"	0.125"	--	UW16.1(c)	Type 1	Firetube
LSL	N39(1)	4"	RFWN	CL150	SA106B	SA105N	0.531"	0.125"	--	UW16.1(c)	Type 1	SHELL
GAS FLUSH	N40(1)	2"	RFWN	CL150	SA 234 WPB	SA105N	0.344"	0.125"	--	Type 1	Type 1	N39
I/F LC	N41(1)	2"	RFWN	CL150	SA106B	SA105N	0.344"	0.125"		UW16.1(c)	Type 1	SHELL
1-2" CL150 RF BLIND FLANGE SA105N; 5/8" X 3-1/2" STUDS SA193B7M; 5/8" NUTS SA1947M; UNC												
I/F LC	N42(1)	2"	RFWN	CL150	SA106B	SA105N	0.344"	0.125"	--	UW16.1(c)	Type 1	SHELL
AGAR	N43(1)	2"	RFWN	CL150	SA106B	SA105N	0.344"	0.125"	--	UW16.1(c)	Type 1	SHELL
ANODE	A1-7(7)	4"	RFLWN	CL150	–	SA105N	0.750"	0.125"	--		UW16.1(c)	SHELL
MANWAY IN SHELL	M1-3(3)	24"	RFWN	CL150	SA106B	SA105N	0.500"	0.125"	SA51670N	UW16.1(c)	Type 1	SHELL
3-24" CL150 RF BLIND FLANGE SA105N; 1-1/4" X 7" STUDS SA193B7M; 1-1/4" NUTS SA1947M; UNC												
FIRETUBE FRAME	F1-2(2)	30"	ROLLED PLATE	CL75	SA 516-70N	SA 516-70N	1.000"	0.125"	--	UW16.1(c)	UW 21 (1)	HEAD

Certificate of Authorization: Type: "U" No. 11,313 Expires: SEPT. 9, 2013.

Date: SEP 26 2012 Name: Cameron Canada Corporation (Manufacturer) Signed: (Representative)

Date: SEP 26 2012 Name: (Authorized Inspector) Commission NB# 12900A Alberta # 249
[National Board (incl. endorsements), State, Province, and Number]

Shop Order #: 9414-0