

Data Manual for Canadian Natural Resources Ltd.

**A# 601347
S/N: 18948-01
CRN: R5278.213**

**PLATINUM ENERGY SERVICES CORP.
UNIT NUMBER S-19245**



Manufacturer of Gas Processing Equipment

Separators, Dehydrators, Line Heaters, Treaters, Tanks, Tubing, Gas / Electric Motors, Pumping Units

Phone: (403) 264-6688

Toll Free 1-888-745-4647

Fax: (403) 237-8271

Website: www.platinumenergycanada.com

E-mail: sales@platinumenergy.net

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RT2

DESIGNED BY
PROVISIONAL DESIGN GROUP

YTD 2010 S/N 18948-01

MAWP 1440 PSI TEMP 130°F

MDWT -20°F @ DCS 1440 PSI

GRN R5278.213

SIZE 16" OD x 7'6" S/S

(A) 601347

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 Platinum Energy Services Corp. 7550 - 114th Avenue SE Calgary, Alberta T2C 4T3
(Name and address of Manufacturer)
2. Manufactured for Platinum Energy Services Corp. 7550 - 114th Avenue SE Calgary, Alberta T2C 4T3 (A)601347
(Name and address of Purchaser)
3. Location of Installation STOCK
(Name and address)
4. Type Vertical 18948-01 R527B.213 16C-90-1440-SWEET Rev1 2010
(Horizontal or vertical, tank) (Manufacturer's serial Number) (CRN) (Drawing number) (National Board number) (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 2007
Year

to 2009
[Addenda (Date)] (Code Case Numbers) [Special Service per UG 120(d)]
6. Shell: SA108-C 0.844" 0.125" 14.312" 7' 6" S/S
(Material spec. number, grade) (Nominal thickness) (Corr. Allow.) (Inner diameter) (Length (overall))
7. Seams: SEAMLESS N/A N/A N/A N/A TYPE 1 SPOT 70% 1
(Long. (welded, dbl., singl., lap, butt)) (R.T. (Spot or Full)) (Eff. %) (H.T. Temp.) (Time, hr) [Girth (welded, dbl., singl., lap, butt)] (R.T. (Spot or Full)) (Eff. %) (No. of Courses) or Full))
8. Heads: (a) Material SA-516-70N (b) Material SA-516-70N
(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 Pressure (Convex or Concave)
(a)	TOP	0.8125"	0.125"	~	~	2:1	~	~	~	Concave
(b)	BOTTOM	0.8125"	0.125"	~	~	2:1	~	~	~	Concave

If removable, bolts used (describe other fastenings)

9. MAWP 1440 psig 130°F at max. temp. 130°F
(Internal) (External) (Internal) (External)
Min. design metal temp. -20°F at 1440 psig Hydro., pneu., or comb. test pressure HYDRO-1872 psig

10. Nozzles, Inspection and safety valve openings:

Purpose (Inlet, Outlet, Drain)	Number	Diameter or Size	Type	Material	Nominal Thickness	Reinforcement Material	How Attached	Location
Inlet, Outlet	2	3"	600 CI RFWN	SA108-B / SA105N	0.600"	Integral	UW16.1(c)	Shell/T. Head
Drain	1	2"	3000 CI CPLG	SA108-B / SA105N	0.344 / 3000 CI	Integral	UW16.1(c)	Bot. Head
HC Out, Water Out, PSV	3	1"	TOL	SA105N	3000 CI	Integral	UW16.1(a)	Shell
Aux Condensate Out	1	1"	TOL	SA105N	3000 CI	Integral	UW16.1(a)	Shell
HC LC, Water LC, HLSD	3	2"	TOL	SA105N	3000 CI	Integral	UW16.1(a)	Shell
Inspection	2	2"	TOL	SA105N	3000 CI	Integral	UW16.1(a)	Shell
HC LG, Water LG, TI	5	3/4"	TOL	SA105N	3000 CI	Integral	UW16.1(a)	Shell
PI	1	1/2"	TOL	SA105N	3000 CI	Integral	UW16.1(a)	Shell

11. Supports: Skirt YES Lugs NONE Legs NONE Other N/A Attached Bottom Head / WELDED
(Yes or No) (Number) (Number) (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 this report:

(Name of part, item number, Manufacturer's name and identifying stamp)
VESSEL DESCRIPTION: 16" OD x 7' 6" S/S 3 Phase Sweet Service Separator PSV ON PIPE AS PER UG-125
CONST. DRAWING NO.: 18947-VES-01 Rev 0 RADIOGRAPHY: UW11(a)5(b)
IMPACT TESTING: NO: EXEMPT PER UG20(f) 1-5 CUBIC CAPACITY: 9.2 Cuft

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. 28469 expires July 5 2013.
Date Oct 19-10 Co. name Platinum Energy Services Corp. Signed [Signature]
(Manufacturer) (Representative)

CERTIFICATE OF SHOP INSPECTION

Vessel constructed by Platinum Energy Services Corp. at CALGARY, ALBERTA, CANADA
I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of ALBERTA and employed by A.B.S.A. have inspected the component described in this Manufacturer's Data Report on Oct 19 2010 and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. By signing this certificate neither the Inspector nor his/her employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his/her 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 10-10-10 Signed [Signature] Commissions ALBERTA 5
(Authorized Inspector) [National Board. (incl. endorsements) State, Province and Number]



BOILERS AND PRESSURE VESSELS REPAIR AND ALTERATION REPORT

AB-40 (Slide A) 2007-07

(A) #: 601347OWNER EQUIP NO.: 18948REPAIR ☒ and/or ALTERATION ☐ Partial ☐ Final ☒

1. Name and Address of Organization doing Repair/Alteration Platinum Energy Services Corp.
7650- 114 avenue SE Calgary, AB AQP No. & Expiry Date 1084(S) July 5, 2013
Location of Installation STOCK
2. Name of Owner Platinum Energy Services Corp.
Address 7650- 114 avenue SE Calgary, AB
3. Boiler/Pressure Vessel Description Vertical Separator CRN R5278.2
Manufacturer's Name Platinum Energy Services Corp. Serial No. 18948-01
4. Design Conditions:
a) Vessel/Shellside/Boiler: Max Allowable Working Press. 1440 psi Min/Max Design Temp -20°F/130°F
b) Jacket/Tubeside: Max Allowable Working Press. Min/Max Design Temp
5. Description of defects (location and types of deterioration that resulted in the repair/alteration).
Change from RT 2 UW-11(a)5(b)
Add 100% RT Circ seams UW-11(a) and PWHT
6. ASME Code Edition and Addenda used for work: ASME Sect. VIII -1 Year 2007 Addenda 2009
7. Repair/Alter. Description of Work. Step by step description of repair/alteration method, attach additional sheets as needed.

Note 1: Repair/Alteration Procedure to be accepted by ABSA SCO prior to start of work.

- 1) X-ray Circ seams to RT 1 UW11(a) Repair to circ using WPS-PES-04
2) Add name plate Bracket for Repair/Alteration name plate WPS-PES-02
3) PWHT for 60 min. @ 1150°F
4) Hydro in the vertical position at 1872 psi (1.3 x MAWP) for 60 min.

8. Material - List any material used in repair/alteration and any base material welded on:

Item	Mat'l Spec.	Thick/Sch	Diam	Item	Mat'l Spec.	Thick/Sch	Diam
Shell/Drum	SA106-C	0.844"	18"	Heads/ Ends			
Tubesheet				Tubes			
Nozzles				Flanges/Fitting		Class	

9. Welding Procedure - Alberta Registration Number WP- 1863.2 WPS Numbers used: PES-02, PES-04
10. Heat Treatment: Bake Out (Temp./Time) / hr Preheat Temp Post Weld HT (Temp./Time) 1150°F/60 min.
11. Non Destructive Examination (Specify type and extent).
RT 1 UW11(a)

The information you provide is necessary only for the administration of the programs as required by the Alberta Safety Codes Act and Regulations in the Boiler Discipline.

(A) #: 601347

OWNER EQUIP. NO. 18948

12. Pressure Test

Vessel/Boiler/Shellside

Tubeside/Jacket

a) Hydrostatic 1872 psi

b) Other Test

13. **Welded Replacement Parts:** Attached are Manufacturer's Partial Data Reports or Repair/Alteration Reports properly identified and signed by Authorized Inspectors for the following items of this report: (Welded parts supplied by others).

14. **Responsibility Owner/Client.** Identify below items that the owner/client has assumed responsibility for. Note (2)

a) Design Submission _____ b) Repair/Alteration Procedure: _____ c) Material Control _____
 d) Welding Control _____ e) NDE _____ f) Heat Treatment _____ g) Pressure Test _____

Note 2: Owner/client must have a valid Alberta Quality Program (AQP), for the scope of work, to assume responsibility for function c, d, e, f, or g.

15. **REMARKS:** New Vessel and has never been in service

A repair in CS1 was found (bottom circ seam) and it was repaired using WPS-PES--04

Construction Drawing# 18948-VES-01 Rev. 1

16.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this Report are correct and that all design, material, construction and workmanship on this repair/alteration conform to the requirements of the Alberta Safety Codes Act and Regulations.

a) For all items except for items identified in 14:
 Platinum Energy Services Corp.

(Repair/Alteration Organization Name)

1084(S)

July 5, 2013

(AQP Number & Expiry Date)

James Creighton
 (Signature & Date)

James Creighton

(Print Name)

DEC 01 2010

b) For items identified in 14 only:

(Owner/Client Organization Name)

(AQP Number & Expiry Date)

(Signature & Date)

(Print Name)

17. DATE WORK WAS COMPLETED: DEC 01 2010

18.

CERTIFICATE OF INSPECTION

I have inspected the repairs and/or alterations described in this report. To the best of my knowledge, this work has been done in accordance with the Safety Codes Act and Regulations and the requirements established in AB-513.

a) **Owner-User Inspection Certification (Field Only)**
 (Required when Owner-User inspects the work under their ABSA Authorized Owner-User Quality Program).

b) **ABSA Safety Codes Officer Certification**
 (when work is inspected by ABSA).

Owner-User AQP# & Expiry Date

In-Service Inspector Signature & Date

In-Service Inspector Name (Please Print)

In-Service Inspector Alberta Cert #

James Creighton 10-12-12
 ABSA SCO Signature & Date

Print Name

Report Received by ABSA SCO

Date