

									-	-
10	C4/B	2	NPS 3/4	CL6000	-	FCPLG	LEVEL GAUGE	6	-	-
8	C3	1	NPS 2	CL6000	-	HCPGL	LSHH	7	-	-
9	C2	1	NPS 1	CL6000	-	FCPLG	VENT	6	-	-
8,11	C1A/B	2	NPS 2	CL6000	-	HCPGL	INSPECTION c/w HEX PLUG	7	-	-
4,5,6,7	N3	1	NPS 2	CL600	-	RFWN	DRAIN	3,4	-	-
3	N2	1	NPS 10	CL600	-	RFHB	OUTLET	5	-	-
3	N1	1	NPS 10	CL600	-	RFHB	INLET	5	-	-
ITEMS	MK.	NO.	SIZE	RATING	SCH	TYPE	SERVICE	W.D.	RE-PAD	



DESIGN DATA	
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	RADIOGRAPHY	JOINT TYPE	JOINT EFF.	JOINT CAT.	CODE PARA.
VESSEL LONG SEAMS:	FULL	ONE	1.00	A	UW-11(a)
VESSEL CIRC. SEAMS:	FULL	ONE	1.00	B	UW-11(a)
NOZZLE NECKS > 10" NPS OR WALL THICKNESS > 1.125":	FULL (NOTE NS)	ONE	1.00	C	UW-11(a)
REPAID:	-	-	-	-	-

POST WELD HEAT TREATMENT: NO	
PLAINS SERIAL NUMBER: 4820-B1	C.R.N.: Y4316.2

**NOTES**

- 1.) SEE DWG# 4820-B551 FOR NOTES & WELD DETAILS
- 2.) SEE OVERALL WTS. ON DWG# 4820-B553.
- 3.) FABRICATION AS PER TRANSCANADA VESSEL SPECIFICATION TES-MATL-PV1-G REV 04 2015-09-22.
- 4.)
- 5.) PRIMER & TOP COAT WILL BE FROM THE SAME MANUFACTURER.

				TRANSCANADA PO: 4500127383 TRANSCANADA MATERIAL NO. : 1020678 FOR TRANSCANADA c/o INDUSTRIAL PROCESS PRODUCTS LTD (IPP PO: 7757)	
DRAWN BY K SINGH		DATE 2017-02-14		CUSTOMER/PROJECT/LOCATION TRANSCANADA c/o INDUSTRIAL PROCESS PRODUCTS LTD M. 000378-TONY CREEK #2 RECEIPT METER STATION LSD: 13-3-62-21WSM	
CHECKED BY CAK		DATE 2017-04-20		TITLE VLS-10-18471/M.000378/V-1 24" (610 mm) ID x 90" (2286 mm) LG SEAM TO SEAM INLET VERTICAL SEPARATOR	
APP'D BY CAK		DATE 2017-04-20			
PROD. APPL 		DATE 			
JOB NO. 4820		SCALE 1:10		DRAWING NO. 4820-B501	
				REV. 4	

**PLAINS OIL LTD.**

**TEST REPORT**

☒ HYDROSTATIC

☐ LEAK

☐ AIR

☐ BURST

POL Job No.: 4820

Serial No.: 4820-B1

Description: Inlet Vertical Separator Design Pressure: 1440 psi

Test Pressure: 2160 psi

Gauge #(s): D43, D44

Chart recorder #: Scanner 2000 Bourdon tube range: 0-5300 psi

**MASTER GAUGE USED FOR CALIBRATION OF TEST GAUGES/RECORDER:**

**DMG:** #2 **CALIBRATION EXPIRY DATE:** 07/01/2017

Drawing #(s) & Number of pieces tested:

4820-13501

P.O.L. Q.C.M / Q.C.I. J. Harvin Date: 05/31/2017

Authorized Inspector: \_\_\_\_\_ Date: \_\_\_\_\_

Inspector for: Super (TPZ)

Signature: [Signature] Date: 05/31/2017

Inspector for: \_\_\_\_\_

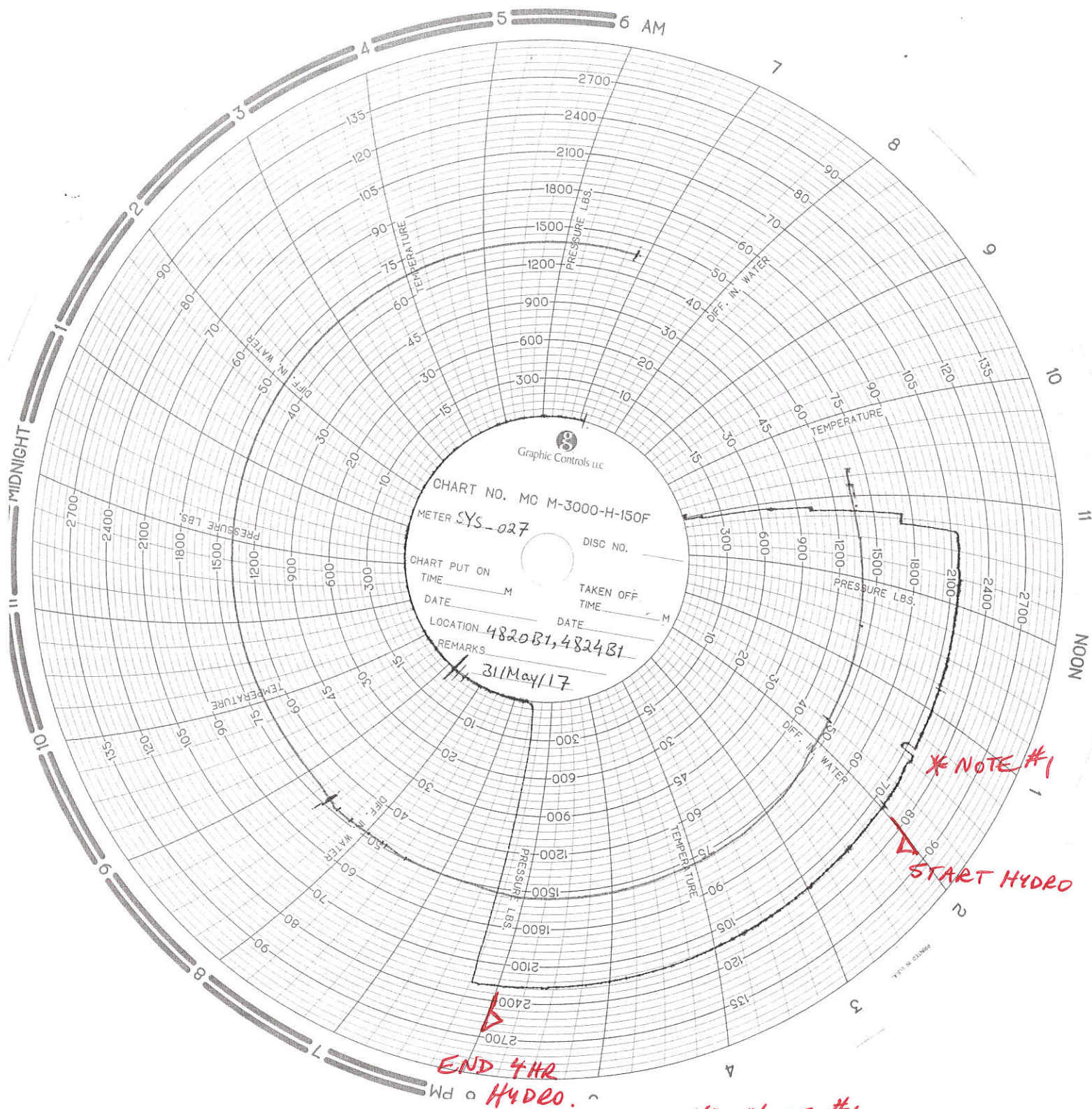
Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Inspector for: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_







*\* NOTE #1*  
*CLOSE SUPPLY VALVE*  
*& REPAIR LEAK @*  
*TUBING CONNECTION*  
*TO LEVEL GAUGE.*

**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 Boiler and Pressure Vessel Code Rules, Section VIII, Division 1

1. Manufactured and certified by Plains Oil Ltd. 8700 Venture Avenue S.E., Calgary, Alberta, Canada T3S 0A2  
(Name and address of manufacturer)  
2. Manufactured for TransCanada Pipeline Ltd. 450 - 1 Street SW Calgary, Alberta, Canada T2P 5H1  
(Name and address of purchaser)  
3. Location of installation Tony Creek #2 Receipt Meter Station LSD: 13-3-62-21 W5M  
(Name and address)

4. Type: Vertical 4820-B1 Y4316.2 4820-B501 r.3 N/A 2017  
(Horizontal or vertical tank) (Manufacturer's serial number) (CRN) (Drawing number) (National Board No.) (Year built)  
5. ASME Code, Section VIII, Division 1 2015 N/A N/A  
Edition & Addenda, if applicable (Date) (Code Case Numbers) Special Service per UG-120(d)  
6. Shell: SA516-70N 1" .063" 2'-0" ID 7'-6" S/S  
(Material Spec, number, grade) (Nominal thickness) (in.) (Corr. allow) (in.) (Inner diameter (ft. & in.)) Length (overall) (ft. & in.)

Body Flanges on Shells										Bolting			
No.	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Location		Num & Size	Bolting Material	Washer (OD, ID, Thk)	Washer Material

7. Seams: Type 1 Full 100% N/A N/A Type 1 Full 100% 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

8. Heads:(a) Material SA516-70N (b) Material SA516-70N  
(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	.943"	.063"			2:1				Concave
(b)	Bottom	.943"	.063"			2:1				Concave

Body Flanges on Heads										Bolting			
	Location	Type	ID	OD	Flange Thk	Material	How Attached			Num & Size	Bolting Material	Washer (OD, ID, Thk)	Washer Material
(a)													
(b)													

9. MAWP 1440 psig at max. temp. 129 °F  
(Internal) (External) (Internal) (External)  
Min. design metal temp. -49 °F at 1440 psig Hydro., pneu., or comb. test pressure \*\*2160 psig  
Proof Test N/A

10. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diameter or Size	Type	Material		Nozzle Thk.		Reinforcement Material	Attachment Details		Location
				Nozzle	Flange	Nom.	Corr.		Noz	Flg.	
Inlet/Outlet	2	NPS 10	CL600 RFHB	SA350-LF2 CL1		2.72"	.063"	N/A	UW16.1(d)	N/A	Shell
Drain	1	NPS 2	CL600 RFWN	SA333-6	SA350-LF2 CL1	.344"	.063"	N/A	UW16.1(d)	Type 1	Shell
*Inspection	2	NPS 2	CL6000 HCLPG	SA350-LF2 CL1		CL6000	.063"	N/A	UW16.1(d)	N/A	Shell
Vent	1	NPS 1	CL6000 FCPLG	SA350-LF2 CL1		CL6000	.063"	N/A	UW16.1(d)	N/A	Head
LSHH	1	NPS 2	CL6000 HCPLG	SA350-LF2 CL1		CL6000	.063"	N/A	UW16.1(d)	N/A	Shell
Level Gauge	2	NPS 3/4	CL6000 FCPLG	SA350-LF2 CL1		CL6000	.063"	N/A	UW16.1(d)	N/A	Shell

11. Supports: Skirt Yes Lugs 0 Legs 0 Other N/A Attached Welded to head  
(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 the report: N/A

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

Covers, Studs & Nuts: \*Covers for C1A/B are SA350-LF2 CL1 CL6000 NPT hex plugs

Description: Inlet Vertical Separator Radiography: RT-1 Service: Sweet

Volume: 20 Cu.Ft. PSV: By owner per UG125(g)

Construction drawing(s): 4820-B501 r.3

Impact Testing: Production impacts, head & shells impact tested to 15ft-lbs at -49°F. Pipe and flanges are exempt per UCS-66(g).

\*\*Note: Vessel hydro tested in the horizontal position.





2015 Section VIII – Division 1

Form U-1A (Back)

**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 BOILER AND PRESSURE VESSEL Code, Section VIII, Division 1. "U" Certificate of Authorization No. 34,219  
expires November 10, 2018.

Date 05/31/17 Co. name Plains Oil Ltd.  
(Manufacturer)

Signed   
(Representative)

**CERTIFICATE OF SHOP/FIELD INSPECTION**

Vessel constructed by Plains Oil Ltd. at 8700 Venture Avenue S.E., Calgary, Alberta, Canada, T3S 0A2.  
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by  
Alberta Boilers Safety Association (ABSA)

have inspected the component described in this Manufacturer's Data Report on June 01, 2017, 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 June 01, 2017 Signed   
(Authorized Inspector)

Commissions AB 242 NB 12860 A, B  
(National Board (incl. endorsements), State, Province and number)



the pressure equipment safety authority

9410 - 20 Ave N.W.  
Edmonton, Alberta, Canada T6N 0A4  
Tel: (780) 437-9100 / Fax: (780) 437-7787

May 24, 2017

**Attention:** Rob Mayhew  
PLAINS OIL LTD  
8700 VENTURE AVENUE SE  
ATTN ROD HARAGA  
CALGARY, AB T3S 0A2

**Email:** Rob.Mayhew@plainsfabrication.com

The design submission, tracking number 2017-02617, originally received on May 02, 2017 was surveyed and accepted for registration as follows:

**CRN :** Y4316.2

**Accepted on:** May 24, 2017

**Reg Type:** New Design

**Drawing No. :** 4820-B501 Rev 3 As Noted

Description	MAWP	Design Temperature	MDMT
Internal Pressure	9930kPa	54 °C	-45 °C

**The registration is conditional on your compliance with the following notes:**

- The sight glass and insulation valves are not in the scope of this registration.
- The holes in the shell for connections C1 & C3 (2" 6000 HCPLG) shall be the maximum diameter of 2.25".

An invoice covering survey and registration fees will be forwarded from our Revenue Accounts.

If you have any question don't hesitate to contact me by phone at (780) 433-0281 ext 3382 or fax (780) 437-7787 or e-mail [stojanovic@absa.ca](mailto:stojanovic@absa.ca).

Sincerely,

STOJANOVIC, STEVAN, P. Eng.  
SCO Cert. No. D00008849



2017-02617

Page 1 of 1

CERTIFIED BY  
**PLAINS OIL LTD.**  
CALGARY, ALBERTA, CANADA

MAWP



1440 PSI AT 129 °F 9930 KPA AT 54 °C

MAEWP

PSI AT °F KPA AT °C

W

RT1

MDMT

-49 °F AT 1440 PSI -45 °C AT 9930 KPA

S/N 4820-B1 YEAR BUILT 2017

TYPE INLET SEPARATOR CA .063 IN 1.6 MM

Ⓐ 667858

CRN Y4316.2

FLOW DIRECTION →

MODEL #: VLS-10-18471

TAG#: M.000378/V-1





# INSTRUMENTATION INC.

#3, 4351 104 Ave. SE Calgary, AB T2C 5C6 PH: 403-291-3535 Fax: 403-291-3585 www.systechinst.com

## Instrument Certificate of Accuracy

Report No.:

Company:	Plains Fabrication		Date:	May 31, 2017	
Serial Number:	SYS-027	Model Number:	242	Service Order:	IR20194
Master Calibration Device:	Chandler	Serial Number:	10489	PO No:	
Ambient State:	Temperature: 21°C	Humidity:	20%	Job No.:	4820
Static Range:	3,000	Press Units:	Psi	Technician:	Mike Bond
Temp Range:	0 to 150	Temp Units:	°F	Accuracy:	± 1 %

Static Pressure		
Reference	Target Found	Target Left
0	Rental	Pass
600	Rental	Pass
1,200	Rental	Pass
1,800	Rental	Pass
2,400	Rental	Pass
3,000	Rental	Pass

Temperature Verification		
Reference	Target Found	Target Left
32.0	Rental	Pass
70.0	Rental	Pass
140.0	Rental	Pass

Chart Drive :  
Electronic ☒ Mechanical ☐  
Battery voltage: >1.5 V

Valves:  
OK ☒ N/A ☐

Pens:  
OK ☒ ADJ ☐

ARC:  
OK ☒ ADJ ☐

Tension:  
OK ☒ ADJ ☐

Hose  
OK ☒ N/A ☐

Reference Standards are traceable to the National Institute  
of Standards Certified at preset intervals  
Chandler Deadweight Tester Serial #10489 traceable to  
NIST File 836/8366608, 78011

### Comments:

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Verification performed by

Mike Bond

Verification Certified by

Darrell Mohn