Canadian Natural Resources Limited
GENERAL PRESSURE VESSEL INFORMATION **10.115298**

District: **Fort St. John, BC**	Skid No.
Facility: **Cecil Gas Gathering**	Location (LSD): **B11-23-84-18 W6M**
Vessel Name Equipment Number: **Test Separator**	
Orientation: **Vertical**	
Status: **In service**	**Regulatory Inspection**

PRESSURE VESSEL NAMEPLATE DATA

"A" or "G" or "S" (Sask.) or BC Registration Number. **A2683896**		CRN Number: **K3720.2**	
Vessel serial number: VS 6487		Size: 30 in x 8 ft	
Shell thickness: 19.0 mm		Shell material: SA 516 70N	
Head thickness: 28.6 mm		Head material: SA 516 70N	
Tube wall thickness:		Tube material:	
Tube diameter:		Tube length:	
Channel thickness:		Channel material:	
Design pressure	Shell: 720 PSI	Operating pressure	Shell:
	Tubes:		Tubes:
Design Temp.	Shell: 100 deg F	Operating temperature	Shell:
	Tubes:		Tubes:
X-ray: RT-1		Heat treatment: Yes	
Code parameters: ASME VIII, Div 1		Coated: Nil	
Manufacturer: Larsen & D' Amico MFG Ltd.		Year built: 1991	
Corrosion allowance: 3.2 mm		Manway: No	

PRESSURE SAFETY VALVE NAMEPLATE DATA

PSV Tag	Manufacture / Model / Serial	Set Pressure (PSI / Kpa)	Capacity (scfm / usgpm)	Size	Block Valve	Location	Service by / Date
24675F	Farris // 26FA12-120/S7/S // CE34088-A10	720 PSI	4701 Scfm	1.5x2	No	Top Shell	UVL 10/2013

SERVICE CONDITIONS-INDICATE ALL THAT APPLY

Sweet	Sour X	Oil X	Gas X	Water X
Amine	LPG	Condensate	Air	Glycol
Other (Describe):				

Inspection Interval _____ **PSV Service Interval**_____

(Determined by MIC in conjunction with Chief Inspector following guidelines of Canadian Natural Resources Limited Owner-User Inspection Program)

Reports reviewed and accepted by:

Mechanical Integrity Coordinator_____ **Date**_____

Fill out all forms as completely as possible. <u>All information</u> is important! Use back of sheets to record additional information or sketch if required.
Copy of report to be filed by MIC at site, and copy sent to Chief Inspector

External Inspection Items	G	F	P	N/A	Comments
Insulation Verify sealed around manways, nozzles, no damage present, and there is no egress of moisture.				**X**	Vessel not insulated.
External Condition Assess paint condition, areas peeling, record any corrosion, damage, etc (record location, size and depth of corrosion or damage)	**X**				Paint is in good condition. No corrosion or damage noted.
Leakage Record any leakage at flanges, threaded joints, weep holes on repads, etc.	**X**				No leakage.
Saddle/Skirt Assess condition of paint, fire protection, concrete. Look for corrosion, buckling, dents, etc. Look at vessel surface area near supports. Verify no signs of leakage at attachment to vessel and attachment welds are acceptable. Ground wire attached?	**X**				Vessel is securely bolted to skid. Paint is in good condition. No corrosion No distortion. No buckling. Ground wire attached to skid.
Anchor Bolts Hammer tap to ensure secure. Look for cracking in treads or signs of deformation.	**X**				Bolts are secure, no signs of cracking or deformation.
Concrete foundation Check for cracks, spalling, etc.				**X**	
Ladder / Platform Describe general condition, ensure support is secure to vessel, describe any hazards.				**X**	
Nozzle Assess paint, look for leakage, and ensure stud threads are fully engaged. Record any damage, deflection, etc. Are nozzles gusseted?	**X**				All studs are fully engaged. No distortion – no leaks. No gussets present.
Gauges Ensure gauges are visible, working, no leakage, and suitable for range of MAWP/ Temp.	**X**				Pressure gauge is clear and visible. Appears to be functioning properly. Range is suitable for MAWP of vessel.
External Piping Ensure pipe is well supported. All clamps, supports, shoes, etc. in place. Look for evidence of structural overload, deflection, etc. Paint condition, external corrosion?	**X**				Piping is well supported. No signs of structural overload. Paint is in good condition, no corrosion.
Valving Ensure no leaks are visible. Valves are properly supported and chained if necessary.	**X**				Valves are properly supported, no leaks.
PSV Ensure PSV is set at pressure at or below that of vessel. Discharge piping is same size as inlet to valve and is properly supported and routed. Ensure no block valves between PSV and vessel or if there are they are locked open.	**X**				Located on top shell– set to MAWP of vessel. Seal is intact / No block Valve / discharges to atmosphere. PSV is properly supported.

NDE methods Was UT/ MPI done on vessel (MI coordinator to review results)	**X**				Ultrasonic corrosion survey carried out – pipe metal thickness detected below nominal minus corrosion allowance. Thickness calculations carried out: UT point 240 (2" elbow) – nominal thickness is 3.9mm / min thickness is 3.1mm / T min thickness is 1.6mm UT point 255 (2" elbow) – nominal thickness is 5.5mm / min thickness is 4.5mm / T min thickness is 1.6mm

Recommendations or corrective actions: (Vessel is Fit for Service or describe corrective actions required)
(MIC to review corrective actions with Operations, discuss with Chief Inspector where necessary, and get remedial action implemented)
Recommendations: No recommendations at this time.
Summary: This vessel is in good condition, visual external and ultrasonic thickness inspection carried out – pipe metal thickness detected below nominal minus corrosion allowance. Thickness calculations carried out to ensure sufficient metal exists for safe operation.
Corrosion rate based on greatest thickness loss (nozzle) 0.052mm per year. Retirement Date to "T"min is year 2127.
Vessel is fit for service.

API 20981 / PESL 275
Inspected By: Dellas Wiedman **Date:** October 23, 2014

Photo Table

Lsd Sign

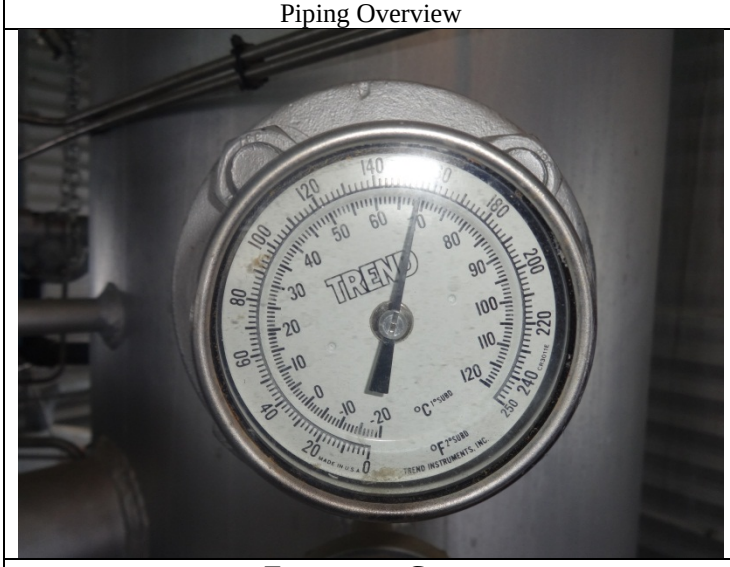
Data Plate


Overview


Base

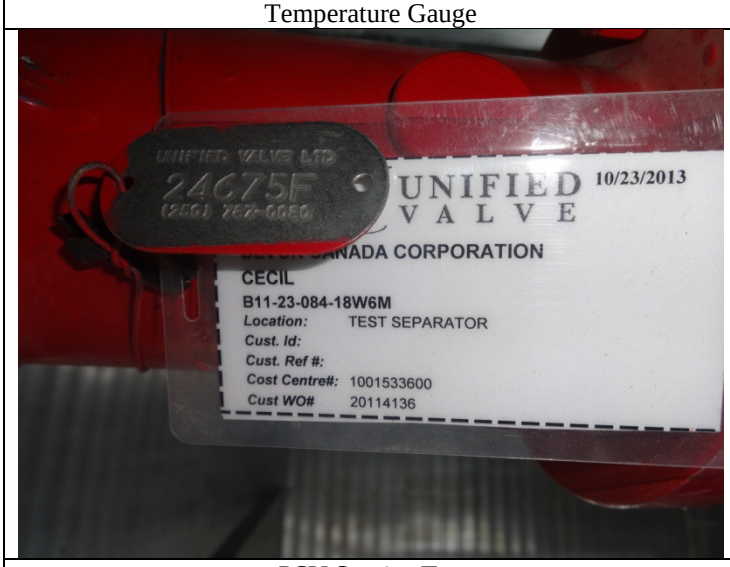
Piping Overview

Pressure Gauge

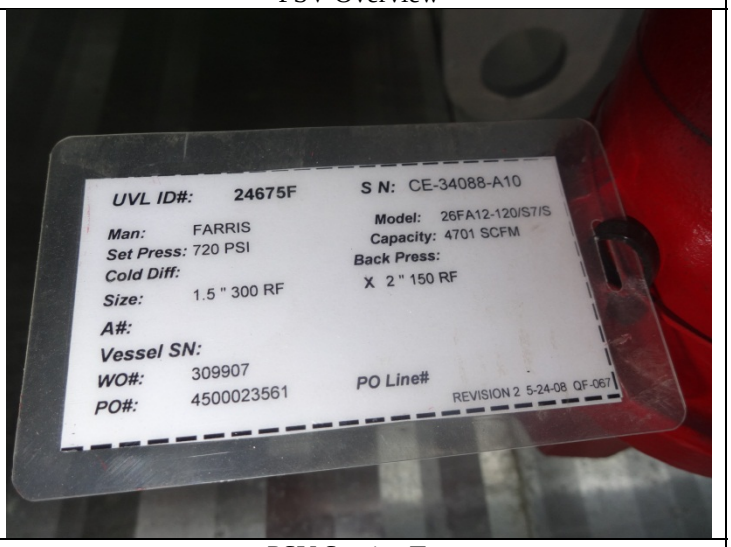


Temperature Gauge

PSV Overview



PSV Service Tag



PSV Service Tag