

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

**10.117133**

District: <b>Grande Prairie, AB.</b>	Skid No.
Facility: <b>Wapiti Gas Gathering</b>	Location (LSD): <b>103/ 10-36-68 -09W6M</b>
Vessel Name Equipment Number: <b>3 Phase Separator</b>	
Orientation: <b>Vertical</b>	
Status: <b>In Service</b>	<b>Regulatory Inspection</b>

**PRESSURE VESSEL NAMEPLATE DATA**

"A" or "G" or "S" (Sask.) or BC Registration Number. <b>A2651642</b>		CRN Number: <b>K 1730.2</b>	
Vessel serial number: P1137A		Size: 20 in. x 96 in.	
Shell thickness: 18.5 mm		Shell material: SA 516 70	
Head thickness: 18.0 mm		Head material: SA 516 70	
Tube wall thickness:		Tube material:	
Tube diameter:		Tube length:	
Channel thickness:		Channel material:	
Design pressure	Shell: 1150 PSI	Operating pressure	Shell:
	Tubes:		Tubes:
Design Temp.	Shell: 200°F	Operating temperature	Shell:
	Tubes:		Tubes:
X-ray: RT -1		Heat treatment: Nil	
Code parameters: ASME VIII, Div 1		Coated: No	
Manufacturer: Cessco		Year built: 1990	
Corrosion allowance: Not Stated		Man way: No	

**PRESSURE SAFETY VALVE NAMEPLATE DATA**

Tag Number(s)	Manufacturer /Model / Serial# and Code Stamp	Set Pressure (PSI)	Capacity (Scfm/ usgpm)	Size	Block Valve	Location	Serv by / Date
<b>Not Stated</b>	Taylor / 8200 1ME / 37979 – 618/UV-NB	600 PSI	2187 scfm	1 x 1	No	Mid Shell	IPV 06/04/2008
<b>430</b>	Farris/2741U/ CE-1265-KD	1150 PSI	2213scfm	0.75 x 1	No	Outlet Piping	IPV 06/04/2008

**SERVICE CONDITIONS-INDICATE ALL THAT APPLY**

Sweet X	Sour	Oil	Gas X	Water X
Amine	LPG	Condensate X	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. All information 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
<b>Insulation</b> Verify sealed around manways, nozzles, no damage present, and there is no egress of moisture.				X	Vessel is not insulated.
<b>External Condition</b> Assess paint condition, areas peeling, record any corrosion, damage, etc (record location, size and depth of corrosion or damage)	X				Paint in good overall condition – no exposed metal.
<b>Leakage</b> Record any leakage at flanges, threaded joints, weep holes on repads, etc.	X				No leaks observed.
<b>Saddle/Skirt</b> 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				Skirt: no distortion to skirt – no buckles or dents. No corrosion at head to skirt welds – no leaks. Ground wire attached to skid.
<b>Anchor Bolts</b> Hammer tap to ensure secure. Look for cracking in treads or signs of deformation.	X				Firmly bolted to skid deck. Note anchor bolts slightly rusted.
<b>Concrete foundation</b> Check for cracks, spalling, etc.				X	
<b>Ladder / Platform</b> Describe general condition, ensure support is secure to vessel, describe any hazards.				X	
<b>Nozzle</b> Assess paint, look for leakage, and ensure stud threads are fully engaged. Record any damage, deflection, etc. Are nozzles gusseted?	X				Threaded and flanged joints are fully engaged – no leaks. No damage or deflections. Nozzles are not gusseted.
<b>Gauges</b> Ensure gauges are visible, working, no leakage, and suitable for range of MAWP/ Temp.	X				Temperature gauge: 0 to 200 deg F. Pressure gauge: 0 to 2800 kPa
<b>External Piping</b> 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 deflection, all clamps and supports are in place. Paint in good condition – no exposed metal.
<b>Valving</b> Ensure no leaks are visible. Valves are properly supported and chained if necessary.	X				Valves are well supported – no leaks.
<b>PSV</b> Ensure PSV is set at pressure at or below that of vessel.	X				Location: Mid shell – set below MAWP of vessel. Discharge piping is same size as valve outlet. PSV seal in place – no block valve between vessel and PSV.
<b>NDE methods</b> 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 130 (2” Nozzle) – nominal thickness is 8.7mm / min thickness is 7.7mm / T min thickness is 2.5mm. UT point 105 (4” Elbow) – nominal thickness is 8.6mm / min thickness is 6.6mm / T min thickness is 2.9mm.
<p><b>Recommendations or corrective actions: (Vessel is Fit for Service or describe corrective actions required)</b> (MIC to review corrective actions with Operations, discuss with Chief Inspector where necessary, and get remedial action implemented)</p> <p><b>Recommendations: 1. Service PSV.</b></p> <p><b>Summary:</b> Vessel is in overall good condition, visual external inspection and ultrasonic corrosion survey performed—pipe metal thickness detected below nominal minus corrosion allowance. Thickness calculations carried out to ensure sufficient metal exists for safe operation.</p> <p><b>Corrosion rate based on greatest thickness loss (nozzle) 0.042mm per year. Retirement Date to “T”min is year 2141.</b> <b>Vessel is fit for service.</b></p>					

Photo Table

	
<p><b>LSD</b></p>	<p><b>Data Plate</b></p>
	
<p><b>Overview</b></p>	<p><b>Skirt</b></p>
	
<p><b>Pressure gauge</b></p>	<p><b>Temperature gauge</b></p>



PSV

PSV Service Tag



PSV Service Tag

PSV



PSV Service Tag

PSV Service Tag