

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

**Job 4017058**

District: <b>Grande Prairie, AB.</b>	Skid No.
Facility: <b>North Wapiti Field</b>	Location (LSD): <b>08-36-68-09 W6M</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>A2922696</b>		CRN Number: <b>M 2801.2</b>	
Vessel serial number: 2591		Size: 30 in. x 96 in.	
Shell thickness: 34.9 mm		Shell material: SA 516 70	
Head thickness: 32.2 mm		Head material: SA 516 70	
Tube wall thickness:		Tube material:	
Tube diameter:		Tube length:	
Channel thickness:		Channel material:	
Design pressure	Shell: 9928 kPa	Operating pressure	Shell:
	Tubes:		Tubes:
Design Temp.	Shell: 38°C	Operating temperature	Shell:
	Tubes:		Tubes:
X-ray: RT -1		Heat treatment: Nil	
Code parameters: ASME VIII, Div 1		Coated: No	
Manufacturer: RJV Gas Field Services		Year built: 1994	
Corrosion allowance: 3.2 mm		Man way: No	

**PRESSURE SAFETY VALVE NAMEPLATE DATA**

Tag Number(s)	Manufacturer /Model / Serial#	Set Pressure (PSI / kPa)	Capacity (Scfm/ usgpm)	Size	Block Valve	Location	Serv by / Date
<b>WAP 0833</b>	Consolidated /1977/ 94C0675	9928 kPa	10168 scfm	1.5 x 2	No	Upper Shell	Kings/ 09/2014

**SERVICE CONDITIONS-INDICATE ALL THAT APPLY**

Sweet <input checked="" type="checkbox"/> X	Sour	Oil	Gas <input checked="" type="checkbox"/> X	Water <input checked="" type="checkbox"/> X
Amine	LPG	Condensate <input checked="" type="checkbox"/> 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 fair condition – corrosion at upper shell – no pitting.
<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 or buckles. No corrosion at head to skirt weld – no leaks.  Skid package is grounded.
<b>Anchor Bolts</b> Hammer tap to ensure secure. Look for cracking in treads or signs of deformation.	X				Firmly welded to skid deck.
<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 connections fully engaged. No deflection – no leaks. No gussets.
<b>Gauges</b> Ensure gauges are visible, working, no leakage, and suitable for range of MAWP/ Temp.	X				Pressure gauge: 0 to 1500 PSI
<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 is in fair condition – 40% surface corrosion on outlet / inlet piping – no pitting.
<b>Valving</b> Ensure no leaks are visible. Valves are properly supported and chained if necessary.	X				Well supported – no visible leaks.
<b>PSV</b> Ensure PSV is set at pressure at or below that of vessel.	X				Location: upper shell – set at 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 – no metal thickness detected below nominal minus corrosion allowance.
<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. Clean up pipe and repaint. 2. Service PSV</b></p> <p><b>Summary:</b> Vessel is in overall good condition, visual external inspection and ultrasonic corrosion survey performed—no metal thickness detected below nominal minus corrosion allowance. Thickness calculations carried out to ensure sufficient metal exists for safe operation.</p> <p>Corrosion rate based on greatest thickness loss – no corrosion rate to assess.</p> <p><b>Vessel is fit for service.</b></p>					

**Inspected By:** Dellas Wiedman 

**Date:** May 8th, 2020

API 20981 / IBPV 275

**Assistant:** Garrett Tatton

Photo Table



LSD



Data plate



Overview



Skirt



Base welded to floor



Inlet – surface corrosion present – no pits



**Outlet piping – surface corrosion – no pits**



**Roof sealed**



**Surface corrosion below roof**



**Outlet piping – surface corrosion**



**Pressure gauge 0-1500 psi**



**Liquid level**



PSV location



PSV service tag