

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

District: <b>Grande Prairie.</b>	Skid No.
Facility: <b>Knopcik North Gas Gathering.</b>	Location (LSD): <b>06-02-74-11-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>A 226947</b>		CRN Number: <b>H.0873.2</b>	
Vessel serial number: VS-5355		Size: 16 in. x 9 ft.	
Shell thickness: 26.0 mm		Shell material: SA106B	
Head thickness: 21.0 mm		Head material: SA516-70	
Tube wall thickness:		Tube material:	
Tube diameter:		Tube length	
Channel thickness:		Channel material:	
Design pressure	Shell: 1440 psi	Operating pressure	Shell: 25 psi
	Tube:		Tubes:
Design Temp.	Shell: 100 F	Operating temperature	Shell: 60 F.
	Tubes:		Tubes:
X-ray: RT-4		Heat treatment: Nil	
Code parameters: ASME VIII/Div 1		Coated: Nil	
Manufacturer: Larsen & D'Amico.		Year built: 1987	
Corrosion allowance: 1.6 mm.		Manway: Nil.	

**PRESSURE SAFETY VALVE NAMEPLATE DATA**

PSV Tag #	Manufacture	Model #	Serial #	Set Pressure (psi)	Capacity (scfm)	Service Date
1902	Mercer	9100 1X1-MD.	83792	1440	2927	05/2005.
CRN #	Service By	Block Valve	Location	Size	Code Stamp	
Not stated	IPV	Nil	Upper shell.	1 in x 1 in.	UV/NB.	

**SERVICE CONDITIONS-INDICATE ALL THAT APPLY**

<u>Sweet</u>	Sour	Oil	<u>Gas</u>	<u>Water</u>
Amine	LPG	<u>Condensate</u>	Air	Glycol

Other (Describe):

**Inspection Interval** \_\_\_\_\_ **PSV Service Interval** \_\_\_\_\_

(Determined by MIC in conjunction with Chief Inspector following guidelines of CNRL's 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
Insulation Verify sealed around manways, nozzles, no damage present, and there is no egress of moisture.				X	<ul style="list-style-type: none"> <li>Non insulated vessel.</li> </ul>
External Condition Assess paint condition, areas peeling, record any corrosion, damage, etc (record location, size and depth of corrosion or damage)	X				<ul style="list-style-type: none"> <li>Paint in good condition.</li> <li>No corrosion or damage noted.</li> <li>No bare metal.</li> </ul>
Leakage Record any leakage at flanges, threaded joints, weep holes on repads, etc.	X				<ul style="list-style-type: none"> <li>No leakage noted.</li> </ul>
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				<ul style="list-style-type: none"> <li>Saddle: Paint good with no corrosion buckling or dents noted.</li> <li>All attachment welds are acceptable with no leakage noted.</li> <li>Grounded through the skid.</li> </ul>
Anchor Bolts Hammer tap to ensure secure. Look for cracking in treads or signs of deformation.	X				<ul style="list-style-type: none"> <li>All bolts tight and secure.</li> <li>No deformation or cracking noted.</li> </ul>
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				<ul style="list-style-type: none"> <li>Paint good with no leakage noted.</li> <li>All studs are fully engaged.</li> <li>No damage or deflection noted.</li> <li>No gussets.</li> </ul>
Gauges Ensure gauges are visible, working, no leakage, and suitable for range of MAWP/ Temp.	X				<ul style="list-style-type: none"> <li>All gauges visible and in working condition.</li> <li>Suitable for MAWP/ Temp.</li> </ul>
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				<ul style="list-style-type: none"> <li>All piping well supported.</li> <li>All clamps and shoes in place.</li> <li>No overload or deflection noted.</li> <li>Paint in good condition.</li> </ul>
Valving Ensure no leaks are visible. Valves are properly supported and chained if necessary.	X				<ul style="list-style-type: none"> <li>No leaks noted.</li> <li>Properly supported with no chaining required.</li> </ul>
PSV Ensure PSV is set at pressure at or below that of vessel.	X				<ul style="list-style-type: none"> <li>PSV set at MAWP.</li> </ul>
NDE methods Was UT/ MPI done on vessel (MI coordinator to review results)	X				<ul style="list-style-type: none"> <li>Ultrasonic thickness survey carried out – no metal thickness detected below nominal minus corrosion allowance.</li> </ul>
Other					
<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)  <b>Recommendations: No Recommendations at this time.</b>  <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.  <b>Vessel is fit for service.</b></p>					

**Inspected By:** Dellas Wiedman / Carey Menzies

**Date:** March 25, 2010

Photo Table



Site overview.



Upper shell.



Vessel view.



Vessel data plate.



Temp gauge.



Pressure gauge.