

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

**Job 10.113193**

District: <b>Grande Prairie AB.</b>	Skid No.
Facility: <b>Botha Gas Plant</b>	Location (LSD): <b>07-16-98-05 W6M</b>
Vessel Name Equipment Number: <b>Glycol Contactor</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>A2995540</b>		CRN Number:  M 4445.2	
Vessel serial number: PE-4182		Size: 30" x 30"	
Shell thickness: 34.9mm		Shell material: SA 516-70N	
Head thickness: 34.7mm		Head material: SA 516-70N	
Tube wall thickness:		Tube material:	
Tube diameter:		Tube length:	
Channel thickness:		Channel material:	
Design pressure	Shell: 1415 psi	Operating pressure	Shell
	Tubes:		Tubes:
Design Temp.	Shell: 150°F	Operating temperature	Shell:
	Tubes:		Tubes:
X-ray: RT 1		Heat treatment: no	
Code parameters: ASME VIII Div 1		Coated: No	
Manufacturer: Penfabco		Year built: 1994	
Corrosion allowance: 3.2mm		Manway: No – hand hole	

**PRESSURE SAFETY VALVE NAMEPLATE DATA**

PSV Tag #	Manufacture / Model / Serial	Set Pressure (PSI / kPa)	Capacity (scfm)	Size	Block Valve	Location	Service by Date
CHN-001-506	Consol / 1912HC / TH90307	1415 psi	22476 scfm	2x3	No	Shell	7-2013

**SERVICE CONDITIONS-INDICATE ALL THAT APPLY**

Sweet <input checked="" type="checkbox"/>	Sour	Oil	Gas <input checked="" type="checkbox"/>	Water
Amine	LPG	Condensate	Air	Glycol <input checked="" type="checkbox"/>

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

<b>External Inspection Items</b>	G	F	P	N/A	<b>Comments</b>
<b>Insulation</b> Verify sealed around manways, nozzles, no damage present, and there is no egress of moisture.				X	<b>No insulation.</b>
<b>External Condition</b> Assess paint condition, areas peeling, record any corrosion, damage, etc (record location, size and depth of corrosion or damage)	X				<b>Paint is in good condition with no paint damage or external corrosion. Paint is thinning due to exposure on the upper shell.</b>
<b>Leakage</b> Record any leakage at flanges, threaded joints, weep holes on repads, etc.	X				<b>No leaks observed.</b>
<b>Saddle/skirt</b> Assess condition of paint, fire protection, and 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				<b>Skirt: bolted directly to skid floor. No buckling or dents. No corrosion at attachment welds to vessel. Ground wire attached to skid.</b>
<b>Anchor Bolts</b> Hammer tap to ensure secure. Look for cracking in treads or signs of deformation.	X				<b>Present and tightly secured.</b>
<b>Concrete foundation</b> Check for cracks, spalling, etc.				X	<b>Skid is in good condition</b>
<b>Ladder / Platform</b> Describe general condition, ensure support is secure to vessel, and describe any hazards.				X	<b>None</b>
<b>Nozzle</b> Assess paint, look for leakage, and ensure stud threads are fully engaged. Record any damage, deflection, etc. Are nozzles gusseted?	X				<b>Flanged and threaded nozzle joints are fully engaged. No damage or deflections – no leaks. Nozzles are not gusseted.</b>
<b>Gauges</b> Ensure gauges are visible, working, no leakage, and suitable for range of MAWP/ Temp.	X				<b>Clear and clean – no leakage. Pressure 0-1500psi</b>
<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				<b>Piping is well supported; no deflection, all clamps and supports are in place. Piping paint is in overall good condition with no external corrosion.</b>
<b>Valving</b> Ensure no leaks are visible. Valves are properly supported and chained if necessary.	X				<b>Valves are supported properly – no leaks.</b>
<b>PSV</b> Ensure PSV is set at pressure at or below that of vessel.	X				<b>Location: Shell - Set below MAWP of vessel. Block valve between vessel and PSV. Valve locked open. Discharge piping is same size as valve outlet. Seal in place.</b>
<b>NDE methods</b> Was UT/ MPI done on vessel (MI coordinator to review results)	X				<b>Ultrasonic corrosion survey to be carried out, no metal thickness detected below nominal minus corrosion allowance.</b>
<b>Other:</b>					
<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:</b> No recommendations.					
<b>Summary:</b> This vessel is in good condition, visual external and ultrasonic thickness inspection carried out – no metal thickness detected below nominal minus corrosion allowance.					
<b>Corrosion rate based on greatest thickness loss (head) 0.026mm per year. Retirement Date to “T”min is year 2230.</b>					
<b>Vessel is fit for service.</b>					



Plant LSD



Data plate



Vessel overview – inside.



Vessel overview – outside.



Skirt is well supporting, anchor bolts are tight.



Pressure gauge.



Temperature gauge.



PSV location.

