

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

Job 10.113377

District: Grande Prairie AB.		Skid No.					
Facility: La Glace Gas Gathering		Location (LSD): 14-09-75-09W6M					
Vessel Name Equipment Number: Separator							
Orientation: Vertical							
Status: In Service		Regulatory Inspection					
PRESSURE VESSEL NAMEPLATE DATA							
“A” or “G” or “S” (Sask.) or BC Registration Number. A0138461		CRN Number: C 5574.2					
Vessel serial number: VS060016-147		Size: 24 in. X 60 in.					
Shell thickness: 7.9mm		Shell material: SA 53-B					
Head thickness: 9.5mm		Head material: SA 516-70					
Tube wall thickness:		Tube material:					
Tube diameter:		Tube length:					
Channel thickness:		Channel material:					
Design pressure	Shell: 225 PSI	Operating pressure	Shell:				
	Tubes:		Tubes:				
Design Temp.	Shell: 100 Deg F.	Operating temperature	Shell:				
	Tubes:		Tubes:				
X-ray: Nil		Heat treatment: Nil					
Code parameters: ASME VIII Div 1		Coated: No					
Manufacturer: Larsen & D’Amico		Year built: 1979					
Corrosion allowance: 1.6mm		Manway: No					
PRESSURE SAFETY VALVE NAMEPLATE DATA							
PSV Tag #	Manufacture / Model / Serial	Set Pressure (PSI / kPa)	Capacity (scfm)	Size	Block Valve	Location	Service by Date
	Farris//27EA34-M20//429435-2-KE-18	225 PSI	940 scfm	1”x 1.5”	no	Top head	IPV//5, 2008
SERVICE CONDITIONS-INDICATE ALL THAT APPLY							
Sweet X	Sour	Oil		Gas X		Water	
Amine	LPG	Condensate		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	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 peeling to 60% of area – scale corrosion on exposed metal. Pitting less than .005”
Leakage Record any leakage at flanges, threaded joints, weep holes on repads, etc.		X			Leaks observed.
Saddle/skirt 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				Skirt: Bolted directly to skid floor. No buckling or dents. No corrosion at attachment welds to vessel. Ground wire attached to vessel.
Anchor Bolts Hammer tap to ensure secure. Look for cracking in treads or signs of deformation.	X				Vessel skirt bolted firmly to skid floor – no deformation.
Concrete foundation Check for cracks, spalling, etc.				X	
Ladder / Platform Describe general condition, ensure support is secure to vessel, and 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				Threaded nozzle joints are fully engaged. No damage or deflections – no leaks. Nozzles are not gusseted.
Gauges Ensure gauges are visible, working, no leakage, and suitable for range of MAWP/ Temp.	X				Clear and clean – no leakage. Within operational range for service. Pressure gauge 0 – 600 PSI.
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			Well supported – all claps and supports in place. Paint peeling to 70% and corrosion on exposed metal Pipe thread joints have leakage.
Valving Ensure no leaks are visible. Valves are properly supported and chained if necessary.	X				Valves are supported properly – no leaks.
PSV Ensure PSV is set at pressure at or below that of vessel.		X			Location: Top head – Set above MAWP No block valve between vessel and PSV. Discharge piping is same size as valve out let. PSV seal broken.
NDE methods 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.
Other					
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: Service PSV Repair leakage at pipe threads. Re-paint vessel and piping. Summary: This vessel is in good condition, visual external and ultrasonic thickness inspection carried out – no metal thickness detected below nominal minus corrosion allowance. Corrosion rate based on greatest thickness loss (shell) 0.026mm per year. Retirement Date to “T”min is year 2032. Vessel is fit for service.					



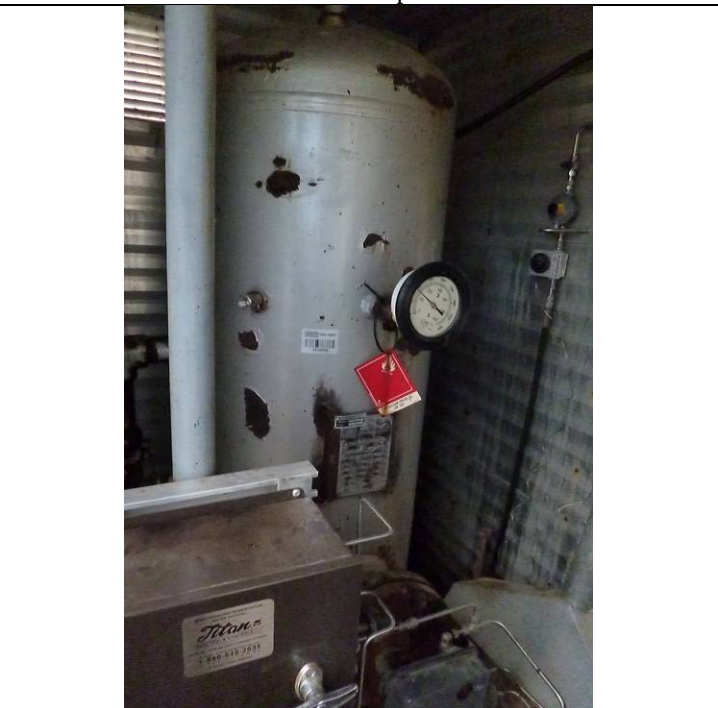
LSD



Vessel data plate



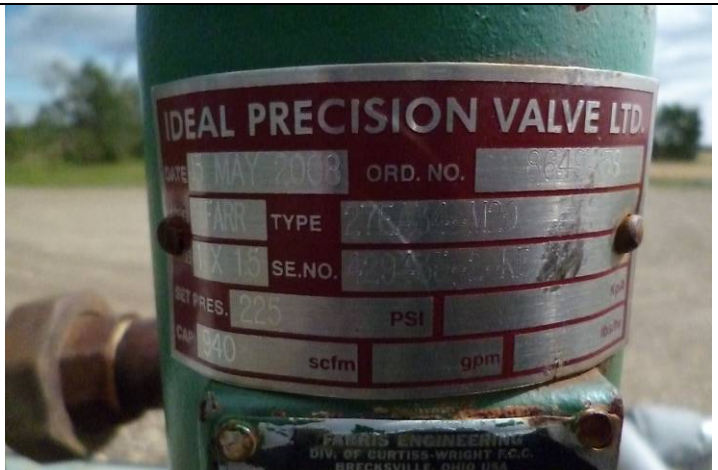
Pressure gauge



Vessel overview



Vessel skirt and ground wire attached



PSV data plate



Vessel PSV