

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

Job 10.180192

District: Grande Prairie, Ab.		Skid No.					
Facility: Thunder Creek Compressor Station		Location (LSD): d-31-H/93-I-15					
Vessel Name & Equipment Number: Glycol Contactor							
Orientation: Vertical							
Status: Not in Operation.		Regulatory Inspection					
PRESSURE VESSEL NAMEPLATE DATA							
"A" or "G" or "S" (Sask.) or BC Registration Number. A0506261		CRN Number P 5021.213					
Vessel serial number: 2004 -7204 -01A		Size: 24 in. OD x 30 ft. S/S					
Shell thickness: 25.4 mm		Shell material: SA 516 70 N					
Head thickness: 23.8 mm		Head material: SA 516 70 N					
Tube wall thickness:		Tube material:					
Tube diameter:		Tube length:					
Channel thickness:		Channel material:					
Design pressure	Shell: 9929 kPa	Operating pressure	Shell:				
	Tubes:		Tubes:				
Design Temp.	Shell: 54°C	Operating temperature	Shell:				
	Tubes:		Tubes:				
X-ray: RT 1		Heat treatment: HT					
Code parameters: ASME VIII / Div 1		Coated: No					
Manufacturer: Alco Gas and Oil.		Year built: 2004					
Corrosion allowance: 3.2 mm		Manway: No					
PRESSURE SAFETY VALVE NAMEPLATE DATA							
PSV Tag #	Manufacturer /Model / Serial number	Set Pressure (PSI / kPa)	Capacity (Scfm/ usgpm)	Size	Block Valve	Location	Serv by / Date
TCCS 014/ 40212G	Farris /26FA13-120/CE463640-5-A10	9929 kPa	9328 scfm	1.5 X 2	No	Lower Shell	Unified 06/2007
SERVICE CONDITONS-INDICATE ALL THAT APPLY							
Sweet X	Sour	Oil		Gas X	Water X		
Amine	LPG	Condensate		Air	Glycol X		
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
Insulation: Verify sealed around manways, nozzles, no damage present, and there is no egress of moisture.				X	Vessel is 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 in fair condition – no exposed metal.
Leakage: Record any leakage at flanges, threaded joints, weep holes on repads, etc.	X				No leaks detected.
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				Skirt: Separator is mounted firmly to skid deck, no distortion or buckles. No corrosion at head to shell weld – no leaks. Skid Package is grounded.
Anchor Bolts: Hammer tap to ensure secure. Look for cracking in treads or signs of deformation.	X				Firmly bolted to skid deck.
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				All studs fully engaged to nuts – no short bolts. No deflection, no leaking detected. No gussets.
Gauges: Ensure gauges are visible, working, no leakage, and suitable for range of MAWP/ Temp.	X				Temp and pressure gauges firmly attached and within operational parameters for service.
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, no deflection, all clamps in place. Paint is in good condition – no corrosion.
Valving: Ensure no leaks are visible. Valves are properly supported and chained if necessary.	X				Firmly supported – no leaks.
PSV: Ensure PSV is set at pressure at or below that of vessel.					Located on lower shell, set below MAWP of vessel. Seal is intact. No block valve. Discharge piping is same size as outlet orifice.
NDE methods: Was UT/ MPI done on vessel (MI coordinator to review results)	X				Ultrasonic thickness survey carried out – pipe metal thickness detected below nominal minus corrosion allowance. Thickness calculations carried out: UT point 2220 (2” circ nozzle) – nominal thickness is 11.1mm / min thickness is 7.8mm / T min thickness is 2.5mm.
Other:					Vessel is not operating at time of inspection – no blinds removed.
<p>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)</p> <p>Recommendations: No recommendations at this time.</p> <p>Summary: This vessel is in good condition, visual external and ultrasonic thickness inspection carried out – pipe 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 (nozzle) 0.021mm per year. Retirement Date to “T”min is year 2265. Vessel is fit for Service.</p>					



LSD

Dehy #2



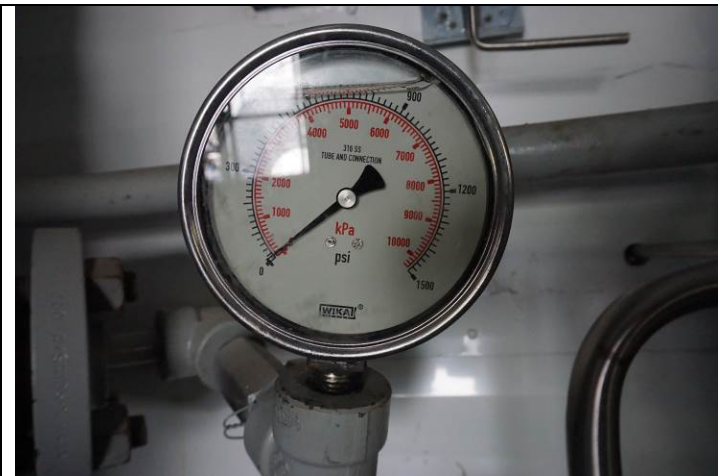
Vessel overview

Vessel overview



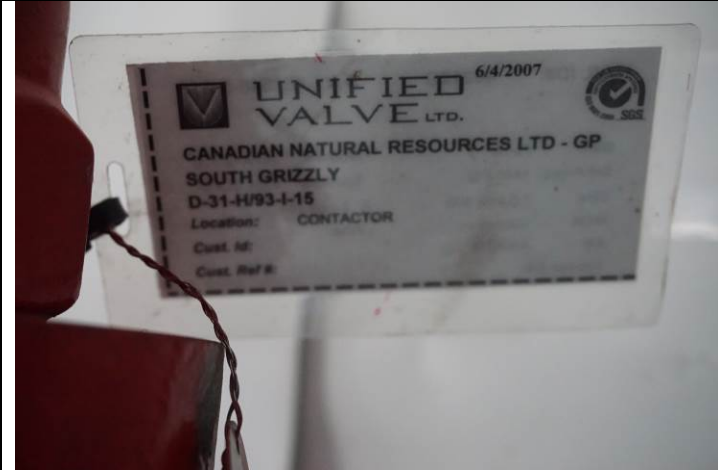
Data plate

Bolted to skid floor



Pressure gauge

PSV



PSV service tag

PSV service tag



CNRL PSV Tag ID#



