

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

**Job # 10.110039**

District: <b>Fort St John, B.C.</b>	Skid No.
Facility: <b>Caribou Compressor Station</b>	Location (LSD): <b>d-62-C/94-A-16</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>A 3098592</b>		CRN Number <b>M-2316.21</b>	
Vessel serial number: 95-7977-0		Size: 23 in X 32 ft	
Shell thickness: 28.6 mm		Shell material: SA 516 70MT	
Head thickness: 30.6 mm/30.9mm		Head material: SA 516 70MT	
Tube wall thickness:		Tube material:	
Tube diameter:		Tube length:	
Channel thickness:		Channel material:	
MAWP	Shell: 1440 PSI	Operating pressure	Shell:
	Tubes:		Tubes:
Design Temp.	Shell: 130 deg F	Operating temperature	Shell:
	Tubes:		Tubes:
X-ray: RT-1		Heat treatment: Yes	
Code parameters: <b>ASME Sec VIII, Div 1</b>		Coated:	
Manufacturer: Wells-Hall Fabrication.		Year built: 1995	
Corrosion allowance: 3.2mm		Manway: No	

**PRESSURE SAFETY VALVE NAMEPLATE DATA**

PSV Tag #	Manufacture	Model #	Serial #	Set Pressure (PSI)	Capacity (scfm)	Service Date
<b>9264F</b>	<b>Farris</b>	<b>26EA13-120</b>	<b>480467-4-A10</b>	<b>1400</b>	<b>5501</b>	<b>09/05</b>
CRN #	Service By	Block Valve	Location	Size	Code Stamp	
<b>0G8842.5C</b>	<b>Farris</b>	<b>No</b>	<b>Lower Shell</b>	<b>1" X 2"</b>	<b>UV/NB</b>	

**SERVICE CONDITIONS-INDICATE ALL THAT APPLY**

Sweet	Sour X	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 CNRL's Owner-User Inspection Program)

Reports reviewed and accepted by:

**Mechanical Integrity Coordinator** \_\_\_\_\_ **Date** \_\_\_\_\_

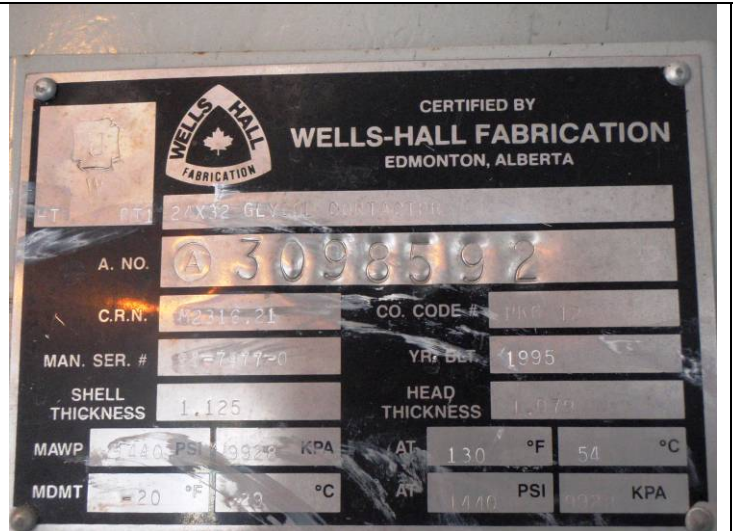
Fill out all forms as completely as possible. All information is important! Use back of sheets to record additional information or sketch if required.

Copy of report to be filed by MIC at site, and copy sent to Chief Inspector

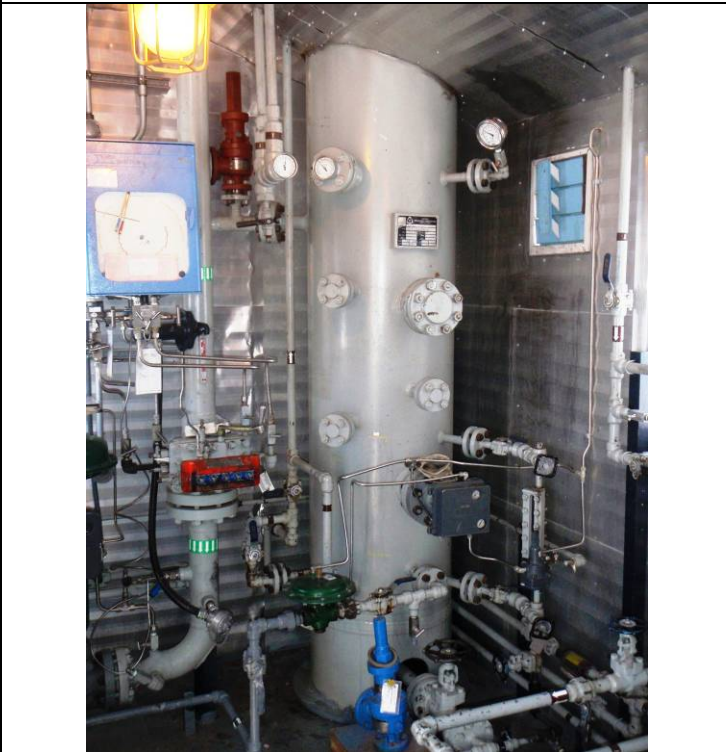
<b>External Inspection Items</b>	G	F	P	N/A	<b>Comments</b>
<b>Insulation</b> Verify sealed around manways, nozzles, no damage present, and there is no egress of moisture.				X	<b>No insulation.</b>
<b>External Condition</b> Assess paint condition, areas peeling, record any corrosion, damage, etc (record location, size and depth of corrosion or damage)	X				<b>Paint is in good overall condition – little to no external surface corrosion or exposed metal.</b>
<b>Leakage</b> Record any leakage at flanges, threaded joints, weep holes on repads, etc.	X				<b>No leaking detected.</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 is in good condition – no buckles or distortion. Paint intact – with little to no corrosion. Vessel grounded at the skid.</b>
<b>Anchor Bolts</b> Hammer tap to ensure secure. Look for cracking in treads or signs of deformation.	X				<b>Firmly secured. No signs of deformation.</b>
<b>Concrete foundation</b> Check for cracks, spalling, etc.				X	<b>None.</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>All threads engaged. No deflection – no leaks. No gussets. Painting good overall condition.</b>
<b>Gauges</b> Ensure gauges are visible, working, no leakage, and suitable for range of MAWP/ Temp.	X				<b>Gauge is visible, working, and suitable for range of Temp/MAWP. Temperature gauge: 0 to 250 deg F. Pressure gauge: 0 – 3000 PSI. Site glasses are intact and transparent.</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>Well supported – no deflection – all clamps and shoes in place. Piping is painted and is in good overall condition with some minor paint chips having minimal corrosion at exposed metal.</b>
<b>Valving</b> Ensure no leaks are visible. Valves are properly supported and chained if necessary.	X				<b>Well supported – no leaks.</b>
<b>PSV</b> Ensure PSV is set at pressure at or below that of vessel.	X				<b>Located on Lower Shell, set below MAWP. Seal intact – No block valve. Outlet piping same size as orifice.</b>
<b>NDE methods</b> Was UT/ MPI done on vessel (MI coordinator to review results)	X				<b>Ultrasonic corrosion survey carried out, no metal thickness detected below nominal minus corrosion allowance.</b>
<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:</b> Service PSV.  <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.  Short term corrosion rate based on greatest thickness loss (head) 0.40 mm per year. Retirement Date to “T”min is year 2033.  <b>Vessel is fit for service.</b></p>					



LSD



Data Plate

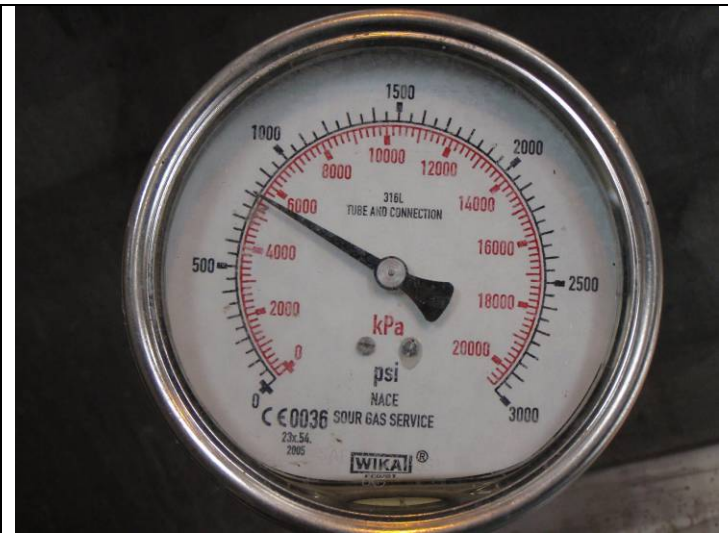


Overview



Overview





Pressure gauge



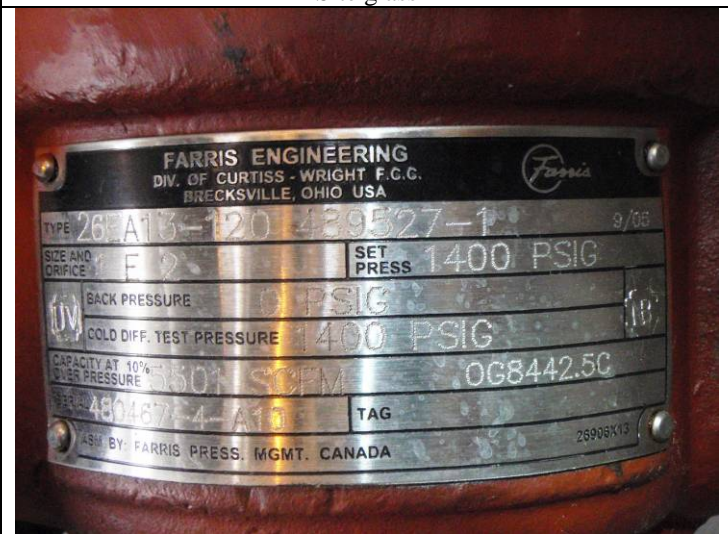
Temperature gauge



Site glass



Paint chips on attached piping



PSV data tag



PSV ID tag