

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

Job # 05.001541

District: Ft St John B.C.						
Facility: Townsend Battery		Location (LSD): a - 17 - J / 94 - B - 09				
Vessel Name & Equipment Number: High Pressure Flare Knock Out Drum						
Orientation: Horizontal						
Status: Operating		Regulatory Inspection				
PRESSURE VESSEL NAMEPLATE DATA						
"A" or "G" or "S" (Sask.) or BC Registration Number. A 480049		CRN Number K 2109.12				
Vessel serial number: 12492		Size : 96 in. x 10 ft.				
Shell thickness: 9.5 mm		Shell material: SA 516 70				
Head thickness: 7.95 mm		Head material: SA 516 70				
Tube wall thickness:		Tube material:				
Tube diameter:		Tube length:				
Channel thickness:		Channel material:				
Design pressure	Shell: 50 psi	Operating pressure	Shell:			
	Tubes:		Tubes:			
Design Temp.	Shell: 200 deg F	Operating temperature	Shell:			
	Tubes:		Tubes:			
X-ray: Nil		Heat treatment: Nil				
Code parameters: ASME VIII / Div 1		Coated: Yes				
Manufacturer: Bilton		Year built: 2001				
Corrosion allowance: 3.2 mm		Manway: Yes				
PRESSURE SAFETY VALVE NAMEPLATE DATA						
Tag No	Manufacture	Model	Serial #	Set Press	Capacity	Size
Serv By	Date	Code Stamp	Block Valve	Location	CRN #	
SERVICE CONDITIONS-INDICATE ALL THAT APPLY						
Sweet X	Sour		Oil		Gas X	Water X
Amine	LPG		Condensate X		Air	Glycol
Other (Describe):						

Inspection Interval _____ **PSV Service Interval** Max 5 Years

(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** _____

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				Tar covered foam insulation. Good condition, no open or torn sections.
External Condition: Assess paint condition, areas peeling, record any corrosion, damage, etc (record location, size and depth of corrosion or damage)				X	.
Leakage: Record any leakage at flanges, threaded joints, weep holes on repads, etc.	X				No leaks detected.
Saddles: 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				No buckling or distortion to saddles – no mechanical damage. No signs of leaks at saddle to shell attachment area. Skid package is grounded.
Anchor Bolts: Hammer tap to ensure secure. Look for cracking in treads or signs of deformation.	X				Firmly welded to skid.
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				No visible deflection – outer surface is insulated. All studs fully engaged to nuts – no short bolts. Nozzles are not gusseted.
Gauges Ensure gauges are visible, working, no leakage, and suitable for range of MAWP/ Temp.				X	No gauges.
External Piping Ensure pipe is well supported.	X				Firmly supported – no deflection – no corrosion. Piping is insulated – no exposed metal.
Valving: Ensure no leaks are visible. Valves are properly supported and chained if necessary.	X				Well supported - no leaking detected.
PSV: Ensure PSV is set at pressure at or below that of vessel. Discharge piping is same size as inlet to valve and is properly supported and routed. Ensure no block valves between psv and vessel or if there are they are locked open.				X	Atmospheric – discharges to flare.
NDE methods: Was UT/ MPI done on vessel (MI coordinator to review results)				X	No NDE at this time.
<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 very good overall condition, visual external carried out – internal of vessel is coated – no items of concern.</p> <p>Vessel is fit for service.</p>					

Inspected By: D. Wiedman

Date: March 21 – 2008

H.P. Flare Knock Out Drum – A 480049



Over view



Data Plate

CERTIFIED BY		BUDN		INNISFAIR AB	
				1-888-227-4323	
Welding & Manufacturing Ltd					
M.A.M.P.	50 PSI	345 KPA AT	200 °F	93 °C	
M.D.M.T.	-20 °F	-29 °C AT	50 PSI	345 KPA	
SERIAL NO	12492	YEAR BUILT	2001		
C.P.N.	K2109.12	A.P.N.	480049		
DESC.	8' X 10' KNOCKOUT				
SHELL THK	0.375"	MIN. HD. THK	0.313"		MLB
DEEP ALLOW.	0.125"	P.A.H.T.	N/A		
MADE IN CANADA					