

**Canadian Natural Resources Limited
PRESSURE VESSEL INSPECTION FORM**

RTD 10.119663

District: Ft St. John, BC		Skid No. Flare Knock-Out				
Facility: Nig Creek Compressor Station		Location (LSD): a-43-A / 94-H-4				
Vessel Name & Equipment Number: Flare Knock-Out Drum						
Orientation: Horizontal						
Status: In Service		Regulatory Inspection				
PRESSURE VESSEL NAMEPLATE DATA						
"A" or "G" or "S" (Sask.) or BC Registration Number. A0570619		CRN Number T 9097.2				
Vessel serial number: C6-2611		Size: 48 in x 10 ft				
Shell thickness: 9.5 mm		Shell material: SA 516 70				
Head thickness: 7.9 mm		Head material: SA 516 70				
Tube wall thickness:		Tube material:				
Tube diameter:		Tube length:				
Channel thickness:		Channel material:				
MAWP	Shell: 50 PSI	Operating pressure	Shell:			
	Tubes:		Tubes:			
Design Temp.	Shell: 100 °F	Operating temperature	Shell:			
	Tubes:		Tubes:			
X-ray: RT-2		Heat treatment: Nil				
Code parameters: ASME VIII DIV I		Joint efficiency (if on nameplate):				
Manufacturer: Petro Field Industries Inc.		Year built: 2006				
Corrosion allowance: 3.2 mm		Manway: Yes				
PRESSURE SAFETY VALVE NAMEPLATE DATA						
Tag Number(s)	Set Pressure PSI	CRN #	Manufacturer /Model / Serial# and Code Stamp	Capacity (Scfm)	Size	Set Date
No PSV Req'd						
SERVICE CONDITIONS-INDICATE ALL THAT APPLY						
Sweet	Sour X	Oil	Gas X	Water X		
Amine	LPG	Condensate X	Air	Glycol		
Other (Describe):						

Inspection Interval _____ **PSV Service Interval** _____

(Determined by MIC in conjunction with Chief Inspector following guidelines of Canadian Natural Resources Limited'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. Are straps secure?	X				Vessel not insulated. Wall opening at man-way sealed – no egress of moisture.
External Condition: Assess paint condition, areas peeling, record any corrosion, damage, distortion etc (record location, size and depth of corrosion or damage)	X				Paint in good condition – no exposed metal. No damage, no distortion
Leakage: Record any leakage at flanges, threaded joints, weep holes on repads, etc.	X				No leaks observed.
Saddle: 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. Is ground wire attached?	X				Vessel is mounted directly to saddle. No evidence of leaking or seeping at welds – saddle to shell. Saddles - No distortion or buckles – no missing paint. Skid package is grounded and mounted on pilings
Anchor Bolts: Hammer tap to ensure secure. Look for corrosion, cracking in threads or signs of deformation.				X	Saddle is welded 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? Inspect gussets for cracking.	X				Paint in good condition – no exposed metal Studs are fully engaged to nuts – no short bolts. No damage or deflections Nozzles are not gusseted
Gauges: Ensure gauges are visible, working, no leakage, and suitable for range of MAWP/ Temp.	X				Liquid level gauge attached - clean and clear – no leaks
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				Paint in good condition – no exposed metal Piping is well supported- all clamps and supports are in place. No structural overloads or deflections
Valving: Ensure no leaks are visible. Valves are properly supported and chained if necessary.	X				Valves are supported – no leaks.
PSV: Ensure PSV is set at pressure at or below that of vessel. Discharge piping is same size as valve outlet and is properly supported and routed. Are psv seals in place? Ensure no block valves between psv and vessel, or if there are that they are locked/sealed open.				X	No PSV – Vessel is atmospheric
NDE methods Was UT/ MPI done on vessel (MI coordinator to review results)	X				Ultrasonic thickness survey carried out – no metal thickness detected below nominal minus corrosion allowance.
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: No recommendations. Summary: This vessel is in good overall condition – visual external and ultrasonic thickness inspection carried out – no metal thickness detected below nominal minus corrosion allowance. Vessel is fit for service.					

 API 20981 / IBPV 275

Inspected By: Dellas Wiedman

Date: March 7, 2018

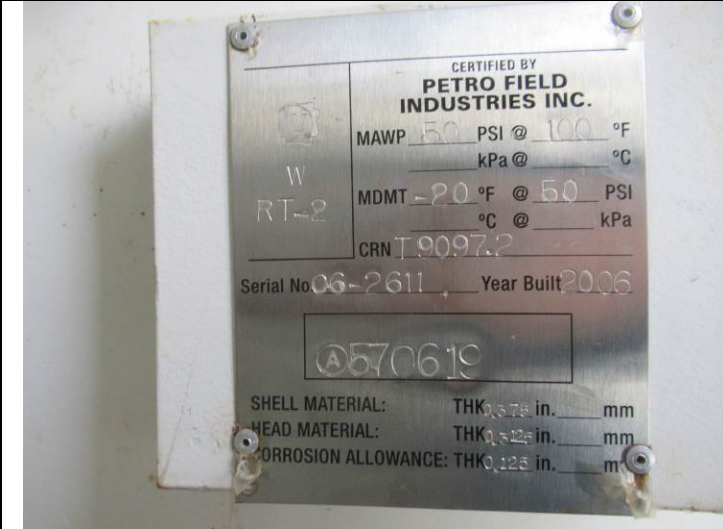
Photo Table



LSD



Overview - Skid



Data Plate



Overview



Overview



Saddle



Piping