

**Canadian Natural Resources Ltd.
GENERAL PRESSURE VESSEL INFORMATION**

Job# 105.00390

District: Fort St John, BC		Skid No.				
Facility: Ladyfern Compressor		Location (LSD): b-88-H/94-H-01				
Vessel Name Equipment Number: Inlet Separator // V 310						
Orientation: Horizontal						
Status: In Service			Regulatory Inspection			
PRESSURE VESSEL NAMEPLATE DATA						
"A" or "G" or "S" (Sask.) or BC Registration Number. A0462558			CRN Number: P-5003.2			
Vessel serial number: 01129-101			Size: 6' X 20'			
Shell thickness: 76.2mm			Shell material: SA-516-70			
Head thickness: 76.2mm			Head material: SA-516-70			
Tube wall thickness:			Tube material:			
Tube diameter:			Tube length:			
Channel thickness:			Channel material:			
Design pressure	Shell: 9930 Kpa		Operating pressure	Shell: 0 Kpa		
	Tubes:			Tubes:		
Design Temp.	Shell: 38 deg C		Operating temperature	Shell: 0 deg C		
	Tubes:			Tubes:		
X-ray: RT-1			Heat treatment: Yes			
Code parameters: ASME Sec VIII			Coated: No			
Manufacturer: Propak Systems Ltd.			Year built: 2001			
Corrosion allowance: N/S			Manway: Yes			
PRESSURE SAFETY VALVE NAMEPLATE DATA						
PSV Tag #	Manufacture	Model #	Serial #	Set Pressure (Kpa)	Capacity (scfm)	Service Date
16398F	Consolidated	1912EC-2-SG	B135243X-1-1	9930	10418	06/2010
CRN #	Service By	Block Valve	Location	Size	Code Stamp	
0G5530.52	Unified	Yes – Both Locked open	Inlet piping	1" X 2"	UV/NB	
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** _____
 (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 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 is in good overall condition – No chipped or exposed metal - no previous corrosion.
Leakage Record any leakage at flanges, threaded joints, weep holes on repads, etc.	X				No leaking detected.
Saddle 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				No distortion to saddles – no leaks at saddle to shell welds. No exposed metal – no corrosion. Ground cable attached to skid unit & pilings.
Anchor Bolts Hammer tap to ensure secure. Look for cracking in treads or signs of deformation.	X				Separator is firmly bolted to skid floor. No signs of deformation.
Concrete foundation Check for cracks, spalling, etc.				X	None.
Ladder / Platform Describe general condition, ensure support is secure to vessel, and describe any hazards.				X	None.
Nozzle Assess paint, look for leakage, and ensure stud threads are fully engaged. Record any damage, deflection, etc. Are nozzles gusseted?	X				All threads connections fully engaged. No deflection – no leaks. No gussets.
Gauges Ensure gauges are visible, working, no leakage, and suitable for range of MAWP/Temp.	X				Gauge is visible, appears to be functional, no leaks and suitable for range of MAWP/Temp. No Pressure gauge: Temperature gauge: -5 to 50 deg C @ 15 deg C.
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 and shoes in place. Piping is painted and in good condition – no exposed metal or surface corrosion found.
Valving Ensure no leaks are visible. Valves are properly supported and chained if necessary.	X				Well supported – no leaks.
PSV Ensure PSV is set at pressure at or below that of vessel.	X				Located on inlet piping - set at the Inlet Separator's MAWP. Discharge piping is larger than the inlet to PSV. Block valve locked open. Seal is intact. PSV vents to flare.
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.
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: 1. No recommendations at this time. Summary: This vessel is in good over all condition, visual external and ultrasonic thickness survey carried out-no metal thickness detected below nominal. Vessel is fit for service.					

Inspected By: Joseph Holdstock

Date: June-06-2010.

Internal Inspection Items	G	F	P	N/A	Comments
Coating Assess coating. Describe area coated, general condition of coating.				X	Inlet Separator is not internally coated.
Anodes. How many, type, condition. % consumed. Are they being replaced?				X	No anode was found inside this vessel.
Internal Piping Is there any? If so, carbon or stainless steel. Describe condition, dents, corrosion, erosion, etc. Ensure supports are secure and any bolts are suitable for future use.				X	None.
Baffles, deflector plates, etc. If present, describe condition. Look closely at welds attached to vessel wall.				X	None.
Inlet Head Note all corrosion, erosion or mechanical damage. (If vessel is horizontal identify direction of this head)	X				As best effort inspection performed; Good overall condition. No visible corrosion or erosion was found - No service related damages noted.
Outlet Head Note all corrosion, erosion or mechanical damage. (If vessel is horizontal identify direction of this head)	X				As best effort inspection performed; Good overall condition. No visible corrosion or erosion was found - No service related damages noted.
Shell Sections Record number of shell sections. Record location, size and depth of all erosion, corrosion or mechanical damage. Describe general condition. If any corrosion greater than corrosion allowance is observed in either shell or head, discuss with Chief Inspector before closing vessel.	X				As best effort inspection performed, Vessel was not completely clean. Three shell sections were found to form this vessel & it is in good overall condition. No corrosion or erosion was found. No service related damages noted.
Demister Pad If present, describe condition and location.	X				Old demister pad was heavily fouled; it was replaced with a new one.
Heat Medium Coil Note all corrosion, erosion or mechanical damage.				X	None.
Fire Tube Note all corrosion, erosion or mechanical damage. Take thickness readings on selected areas of tube and carry out Magnetic Particle Inspection on flange to tube welds.				X	No fire tube was noted inside this Separator.
Welds Inspect all welds, including attachment welds. Record all service-related damages and if there is any discuss with Chief Inspector before closing.	X				As best effort inspection performed; All visible welds appear to be in good overall condition. No mechanical damage, corrosion or erosion was detected.
Repairs Required. If yes, ensure procedure and copy of AB 40 is on file, and one sent to local ABSA, and Chief Inspector				X	None.
NDE Was any NDE done. (MI coordinator to review results) Include tubular inspections in document and results.	X				No internal NDT inspection was performed.
<p>Recommendations or corrective actions: Vessel is Fit for Service or describes corrective actions required). (MIC to review corrective actions with Operations, discuss with Chief Inspector where necessary, and get remedial action implemented)</p> <p>Other Observations:</p> <p>Recommendations: 1. No recommendations at this time.</p> <p>Summary: This Inlet Separator is in good over all condition, visual internal / external carried out – no metal thickness was detected below nominal in the shell.</p> <p>Vessel is fit for service.</p>					

Inspected By: Joseph Holdstock

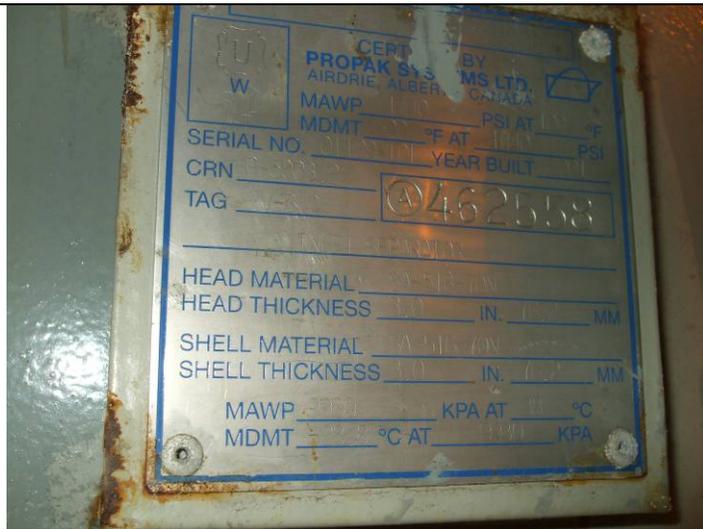
Date: June-09-2010.



LSD location



Site overview



Data plate



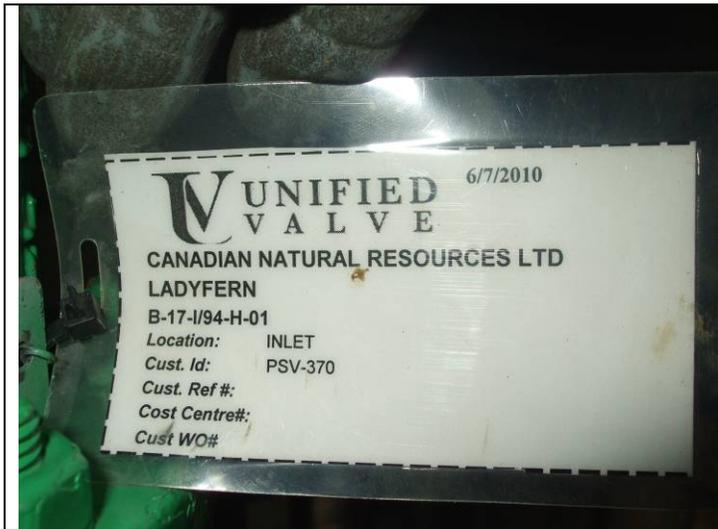
Overview



Overview



Temperature gauge



Service tag



Service tag



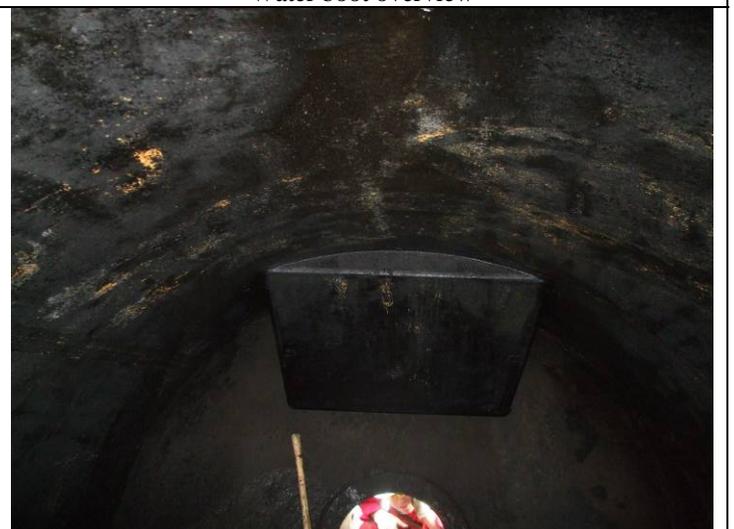
Inlet Head overview



Water boot overview



Nozzle overview



Top shell overview



Bottom shell overview



Inlet circ weld