

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

Job # 105.01033

District: Grande Prairie AB.	Skid No.
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Facility: Clear Hills Gas Plant	Location (LSD): 16-11-88-13W6M
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Vessel Name Equipment Number: **High Pressure Inlet Separator**

Orientation: **Horizontal**

Status: In Service	Regulatory Inspection
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PRESSURE VESSEL NAMEPLATE DATA

“A” or “G” or “S” (Sask.) or BC Registration Number. A 3141304	CRN Number: N0303.2
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Vessel serial number: 1903	Size: 60 in x 20 ft.
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Shell thickness:	Shell material: SA 516-70N
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Head thickness: 63.5mm	Head material: SA 516-70N
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Tube wall thickness:	Tube material:
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Tube diameter:	Tube length:
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Channel thickness:	Channel material:
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Design pressure	Shell: 1300 PSI	Operating pressure	Shell: 0 – 1500 PSI
	Tubes:		Tubes:

Design Temp.	Shell: 200 Deg F.	Operating temperature	Shell:
	Tubes:		Tubes:

X-ray: RT 1	Heat treatment: Yes
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Code parameters: ASME VIII, Div 1	Coated: no
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Manufacturer: Moss Fabrication Ltd.	Year built: 1995
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Corrosion allowance: not stated	Manway: Yes
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PRESSURE SAFETY VALVE NAME PLATE DATA

PSV Tag #	Manufacture	Model #	Serial #	Set Pressure (kPa)	Capacity (scfm)	Service Date

CRN #	Service By	Block Valve	Location	Size	Code Stamp

SERVICE CONDITIONS-INDICATE ALL THAT APPLY

Sweet	Sour X	Oil	Gas X	Water
Amine	LPG	Condensate	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

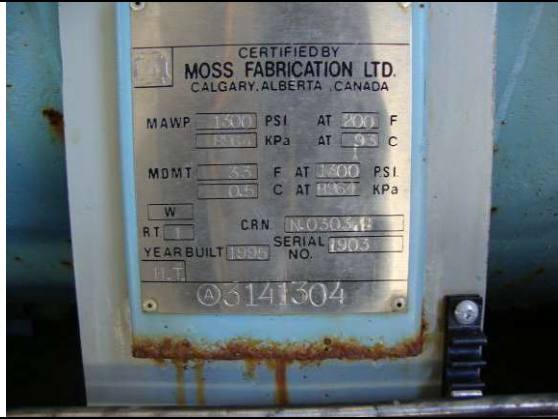
External Inspection Items	G	F	P	N/A	Comments
Insulation Verify sealed around manways, nozzles, no damage present, and there is no egress of moisture.				X	Vessel not insulated.
External Condition Assess paint condition, areas peeling, record any corrosion, damage, etc (record location, size and depth of corrosion or damage)	X				Paint peeling to 20% of area- corrosion and pitting on exposed metal. Pit depths are .005"
Leakage Record any leakage at flanges, threaded joints, weep holes on re-pads, etc.	X				No leaks observed.
Saddle/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				Saddle: bolted directly to skid floor. No buckling or dents. No corrosion at attachment welds to vessel Ground wire attached to vessel.
Anchor Bolts Hammer tap to ensure secure. Look for cracking in treads or signs of deformation.	X				Securely fastened – no deformation.
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				Stud threads are fully engaged to nuts. No leaks, no damage or deflection. No short bolting. Nozzles are not gusseted.
Gauges Ensure gauges are visible, working, no leakage, and suitable for range of MAWP/ Temp.	X				Clear and clean, no leakage. Suitable for operational range of vessel. Pressure gauge 0 – 1500 PSI.
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 – all clamps and supports are in place. No structural overloads or deflection. Paint in good condition – no exposed metal.
Valving Ensure no leaks are visible. Valves are properly supported and chained if necessary.	X				No leaks are visible- valves are supported properly.
PSV Ensure PSV is set at pressure at or below that of vessel.	X				Removed for service.
NDE methods Was UT/ MPI done on vessel (MI coordinator to review results)				X	
Other					
<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) Recommendations: No recommendations at this time. Summary: Vessel is fit for service.</p>					

Internal Inspection Items	G	F	P	N/A	Comments
Coating Assess coating. Describe area coated, general condition of coating.				X	vessel not coated
Anodes. How many, type, condition. % consumed. Are they being replaced?				X	No anodes in 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	No internal piping.
Trays How many? Type of material. Are valves in place. Check for erosion/ corrosion; wear on tray valve legs. Cleanliness?				X	No trays
Baffles, deflector plates, etc. If present, describe condition. Look closely at welds attached to vessel wall.	X				Inlet nozzle deflector plate in good condition – no corrosion or erosion noted. Deflector plate welded directly to shell – no service related damages.
Top Head Note all corrosion, erosion or mechanical damage. (If vessel is horizontal identify direction of this head)	X				South head – Man way access - Gasket seating face is clean, and no mechanical or corrosion damage. No corrosion or pitting noted.
Bottom Head Note all corrosion, erosion or mechanical damage. (If vessel is horizontal identify direction of this head)	X				North head- no mechanical damage or pit corrosion. Head to shell welds in good condition- no service related damages.
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				Shell in good condition –No mechanical damage or dents. 2 shell sections. Nozzles are clean and unobstructed no pitting. Vortex breaker in place – no damage and welded directly to shell.
Demister pad Is it in place? Is it clean? If any corrosion is apparent in vessel, lift pad and check top head for corrosion.	X				Removed for inspection of vessel. No corrosion or mechanical to vessel shell in demister pad support box. Demister pad to be cleaned.
Welds Inspect all welds, including attachment welds. Record all service-related damages and if there is any discuss with Chief Inspector before closing.	X				Over all welds are in good condition – head to shell weld has no corrosion – no erosion or pitting. Attachment welds are in good condition no service related damages.
Repairs Required. If yes, ensure procedure and copy of AB 40 is on file, and one sent to local ABSA, and Chief Inspector				X	
NDE Was any NDE done. (MI coordinator to review results)				X	
<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) Recommendations: No recommendations at this time.</p> <p>Summary: Vessel in good overall condition, Visual external and internal inspection performed on vessel. No visual defects observed.</p> <p>Vessel is fit for service.</p>					

Inspected By: Gerry Avery

Date: September 29, 2010

Photo Table



Vessel data plate



Vessel man way



Man way cover plate



Vessel overview



Vortex breaker



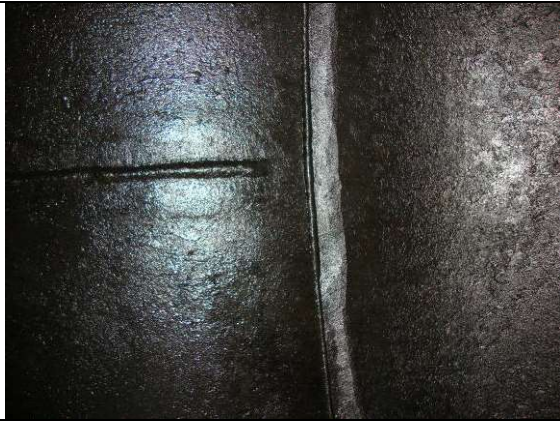
Head to shell weld



Demister pad support frame and top shell



Vortex breaker



Vessel tee weld



Inlet nozzle and deflector plate



Man way attachment weld to vessel



Vessel demister pad