Canadian Natural Resources Limited
GENERAL PRESSURE VESSEL INFORMATION **Job # 05.004099**

District: Fort St. John, BC.	Skid No.
Facility: Murray River Field	**Location (LSD): b-77-J/93-I-14**
Vessel Name Equipment Number: Line Heater // H-101	
Orientation: Horizontal	
Status: In Service	**Regulatory Inspection**

PRESSURE VESSEL NAMEPLATE DATA

"A" or "G" or "S" (Sask.) or BC Registration Number. **A0496976**		CRN Number: E 9867.213	
Vessel serial number: B7080-50		Size: 80 in. X 25 ft.	
Shell thickness: 6.4mm		Shell material: SA 36	
Head thickness: 6.4mm		Head material: SA 36	
Tube wall thickness:17.2mm/ 11.1mm		Tube material: SA 106-B	
Tube diameter:		Tube length:	
Channel thickness:		Channel material:	
Design pressure	Shell:	Operating pressure	Shell:
	Tubes: 23270 kPa 13962 kPa		Tubes:
Design Temp.	Shell:	Operating temperature	Shell:
	Tubes: 93°C		Tubes: 0 – 250 Deg F
X-ray: RT 1		Heat treatment: HT	
Code parameters: ASME VIII, Div 1		Coated: no	
Manufacturer: Presson		Year built: 2004	
Corrosion allowance: 3.2mm		Manway: no	

PRESSURE SAFETY VALVE NAMEPLATE 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 X
Amine	LPG	Condensate X	Air	Glycol X
Other (Describe):				

Inspection Interval _____PSV Service Interval_____
(Determined by MIC in conjunction with Chief Inspector following guidelines of CNRL Owner-User Inspection Program)

Reports reviewed and accepted by:
Mechanical Integrity Coordinator_____Date_____

Fill out all forms as completely as possible. <u>All information</u> 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				**75% of vessel insulated.** **No damage present – no egress f moisture.** **Metal cladding in place and secure- sealed around saddles and skid building.**
External Condition Assess paint condition, areas peeling, record any corrosion, damage, etc (record location, size and depth of corrosion or damage)	X				**Paint in good overall condition – No exposed metal.**
Leakage Record any leakage at flanges, threaded joints, weep holes on repads, 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				**Saddles: Bolted directly to skid frame.** **No buckling or dents.** **No corrosion at attachment welds to vessel.** **Ground wire attached to support frame.**
Anchor Bolts Hammer tap to ensure secure. Look for cracking in treads or signs of deformation.	X				**Anchor bolts are 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 short bolting.** **No damage or deflections – no leaks.** **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.** **Temperature gauge 0 – 250 Deg F.**
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				**Piping is well supported; no deflection, all clamps and supports are in place.** **Paint in good condition – no exposed metal.**
Valve: Ensure no leaks are visible. Valves are properly supported and chained if necessary.	X				**Valves are supported properly – no leaks.**
PSV Ensure PSV is set at pressure at or below that of vessel.				X	**No PSV.**
NDE methods Was UT/ MPI done on vessel (MI coordinator to review results)	X				**Ultrasonic thickness survey carried out – pipe metal thickness detected below nominal minus corrosion allowance. Thickness calculations carried out to ensure sufficient metal exists for safe operation.**
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: No recommendations at this time.
Summary: Vessel is in overall good condition, visual external inspection and ultrasonic corrosion survey performed – pipe metal thickness detected below nominal minus corrosion allowance. Thickness calculations carried out to ensure sufficient metal exists for safe operation.
Vessel is fit for service.

Inspected By: Gerry Avery **Date:** March 10, 2010

Photo Table

	
LSD	Vessel data plate
	
Vessel inlet overview	Vessel temperature gauge
	
Vessel overview	