

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

Job# 105.00774

District: Fort St John, BC	Skid No.
Facility: West Blueberry Gas Gathering	Location (LSD): 08-04-88-25-W6M
Vessel Name Equipment Number: Line Heater	
Orientation: Horizontal	
Status: In service	Regulatory Inspection

PRESSURE VESSEL NAMEPLATE DATA

"A" or "G" or "S" (Sask.) or BC Registration Number. A0475155		CRN Number: K-1977.12	
Vessel serial number: 126-87-01-C		Size: 36 in X 16 ft	
Shell thickness: 6.4 mm		Shell material: SA 36	
Head thickness: 6.4 mm		Head material: SA 36	
Tube wall thickness:		Tube material:	
Tube diameter:		Tube length:	
Channel thickness:		Channel material:	
Design pressure	Shell:	Operating pressure	Shell:
	Tubes: 2950 PSI coil only		Tubes:
Design Temp.	Shell:	Operating temperature	Shell:
	Tubes: 200 deg F		Tubes:
X-ray: RT-1 coil only		Heat treatment: No	
Code parameters: ASME B 31.3		Coated: No	
Manufacturer: Mar-Quinn Ind.		Year built: 2001	
Corrosion allowance: 3.2 mm		Manway: No	

PRESSURE SAFETY VALVE NAMEPLATE DATA

PSV Tag #	Manufacture	Model #	Serial #	Set Pressure	Capacity	Service Date
CRN #	Service By	Block Valve	Location	Size	Code Stamp	

SERVICE CONDITIONS-INDICATE ALL THAT APPLY

Sweet X	Sour	Oil	Gas X	Water X
Amine	LPG	Condensate	Air	Glycol X

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				The line heater is fully insulated & in good condition - no loose bands or open sections - no visible signs of moisture egress.
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 fittings or connections.
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. Ground wire attached?	X				Saddle partly covered by insulation. No visible corrosion – no missing paint. Ground cable firmly secured to Skid unit.
Anchor Bolts Hammer tap to ensure secure. Look for cracking in treads or signs of deformation.	X				Anchor bolts are secure. No signs of deformation.
Concrete foundation Check for cracks, spalling, etc.				X	None
Ladder / Platform Describe general condition, ensure support is secure to vessel, 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				Paint coating on nozzles are in good condition. No leaking detected no damage or deflection. All bolts/studs engaged to nuts. No gussets.
Gauges Ensure gauges are visible, working, no leakage, and suitable for range of MAWP/ Temp.	X				Temperature gauge is visible, working and suitable for Temp. 0 to 250 deg F / 60 deg F @ gauge.
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 corrosion. Well supported, no loose or missing clamps. No evidence of structural overloading.
Valving Ensure no leaks are visible. Valves are properly supported and chained if necessary.	X				No visible leaks. Valves are properly supported
PSV Ensure PSV is set at pressure at or below that of vessel.	X				No PSV Atmospheric
NDE methods Was UT/ MPI done on vessel (MI coordinator to review results)	X				Ultrasonic thickness survey carried out – piping metal thickness detected below nominal minus corrosion allowance. Thickness calculations carried out – nominal thickness is 7.6 mm / min thickness is 6.5 mm / T min thickness is 6.2 mm.
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. Monitor erosion on piping at set frequency to determine if this is an erosion issue or if pipe was under built / 1 year. Summary: This vessel is in good over all condition, visual external and ultrasonic thickness survey carried out- piping metal thickness detected below nominal minus corrosion allowance. Thickness calculations carried out to ensure sufficient metal exists for safe operation. Long term corrosion rate based on greatest thickness loss (shell) 0.011mm per year. Retirement Date to “T”min is year 2433 Vessel is fit for service.					

Inspected By: Joseph Holdstock

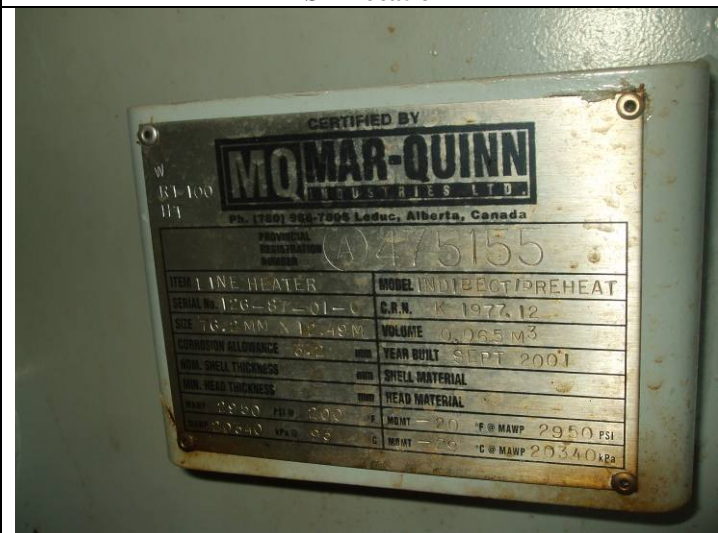
Date: Aug 04, 2010.



LSD Location



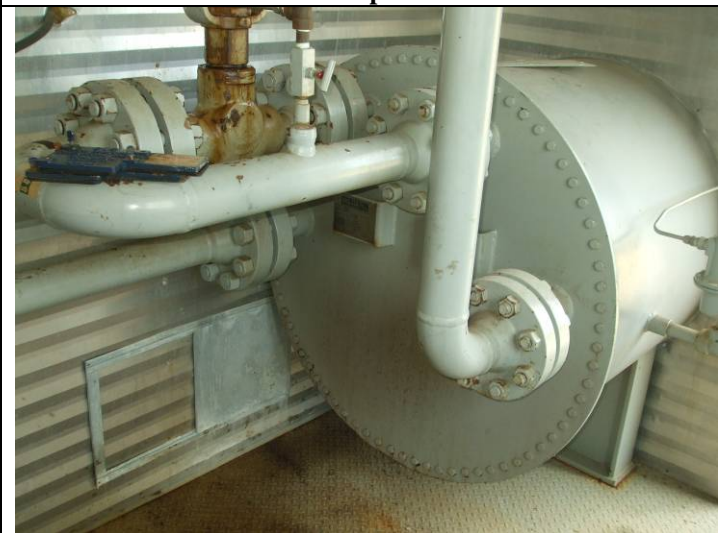
Site overview



Data plate



Vessel overview



Anchor bolts secured



Temperature gauge