Canadian Natural Resources Limited
GENERAL PRESSURE VESSEL INFORMATION **Job 10.114114**

District: **Fort St. John**	Skid No.
Facility: **Merion Compressor - Ladyfern**	Location (LSD): **10-19-94-12W6M**
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. **A0439967**		CRN Number: **O 2865.2T31**	
Vessel serial number: 7044-52B		Size: 60 in x 20 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: 2025 / 3375 PSI		Tubes:
Design Temp.	Shell: 200° F	Operating temperature	Shell:
	Tubes:		Tubes:
X-ray: RT-1		Heat treatment: HT	
Code parameters: ASME B31.3		Coated: N/S	
Manufacturer: NATCO CANADALTD.		Year built: 1998	
Corrosion allowance: N/S		Manway: No	

PRESSURE SAFETY VALVE NAMEPLATE DATA

PSV Tag #	Manufacture / Model / Serial	Set Pressure (PSI / kPa)	Capacity (scfm)	Size	Block Valve	Location	Service by / Date
n/s	Crosby / JOS-E-55/A / 23049-1	1600 PSI	6222 SCFM	1.5 x 2	No	Inlet piping	None – mfg. 2000

SERVICE CONDITIONS-INDICATE ALL THAT APPLY

Sweet X	Sour	Oil	Gas X	Water X
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. <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

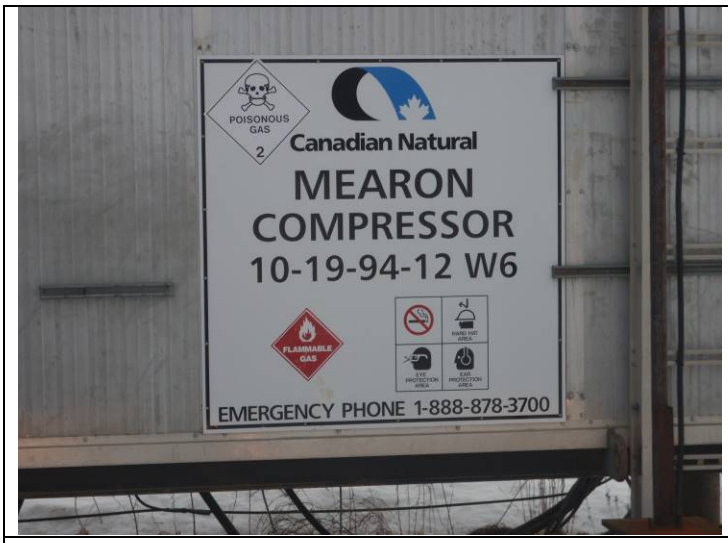
External Inspection Items	G	F	P	N/A	Comments
Insulation Verify sealed around manways, nozzles, no damage present, and there is no egress of moisture.	**X**				**Insulation in good condition – no damage section – no egress of moisture**
External Condition Assess paint condition, areas peeling, record any corrosion, damage, etc (record location, size and depth of corrosion or damage)	**X**				**Paint in good condition – no corrosion or exposed metal – no damage**
Leakage Record any leakage at flanges, threaded joints, weep holes on repads, etc.	**X**				**No leaks detected**
Saddle/skirt 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**				**Paint in good condition – no corrosion, buckling or dents – attachment welds are acceptable with no sign of leaks – ground wire attached to skid**
Anchor Bolts Hammer tap to ensure secure. Look for cracking in treads or signs of deformation.	**X**				**Vessel is bolted to skid floor – anchor bolts are secure – no cracking of threads or 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**				**Paint in good condition – no leaks – stud threads fully engaged – no damage or deflection – no gussets**
Gauges Ensure gauges are visible, working, no leakage, and suitable for range of MAWP/ Temp.	**X**				**Gauge clear and functional – no leaks – suitable for MAWP: 0 – 250° 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 – all clamps in place – no evidence of structural overload or deflection – paint in good condition – no corrosion**
Valving Ensure no leaks are visible. Valves are properly supported and chained if necessary.	**X**				**No leaks detected – valves are properly supported**
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**				**PSV is set at vessel MAWP - Discharge piping is same size as valve outlet and is properly supported and routed – seal is intact – no block valve – PSV is overdue for service**

NDE methods Was UT/ MPI done on vessel (MI coordinator to review results)	**X**				**Ultrasonic corrosion survey carried out, shell and pipe metal thickness detected below nominal minus corrosion allowance.** **Shell – nominal thickness is 6.4mm / min thickness is 6.2mm** **UT point 125 (3" elbow) – nominal thickness is 7.6mm / min thickness is 6.4mm / T min thickness is 5.7mm.**
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: Service PSV
Summary: This vessel is in good condition, visual external and ultrasonic thickness inspection carried out – shell and pipe metal thickness detected below nominal. Thickness calculations carried out to ensure sufficient metal exists for safe operation.

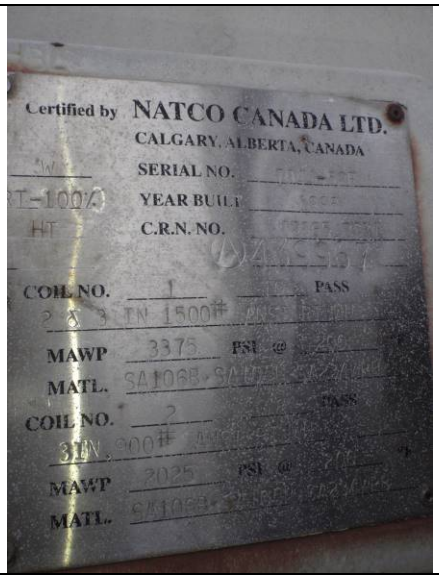
Vessel is fit for service.

Inspected By: Andrew Neis **Date:** January 23, 2014



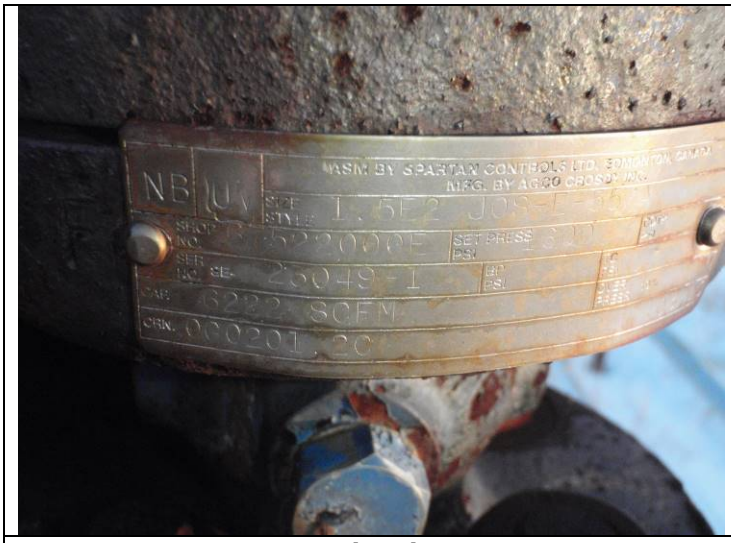
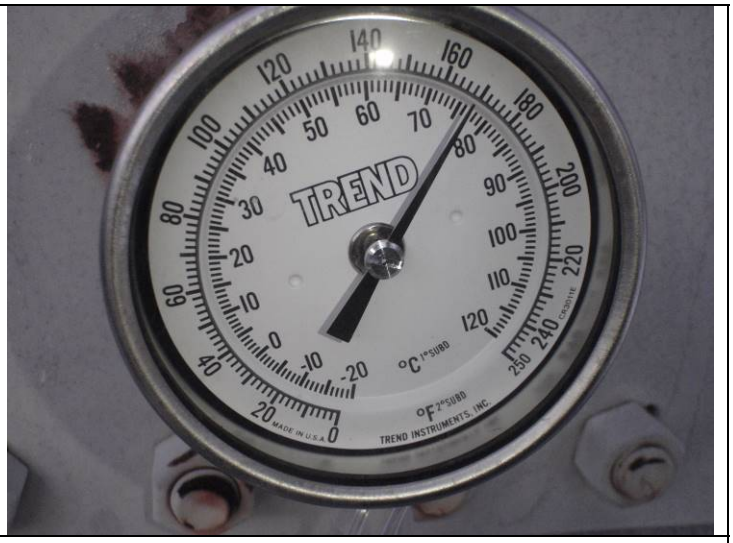
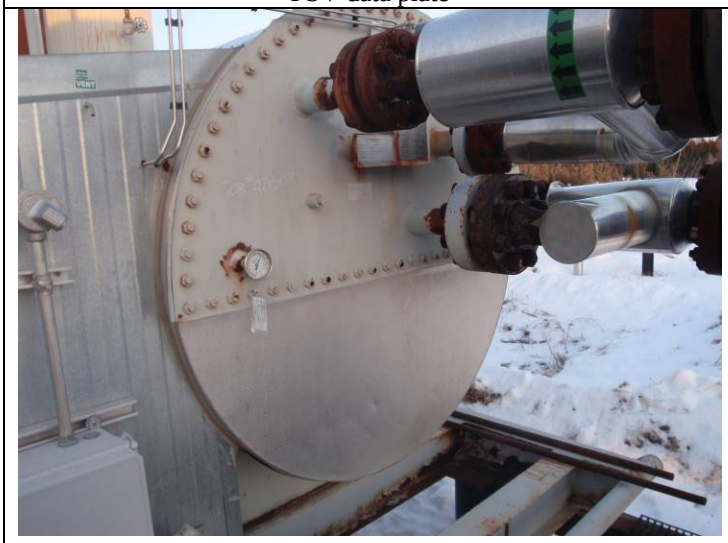
LSD

Overview



Data Plate

PSV

	
PSV data plate	Temperature Gauge
	
Tube sheet overview	Burner overview