

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

Job# 10.112680

District: Fort ST. John BC.	Skid No.
Facility: Helmet Compressor Station	Location (LSD): b-30-B/94-P-10
Vessel Name Equipment Number: Horizontal Inlet Separator	
Orientation: Horizontal	
Status: In Service	Regulatory Inspection

PRESSURE VESSEL NAMEPLATE DATA

"A" or "G" or "S" (Sask.) or BC Registration Number. A443846		CRN Number: T-4790.21	
Vessel serial number: HS-9204		Size: 36in X 96in	
Shell thickness: 22.2mm		Shell material: SA 516 70N	
Head thickness: 27.0mm		Head material: SA 516 70N	
Tube wall thickness:		Tube material:	
Tube diameter:		Tube length:	
Channel thickness:		Channel material:	
Design pressure	Shell: 720PSI	Operating pressure	Shell:
	Tubes:		Tubes:
Design Temp.	Shell: 100 deg F	Operating temperature	Shell:
	Tubes:		Tubes:
X-ray: RT-1		Heat treatment: Yes	
Code parameters: ASME VIII, Div 1		Coated: No	
Manufacturer: Argo Sales Ltd.		Year built: 1999	
Corrosion allowance: 3.2mm		Manway: No	

PRESSURE SAFETY VALVE NAMEPLATE DATA

PSV Tag #	Manufacture / Model / Serial	Set Pressure (PSI / kPa)	Capacity (scfm)	Size	Block Valve	Location	Service Date
4931F	Mercer/8134251T23G1 1/A89208	720PSI	5816	1.5X2	No	Top Shell	Unified 02/2006

SERVICE CONDITIONS-INDICATE ALL THAT APPLY

Sweet X	Sour	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 in good condition –with no peeling or 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, 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				Saddle:No buckling or dents. Vessel is welded to saddle. No leakage at attachment welds. Ground wire attached to skid.
Anchor Bolts Hammer tap to ensure secure. Look for cracking in treads or signs of deformation.	X				Separator is firmly bolted down.
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				Stud threads are fully engaged to nuts. No leaks observed. No damage or deflections. No pitting.
Gauges Ensure gauges are visible, working, no leakage, and suitable for range of MAWP/Temp.		X			Gauge is visible, functional and clear with no leaks. Gauge is low for the range of MAWP/TEMP. Pressure gauge 0-100PSI. Reads 10PSI Temp gauge -40-160 degF read 70deg 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 and supports are in place.
Valving Ensure no leaks are visible. Valves are properly supported and chained if necessary.	X				Valves well supported with no leaks.
PSV Ensure PSV is set at pressure at or below that of vessel.	X				Located on top shell set at MAWP of vessel. Seal intact. No block valve between vessel and PSV
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 minus corrosion allowance.
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)</p> <p>Recommendations: 1. Install a gauge suitable for 720PSI. 2.Service PSV</p> <p>Summary: This vessel is in good condition, visual external and ultrasonic thickness inspection carried out – no metal thickness found below nominal minus corrosion allowance.</p> <p>Short term corrosion rate based on greatest thickness loss (head) 0.029mm per year. Retirement Date to “T”min is year 2325.</p> <p>Vessel is fit for service.</p>					

Inspected By: Matt Wood (API 510 # 42758)

Date: Feb 12th, 2013

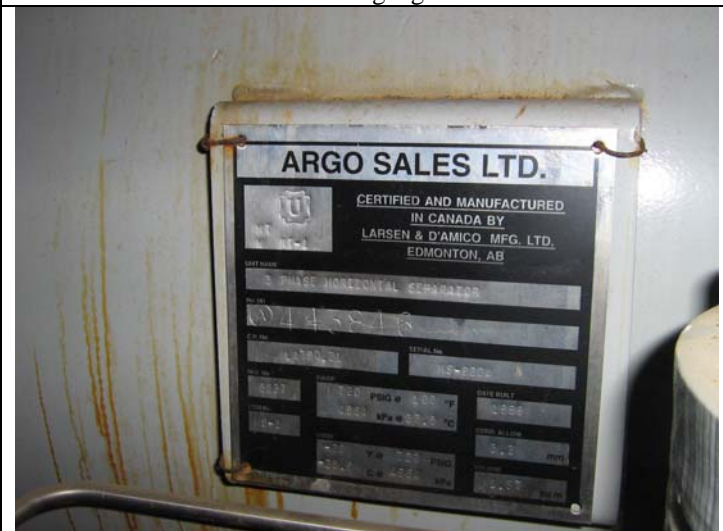
Photo Table



LSD signage



Overview



Data Plate



PSV



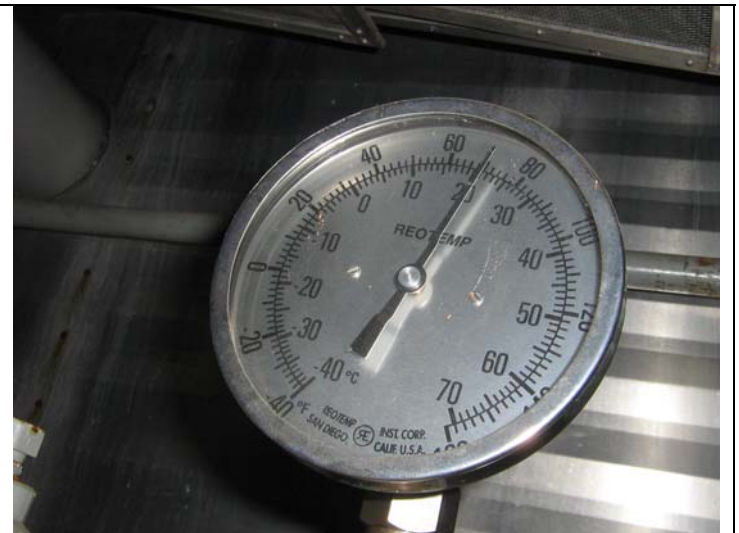
PSV Service Tag



Pressure Gauge



PSV Service Tag



Temperature Gauge