

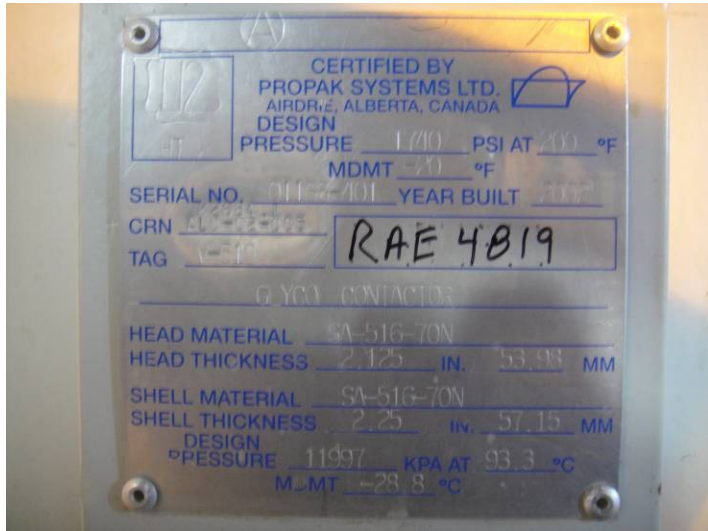
Canadian Natural Resources Limited GENERAL PRESSURE VESSEL INFORMATION RTD Job# 10.110181						
District: Fort Saint John B.C.			Skid No. Dehy #1			
Facility: Ladyfern (a-84-G)			Location (LSD): a-84-G / 94-H-1			
Vessel Name & Equipment Number: Glycol Contactor						
Orientation: Vertical						
Status: In service			Regulatory Inspection			
PRESSURE VESSEL NAMEPLATE DATA						
"A" or "G" or "S" (Sask.) or BC Registration Number RAE4819			CRN Number K-2684.1			
Vessel serial number: 01168-401			Size: 60 in. x 35 ft.			
Shell thickness: 57.2 mm			Shell material: SA516-70N			
Head thickness: 54.0 mm			Head material: SA516-70N			
Coil 1 thickness:			Coil 1 material:			
Coil 2 thickness:			Coil 2 material:			
Channel thickness:			Channel material:			
Design pressure	Shell: 1740 psi (11997 kPa)		Operating pressure	Shell:		
	Tubes:			Tubes:		
Design Temp.	Shell: 200 deg F. (93.3 C)		Operating temperature	Shell:		
	Tubes:			Tubes:		
X-ray: Nil			Heat treatment: Yes			
Code parameters: Asme VII, Div I			Joint efficiency (if on nameplate):			
Manufacturer: Propak Systems Ltd			Year built: 2002			
Corrosion allowance: Not stated			Manway: Yes			
PRESSURE SAFETY VALVE NAMEPLATE DATA						
PSV Tag #	Manufacturer	Model	Serial #	Set Pressure	Capacity	Size
2169F	Anderson Greenwood	84314F152/S1/Nace	01/40827	1740 PSI	11075 scfm	1.5" 1500 x 2" 300
Serviced By	Date	Block Valves	CRN	Code Stamp	Location	
Unified	02/09/2002	No	0G4369.5C	UV	Piping	
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				Vessel is not insulated.
External Condition Assess paint condition, areas peeling, record any corrosion, damage, etc (record location, size and depth of corrosion or damage)		X			Minor paint chips_ surface rust present_ no corrosion.
Leakage Record any leakage at flanges, threaded joints, weep holes on repads, etc.	X				No leaking detected.
Skirt/ 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				No distortion to skirt – no corrosion at shell to skirt – no leaks. Grounded direct to lower skirt.
Anchor Bolts Hammer tap to ensure secure. Look for cracking in treads or signs of deformation.	X				Anchor bolts secure to base.
Concrete foundation Check for cracks, spalling, etc.				X	
Ladder / Platform Describe general condition, ensure support is secure to vessel, describe any hazards.	X				Welded and bolted securely.
Nozzle Assess paint, look for leakage, and ensure stud threads are fully engaged. Record any damage, deflection, etc. Are nozzles gusseted?	X				No distortion – no leaks. No short bolting. No gussets.
Gauges Ensure gauges are visible, working, no leakage, and suitable for range of MAWP/ Temp.	X				Suitable for operating range of vessel.
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, no deflection, all clamps in place. No paint failure – no corrosion.
Valving Ensure no leaks are visible. Valves are properly supported and chained if necessary.	X				Well supported – no leaks. No short bolting.
PSV Ensure PSV is set at pressure at or below that of vessel. Discharge piping is same size as inlet to valve and is properly supported and routed. Ensure no block valves between psv and vessel or if there are they are locked open.	X				Located on outlet piping - Set at MAWP of vessel. Seal is intact. No block valve. PSV is overdue for servicing.
NDE methods Was UT/ MPI done on vessel (MI coordinator to review results)	X				Ultrasonic thickness survey carried out – nozzle and pipe metal thickness detected below nominal. Thickness calculations carried out: UT point 825 (2” nozzle) – nominal thickness is 8.7mm / min thickness is 8.6mm / T min thickness is 3.4mm. UT point 830 (2” pipe) – nominal thickness is 8.7mm / min thickness is 7.3mm / T min thickness is 3.4mm.
<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: Have PSV serviced as last service date is 2002.</p> <p>Summary: This vessel is in good overall condition, visual external and ultrasonic thickness survey carried out – nozzle and pipe metal thickness detected below nominal.</p> <p>Short term corrosion rate based on greatest thickness loss (nozzle) 0.033mm per year. Retirement Date to “T”min is year 2167.</p> <p>Vessel is fit for service.</p>					



Name Plate

Lower Shell Section



Upper Tower Section