Canadian Natural Resources Limited
GENERAL PRESSURE VESSEL INFORMATION **Job # 10.113190**

District: Hamburg Oil – GP South	**Skid No. 15138**
Facility: Hamburg Battery	**Location (LSD): 15-21-96-10 W6M**
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. **A0238179**	CRN Number **H 1668.2**
Vessel serial number: 1813-V100	Size: 20in x 20ft
Shell thickness: 22.2mm	Shell material: SA 516 70N
Head thickness: 24.6mm	Head material: SA 516 70N
Tube wall thickness:	Tube material:
Tube diameter:	Tube length:
Channel thickness:	Channel material:

Design pressure	Shell: 9756 kPa (1415 psi)	Operating pressure	Shell:
	Tubes:		Tubes:
Design Temp.	Shell: 66°C	Operating temperature	Shell:
	Tubes:		Tubes:

X-ray: RT-1	Heat treatment: Nil
Code parameters: ASME VIII DIV 1	Joint efficiency (if on nameplate):
Manufacturer: ABAX Energy Services	Year built: 1987
Corrosion allowance: 1.6mm	Manway No

PRESSURE SAFETY VALVE NAMEPLATE DATA

Tag Number(s)	Manufacture	Model	Serial Number	Set Pressure	Capacity	Set Date
MWS 68387	**Farris**	**26EA13-120/AL**	**C14193-KA**	**1416 psi**	**2858**	**07/2006**
CRN#	Serviced by	Block valve	Location	Size	Code Stamp	
N/S	**Unified Valve**	**No**	**Top head**	**1" x 1.5"**	**UV**	

SERVICE CONDTIONS-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** _____

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	
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 condition, no exposed metal.**
Leakage Record any leakage at flanges, threaded joints, weep holes on repads, etc.	X				**No leaks found.**
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				**Skirt is bolted to skid floor.** **No distortion to skirt, paint is in good condition.** **No signs of leaks.** **Attachment welds are acceptable.** **Ground wire is attached to skid.**
Anchor Bolts Hammer tap to ensure secure. Look for cracking in threads or signs of deformation.	X				**Anchor bolts are secure to skid.**
Concrete foundation Check for cracks etc.				X	
Ladder / Platform Describe general condition, ensure support is secure to vessel, and describe any hazards.	X				**Ladder is secure to vessel.** **Ladder access is at roof level of skid building.**
Nozzle Assess paint, look for leakage, and ensure stud threads are fully engaged. Record any damage, deflection, etc. Are nozzles gusseted?	X				**Nozzle paint is in good condition.** **No damage or deflection noted.** **No gussets.**
Gauges Ensure gauges are visible, working, no leakage, and suitable for range of MAWP/ Temp.	X				**Gauges are visible, working, and suitable for range of MAWP and temperature. No leaks found.**
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, clamps are in place.** **Paint is in good condition, no exposed metal.**
Valving Ensure no leaks are visible. Valves are properly supported and chained if necessary.	X				**No leaks found.**
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 top head – set above MAWP of vessel by 1 PSI.** **PSV seal in place.** **Discharge piping is same size as valve outlet.** **No block valve between vessel and PSV inlet**
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					

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. Service PSV at next available opportunity.
Summary: Vessel is in overall good condition, visual external inspection and ultrasonic corrosion survey performed – no metal thickness detected below nominal minus corrosion allowance.
Corrosion rate based on greatest thickness loss (head) 0.004mm per year. Retirement Date to "T"min is year 3495.

Vessel is fit for service.

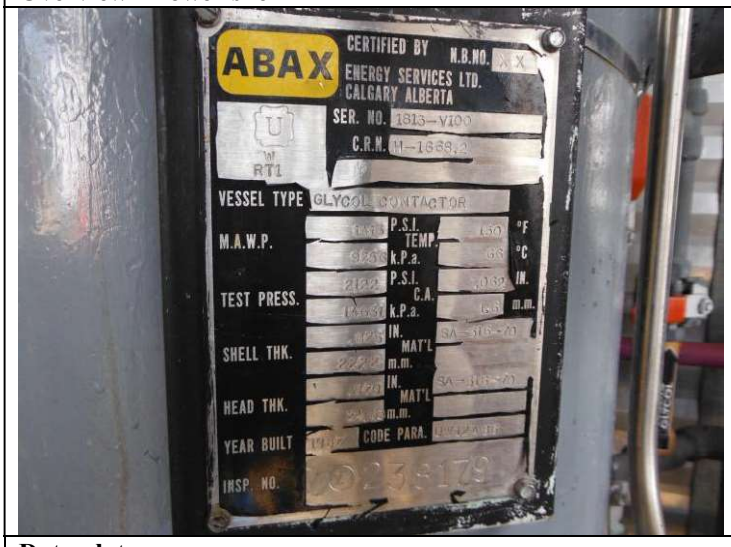
Inspected By: Chris Maxsom **Date:** June 24, 2013

LSD

Overview - Skid

Overview - Lower shell

Overview – Upper shell



Data plate

Pressure gauge

	
PSV location – Top head	**PSV data plate – 2006 service tag is not attached.**