Canadian Natural Resources Limited
GENERAL PRESSURE VESSEL INFORMATION **Job# 10.111395**

District: **Fort St. John North**	Skid No.
Facility: **Umbach Compressor**	Location (LSD): **c-37-F/94-H-03**
Vessel Name Equipment Number: **Inlet Separator**	
Orientation: **Vertical**	
Status: **Not in Service**	**Regulatory Inspection**

PRESSURE VESSEL NAMEPLATE DATA

"A" or "G" or "S" (Sask.) or BC Registration Number. **A0550804**		CRN Number: **K 9873.213**	
Vessel serial number: 5-1758		Size: 30 inch x 144 inch	
Shell thickness: 31.8 mm		Shell material: SA 516 70N	
Head thickness: 30.2 mm		Head material: SA 516 70N	
Tube wall thickness:		Tube material:	
Tube diameter:		Tube length:	
Channel thickness:		Channel material:	
Design pressure	Shell: 1480 PSI	Operating pressure	Shell:
	Tubes:		Tubes:
Design Temp.	Shell: 100° F	Operating temperature	Shell:
	Tubes:		Tubes:
X-ray: RT 1		Heat treatment: yes	
Code parameters: ASME VIII, DIV 1		Coated: No	
Manufacturer: SILVERADO OILFILED		Year built: 2006	
Corrosion allowance: 3.2mm		Manway: No	

PRESSURE SAFETY VALVE NAMEPLATE DATA

PSV Tag Shell	Manufacture // Model // Serial	Set Pressure (PSI / kPa)	Capacity (scfm / usgpm)	Block Valve	Size	Location	Service by / Date
	Taylor // 82G11651311 // 24883-35	1440 PSI	10871 SCFM	No	2 x 2	Upper Shell	DALCO – 6/2011
PSV Tag Tube	Manufacture // Model // Serial	Set Pressure (PSI / kPa)	Capacity (scfm / usgpm)	Block Valve	Size	Location	Service by / Date

SERVICE CONDITIONS-INDICATE ALL THAT APPLY

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

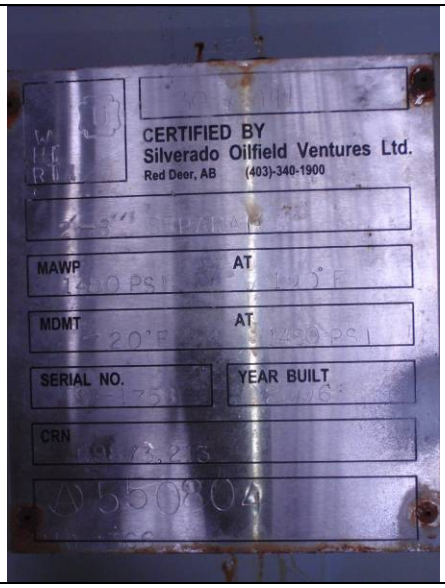
External Inspection Items	G	F	P	N/A	Comments
Insulation Verify sealed around manways, nozzles, no damage present, and there is no egress of moisture.	X				**Vessel is not insulated.**
External Condition Assess paint condition, areas peeling, record any corrosion, damage, etc (record location, size and depth of corrosion or damage)	X				**Paint in good overall condition – No exposed metal – no corrosion.**
Leakage Record any leakage at flanges, threaded joints, weep holes on repads, etc.	X				**No leaks observed.**
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				**Skirt is bolted to skid floor - No corrosion - no leaks at attachment welds to vessel - No buckling or dents** **Ground wire attached to skid**
Anchor Bolts Hammer tap to ensure secure. Look for cracking in treads or signs of deformation.	X				**Anchor bolts are securely fastened - no sign 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 in good condition - Stud threads are fully engaged - No damage or deflections observed – no leaks.** **Nozzles are not gusseted.**
Gauges Ensure gauges are visible, working, no leakage, and suitable for range of MAWP/ Temp.	X				**Pressure gauge: 0 – 1000 PSI** **Temp gauge: -40 – 160 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 - No signs of structural overload, all clamps and supports are in place.** **Paint in good overall condition – no corrosion**
Valving Ensure no leaks are visible. Valves are properly supported and chained if necessary.	X				**No leaks are visible.** **Valves are properly supported.**
PSV Ensure PSV is set at pressure at or below that of vessel.		X			**Located on upper shell – set below the vessel MAWP –PSV discharge is blinded off – seal intact**
NDE methods Was UT/ MPI done on vessel (MI coordinator to review results)	X				**Ultrasonic corrosion survey carried out – pipe metal thickness detected below nominal minus corrosion allowance. Thickness calculations carried out:** **UT point 410 (3" Elbow) – nominal thickness is 5.5mm / min thickness is 4.3mm / T min thickness is 3.2mm.**

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:
Summary: This vessel is in good over all condition, visual external and ultrasonic thickness survey carried out-pipe 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 – no corrosion rate to assess.

Vessel is fit for service.

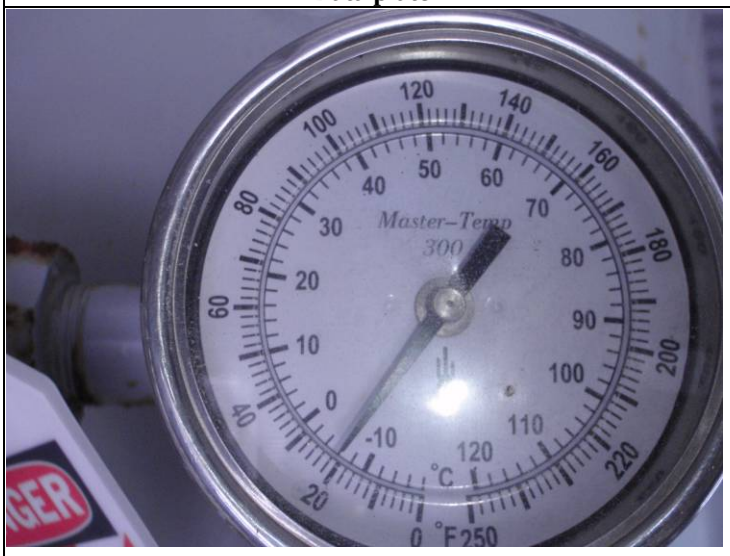
Inspected By: Andrew Neis / D. Wiedman **Date: March 12, 2012**

Photo Table



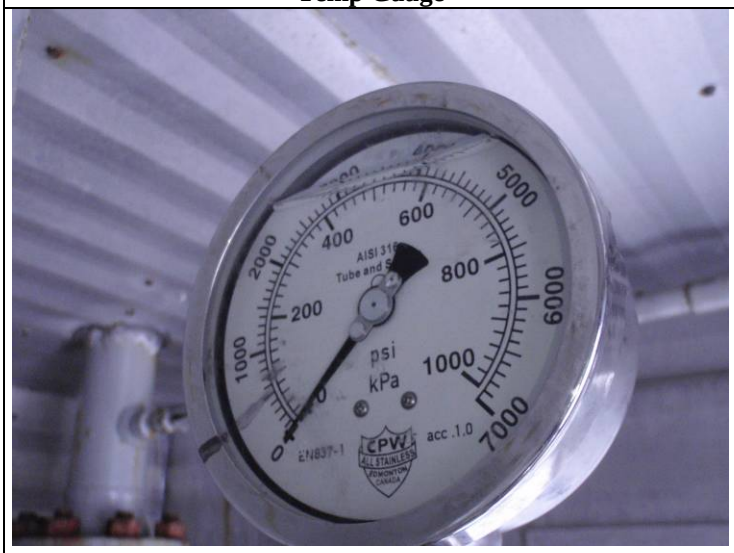
Data plate

Overview



Temp Gauge

Bolted to skid floor



Pressure Gauge

PSV

	
	PSV Data Plate