Canadian Natural Resources Limited
GENERAL PRESSURE VESSEL INFORMATION **Job # 105.00642**

District: **Grand Prairie**	Skid No. **Nil**
Facility: **Clear Hills Gas Plant**	Location (LSD): **16-11-88-13 W6M**
Vessel Name Equipment Number: **Inlet Separator**	
Orientation: **Horizontal**	
Status: **In service**	**Regulatory Inspection**

PRESSURE VESSEL NAMEPLATE DATA

"A" or "G" or "S" (Sask.) or BC Registration Number. **A443632**		CRN Number: **N-2385.21**	
Vessel serial number: PE-5141		Size: 36" x 15'	
Shell thickness: 41.3 mm		Shell material: SA 516 70 N	
Head thickness: 43.0 mm		Head material: SA 516 70 N	
Tube wall thickness:		Tube material:	
Tube diameter:		Tube length:	
Channel thickness:		Channel material:	
Design pressure	Shell: 9929 kPa	Operating pressure	Shell: 4100 kPa
	Tubes:		Tubes:
Design Temp.	Shell: 54ºC	Operating temperature	Shell: ºC
	Tubes:		Tubes:
X-ray: RT -1		Heat treatment: HT	
Code parameters: ASME VIII, Div 1		Coated: Nil	
Manufacturer: PENFABCO Ltd.		Year built: 1998	
Corrosion allowance: 3.2mm		Manway: No	

PRESSURE SAFETY VALVE NAMEPLATE DATA

PSV Tag #	Manufacture	Model #	Serial #	Set Pressure (kPa)	Capacity (scfm)	Service Date
02419-VS	**Farris**	**26JA13-120/SP**	**CE-44007-2-A10**	**9929**	**35890**	**03/05**
CRN #	Service By	Block Valve	Location	Size	Code Stamp	
OG2369.5C	**Unified Valve**	**No**	**Upper Shell**	**2.5" 600lb x 4" 150lb**	**UV NB**	

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 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

A443632

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**	No insulation present.
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 damage or deflection present.
Leakage Record any leakage at flanges, threaded joints, weep holes on repads, etc.	**X**				No leaks present.
Saddle/Skirt 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**				Saddle is firmly bolted to skid corrosion and paint failure present around saddle to 5%, no buckling or dents present. No leakage present at attachment welds to vessel. Attachment welds are acceptable. Skid is grounded.
Anchor Bolts Hammer tap to ensure secure. Look for cracking in treads or signs of deformation.	**X**				Saddle is welded to skid floor, No deformation or cracking present.
Concrete foundation Check for cracks, spalling, etc.				**X**	
Ladder / Platform Describe general condition, ensure support is secure to vessel, describe any hazards.				**X**	
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 leaks present. No Stud threads present, no damage or deflection present. No gussets present.
Gauges Ensure gauges are visible, working, no leakage, and suitable for range of MAWP/ Temp.	**X**				Pressure gauge (0-10300 kPa) Suitable for MAWP Gauge is clear and visible.
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 and in place. No loose clamps or supports. No evidence of structural overload or deflection. Inlet. Dump line piping has corrosion and paint failure to 20% in areas.
Valving Ensure no leaks are visible. Valves are properly supported and chained if necessary.	**X**				Valves are properly supported, no leaks present.
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**				PSV is set at MAWP of vessel. PSV Discharge piping is larger than inlet piping and is properly supported and routed. No block valves present PSV Seal is intact Location: Upper shell
NDE methods Was UT/ MPI done on vessel (MI coordinator to review results)	**X**				Ultrasonic corrosion survey carried out – head and pipe metal thickness detected below nominal minus corrosion allowance. Critical thickness calculations carried out to ensure sufficient metal exists for safe operation.

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) Paint dump lines 2) Service PSV

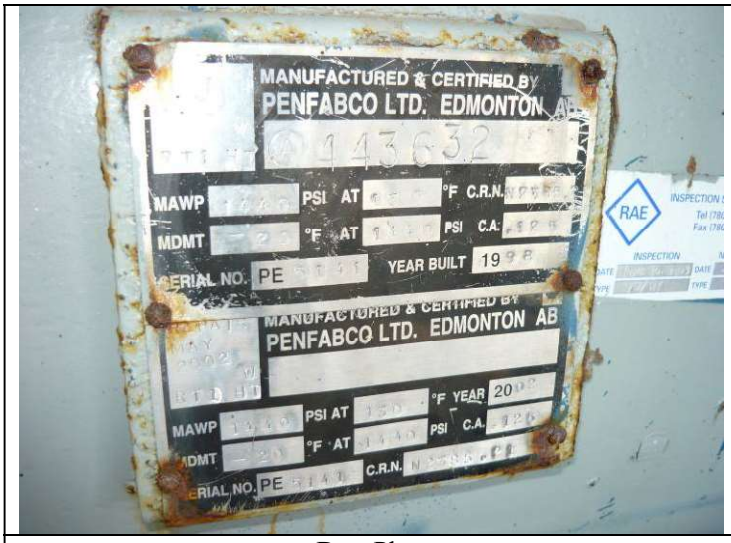
Summary: Vessel is in overall good condition, visual external inspection and ultrasonic corrosion survey performed - head and pipe metal thickness detected below nominal minus corrosion allowance. Critical thickness calculations carried out to ensure sufficient metal exists for safe operation.

Long term corrosion rate based on greatest thickness loss (head) 0.308mm per year. Retirement Date to "T"min is year 2059.

Vessel is fit for service.

Inspected By: Dellas Weidman **Date:** July 07th 2010

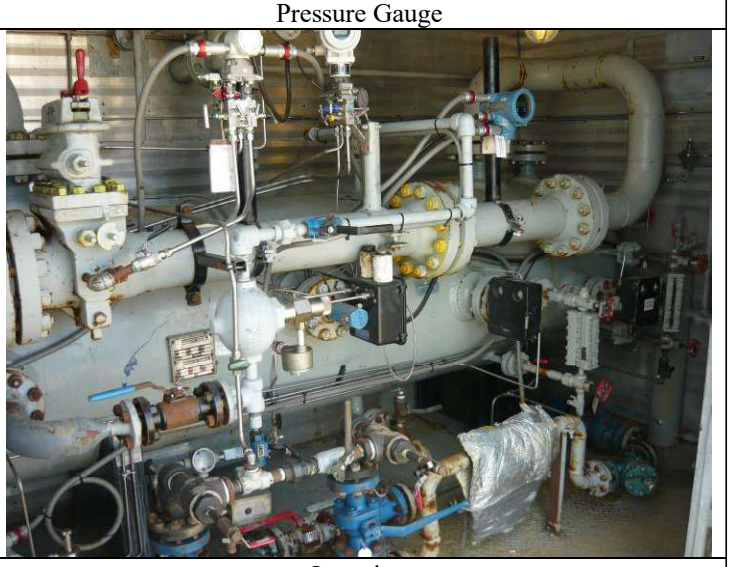
Photo Table for A443632



Data Plate

Pressure Gauge

Overview



Overview

Dump line piping	Dead Leg
	
Saddle	Ground
	
PSV Data Plate	PSV Tag
	
PSV Tag	PSV