



VESSEL INSPECTION REPORT

CLIENT	CNRL 2500, 855 - 2nd Street SW Calgary, Ab T2P 4J8	Inspec Date m/d/y	11/22/2012
CLIENT REP	KYLE HUCULAK MEDICINE HAT	Client Work Order	
		Client Cost No	
		Facility	RAHLSTON BATTERY
		LSD	05-14-018-09W4M

Vessel Equipment Identification

A Number	A0191862	Eq Number		Equipment	Treater
Ser Number	81-7900-A	Alt Jur #		CRN	E1466.2
MDMT		MAWP	517 kPa	MAWT	93 C
Year Built	1981	Radiography	RT1	PWHT	No
Shell Thick	12.7 mm	Shell Material	SA-516 70	Cor Allow	3.18 mm
Head Fire	28.57 mm	Head Nonfire	15.87 mm	Head Material	SA-516 70

Magnetic Particle Equipment

Tool:	Model:	Indicator	Calibration:
Power Source:	Ser No:		Cal Due:

Ultrasonic Equipment (0 degree)

Instrument		Ser No		Cal Due	
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Probe Details

Model	Ser No	Angle	Freq	Dia	Cal Block 1	Cal Block 2

Observations

Only firetube end of vessel was internally inspected. Minow coating repairs. Liquid out nozzle at vortex breaker found filled with what appeared to be scale. Scale was chipped out. Operations was informed.



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EXTERNAL INSPECTION ITEMS

G = Good, F = Fair, P = Poor, N/A = Not applicable

	G	F	P	NA	Comments
Insulation - Verify sealed around manways, nozzles, no damage present, and there is no egress of moisture. Are straps secure?	X				
External Condition - Assess paint condition, areas peeling, record any corrosion, damage, distortion etc (record location, size and depth of corrosion or damage)	X				
Leakage - Record any leakage at flanges, threaded joints, weep holes on repads, etc.				X	Vessel not in service at time of inspection.
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. Is ground were attached?	X				
Anchor Bolts - Hammer tap to ensure secure. Look for corrosion, cracking in threads or signs of deformation.	X				
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? Inspect gussets for cracking.				X	
Gauges - Ensure gauges are visible, working, no leakage, and suitable for range of MAWP/Temp.				X	
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				No apparent stresses in existing piping. Some piping still under construction.
Valving - Ensure no leaks are visible. Valves are properly supported and chained if necessary.				X	Vessel not in service at time of inspection.
PSV - Ensure PSV is set at pressure at or below that of vessel. Discharge piping is same size as valve outlet and is properly supported and routed. Are PSV seals in place? Ensure no block valves between PSV and vessel, or if there are that they are locked/sealed open.				X	PSV not installed at time of inspection.
NDE Methods - Was UT/MPI done on vessel?				X	MT of firetube completed by others.
Other Observations:					



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INTERNAL INSPECTION ITEMS

G = Good, F = Fair, P = Poor, N/A = Not applicable

	G	F	P	NA	Comments
Coating - Assess coating. Describe area coated, general condition of coating. Look at nozzles, coupling, and areas of most severe corrosion to ensure coating is intact. If coating is in poor condition make decision now if re-coating necessary? If so, when?	X				Only firetube end of vessel was inspected, due to missing confined space entry permits. Minor coating holidays on shell and manway. Cleaned with rotating tool and Devco 142 applied.
Anodes - How many, type, condition. % consumed. Are they being replaced?				X	
Internal Piping - Is there any? If so, carbon or stainless steel. Describe condition, dents, corrosion, erosion, etc. Ensure supports are secure and any bolts are suitable for future use.				X	
Trays - How many? Type of material. Are valves in place. Check for erosion/corrosion; wear on tray, valve legs. Cleanliness?				X	
Baffles, deflector plates, etc. - If present, describe condition. Look closely at welds attached to vessel wall.		X			
Bottom Head - Note all corrosion, erosion or mechanical damage. (If vessel is horizontal identify direction of this head)	X				East head was inspected, no issues of concern.
Top Head - Note all corrosion, erosion or mechanical damage. (If vessel is horizontal identify direction of this head)				X	West head was not inspected, non firetube end of vessel was not entered.
Shell Sections - Record number of shell sections. Record location, size and depth of all erosion, corrosion or mechanical damage. Describe general condition. If any corrosion greater than corrosion allowance is observed in either shell or head, discuss with Chief Inspector before closing vessel.	X				Coating well adhered.
Demister pad - Is it in place? Is it clean? If any corrosion is apparent in vessel, lift pad and check top head for corrosion.				X	
Welds - Inspect all welds, including attachment welds. Record all service-related damages and if there is any discuss with Chief Inspector before closing.	X				Nozzle welds, shell and head welds in good condition. Coating well adhered.
Repairs Required - If yes, ensure procedure and copy of AB-40 is on file, and one sent to local ABSA Inspector.				X	
NDE - Was any NDE done.				X	MT of firetube completed by others.
Other Observations: Liquid out nozzles (with vortex breakers) at 6:00 were filled with what appeared to be scale. Scale was chipped away. Operations was informed.					



Perilon Inspection Inc.

Inspection Date m/d/y 11/22/2012
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Recommendations

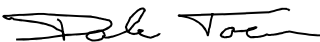
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Safety Valve Information

Shell MAWP 517 kPa	Tube MAWP kPa
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PSV Ser No	PSV Ser No	PSV Ser No
PSV Tag No	PSV Tag No	PSV Tag No
PSV Set Pres	PSV Set Pres	PSV Set Pres
PSV Capacity	PSV Capacity	PSV Capacity
PSV CRN	PSV CRN	PSV CRN
Side Protected	Side Protected	Side Protected
Last Serv m/d/y	Last Serv m/d/y	Last Serv m/d/y

Inspector Information

Inspector Dale Toews	PESL Reg Number 000036
Signature 	API 510 Number 23064
	CGSB Lev 2 UT, MT Reg Number 10498



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PHOTOS





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Nozzles after scale had been chipped away.



Wall between firetubes.



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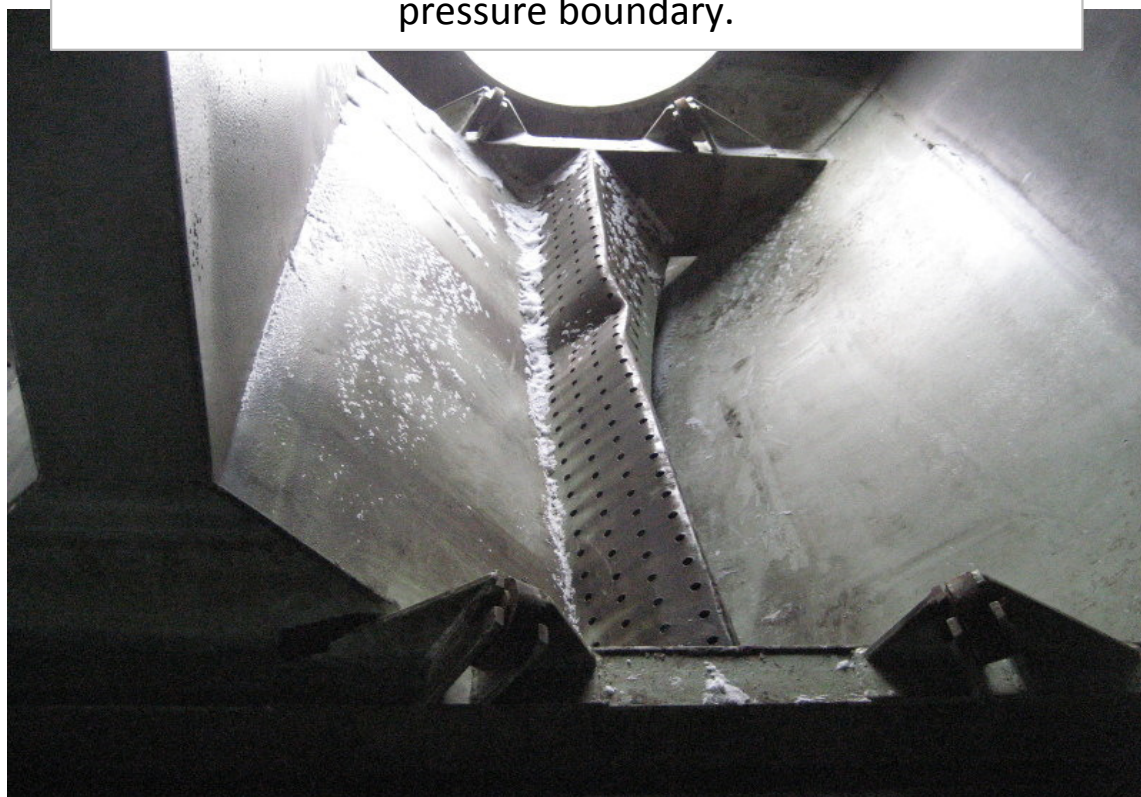
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Some bent equipment inside vessel. No effect on pressure boundary.





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PHOTOS



Vessel internal photos, no concerns.





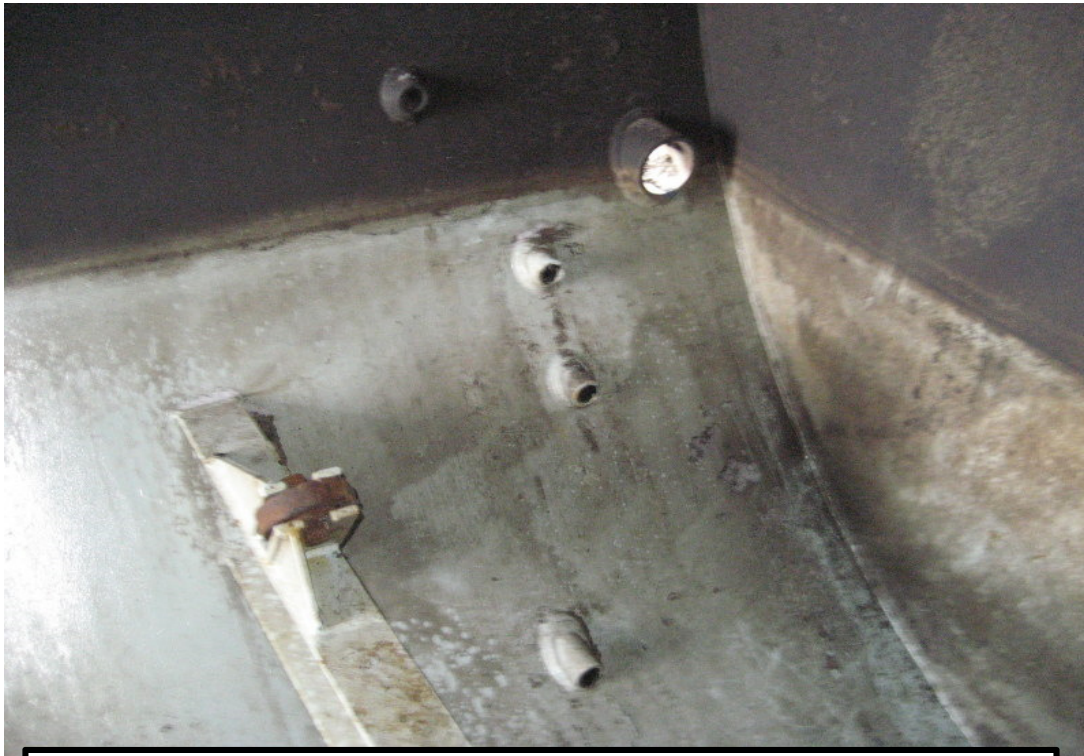
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Vessel internal photos, no concerns.