



Client	Newalta Corporation	Inspection Date	Oct 20, 2016		
Prov. Reg. #	AB 0647152	Inspection Type	VE / VI / PSV		
Equipment Type	Scotch Marine Boiler	Location	Gold Creek Waste Management Facility		
Tag/Equip.	AS858009	LSD	AB 10-09-067-05W6		
Status	In Service	Downhole LSD			
Manufacturer	Cleaver Brooks	Area	Gold Creek		
Serial Number	T4853-1-1	Year Built	2014		
CRN #	U7388.21	Service	Steam		
Comp/Unit Id		Manway	Yes		
Nat.Board #	19013	Coating			
Interim Insp'n		Interim Type			
Next Thorough Insp	2018	Next Insp Type	VE / VI / PSV		
Length		Height			
Volume		Client Reference			
Owner	Newalta Corporation	RT		HT	NO
Foreman	Steve Wiseman	RAE Job No.	1435.008.010		
ABSA	Plant: H Vessel: F Process: T Special: Z	ASME	Sec.IV		
History Log	The boiler was initially inspected under RAE44213 (before it had an A-Number.) U1A - entered May 5, 2015 A0647152 (Scotch Marine Boiler) Inspection Plan - 00.144.389				

Component	Furnace			
MAWP	1.0 PSI @ 1500 °F		MDMT	
Material	SA-53-B	Material Thickness	0.375 in	
Diameter	24 in	Length	138 in	
Corrosion Allowance				



Component	Outer shell of boiler (Horizontal)		
MAWP	15.0 PSI @ 250 °F	MDMT	
Material	SA-516-70	Material Thickness	0.312 in
Diameter	60 in	Length	137 in
Corrosion Allowance			

Valve Tag No	RAE44213 PSV	Relief Type	Pressure Relief Valve
Manufacturer	Kunkle	Set Pressure	15 PSI
Serial Number	None	Capacity	6949 lb/hr
Model	0930-K01-GC	Last Service	Feb 6, 2015
CRN	0G0787.5CL	Next Service	2018
Service Co.	Apex Valve Services	Service Interval	36 Months
Service Co. Tag		Inlet Size	
ASME Stamp	HV	Outlet Size	
NB Stamp	YES	Connection	Threaded
Relief Dest.	To Atmosphere	Valve Loc.	On Vessel
Comments		Client Reference	

Component	Fire tubes		
MAWP		MDMT	
Material	SA-178A	Material Thickness	0.095 in
Diameter	2.5 in	Length	
Corrosion Allowance			

Comments

The following RAE Procedure(s) was/were used in inspecting this vessel:
 INS-607B Firetube Boiler Inspection Procedure



Figure: 1



Boiler Location

Building Observations

The boiler is fully inside a building, and there is adequate room around the boiler to allow for inspection. There is adequate light around the boiler. There were no housekeeping issues around the boiler.

Figure: 2



Building Overview

Piping Observations

The associated piping is well supported, and in generally good condition. The fuel gas piping is painted (color coded) yellow.



Figure: 3



Fuel Gas Piping

PSV Observations

The boiler has one PSV which relieves outside the building.
The PSV has a metal service tag correctly attached to the valve.
PSV has a correct nameplate with an ASME HV stamp.

Figure: 4



PSV Overview

Figure: 5



PSV Service Tag



Figure: 6



PSV Nameplate

Figure: 7



PSV Relief

External Observations

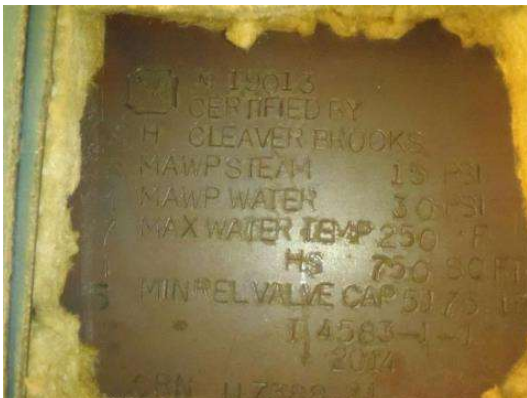
The boiler was identified by the A number stamped on the nameplate. The boiler is on a skid frame supported by 2 saddles.

The shell is insulated, cladded, and in generally good condition. The ends of the boiler are not insulated, as they are internally refractory lined.

The boiler appears to be in good external condition. The burner controls appeared to be in good condition. Boiler air intake is close to building air intake at the stack. The hand holds appear to be correctly installed.

Boiler is presently being fired with propane.

Figure: 8



Boiler Nameplate

Figure: 9



Boiler Overview



Figure: 10



Air Intake

Figure: 11



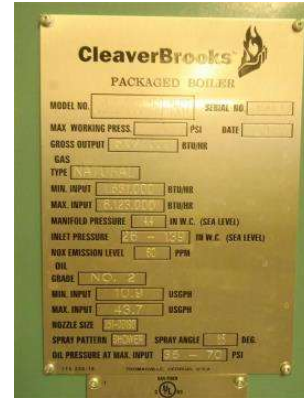
Boiler Stack

Figure: 12



Boiler Handholes

Figure: 13



Boiler Data

Figure: 14



Boiler Low Water Cutoff Valve

Figure: 15



High Pressure Cut Off Switch



Figure: 16



Boiler Controls

Internal Observations

Only the return end cover was removed to allow for an internal inspection of the boiler.

Burner / Combustion Barrel

A visual inspection from the return end revealed that the burner appeared to be in good condition. There was no significant corrosion or debris noted in the combustion barrel.

Burner End - Cover

This cover was not opened during this internal inspection, as the cover was stuck in place, and force to open could very well of damaged the seal.

Return End - Tubes

The 2nd pass tube sheet and tubes were light color. The 3rd pass tube sheet and tubes were dark color. There was no sign of any significant corrosion on the tube sheet or tubes. There was no sign of any tube or tube end leaks.

Burner End - Tubes

There was no access as the burner door was stuck shut.

Refractory - Burner / Rear Door

All refractory around the burner, and on rear door was well adhered, and in good condition, with some hair line cracks. No refractory was missing or broken loose.



Figure: 17



Burner Assembly

Figure: 18



Burner Close Up

Figure: 19



Burner Barrel

Figure: 20



Rear Door / Tube Sheet

Recommendations

1. Burner end cover should be opened during next internal inspection.
2. May need a new seal for burner end, as the force to open could very possibly badly damage the existing seal.

Based on the scope of this inspection, the vessel appears suitable for continued service.

Ken McNeil

Alberta IBPV #A-75085
API 510 #39628, API 570 #66961
API 653 #47993, CWB Level III #483

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