

STATIC EQUIPMENT INSPECTION REPORT - Exhibit # 300

COMPANY: Signalta Resources **SIGMA JOB #:** 2843

District: _____ Facility: Forestburg Lsd 13-14-042-16W4M Skid: _____

Item Insp.: Heat Medium Boiler

VESSEL DATA

Equip#: _____ Serial #: 3671 ABSA#: 200407 CRN #: C9883.21

Manuf: Saskatoon Boiler Code/Div.: _____ Para: _____ Code Stamp: _____

Yr. Built: 1984 Size: _____ ☐ Actual ☒ Est. Insulated: _____

Service: Sweet PWHT: _____ R.T.: _____ Repairs: _____

Nominal Thickness & Material

Head: 15.9mm Material: SA-516-70 C.A. _____ Reasons: _____

Head: _____

Shell: 12.7mm SA-285-C Status: ☒ IN SERVICE

Tube: _____ SA-178-A ☐ OUT OF SERVICE

Channel HD: _____ Manway: ☐ YES ☒ NO

Channel SH: _____

Boot HD: _____

Boot SH: _____

MAWP Shell: _____ ☐ Psi ☐ kPa Temp: _____ ☐ F ☐ C ☐ PROCESS CHANGE

MAWP Tube: 75 ☒ Psi ☐ kPa Temp: 250 ☒ F ☐ C ☐ COMMISSIONING

Comments _____

PSV INFORMATION

Location: Vessel ☒ S Vessel ☐ S **S = SHELL SIDE**

Manufacturer: Consolidated ☐ T Consolidated ☒ T **T = TUBE SIDE**

Serial #: DA02036 ☐ P DA01835 ☐ P **P = PIPING**

PSV #: _____

CRN: _____

Model: _____

Set Press: 150 PSI 150 PSI

Capacity: 9835 SCFM 9835 SCFM

Status: _____

Inlet Size (mm): 1.5" 1.5"

Outlet Size (mm): 3.0" 3.0"

Conn Type (F/T): _____

Serviced By: _____

Last Service Date: 2005 2005

Inlet Isolation valves sealed open:

☐ YES ☐ NO

Outlet Isolation valves sealed open:

☐ YES ☐ YES

Inspection Requested By: Lorne Albers Inspection Date: 09-Jun-10

Inspection Performed By: Mark Copithorne Certification # 000159

Chief Inspector: Terry McConnell Certification #: 000049

EXTERNAL VISUAL INSPECTION

ABSA#:

200407

SIGMA JOB #:

2843

Remedial Action

- ☐ No Action Required
- ☐ Paint Repairs
- ☐ Repair Weld - S.R.
- ☐ Repair Weld - No S.R.
- ☐ Grind Out
- ☒ See Comments

Access & Coverage

- ☐ Poor Cleaning
- ☐ Partial Int. Inspection
- ☒ External Inspection
- ☐ NDE Inspection
 - ☐ M ☐ UT
 - ☐ R ☐ BH
 - ☐ PT ☐ Other _____

Other

- ☒ See Comments
- ☒ Ground Cable ☒ Y ☐ N
- ☐ Ladders/Handrail/
Walkway Damage
- ☒ Nameplate Secure ☐ N
- ☒ Nameplate Legible ☐ N
- ☒ See Attached Pictures

Shell

- ☒ TOP
- ☒ BOTTOM

- ☒ Good Condition
- ☐ External Corr.
- ☐ Pitted - Light
- ☐ Pitted - Severe
- ☐ Scaled - Light
- ☐ Scaled - Heavy
- ☐ Blistered
- ☐ N/A Insulated

Nozzles

- ☒ Good Condition
- ☐ Cracked
- ☐ Scaled
- ☐ Plugged
- ☐ Poor Welding
- ☐ Leaking
- ☐ Seal Face Corrosion
- ☐ Bolts Missing/Loose/
Damage
- ☐ Partial Int. Inspection

External Protection

- ☒ Good Condition
- ☐ Fireproofing Cracked
- ☐ Insulation Damaged
- ☐ Paint Deteriorated
- ☐ Corrosion Under
Insulation (CUI)
- ☐ Asbestos ☐ YES ☐ NO
- ☐ Insulated ☐ YES ☐ NO

Welds

- ☒ Good Condition
- ☐ Corroded
- ☐ Cracked
- ☐ Broken
- ☐ Poor Quality

Supports

- ☒ Good Condition
- ☐ Distorted
- ☐ Cracked
- ☐ Broken
- ☐ Poor Installation
- ☐ Bolts Missing/
Loose/Damaged
- ☐ Support Ring
Damaged
- ☐ N/A

Heads

- ☐ TOP
- ☐ NORTH
- ☐ WEST

- ☒ Good Condition
- ☐ External Corrosion
- ☐ Pitted - Light
- ☐ Pitted - Severe
- ☐ Scaled - Light
- ☐ Scaled - Heavy
- ☐ Blistered

Heads

- ☐ BTM
- ☐ SOUTH
- ☐ EAST

- ☒ Good Condition
- ☐ External Corrosion
- ☐ Pitted - Light
- ☐ Pitted - Severe
- ☐ Scaled - Light
- ☐ Scaled - Heavy
- ☐ Blistered

Pressure Gauge

- ☒ Glass Intact
 - ☒ YES
 - ☐ NO
- ☒ Within Operating Limits
 - ☒ YES
 - ☐ NO
- Obvious Leaks
 - ☐ YES
 - ☒ NO

Vessel Repad

- ☐ N/A
- ☒ Vent Holes
 - ☐ 1
 - ☐ 2
- ☒ Plugged
 - ☐ YES
 - ☒ NO

PIPING - PSV

- ☒ Good Condition
- ☐ External Corrosion
- ☐ Pitted
- ☐ Supported
- ☐ Welded
- ☐ Threaded Fittings
- ☐ Deadlegs

PIPING - INLET

- ☒ Good Condition
- ☐ External Corrosion
- ☐ Pitted
- ☐ Supported
- ☐ Welded
- ☐ Threaded Fittings
- ☐ Deadlegs

PIPING - OUTLET/DRAIN

- ☒ Good Condition
- ☐ External Corrosion
- ☐ Pitted
- ☐ Supported
- ☐ Welded
- ☐ Threaded Fittings
- ☐ Deadlegs

EXTERNAL VISUAL INSPECTION

ABSA #: 200407 SIGMA JOB#: _____

OBSERVATIONS:

- ☒ Vessel is in Good Condition
- ☒ API 510 External Inspection confirmed the equipment is fit for continued service
- ☐ NOT FIT FOR SERVICE, DETAILS BELOW

-Overall vessel is in good condition with no deformation noted.
-Instrumentation piping was calibrated by Saskatoon Boiler in June 2010.
-PSV was serviced in 2005 and then stored on shelf. PSV requires resetting as interval has expired even though PSV was not installed until June 2010.
-Isolation valves under PSV on section 1 boilers is not permitted and needs to be removed. NCR #001-Sigma 3 Engineering (NCR #7996- CEL Quality Services Ltd.)

RECOMMENDATIONS

1. Service PSV.
2. Remove isolation valve from below the PSV.

INTERNAL VISUAL INSPECTION

ABSA#:

200407

SIGMA JOB#:

☒ Internal Protection

☐ COATING☐ LINING

- ☒ Good Condition
- ☐ Blistered - Light
- ☐ Blistered - Severe
- ☐ Disbonded
- ☐ Chipped
- ☐ Holidays
- ☐ Mechanical Damage
- ☐ Missing

Demister Screen

- ☒ N/A
- ☐ Good Condition
- ☐ Dislodged
- ☐ Broken
- ☐ Missing
- ☐ Tie-Downs Missing

Firetubes

- ☐ N/A
- ☒ Good Condition
- ☐ Cracked
- ☐ Corrosion
- ☐ Scaled
- ☐ Heat Impinged
- ☐ Coated
- ☐ Wear
- ☐ Burner Misalignment

Floor

- ☒ N/A
- ☐ External Corrosion
- ☐ Internal Corrosion
- ☐ Pitted - Light
- ☐ Pitted - Severe
- ☐ Edge Settlement
- ☐ Weld Cracking
- ☐ Sludge
- ☐ Previous Repairs

Anodes

- ☒ N/A
- ☐ Good Condition
- ☐ Dirty
- ☐ Consumed 40 %
- ☐ New/Replaced
- ☐ Missing
- ☐ Bonding Cable Attached

Refractory

- ☐ N/A
- ☒ Good Condition
- ☐ Cracked (minor)
- ☐ Spalled
- ☐ Missing
- ☐ Damaged
- ☐ Badly Cracked

Tube Bundle

- ☒ N/A
- ☐ Good Condition
- ☐ General Corrosion
- ☐ Pitted - Light
- ☐ Pitted - Severe
- ☐ Scaled
- ☐ Plugged
- ☐ Damaged
- ☐ Wear
- ☐ Erosion

Drum

☐ MUD
☐ STEAM

- ☒ N/A
- ☐ Good Condition
- ☐ Damaged Internals
- ☐ Internal Corrosion
- ☐ Cracking
- ☐ Scaling

Heating Coil

- ☒ N/A
- ☐ Good Condition
- ☐ Corrosionn
- ☐ Cracked
- ☐ Scaled
- ☐ Worn
- ☐ Loose
- ☐ Poor Installation

Manway

- ☒ Good Condition
- ☐ Coating Damage
- ☐ Internal Corrosion
- ☐ Mechanical Damage
- ☐ Seal Face Corrosion
- ☐ Bolts Missing/Loose/
Damaged

Tubes

- ☒ N/A
- ☐ Good Condition
- ☐ External Corrosion
- ☐ Internal Corrosion
- ☐ Thinning
- ☐ Bulged
- ☐ Heat Impinged
- ☐ Distorted
- ☐ Erosion
- ☐ Leaking

Shell

☐ TOP
☐ BOTTOM

- ☒ Good Condition
- ☐ Internal Corr.
- ☐ Pitted - Light
- ☐ Pitted - Severe
- ☐ Scaled - Light
- ☐ Scaled - Heavy
- ☐ Blistered

Channel Head

- ☒ N/A
- ☐ Good Condition
- ☐ General
- ☐ Pitted - Light
- ☐ Pitted - Severe
- ☐ Erosion
- ☐ Scaled
- ☐ Coated

TubeSheet

- ☒ N/A
- ☐ Good Condition
- ☐ Pitted - Light
- ☐ Pitted - Severe
- ☐ Erosion
- ☐ Damaged

Trays

- ☒ N/A
- ☐ Good
- ☐ Collapsed
- ☐ Distorted
- ☐ Loose
- ☐ Missing
- ☐ Wear
- ☐ Corrosion
- ☐ Poor
- ☐ Valve Caps
Missing

Vessel Internals

- ☐ Weir/Baffle/
Divider Damage
- ☐ Downcomer
Corrosion
- ☐ Spray Nozzles
Damaged/Missing
- ☐ See Comments
- ☐ Adequately Clean

INTERNAL VISUAL INSPECTION

ABSA #: 200407 SIGMA JOB#: _____

OBSERVATIONS:

- ☒ Vessel is in Good Condition
- ☒ API 510 External Inspection confirmed the equipment is fit for continued service
- ☐ NOT FIT FOR SERVICE, DETAILS BELOW

-All handways were removed to inspect the water side of the boiler.
-All tubes and internal components are free of scale.
-Gasket faces on covers and handways are in excellent condition.
-Refractory is in excellent condition. Gaskets were replaced on water side and fire side of boiler.
-Burner is in good condition.
-Firetubes 1st. 2nd and 3rd pass are all in excellent condition. No leaks on tube ends and no buildup of soot
-Saskatoon Boiler is doing the maintenance and burner controls.

RECOMMENDATIONS

1. Empty rain water from pop tank.

PICTURES:



NCR- #001



PICTURES:

