



# Pressure Equipment Integrity Management System

## Internal Inspection Form – Treaters / Heaters / Reboilers / FWKOs

**General Vessel Data**

Owner: <u>EOG Canada Oil and Gas</u>	District/Area: <u>Northeast BC</u>	
Facility: <u>Maxhamish</u>	Location (LSD) ♦: <u>D-36-I/94-O-14</u>	
A Number ♦: <u>SN-REB-01-0141-01-001-R</u>	Serial Number ♦: <u>REB-01-0141-01-001-R</u>	
CRN ♦: _____	Vessel Type: <u>Reboiler</u>	
Description ♦: <u>Dehy #2 Glycol Regenerator/Reboiler</u>	Skid / Process: <u>Dehy Skid #2</u>	
Tag No: <u>6763, H-300</u>	Status: <input checked="" type="checkbox"/> In Service <input type="checkbox"/> Out of Service <input type="checkbox"/> Other	

**Coating / Anode Data**

Internally Coated: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Coverage: _____	Coating Type: _____
Internal Anodes: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Quantity: _____	Anode Type: _____
New Anodes Installed: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Quantity: _____	Anode Type: _____

**Firetube / Tube Bundle Data**

Firetube/Tube Bundle: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Quantity: <u>1</u>	Serial Number(s): <u>1-14 1-1</u>
Orientation: <u>Horizontal</u>	Dimensions: <u>12" x 13'</u>

**Inspection**

External Nozzles (Viewed from outside) N/A – not opened at time of inspection

Signs of internal corrosion?  Yes  No \_\_\_\_\_

Flange faces deterioration?  Yes  No \_\_\_\_\_

Vessel Cleanliness

Cleaning adequate?  Yes  No Not cleaned

Scale/build-up remaining?  Yes  No \_\_\_\_\_

Internal Access

Baffles/Weirs present?  Yes  No \_\_\_\_\_

Other obstructions?  Yes  No \_\_\_\_\_

Firetube / Tube Bundle

Indicate the degree of scale and surface deposits on the firetube / tube bundle:  Nil  Light  Moderate  Heavy

Was the firetube sandblasted:  Yes  No  N/A  Not Required

Surface Condition (pitting, general corrosion): In good overall condition. Some pitting on tip of the fired side ~15 feet from the tubesheet. Deepest pit was 1.5mm deep.

Distortion, warping, blistering, or other deformation of the firetube / tube bundle?:  Yes  No If yes, describe: \_\_\_\_\_

Were the welds inspected using MPI?  Yes  No If yes, indicate results: MPI performed by Probe Corrosion Services Ltd.

No relevant indications were noted during the examination.

Permanent Yoke Serial Number: <u>PC-001</u>	Procedure: <u>PC-MT1 Revision 1 - 2014</u>
Wet Visible Magnetic Particles: <u>Ardrox 8031</u>	Visible Light: <u>Minimum 100fc (1000lux) @ surface of part</u>



# Pressure Equipment Integrity Management System Internal Inspection Form – Treaters / Heaters / Reboilers / FWKOs

A#: REB-01-0141-01-001-R Vessel Description: Dehy #2 Glycol Regenerator/Reboiler Location (LSD): D-36-I/94-O-14

Internal Coating – N/A – Not coated

Low voltage holiday detection performed?  Yes  No If yes, indicate results: \_\_\_\_\_

Make: \_\_\_\_\_ Model: \_\_\_\_\_ SN: \_\_\_\_\_

Condition of anodes: \_\_\_\_\_

Overall condition of coating: \_\_\_\_\_

\_\_\_\_\_

Areas of Dis-bonding, bubbles, or blistering: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Coating Repairs (performed by, product used, ambient temp, etc.): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Surface and Nozzles

Condition of Shell and Heads (metal substrate at holidays): Good, surface corrosion present on upper shell as viewed from manway

\_\_\_\_\_

\_\_\_\_\_

Condition of nozzle openings: Good as viewed from manway

\_\_\_\_\_

\_\_\_\_\_

Internal Attachments

Condition of mist extractor: N/A

Internal piping: N/A

Bolting and supports: N/A

Vessel Welds

Selective weld attack?  Yes  No If yes, describe: \_\_\_\_\_

\_\_\_\_\_

NDE Crack inspection performed?  Yes  No If yes, indicate results: \_\_\_\_\_

\_\_\_\_\_



# Pressure Equipment Integrity Management System Internal Inspection Form – Treaters / Heaters / Reboilers / FWKOs

NME Form F01-05  
Version 005.05  
Page 3 of 6

A#: REB-01-0141-01-001-R Vessel Description: Dehy #2 Glycol Regenerator/Reboiler Location (LSD): D-36-I/94-O-14

Sketch Area:

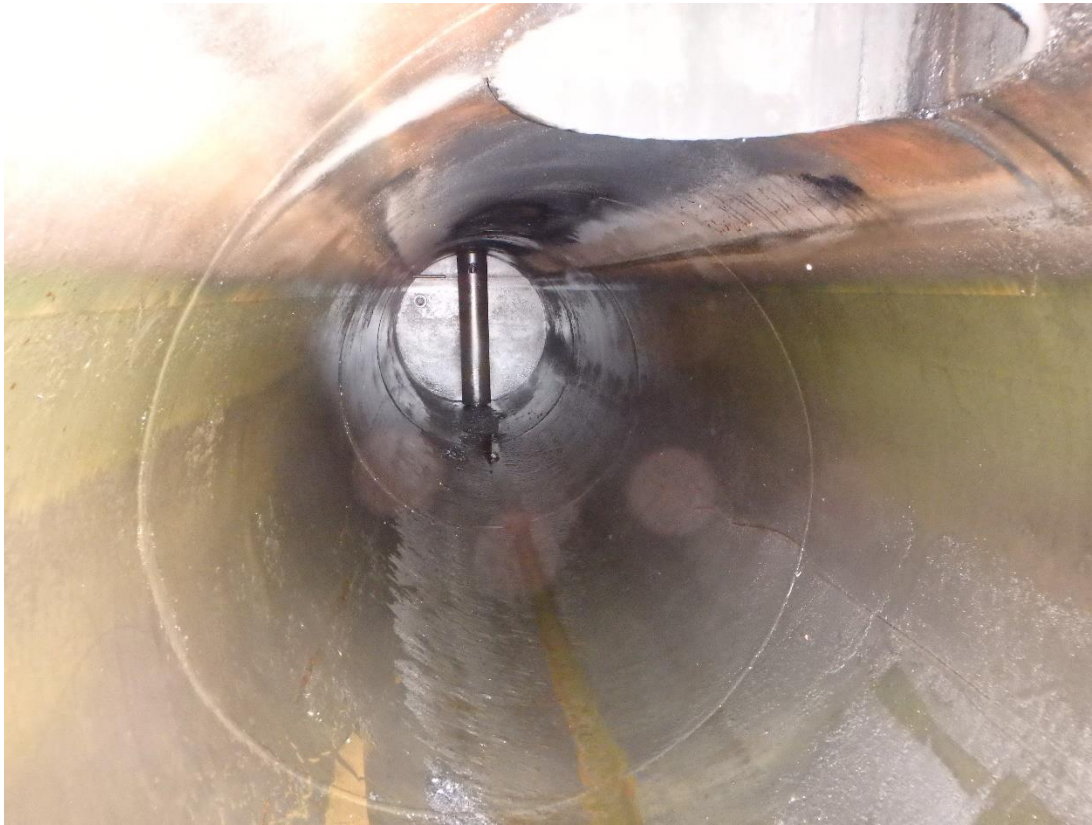


Figure 1: Reboiler Overview From Manway



Figure 2: Reboiler Lower Shell Overview



**Pressure Equipment Integrity Management System**  
**Internal Inspection Form – Treaters / Heaters / Reboilers / FWKOs**

NME Form F01-05  
Version 005.05  
Page 4 of 6

A#: REB-01-0141-01-001-R      Vessel Description: Dehy #2 Glycol Regenerator/Reboiler      Location (LSD): D-36-I/94-O-14



Figure 3: Firetube Overview



Figure 4: Firetube Overview



**Pressure Equipment Integrity Management System**  
**Internal Inspection Form – Treaters / Heaters / Reboilers / FWKOs**

NME Form F01-05  
Version 005.05  
Page 5 of 6

A#: REB-01-0141-01-001-R Vessel Description: Dehy #2 Glycol Regenerator/Reboiler Location (LSD): D-36-I/94-O-14



Figure 5: Firetube Internal Overview



Figure 6: Pitting Present On Firetube



Pressure Equipment Integrity Management System
Internal Inspection Form – Treaters / Heaters / Reboilers / FWKOs

NME Form F01-05
Version 005.05
Page 6 of 6

A#: REB-01-0141-01-001-R Vessel Description: Dehy #2 Glycol Regenerator/Reboiler Location (LSD): D-36-I/94-O-14

Additional Comments and Field Notes

Multiple horizontal lines for additional comments and field notes.

Action Item(s) Identified? [ ] Yes [x] No If yes, indicate required work below Field Tag #: \_\_\_\_\_

Multiple horizontal lines for action items.

The scope of this internal inspection is restricted to the items detailed above and forms part of a thorough integrity assessment for this equipment. Results of this inspection have determined the internal condition of this equipment to be:

- [x] Acceptable
[ ] Acceptable with the identified action items resolved before the associated action item's "Required By Date"
[ ] Not Acceptable until the identified action items are resolved

AB-506 Grade / Intervals

Previous Grade: 1 Assigned Grade: 2

Internal Interval: 5 years Next Internal Due: October 11, 2022

Inspector Name: Joey Poapst Inspection Company: Northern Materials Engineering

Inspector Signature: [Signature] Inspection Date: October 11, 2017

Report Certification

Report Certified By (signature): [Signature] Certificate No: 64230 API 510