

123 - 8805 Resources Road
 Grande Prairie, AB
 T8V 3A6
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Magnetic Particle
 Inspection Report

UTMT_A#0516949 Firetube_apr2024

Client: RARE Oilfield Services	Facility: Q2 Yard	Date: April 8, 2024
LSD: N/A	Item(s) Inspected: Line Heater A#0516949 Firetube	WO #: N/A
Material: Carbon Steel	Thickness: N/A	LII Job #: 11385
Ref. Code: ASME 1	Surface Preparation: Buffed	Surf. Temp: 6°C
Procedure: MT-01 Rev. 9	MT Technique: 5.2 Wet Visible	
MPI Equipment: Asset#: HY-9	Parker B-300 AC Yoke	SN:20046 Daily 10 lb Lifting Power Verification Completed
Particle Type: 5.2	MFR: Magnaflux	Name:7HF & WCP-2
Light Source: White Light	Light Intensity Verified to >1000Lx	
Procedure: UT-01 Rev. 9		
UT Equipment: Asset# FD-11	Olympus Epoch XT	Serial Number: 081208611
Transducer 1: Asset# T-234	Technisonic Research 0° Dual 5MHz	Diam. 6.35mm Serial #: 22323
Cal. Block 1: Asset# CB-86 (1018)	Carbon Steel 6-step wedge	Serial Number: 64299
Couplant: Magnaflux UTX	Cable: 2m Dual BNC to Microdot	Gain Level: 62 dB

Job Scope: -To perform an Ultrasonic Inspection (UT) to determine thicknesses on the firetube that has been removed from the Line Heater, A#0516949.

-To perform wet visible Magnetic Particle Inspection (MPI) on all the external firetube welds. This firetube was removed from the Line Heater, A#0516949.

The following welds are to be inspected with MPI:

- Tube Sheet to Tube Flange Fillet Welds (Front & Back Side of the Flange)
- All Tube to Tube Butt Welds
- All Tube to Tube Mitre Welds
- All Firetube Attachment Welds



MPI Results: All welds mentioned in the above job scope were buffed, cleaned, and visually inspected prior to MPI, with no indications found. MPI was conducted, and no cracks or linear indications were detected on any of the welds inspected. These welds are considered acceptable to the reference code regarding MPI.

UT Results: See the attached drawing and data for results.

See additional inspection photos on the following pages.

Technician(s): Kaedyn Schmidt (CGSB UT-1, MT-2, PT-2 #27732) (SNT-TC-1A UT-I, MT-II, PT-II)
Assistant(s): Dylan Schwabe
Client Representative: Tom Kaluzny

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Inspection Photos:



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Inspection Photos:



Vessel Overview:





Customer: RARE OILFIELD SERVICES

Description: LINE HEATER FIRETUBE

Facility: Q2 YARD

Location: N/A

Reg A#: 0516949

Serial #: CB-12481

Drawing#: 1A

CRN #: D4268.213

Manufacturer: LARSON & D'AMICO

Unit #: N/S

Year Built: 2004

Shell MAWP: _____

Shell MAWT: _____

Shell Material: N/S

Nominal: N/S

CA: N/S

Tube "A" MAWP: 21623 kPa

Tube "A" MAWT: 93°C

Head Material: N/S

Nominal: N/S

CA: N/S

Tube "B" MAWP: 21623 kPa

Tube "B" MAWT: 93°C

Tube Material: N/S

Nominal: N/S

CA: 3.2mm

Size: 3" COILS

Manway: NO

MDMT: -29°C

Boot Shell Mat: _____

Nominal: _____

CA: _____

Insulated: NO

C Stamp: NO

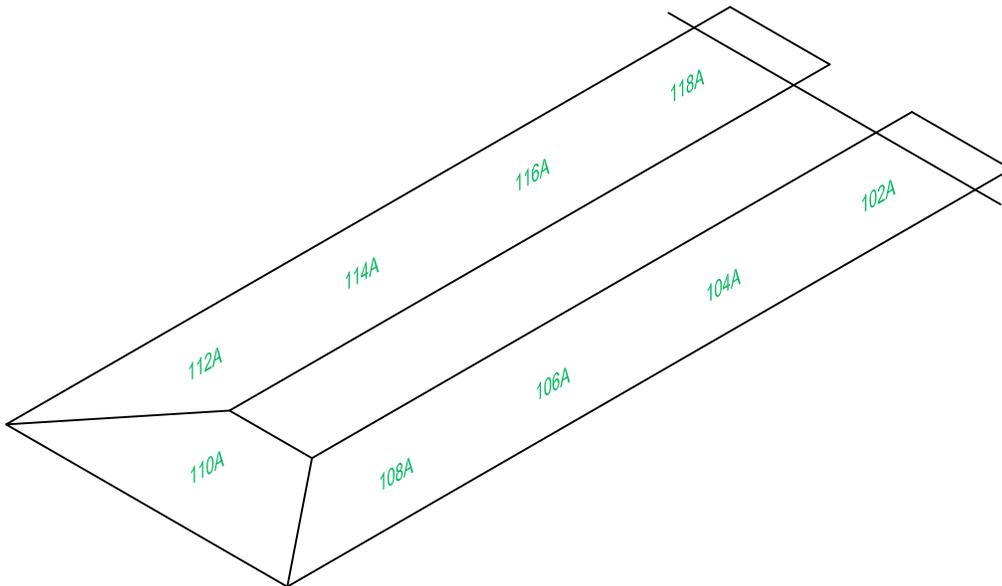
RT: 100% PWHT: YES

Boot Head Mat: _____

Nominal: _____

CA: _____

FIRE TUBE SERIAL#: H-12477





UTS Data Sheet

Client: **Rare Oilfield Services**
Facility: **Q2 Yard**
Equip Description: **Line Heater Firetube**
Serial #: **H-12477**
Drawing #: **1A**
Inspection Date: **Apr. 8, 24**

Point#	12:00 Position (mm)	3:00 Position (mm)	6:00 Position (mm)	9:00 Position (mm)
102A	6.1	6.2	6.1	6.0
104A	6.1	6.1	6.2	6.1
106A	6.1	6.2	6.2	6.1
108A	6.1	6.2	6.1	6.1
110A	6.0	6.1	6.1	6.0
112A	6.1	6.2	6.1	6.0
114A	6.1	6.3	6.1	6.1
116A	6.0	6.1	6.3	6.2
118A	6.0	6.2	6.2	6.1