



RTD QUALITY SERVICES INC.
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GENERAL NDE REPORT

CNRL-Chinchaga - 11 - 002

Date Sept 24 - 2011 Page 1 of 2

RTD Job #: 10.110763

RTD Dep. #: Grande Prairie Asset

LSD: LSD 01 - 24 - 96 - 05 - W6M

Location: Chinchaga Gas Plant

Procedure: RTD NDE: UT 001

Code: ASME B 31.3

Client: Canadian Natural Resources Limited

Address: Grand Prairie, AB

P.O.#: _____

Client Rep.: Aj Khan

Description: Line Heater - Gas Coil - A0170474

Surface Condition: Weldment Machined Painted
 Ground Sandblasted Other

Surface Temp (C°): < 5 > 5 • < 60 > 60

MAGNETIC PARTICLE INSPECTION

Equipment Type: Yoke Bench Asset No.: _____ Calibration Due Date: _____

Blacklight: Intensity Check: _____ $\mu\text{W}/\text{cm}^2$ Asset No.: _____ Calibration Due Date: _____

Method: A/C D/C Type: Continuous Residual Power Supply: 120 V Battery Natural

Type: Dry Powder: Colour; _____ Wet: Black and White Fluorescent

Product Manufacturer: _____ Product Identification Code: _____

LIQUID PENETRANT INSPECTION

Type: I-Fluorescent II-Visible Dye Method: A (Water Wash) B (P.E. Lipophilic) C (Solvent Removable) D (P.E. Hydrophilic)

Blacklight: Asset No.; _____ Calibration Due Date; _____ Blacklight Intensity; _____ $\mu\text{W}/\text{cm}^2$

Dwell Times: Penetrant; _____ Minutes Developer; _____ Minutes Product Manufacturer: _____

ULTRASONIC THICKNESS MEASUREMENT

Method: P/E Dual T/T Other Type: Longitudinal Shear Wave

Instrumentation: Manufacturer; Panametrics Epcoc 4 RTD Asset No.; 7093 Calibration Date; Oct 2011

Cal. Block(s): Type; 2 - 20 mm step RTD Asset No.; 1179 Serial No.; _____

Couplant: Manufacturer; Sonotec Type; UTX

Probe Type	Angle	Frequency	Size	Reference Level (dB)	Scanning Level (dB)	Range	Skip Value	Beam Travel	Transfer Value (dB)
Pan	0 deg	10 mhz	.250 in	56 db	56 db	20 mm	0 in	20 mm	0 db

INSPECTION DETAILS

Scope: 1. Carry out Ultrasonic thickness on gas coil.

Reference: A017474 / Ser Not Stated

Results: 1. Ultrasonic thickness inspection carried out on gas coil - no pitting detected. Nominal thickness of 6 schedule 160 is 18.2 mm

Summary: The external surface of the gas coil is not scaled - no metal thickness detected below nominal minus applied 12.7% - 2.3 mm corrosion allowance. Min thickness detected was 17.6 mm. T min thickness at MAWP is 14.7 mm.

Recommend: 1. No recommendations at this time.

Note: This coil is fit for continued service.

Technician: Dellas Wiedman CGSB /ASNT/SNT Level: 2

Signature: _____ Method: ET/PT/UT/MT/RT

Assistant: Bev Schembri CGSB /ASNT/SNT Level: _____

Client Signature: _____

Start Time: _____ Stop Time: _____ ST _____ OT _____

Unit: _____ Km: _____ Travel Time: _____

Subsistence required OT Meal

Consumables: _____

*Results are an interpretation of the inspection method, not a guarantee. Client signature indicates acceptance of report, results and applicable charges.