



**APPLUS RTD QUALITY SERVICES INC.**  
**#104, 11302 - 98 AVENUE**  
**ALBERTA, CANADA T8V 8H4**  
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**GENERAL NDE REPORT**

**NANCY**  
**No. 001**

Date Feb 20 2020 Page 1 of 4

RTD Job #: 4016382

RTD Dep. #: Asset Grande Prairie

Client: Canadian Natural Resources Limited

Address: 6744 airport road Fort St. John V1J-4M6

P.O.#: \_\_\_\_\_

Client Rep.: Mandy Nelson

LSD: d-65-H/94-A-15

Location: Nancy Battery

Procedure: RTD: MT 005, Rev 4

Code: ASME VIII, DIV1

Description: Magnetic Particle/ Ultrasonic thickness inspection on Free Water Knock out A0068932 firetubes.

Surface Condition:  Weldment  Machined  Painted  
 Ground  Sandblasted  Other

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

**MAGNETIC PARTICLE INSPECTION**

Equipment Type:  Yoke  Bench Asset No.: 12112 Calibration Due Date: 07/05/2020

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: Magnaflux Product Identification Code: WCP-2/ 7HF

**ULTRASONIC THICKNESS MEASUREMENT**

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

Instrumentation: Manufacturer: Olympus RTD Asset No.: 13759 Calibration Date: 2/20/2020

Cal. Block(s): Type: IIW RTD Asset No.: \_\_\_\_\_ Serial No.: 17-4383

Couplant: Manufacturer: Magnaflux Type: Sonotech

Probe Type	Angle	Frequency	Size	Reference Level (dB)	Scanning Level (dB)	Range	Skip Value	Beam Travel	Transfer Value (dB)
Olympus	0°	5mhz	1/2"	80%		25mm			

**INSPECTION DETAILS**

Scope: Carry out Magnetic Particle on firetubes for free water knock out A0068932  
 Carry out Ultrasonic thickness inspection on firetubes for free water knock out A0068932

Ref: A0068932

Results: Ultrasonic thickness inspection Carried out found minium thickness of 11.4/11.7mm on firetube number 1  
 Ultrasonic thickness inspection Carried out found minium thickness of 12.7/12.9mm on firetube number 2  
 Magnetic Particle inspection carried out on firetube number 1 found 2 cracks.  
 9inch crack on circ weld  
 1.5inch crack on support anchor  
 1 inch crack on 6:00 support anchor  
 Magnetic Particle inspection carried out on firetube number 2 no cracking found at time of inspection  
 Magnetic Particle inspection carried out on spare firetube no cracking found at time of inspection

Technician: Chris Betthel CGSB /SNT TC1A Level: 2

Signature: [Signature] Method: MT

Assistant: \_\_\_\_\_ CGSB /SNT TC1A 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.



LSD

Data Plate



Overview of vessel



Firetube number 1



Overview of crack number 1 on circ weld



Overview of crack number 2 on anchor support



Overview of crack number 3 on anchor support



Overview of firetube number 2



Overview of spare firetube