



Pressure Equipment Static Data

General Information						
Date:	September 14, 2021	Location:	Surface:	b-17-I/94-H-1		
Client/Owner:	CNRL		UWI/DH:	b-17-I/94-H-1		
District/Region:	Fort St. John Central	Location Access:	All Year			
Area:	LadyFern	Inspection Type:	<input type="checkbox"/> Inventory <input checked="" type="checkbox"/> Internal <input type="checkbox"/> External <input checked="" type="checkbox"/> UT <input checked="" type="checkbox"/> MT			
Facility:	Plant					
Pressure Equipment Information						
Equip Name:	Glycol Reboiler		CA (in):	N/A	mm:	
Manufacturer:	N/A		MDMT:	N/A		
Provincial #:	N/A	Unit /Skid #:	N/A		PWHT:	N/A
S/N:	N/A	Equip #:	C73746		RT:	Unknown
CRN:	N/A	Year Built:	N/A		Manway:	Yes Size (in): Firetube Opening
NB #:	N/A	Orientation:	Horizontal			
Zones						
	MAWP (PSI)	MAWT (F)	MAWP (KPA)	MAWT (C)	Comment	
Shell Side	15					
Components						
	Dia (OD) in.	Type	Material	Nominal (in)	Nominal (mm)	Comment
Shell	36	Plate	SA-36			Material and nominal assumed
Head	36	Flat	SA-36			Material and nominal assumed
Pressure Safety Valve(s)						
Zone:	Shell Side					
Equip #						
Location						
Set Press (PSI)						
Capacity		SCFM				
Set Press (KPA)						
Manufacturer						
S/N						
Model						
CRN						
Inlet Size (in)		Locked Open?				
Outlet Size (in)						
Inlet I/V						
Outlet I/V						
Service Co.						
Serv. Date						
Service Status and Conditions						
Status:	In Service		Service:	Sour		Primary Contents - Shell: Gas
			Concentration:			Primary Contents - Tube:
Comments						
- No nameplate.						
- No PSV.						



Pressure Vessel Internal Inspection

Date:	September 14, 2021	Equip Name:	Glycol Reboiler
Inspector:	Armando El Sayed	Prov #:	N/A
Client/Owner:	CNRL	S/N:	N/A
District/Region:	Fort St. John Central	Unit /Skid #:	N/A
Area:	LadyFern	Equip #	C73746
Facility:	Plant	Location:	Surface: b-17-I/94-H-1
			UWI/DH: b-17-I/94-H-1
Component	Condition	Comment	
Shell	Acceptable	The shell is in good condition, no corrosion or pitting noted. Material scale was cooked on the side of the shell, no corrosion noted under the material scales.	
Heads	Acceptable	The west head and the firetube cover plate are in good condition, no corrosion or pitting noted.	
Manway	N/A		
Nozzles	Acceptable	All the internal nozzles are in good condition, no concerns noted.	
Gasket Surfaces	Acceptable	The firetube opening gasket surface is found in good condition, no corrosion or mechanical damage noted.	
Internals	N/A		
Welds	Acceptable	All the visible weld seams have full profiles, no concerns noted.	
Coating	N/A		
Firetube	Concern	Corrosion and pitting noted in the fire tube hot side pipe starting 40" from the cover plate. The pitting depth is between 0.05" and 0.130", where the nominal thickness is 0.375". And Pitting noted in the miter section, pitting depth is between 0.01" and 0.07". The pitting have sharp edges and have groove shape.	
Tubesheet	N/A		
Tube Bundle	N/A		
Other	Acceptable	The deflector plate on the west head and the still stack are in good condition, no concerns noted.	
NDE Methods	Acceptable	UT and BWMPI were performed on the fire tube.	
Inspection Summary	Corrosion and pitting noted in the fire tube hot side pipe starting 40" from the cover plate. The pitting depth is between 0.05" and 0.130", where the nominal thickness is 0.375". And Pitting noted in the miter section, pitting depth is between 0.01" and 0.07". The pitting have sharp edges and have groove shape.		
Recommendations		NCR #	
Monitor the corrosion in the firetube and Be prepared to repair the firetube at the next shutdown.			

Fit for Service:	Yes	Signature of Inspector:	
<small>* Fit for Service is only a recommendation based on the results of the current inspection.</small>		Cert #	API 510: 70981 AB/SK: 1052
		Technical Manager or Delegate:	Curtis Graham
Recommended Intervals:		Cert #	API 510: 51479 AB/SK: 785
VE	yrs		
UT	yrs		
PSV	yrs		

PHOTOS



Site Overview



LSD Sign



Vessel Tag



Vessel Overview

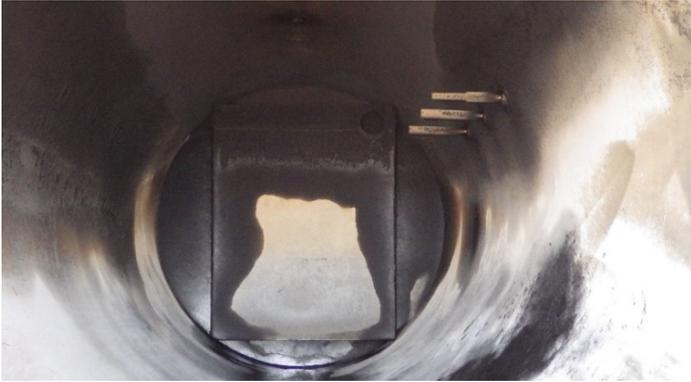


Vessel Overview



Shell Overview

PHOTOS



West Head and Deflector Plate



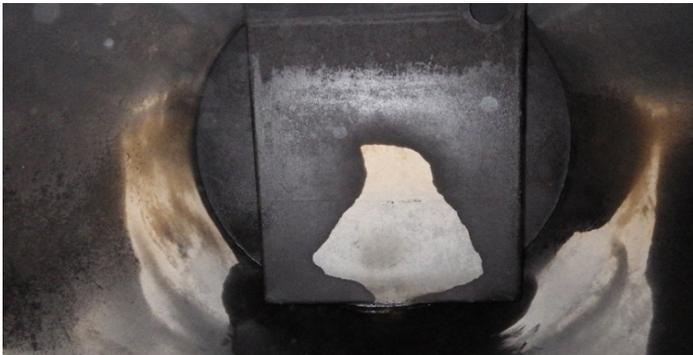
Still Column Nozzle



Drain Nozzle



Firetube Opening Gasket Surface

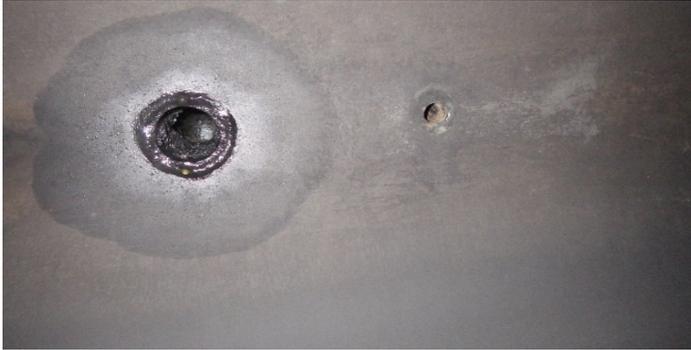


Deflector Plate



Gauges nozzles

PHOTOS



Internal Nozzles



Fire Tube Overview



Pitting noted in the Firetube Hot Side Pipe



Pitting noted in the Firetube Hot Side Pipe



Pitting noted in the Firetube Hot Side Pipe



Pitting noted in the Firetube Hot Side Pipe

PHOTOS



Pitting noted in the Firetube Hot Side Pipe



Pitting noted in the Firetube Hot Side Pipe



Pitting noted in the Firetube Hot Side Pipe



Pitting noted in the Miter Side



Pitting noted in the Miter Side



STATIC DATA					
Date:	September 14, 2021		Equip. Name:	Glycol Reboiler	
Client/Owner:	CNRL		Provincial #:	N/A	Equip #: C73746
District:	Fort St. John Central		Manufacturer:	N/A	CRN: N/A
Area:	LadyFern		Year Built:	N/A	S/N: N/A
Facility:	Plant		RT (Joint Eff):	Unknown	CA: N/A in
Location/LSD:	SF:	b-17-I/94-H-1	UWI/DH:	b-17-I/94-H-1	
CRITERIA / SURFACE CONDITION					
INSPECTION METHOD(S):	<input checked="" type="checkbox"/> MT <input type="checkbox"/> PT <input checked="" type="checkbox"/> UT		ACCEPTANCE CRITERIA:	CLIENT EVALUATION	
PROCEDURE(S):	MT-1A UT-01		SPECIFICATION(S):	ASME V, ART 7	
SURFACE CONDITION:	SANDBLASTED SANDBLASTED		MATERIAL / THICKNESS:	CARBON STEEL	0.375
MT/PT					
MINIMUM LIGHT INTENSITY: ≥ 100 fc Visible, ≥ 1000 μW/cm2					
LIGHTING TYPE:	<input checked="" type="checkbox"/> Ambient Lighting <input checked="" type="checkbox"/> Flashlight <input type="checkbox"/> 100W Flood Light <input type="checkbox"/> Halogen Light <input type="checkbox"/> Blacklight				
EQUIPMENT TYPE	SERIAL #	CALIBRATION DATE		MT CONSUMABLES	
BLACKLIGHT				MEDIUM:	MAGNAFLUX 7HF (BWMPI)
LIGHT METER				CONTRAST:	MAGNAFLUX WCP-2
YOKE	2142	September 14, 2021		APPLICATION:	SPRAY
YOKE TYPE	<input checked="" type="checkbox"/> AC <input type="checkbox"/> CONTINUOUS <input checked="" type="checkbox"/> 120V <input type="checkbox"/> PERMANENT LEG SPACING: 3" - 8"				
PRODUCT	MFG / TYPE	BATCH #	DWELL (MIN)	APPLICATION METHOD	METHOD TYPE
PENETRANT:					
CLEANER:					
DEVELOPER:					
TEST RESULTS					

SCOPE:

A MAGNETIC PARTICLE EXAMINATION WAS PERFORMED ON THE FIRE TUBE FILLET AND BUTT WELDS AS REQUESTED BY CLIENT.

0 DEGREES UT EXAMINATION WAS PERFORMED ON THE FIRE TUBE PIPING AND MITER SECTION AS REQUESTED BY THE CLIENT.

RESULTS:

NO RELEVANT SURFACE INDICATIONS WERE NOTED AT TIME OF INSPECTION.

NO SGNIFICANT METAL LOSS OR CORROSION NOTED.

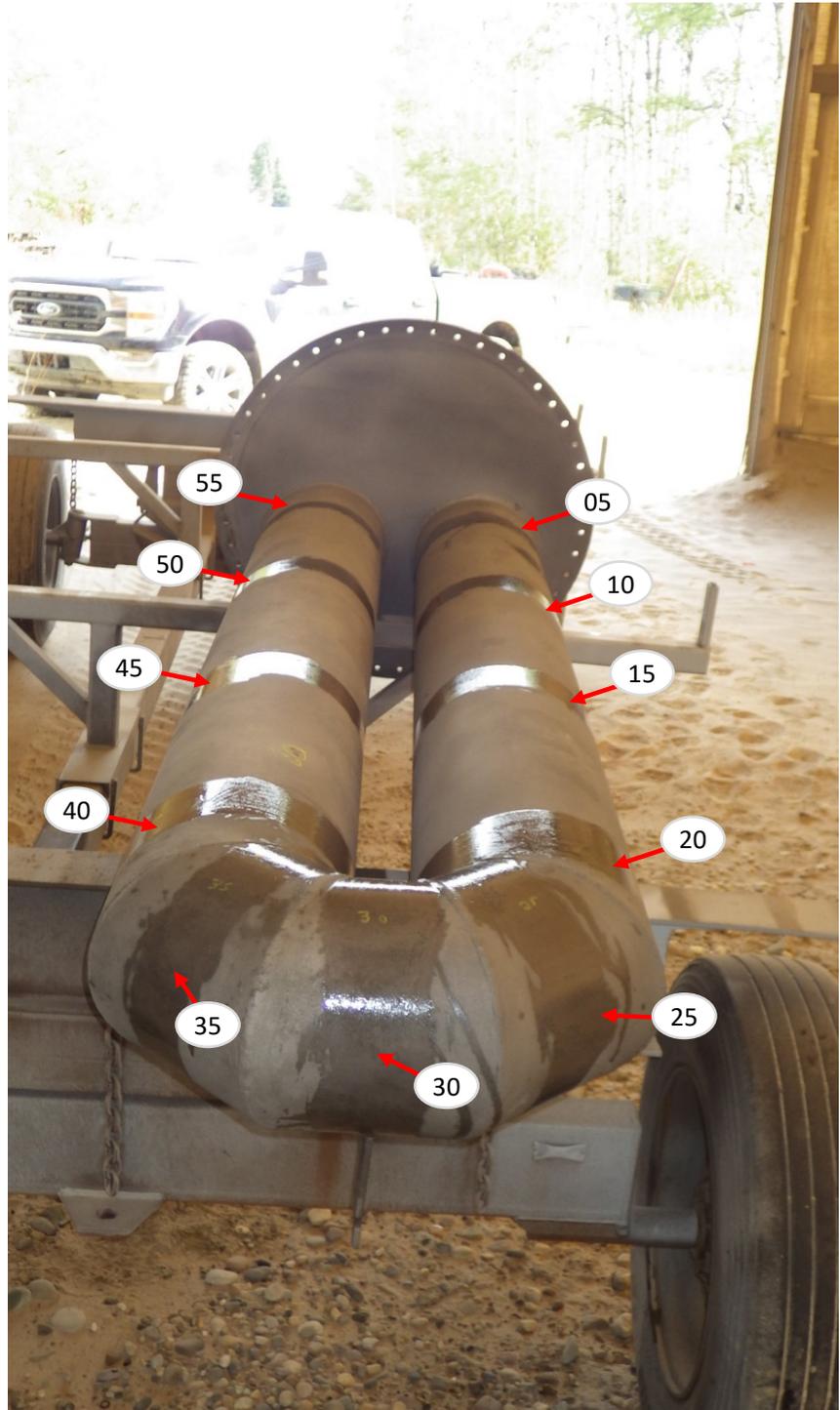
TECHNICIAN:	Armando El Sayed	ASSISTANT:	
SIGNATURE:		CLIENT:	
CGSB/SNT CERTS:	21282 UT I / MT II	SIGNATURE:	

TEST RESULTS / PHOTOS

FOR FIRETUBES:

O.D	12.75
LENGT	112
NOM.	0.375 <input type="checkbox"/> ASSUMED

LOCATIO	LOW	AVG
05	0.386	0.4
10	0.388	0.4
15	0.387	0.4
20	0.395	0.4
25	0.392	0.4
30	0.396	0.4
35	0.389	0.4
40	0.388	0.4
45	0.388	0.4
50	0.392	0.4
55	0.395	0.4



TEST RESULTS / PHOTOS

