



ULTRASONIC INSPECTION REPORT

CA0619-UT1-619 Page 1 of 3

Procedure: 4.2 Rev 2 Client: Secure Energy Inc. Date: 06-Mar-18
Technique: UT Thickness Measurement-Contact Method IRISNDT #: CGE1700097 Other: -
Code: Client Information Location: 02-31-052-23W4M Chamberlain AFE #: OPEXF-S-33
Other: - Item Inspected: A0451115 Treater

Material: Carbon Steel Surface Condition: Other grounded Heat Treatment: Not Applicable

Equipment: DMS II IRISNDT #: 31101 Calibration Date: 20-Jan-18

Calibration Block: ASME [] Other [x] C/S S/N# 33313 Probe(s): S/N 025H97
Sweep range Cal: IIW [] Other [] N/A S/N# N/A Angle 0
Cable Type: Dual Length 3' Frequency (MHz) 5
Scanning Surface: OD [x] ID [] Other [] Crystal Size 0.625"

Dis. AMPL. Calibration: Not Applicable Couplant: Echogel 20 Batch #: 1337

Transfer Loss Calibration: Direct Comparison: [x] Other: [] TL: 0 db

Reference Flaw Size: Back wall Primary Reference Level: 80% Reference Gain: 60 db

Lamination [] Shear Wave [] Volumetric [] Thickness [x] Scan Methods: Contact [x] Other []

Surface Temp (c) : [] < 5°C / 41°F [x] > 5°C / 41°F & < 60°C / 140°F [] > 60°C / 140°F

Inspection Scope: As per client's request and direction, performed ultrasonic thickness inspection on A0451115 Treater on assigned CMLs (condition monitoring locations). Ultrasonic thickness inspection is performed to assess the internal integrity and to determine wall thickness for the continued service of the equipment. The minimum, maximum and average thickness values are recorded for each CML.

History: No previous history.

Method: A 2" wide band was placed on available nozzles as well as elbows and a 2" x 12" band was placed on the shell and heads of the vessel where UT thickness values were collected.

Results: Please see attached pages for UT thickness values and UT locations on the vessel.

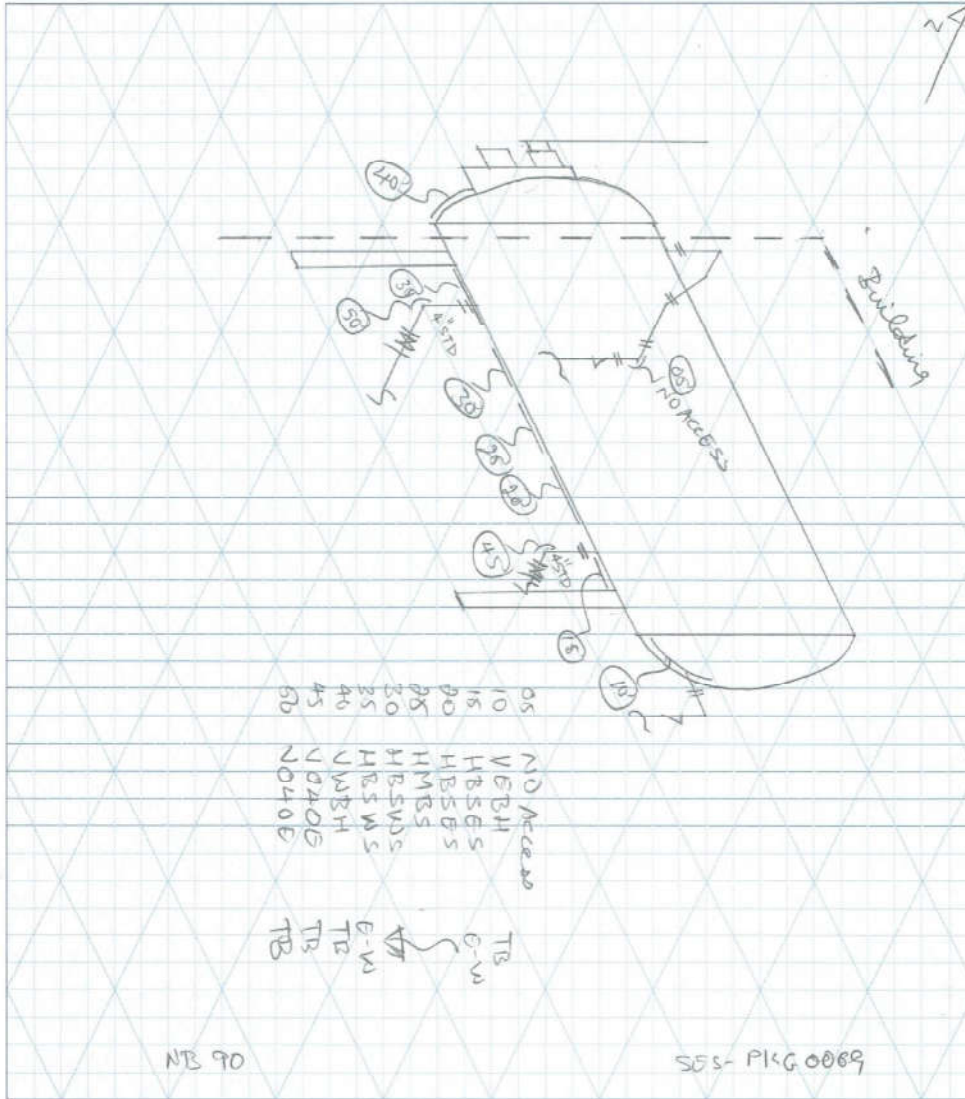
3 yr interval, request a U1A from ABSA to confirm nominal thickness.

Inspection Limitation(s):

Unit#: 751 Kilometers: Consumables: Interpretation by:
In: Out: Hrs: Haben Mebrahtu SNT-TC-1A: I
In: Out: Hrs: (Print) C.G.S.B.: I (Level)
Personnel: HM / MD (Signature) C.G.S.B. #: 20132
Client Representative: (Print) Brad Edison
I am in full agreement with report contents (Sign)

IRISNDT CORROSION INSPECTION SERVICES

Page of



CUSTOMER: Secore FACILITY: Chamberlain LSD: 2-31-52-23W4
 P & ID: _____ DRAWN BY: NW DATE: 6/3/19 DRAWING NO. _____
 VESSEL DESCRIPTION: Wheat
 Equip. No. _____ Pro. Reg. No. (A) A0451115 C.R.N. N 8753.2 Serial No. 990577-1 Yr. Inst. _____
 Code/Div. LA Size: _____ ID / OD X _____ Manufacturer: Superior Fabricators Yr. Bt. 1999
 C. Stamp Service: Sweet PWHT: _____ J.E.: _____ Radiography: RTI Insulated: YES

Equipment Tag #: A0451115 Treater

LOCATION #	NOMINAL (inches)	Minimum Thickness Values	Maximum Thickness Values	Average Thickness Values	*T-MIN	WALL LOSS (Min - Nom)	COMMENTS	Location Desc.	Coating/paint Condition
05	No Access	No Access	No Access	No Access		No Access	No Access	No Access	No Access
10	NA	0.464	0.483	0.476		0.000	External Condition: Painted surface, No corrosion or pitting found. Internal Condition: No erosion, corrosion or pitting found.	Vertical East Bottom Head T-B	Intact, no corrosion
15	NA	0.388	0.390	0.389		0.000	External Condition: Painted surface, No corrosion or pitting found. Internal Condition: No erosion, corrosion or pitting found.	Horizontal Bottom Shell East Side E-W	Intact, no corrosion
20	NA	0.388	0.401	0.390		0.000	External Condition: Painted surface, No corrosion or pitting found. Internal Condition: No erosion, corrosion or pitting found.	Horizontal Bottom Shell East Side E-W	Intact, no corrosion
25	NA	0.388	0.392	0.389		0.000	External Condition: Painted surface, No corrosion or pitting found. Internal Condition: No erosion, corrosion or pitting found.	Horizontal Middle Bottom Shell E-W	Intact, no corrosion
30	NA	0.392	0.395	0.394		0.000	External Condition: Painted surface, No corrosion or pitting found. Internal Condition: No erosion, corrosion or pitting found.	Horizontal Bottom Shell West Side E-W	Intact, no corrosion
35	NA	0.387	0.400	0.396		0.000	External Condition: Painted surface, No corrosion or pitting found. Internal Condition: No erosion, corrosion or pitting found.	Horizontal Bottom Shell West Side E-W	Intact, no corrosion
40	NA	1.057	1.092	1.077		0.000	External Condition: Painted surface, No corrosion or pitting found. Internal Condition: Manufactured wall loss and/or erosion, with No corrosion or pitting noted.	Vertical West Bottom Head T-B	Intact, no corrosion
45	0.237	0.210	0.229	0.218		0.027	External Condition: Painted surface, No corrosion or pitting found. Internal Condition: Manufactured wall loss and/or erosion, with No corrosion or pitting noted.	4" Outlet Elbow T-B	No corrosion, Some erosion
50	0.237	0.219	0.232	0.225		0.018	External Condition: Painted surface, No corrosion or pitting found. Internal Condition: Manufactured wall loss and/or erosion, with No corrosion or pitting noted.	4" Outlet Elbow T-B	Intact, no corrosion
						Loss of 10% - 20%		Loss of 21% or Greater	
						AREAS OF CONCERN			
*T-min (thickness minimum) was not provided prior to inspection.						PAGE 3 OF 3			