

	RAE Engineering and Inspection Ltd. www.raeengineering.ca Phone: (780) 469-2401 Fax: (780)-469-2401		Inspection Date:		March 03, 2025		UT Report					
			Report Number:		TAS000160							
			Page:		1 of 6							
Client:		Rare Oilfield Services		Job Number:		PR0004081						
Facility:		Shop		Location/LSD:		Vegreville / RJV Gas Field Services						
Equipment Number:		0592622		Client Representative:		Ron Gryba						
Equipment Description:		Vertical 3 Phase Separator		Client Contact:		403-999-1175						
Equipment Type:		Vessel		Measurment Unit:		Inch						
JOB DESCRIPTION												
Procedure:		NDE Technical Manual Rev 2 (NDE - 701B)										
Acceptance Code:		ASME Sec. VIII Div. 1		Surface Condition:		Painted						
Material:		Carbon Steel		Surface Temp:		0 - 120 °C						
EQUIPMENT, TECHNIQUE & CALIBRATION												
Instrument Mfr:		Waygate Tech	Model:	DMS Go+	S/N:	GOPLS22030098	Cal. Due:	2025-07-07				
Probe Model	Freq MHz	Angle	Dia. (In)	Probe Type	Manufacturer	Serial #	Cable Length	Vel. (m/sec)	Ref dB	Scan dB	Range (in)	
1	DA512	7.5	0	0.250	Dual	GE	21E0108P	4'	5850	60	As Needed	2.500"
Cal Block S/N			1 or 2 Point Cal		Calibration Range		Couplant		Block Material			
1	21-3393		2		0.100" - 1.500"		UTX		Carbon Steel			

Scope:

Conduct 0° straight beam ultrasonic testing on the equipment looking for any signs of wall thinning due to corrosion, erosion, laminations or inclusions.

Result:

The measurements obtained from the inspection locations showed the thicknesses of all of the components to be at or around nominal with the exception of CMLs 05 and 10, which were found to be below 12.5% mill tolerance as per ASTM specifications, and CMLs 15, 40, and 45 were also found to be below the mil tolerance but were above the corrosion allowance,

Please see the following pages for the pictures of nameplate, the overall view, the isometric drawings, and the thickness measurements.

- Black

- Within ASME Tolerance
- Blue

- ≤ Nominal minus ASME Tolerance
- Red

- ≤ Nominal minus ASME Tolerance minus CA or ≤ Nominal minus ASME Tolerance (if CA = N/S)
- Orange

- Nominal Not Specified (N/S)

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Flagged Locations									
#	NPS	Schedule	Side	Nom.	Mil.	CA	Ave.	Min.	
5	4	XH	Back of Tee	0.337	0.042	N/S	0.290	0.280	
10	4	XH	Back of Tee	0.337	0.042	N/S	0.300	0.282	
15			Top Head	1.250	0.010	0.125	1.233	1.222	
40			Bottom Head	1.250	0.010	0.125	1.252	1.225	
45	2	XXH	Drain Elbow	0.436	0.054	0.125	0.346	0.337	

Black - Within ASME Tolerance
Blue - ≤ Nominal minus ASME Tolerance
Red - ≤ Nominal minus ASME Tolerance minus CA or ≤ Nominal minus ASME Tolerance (if CA = N/S)
Orange- Nominal Not Specified (N/S)



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UT Report

Photo Graphics



Nameplate



Overall View



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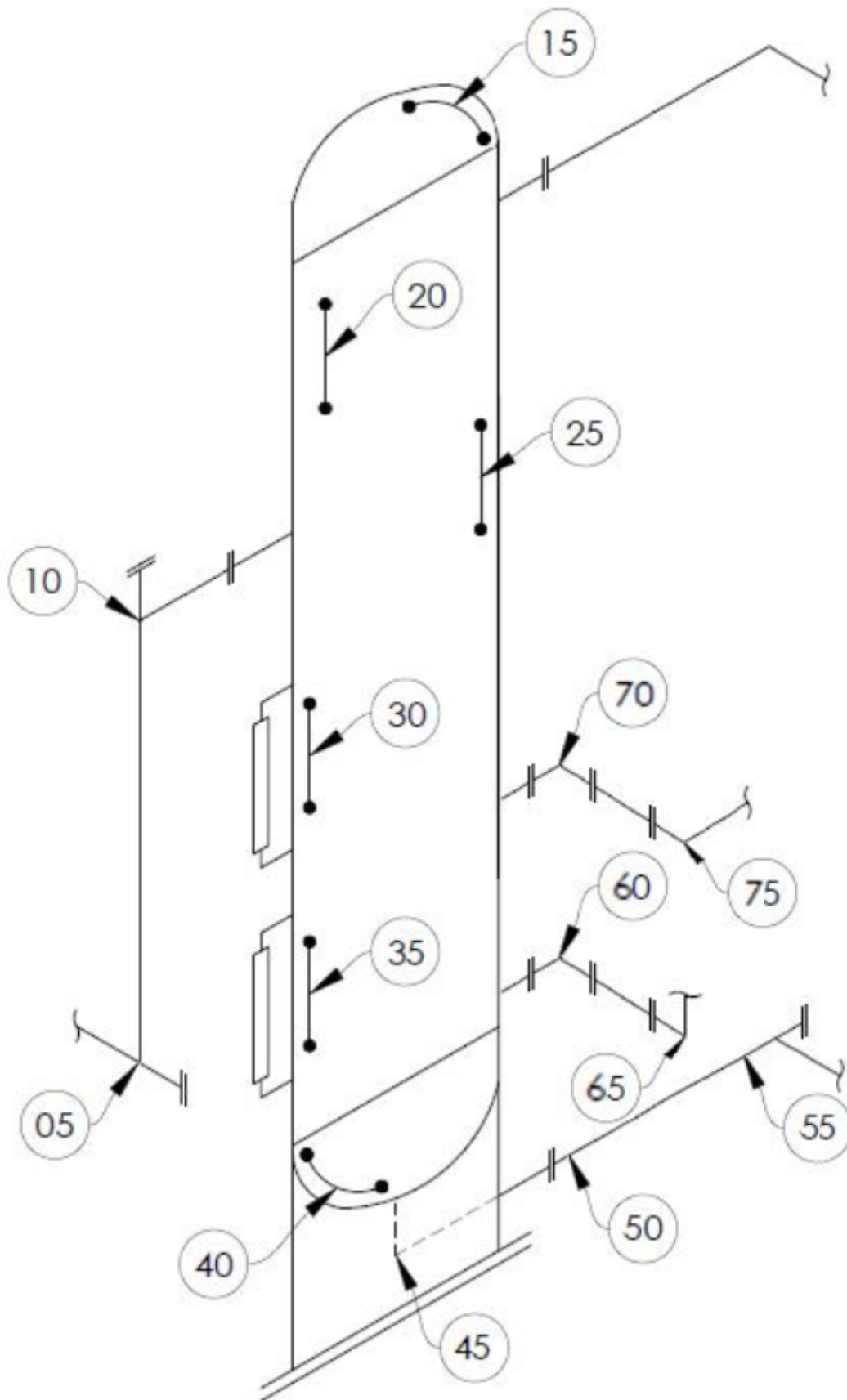
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UT Report

ISO Drawing



ISO Drawing

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UT Data														
#	01	02	03	04	05	06	07	08	09	10	11	12	Min & Avg	
5	4	XH	Back of Tee				Nom	0.337	Mil	0.042	CA	N/S	Min:	0.280
	0.293	0.294	0.294	0.295	0.291	0.291	0.292	0.291	0.291	0.288	0.285	0.280	Avg:	0.290
10	4	XH	Back of Tee				Nom	0.337	Mil	0.042	CA	N/S	Min:	0.282
	0.283	0.294	0.303	0.313	0.313	0.316	0.312	0.307	0.300	0.294	0.283	0.282	Avg:	0.300
15	Top Head						Nom	1.250	Mil	0.010	CA	0.125	Min:	1.222
	1.222	1.223	1.225	1.226	1.230	1.235	1.246	1.245	1.248	1.240	1.223	1.228	Avg:	1.233
20	Top Shell						Nom	1.250	Mil	0.010	CA	0.125	Min:	1.258
	1.264	1.265	1.269	1.264	1.266	1.264	1.264	1.266	1.262	1.258	1.266	1.265	Avg:	1.264
25	Mid Shell						Nom	1.250	Mil	0.010	CA	0.125	Min:	1.265
	1.267	1.265	1.267	1.267	1.269	1.267	1.268	1.270	1.266	1.266	1.270	1.268	Avg:	1.268
30	Mid Shell						Nom	1.250	Mil	0.010	CA	0.125	Min:	1.262
	1.267	1.265	1.272	1.266	1.267	1.266	1.264	1.266	1.262	1.266	1.266	1.266	Avg:	1.266
35	Bottom Shell						Nom	1.250	Mil	0.010	CA	0.125	Min:	1.265
	1.265	1.269	1.269	1.268	1.268	1.265	1.268	1.269	1.271	1.269	1.268	1.267	Avg:	1.268
40	Bottom Head						Nom	1.250	Mil	0.010	CA	0.125	Min:	1.225
	1.298	1.278	1.229	1.225	1.240	1.243	1.242	1.242	1.249	1.251	1.260	1.261	Avg:	1.252
45	2	XXH	Drain Elbow				Nom	0.436	Mil	0.054	CA	0.125	Min:	0.337
	0.347	0.337	0.351	0.348									Avg:	0.346
50	2	XH	Circumferential				Nom	0.218	Mil	0.027	CA	N/S	Min:	0.202
	0.224	0.202	0.221	0.229									Avg:	0.219
55	2	XH	Circumferential				Nom	0.218	Mil	0.027	CA	N/S	Min:	0.214
	0.223	0.219	0.214	0.221									Avg:	0.219
60	2	XH	90° Elbow				Nom	0.218	Mil	0.027	CA	N/S	Min:	0.217
	0.232	0.233	0.225	0.217									Avg:	0.227
65	2	XH	90° Elbow				Nom	0.218	Mil	0.027	CA	N/S	Min:	0.255
	0.257	0.257	0.255	0.257									Avg:	0.257
70	2	XH	90° Elbow				Nom	0.218	Mil	0.027	CA	N/S	Min:	0.229
	0.231	0.233	0.233	0.229									Avg:	0.232
75	2	XH	90° Elbow				Nom	0.218	Mil	0.027	CA	N/S	Min:	0.219
	0.222	0.219	0.221	0.222									Avg:	0.221



**NDE-709D Thickness Gage Horizontal Linearity Certificate of Calibration**

Instrument Make: GE Transducer Make: Stresstel
Instrument Model: USM/DMS GO+ Transducer Model: FH2E
Instrument S/N: GOPLS22030098 Transducer S/N: 23A015YZ
Temperature: 21°C Couplant: UTX

Table 1: Thickness Gage Horizontal Linearity Data

CALIBRATION BLOCK S/N	CALIBRATION BLOCK THICKNESS (IN)	BACKWALL NUMBER	MEASURED LENGTH (IN)	DEVIATION (IN)	TOLERANCE (IN)	ACCEPTABLE
60764	0.050	1st	0.050	0	0.006	Yes
21-3393	0.100	1st	0.098	0.002	0.006	Yes
21-3393	0.200	1st	0.200	0	0.006	Yes
21-3393	0.300	1st	0.300	0	0.006	Yes
21-3393	0.400	1st	0.399	0.001	0.006	Yes
21-3393	0.500	1st	0.500	0	0.006	Yes
21-3393	1.00	2nd	1.000	0	0.006	Yes
21-3393	2.000	4th	2.002	0.002	0.006	Yes
21-3393	3.000	6th	3.000	0	0.006	Yes
21-3393	4.000	8th	4.000	0	0.006	Yes

Technician Name: Tyson ShewchukSignature: Tyson ShewchukDate: July 07/2024Calibration Due: July 07/2025