

	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:		TAS000164										
			Page:		1 of 5										
Client:		Rare Oilfield Services		Job Number:		PR0004081									
Facility:		Shop		Location/LSD:		Vegreville / RJV Gas Field Services									
Equipment Number:		0592567		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 15, 40, and 45 which were found to be below the mill tolerance as per ASTM specifications 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.



Flagged Locations								
#	NPS	Schedule	Side	Nom.	Mil.	CA	Ave.	Min.
15			Top Head	1.250	0.010	0.125	1.212	1.190
40			Bottom Head	1.250	0.010	0.125	1.249	1.234
45	2	XXH	Drain Elbow	0.436	0.054	0.125	0.271	0.258
65	2	XH	90° Elbow	0.218	0.027	N/S	0.211	0.184

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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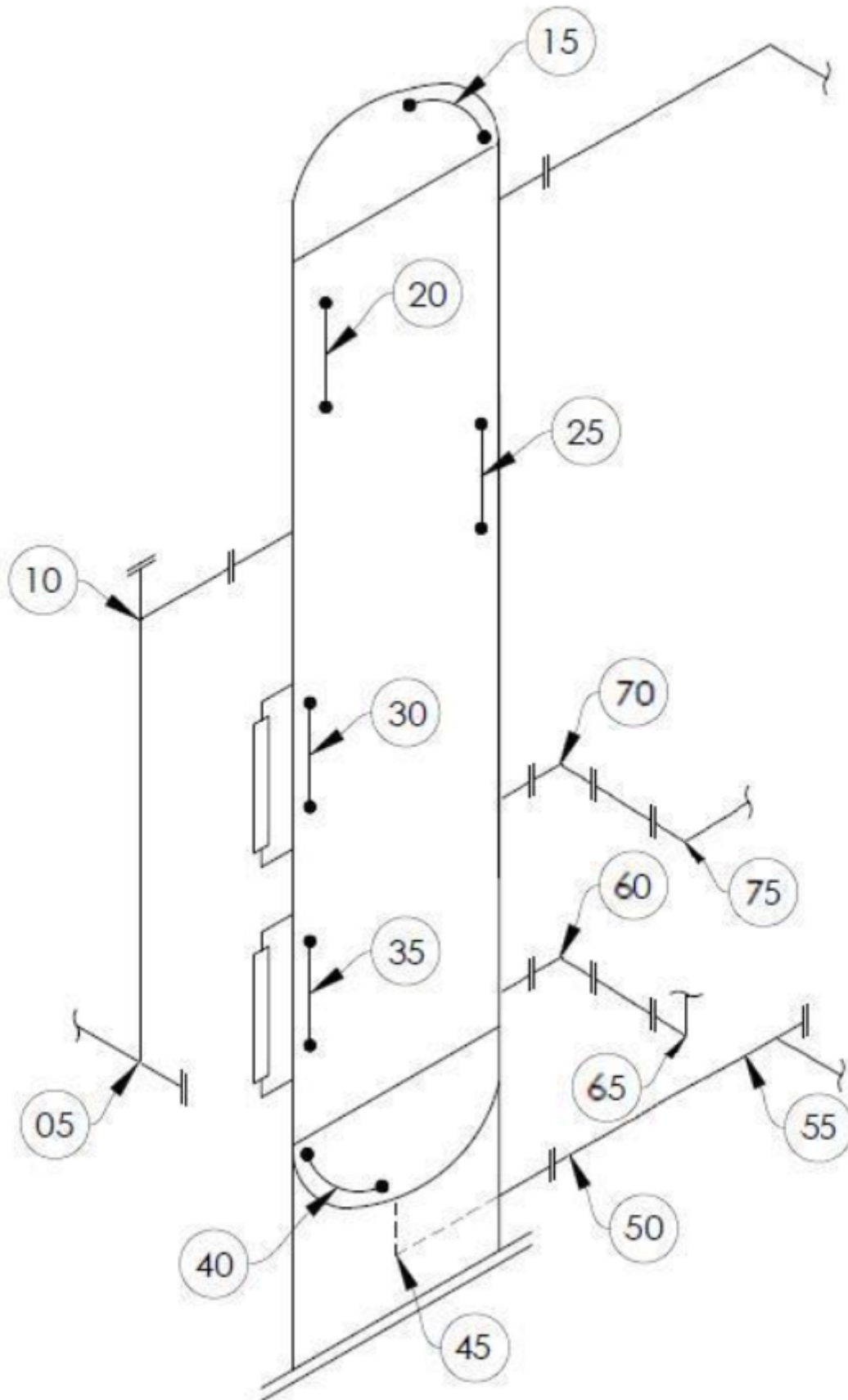
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UT Report

ISO Drawing



ISO Drawing

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: 0.309
	0.333	0.342	0.338	0.334	0.331	0.330	0.321	0.322	0.316	0.314	0.311	0.309	Avg: 0.325
10	4	XH	Back of Tee				Nom	0.337	Mil	0.042	CA	N/S	Min: 0.309
	0.309	0.321	0.323	0.332	0.341	0.344	0.344	0.333	0.329	0.323	0.317	0.313	Avg: 0.327
15	Top Head						Nom	1.250	Mil	0.010	CA	0.125	Min: 1.190
	1.215	1.214	1.211	1.210	1.211	1.212	1.214	1.218	1.218	1.220	1.210	1.190	Avg: 1.212
20	Top Shell						Nom	1.250	Mil	0.010	CA	0.125	Min: 1.261
	1.270	1.269	1.270	1.272	1.269	1.270	1.270	1.267	1.270	1.261	1.268	1.267	Avg: 1.269
25	Mid Shell						Nom	1.250	Mil	0.010	CA	0.125	Min: 1.271
	1.274	1.273	1.274	1.274	1.274	1.276	1.271	1.273	1.271	1.271	1.272	1.272	Avg: 1.273
30	Mid Shell						Nom	1.250	Mil	0.010	CA	0.125	Min: 1.268
	1.268	1.269	1.270	1.271	1.273	1.271	1.271	1.268	1.268	1.271	1.272	1.272	Avg: 1.270
35	Bottom Shell						Nom	1.250	Mil	0.010	CA	0.125	Min: 1.262
	1.271	1.268	1.268	1.267	1.267	1.267	1.267	1.267	1.270	1.262	1.266	1.265	Avg: 1.267
40	Bottom Head						Nom	1.250	Mil	0.010	CA	0.125	Min: 1.234
	1.286	1.242	1.238	1.237	1.234	1.251	1.246	1.246	1.252	1.255	1.250	1.247	Avg: 1.249
45	2	XXH	Drain Elbow				Nom	0.436	Mil	0.054	CA	0.125	Min: 0.258
	0.276	0.277	0.271	0.258									Avg: 0.271
50	2	XH	Circumferential				Nom	0.218	Mil	0.027	CA	N/S	Min: 0.220
	0.234	0.221	0.220	0.230									Avg: 0.226
55	2	XH	Circumferential				Nom	0.218	Mil	0.027	CA	N/S	Min: 0.219
	0.239	0.223	0.219	0.230									Avg: 0.228
60	2	XH	90° Elbow				Nom	0.218	Mil	0.027	CA	N/S	Min: 0.243
	0.246	0.244	0.243	0.246									Avg: 0.245
65	2	XH	90° Elbow				Nom	0.218	Mil	0.027	CA	N/S	Min: 0.184
	0.184	0.216	0.219	0.223									Avg: 0.211



Low Reading Location

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UT Data														
#	01	02	03	04	05	06	07	08	09	10	11	12	Min & Avg	
70	2	XH	90° Elbow				Nom	0.218	Mil	0.027	CA	N/S	Min:	0.226
	0.228	0.226	0.229	0.236									Avg:	0.230
75	2	XH	90° Elbow				Nom	0.218	Mil	0.027	CA	N/S	Min:	0.197
	0.214	0.215	0.213	0.197									Avg:	0.210



**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