Al TAKAMUL COMPANY FOR ENGINEERING TESTS
AND PROFESSIONAL SAFETY LIMITED
Basra, North Rumaila, Quality Control Yard - Iraq

UT.Wall Thickness Inspection Certificate for PTVST Surge Tank

Client:	**SLB BASRA**	**Certificate No:**	QC-SLB-25233-02
Work Location:	**Testing Work shop**	**Specification**	SLB Procedure7763513\1.1 &104695468\1 ASTM E797
Date of Inspection	09-Sep-2025	**Next Inspection Date:**	08-Sep-2026
TYPE OF INSPECTION:	**☒Visual Test ☒ UT Wall Thickness ☒ Pressure Test Witness**		

DESCRIPTION:	Surge Tank (PTVST)	**SERIAL NO:**	**PTVST-AA 752**
High Working Pressure:	375 psi	**Holding Time:**	15 min
Low Test Pressure:	250 psi	**Holding Time:**	05 min
Pump S.N.:	CCSK-0778	**Pump Cal Date:**	28/Aug/2025
Chart Recorder S.N	692842	**Chart Recorder Cal Date:**	03/FEB/2025

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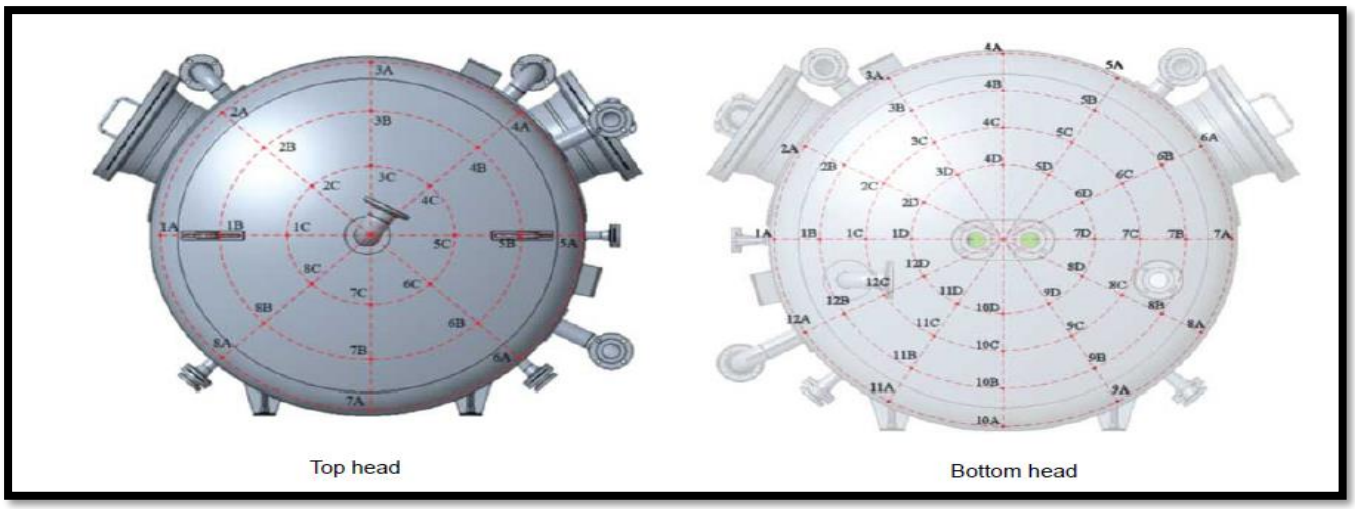

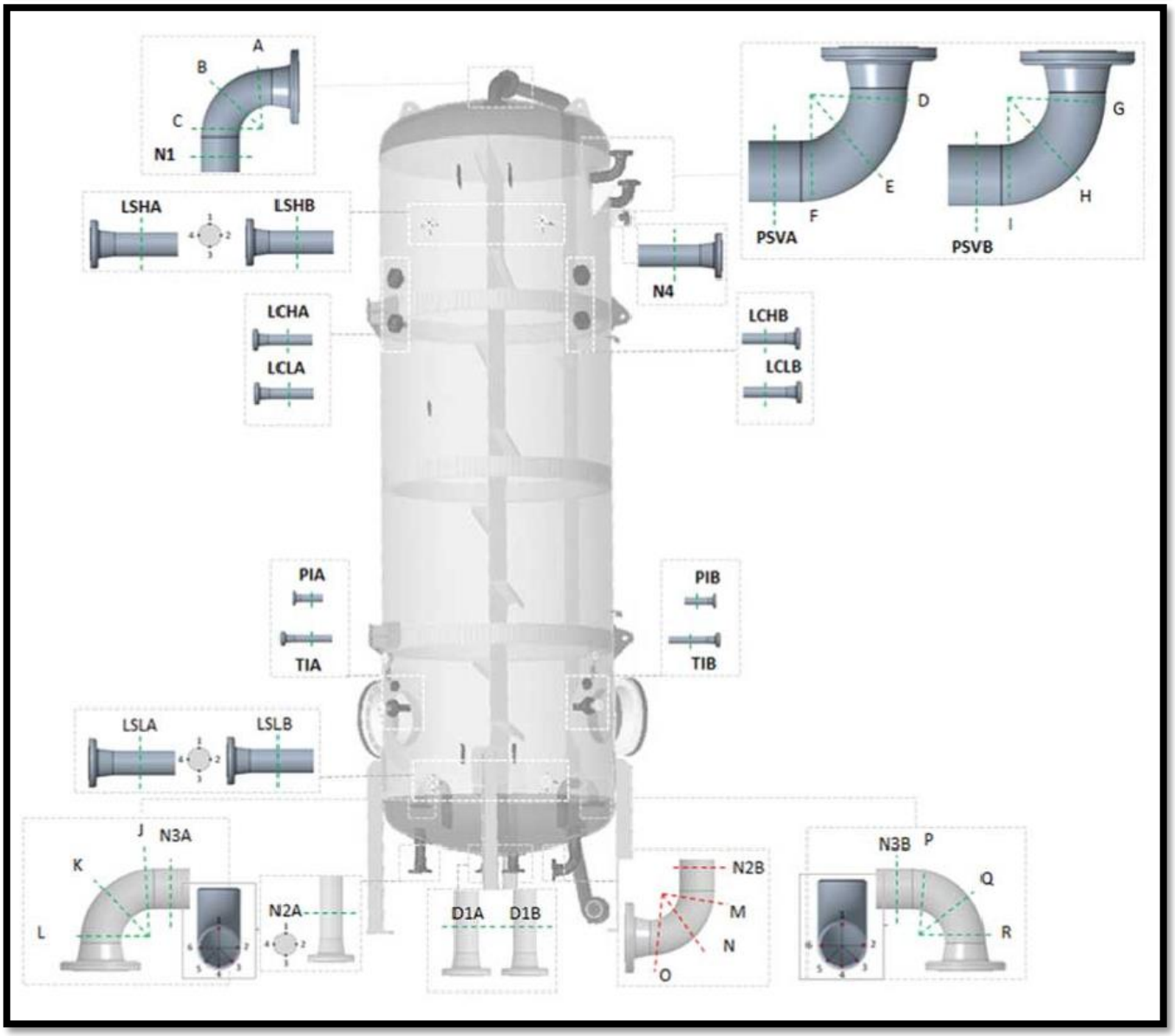

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Vessel Body Thickness Measurements:						
Label	**Vessel Body**	**Minimum Allowable Thickness(Inch)**	**0° deg**	**90° deg**	**180° deg**	**270° deg**
A-D	**Axis A**	**0.610**	0.781	0.788	0.780	0.781
E-H	**Axis E**	**0.610**	0.772	0.772	0.775	0.772
I-L	**Axis I**	**0.610**	0.791	0.791	0.792	0.797
M-P	**Axis M**	**0.610**	0.795	0.790	0.792	0.795
Top Head Thickness Measurements:						
Label	**Location**	**Minimum Allowable Thickness(inch)**	**ACTUAL Reading WALL THICKNESS**			
1	**at 0°**	**0.610**	0.722	0.732	0.727	0.723
2	**at 45°**	**0.610**	0.722	0.726	0.721	0.723
3	**at 90°**	**0.610**	0.730	0.720	0.722	0.741
4	**at 135°**	**0.610**	0.731	0.735	0.725	0.726
5	**at 180°**	**0.610**	0.729	0.721	0.722	0.723
6	**at 225°**	**0.610**	0.730	0.739	0.725	0.725
7	**at 270°**	**0.610**	0.726	0.720	0.726	0.725
8	**at 315°**	**0.610**	0.736	0.735	0.719	0.711
Bottom Head Thickness Measurement:						
Label	**Location**	**Minimum Allowable Thickness(inch)**	**ACTUAL Reading WALL THICKNESS**			
13	**at 0° e.g. (1A, 1B, 1D, etc.)**	**0.610**	0.775	0.786	0.771	0.791
14	**at 30°**	**0.610**	0.785	0.782	0.785	0.787
15	**at 60°**	**0.610**	0.781	0.784	0.781	0.787
16	**at 90°**	**0.610**	0.781	0.784	0.782	0.789
17	**at 120°**	**0.610**	0.770	0.773	0.780	0.785
18	**at 150°**	**0.610**	0.784	0.762	0.769	0.773
19	**at 180°**	**0.610**	0.782	0.784	0.782	0.779
20	**at 210°**	**0.610**	0.790	0.780	0.782	0.783
21	**at 240°**	**0.610**	0.783	0.787	0.789	0.782
22	**at 270°**	**0.610**	0.781	0.783	0.791	0.793
23	**at 300°**	**0.610**	0.783	0.789	0.790	0.793
24	**at 330°**	**0.610**	0.791	0.792	0.793	0.791

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Nozzle Thickness Measurements:					
Label	**Minimum Allowable Thickness(Inc)**	**ACTUAL Reading WALL THICKNESS**			
INLET	**0.15 in**	0.439	0.410	0.451	0.433
Oil Outlet	**0.15 in**	0.503	0.525	0.515	0.521
Drain	**0.15 in**	0.556	0.527	0.520	0.526
Gas Outlet	**0.173 in**	0.583	0.588	0.581	0.583
Pressure Relief	**0.15 in**	0.600	0.601	0.588	0.592
Pressure Relief	**0.15 in**	0.606	0.603	0.601	0.603
HLA	**0.173 in**	-	-	-	-
LLA	**0.173 in**	-	-	-	-
Sight-Glass-Bottom	**0.122 in**	0.557	0.551	0.554	0.552
Sight-Glass-Bottom	**0.122 in**	0.552	0.550	0.556	0.551
Sight-Glass-Top	**0.122 in**	0.624	0.621	0.629	0.623
Sight-Glass-Top	**0.122 in**	0.572	0.575	0.571	0.569

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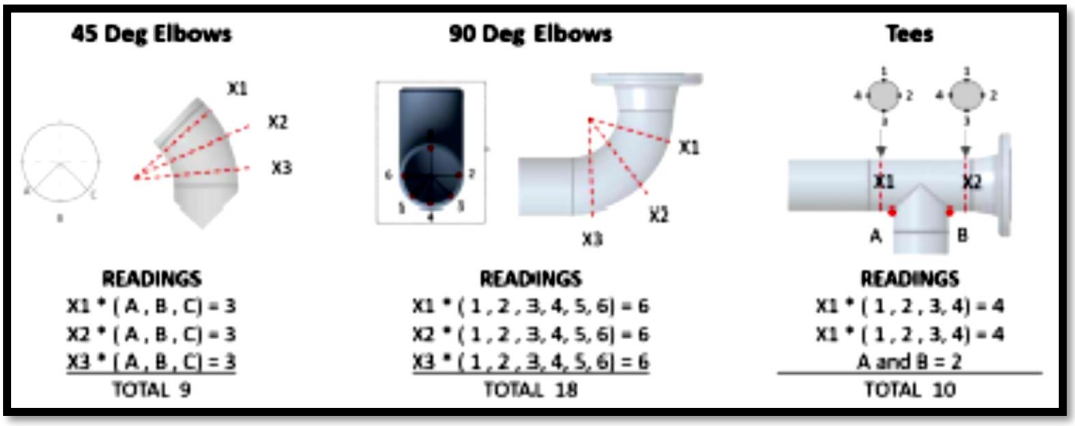
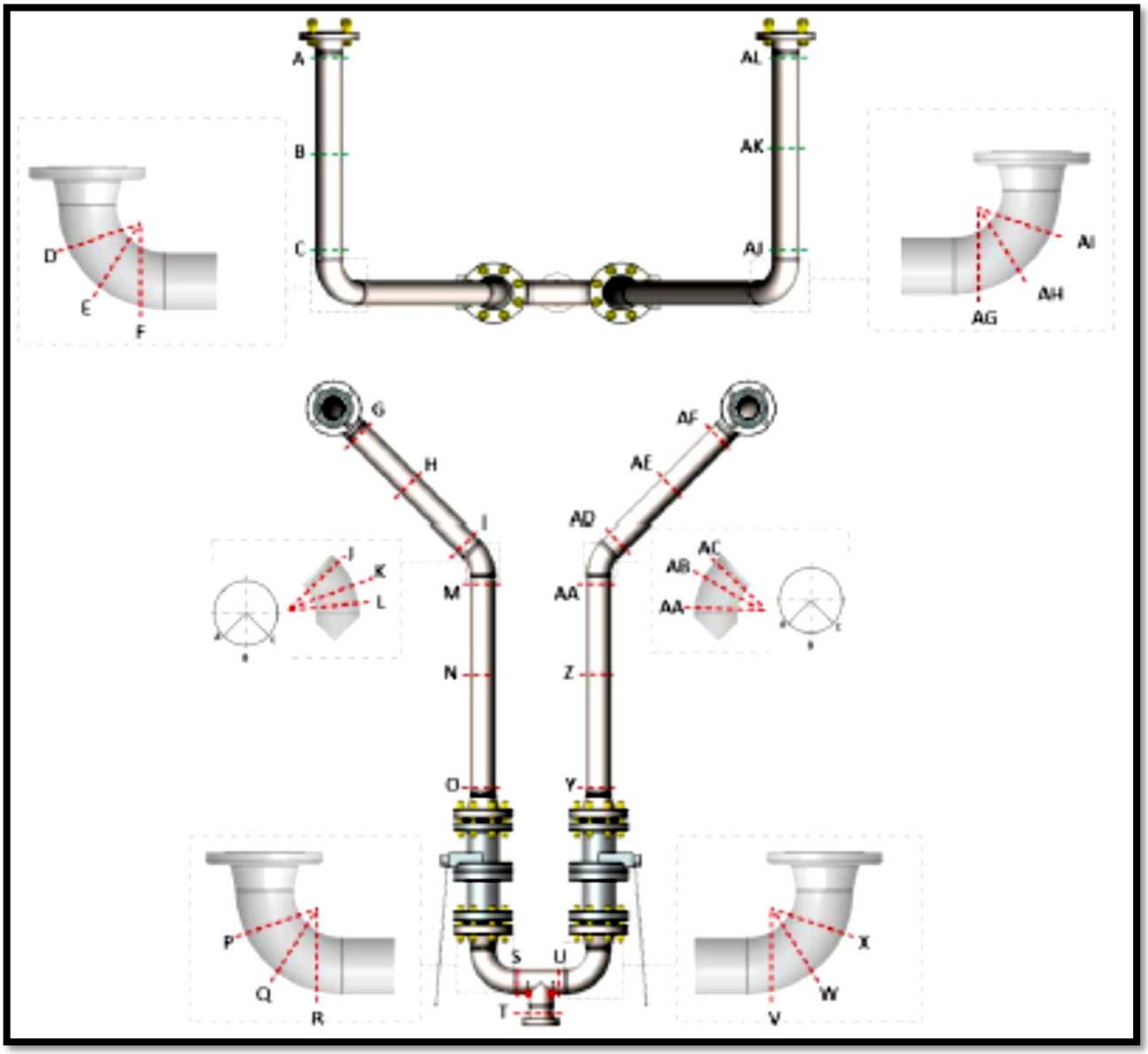
Oil Inlet Line Thickness Check:



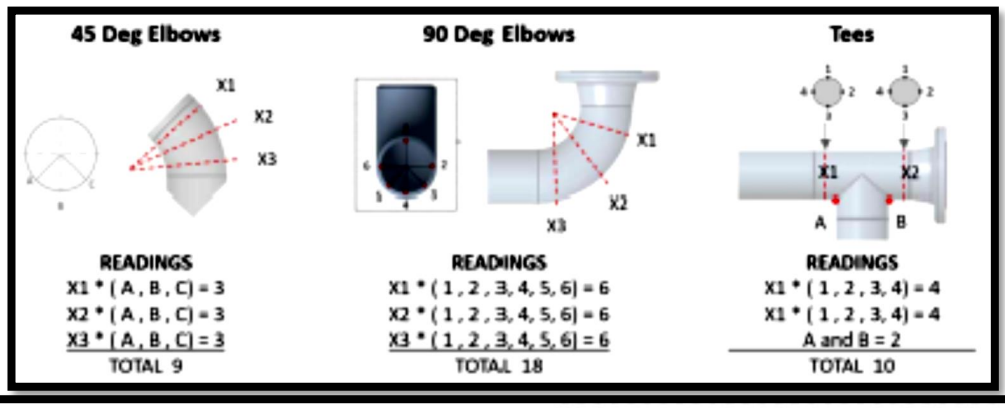


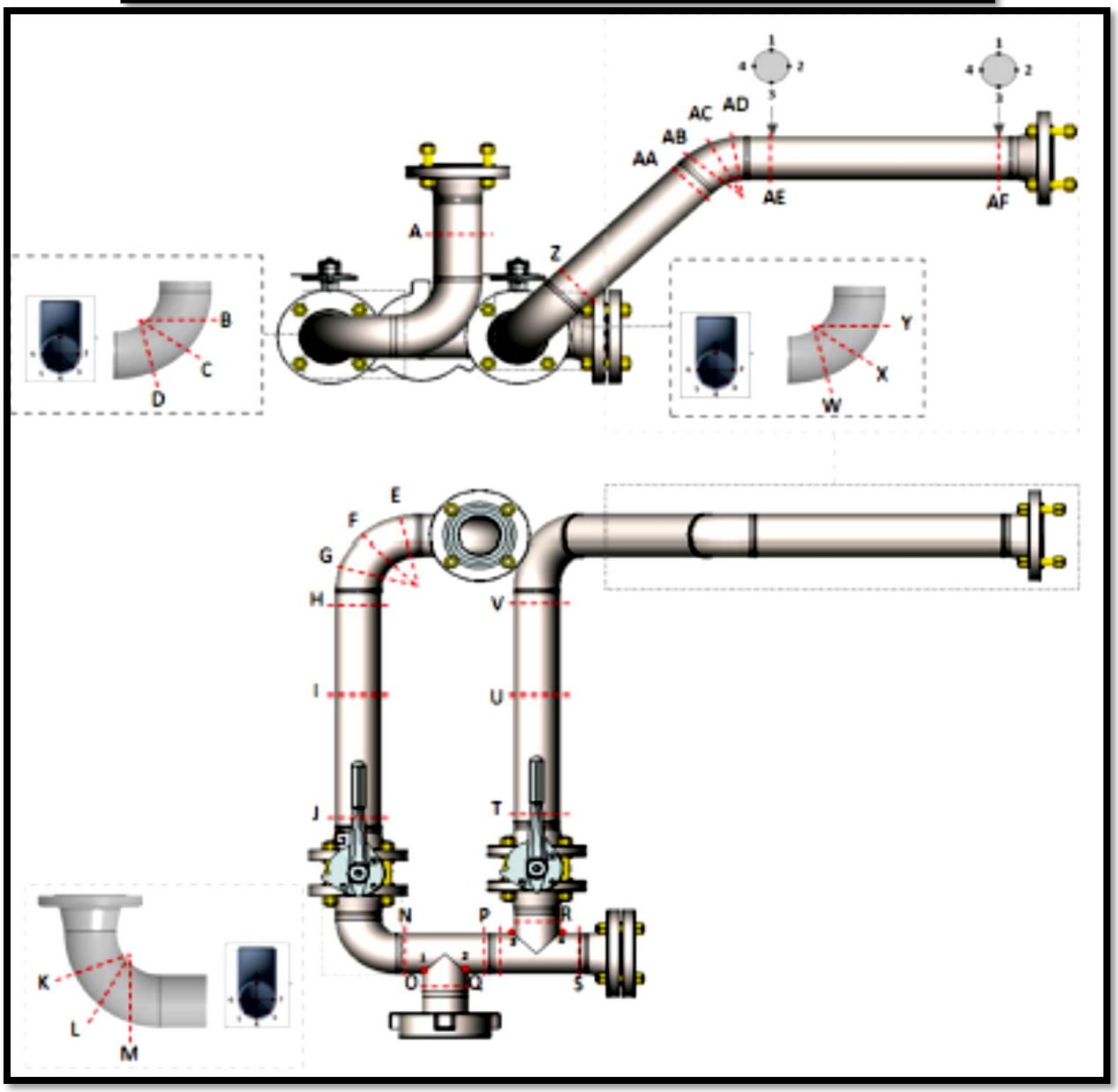
UT.Wall Thickness Inspection Certificate for PTVST Surge Tank

Oil Inlet Line Thickness Measurements:							
Label	**Minimum Allowable Thickness(Inc)**	**Measure 1**	**Measure 2**	**Measure 3**	**Measure 4**	**Measure 5**	**Measure 6**
A	**0.185 in**	0.280	0.283	0.288	0.282	0.284	0.283
B	**0.185 in**	0.387	0.384	0.389	0.388	0.381	0.383
C	**0.185 in**	0.389	0.393	0.390	0.381	0.389	0.393
D	**0.185 in**	0.537	0.531	0.539	0.533	0.537	0.533
E	**0.185 in**	0.581	0.589	0.581	0.583	0.587	0.583
F	**0.185 in**	0.562	0.567	0.563	0.567	0.573	0.574
G	**0.185 in**	0.289	0.293	0.297	0.299	0.298	0.296
H	**0.185 in**	0.298	0.293	0.294	0.296	0.297	0.295
I	**0.185 in**	0.297	0.298	0.293	0.297	0.295	0.298
J	**0.185 in**	0.521	0.529	0.524	0.523	0.524	0.529
K	**0.185 in**	0.513	0.511	0.519	0.517	0.512	0.510
L	**0.185 in**	0.519	0.514	0.511	0.514	0.513	0.519
M	**0.185 in**	0.297	0.293	0.295	0.291	0.296	0.297
N	**0.185 in**	0.289	0.293	0.301	0.304	0.301	0.298
O	**0.185 in**	0.299	0.303	0.304	0.301	0.303	0.307
P	**0.185 in**	0.429	0.421	0.427	0.423	0.431	0.425
Q	**0.185 in**	0.427	0.421	0.423	0.425	0.421	0.423
R	**0.185 in**	0.423	0.427	0.429	0.422	0.427	0.421
S	**0.185 in**	0.303	0.307	0.309	0.301	0.302	0.303
S1	**0.185 in**	0.311	0.313	0.301	0.304	0.308	0.311
S2	**0.185 in**	0.316	0.303	0.304	0.305	0.307	0.304
T	**0.185 in**	0.316	0.317	0.319	0.318	0.317	0.315
U	**0.185 in**	0.321	0.323	0.328	0.324	0.324	0.323
V	**0.185 in**	0.279	0.273	0.276	0.273	0.279	0.283
W	**0.185 in**	0.272	0.273	0.279	0.275	0.281	0.284
X	**0.185 in**	0.309	0.304	0.301	0.305	0.303	0.301
Y	**0.185 in**	0.283	0.289	0.293	0.294	0.295	0.299
Z	**0.185 in**	0.285	0.289	0.283	0.289	0.284	0.283
AA	**0.185 in**	0.539	0.531	0.530	0.534	0.533	0.534
AB	**0.185 in**	0.504	0.507	0.501	0.503	0.504	0.501
AC	**0.185 in**	0.503	0.501	0.503	0.505	0.501	0.503
AD	**0.185 in**	0.522	0.521	0.528	0.521	0.531	0.523
AE	**0.185 in**	0.519	0.512	0.511	0.517	0.510	0.513
AF	**0.185 in**	0.514	0.513	0.517	0.516	0.517	0.513
AG	**0.185 in**	0.512	0.514	0.519	0.517	0.516	0.513
AH	**0.185 in**	0.510	0.516	0.513	0.514	0.511	0.518
AI	**0.185 in**	0.501	0.512	0.514	0.511	0.517	0.513
AJ	**0.185 in**	0.303	0.307	0.307	0.309	0.301	0.305
AK	**0.185 in**	0.307	0.302	0.307	0.305	0.303	0.301
AL	**0.185 in**	0.310	0.321	0.324	0.312	0.319	0.313

UT.Wall Thickness Inspection Certificate for PTVST Surge Tank

Oil Outlet Line Thickness Check





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Oil Outlet Line Thickness Measurements:							
Label	**Minimum Allowable Thickness(Inc)**	**Measure 1**	**Measure 2**	**Measure 3**	**Measure 4**	**Measure 5**	**Measure 6**
A	**0.185 in**	0.268	0.265	0.269	0.274	0.277	0.263
B	**0.185 in**	0.265	0.261	0.267	0.266	0.269	0.267
C	**0.185 in**	0.294	0.293	0.291	0.290	0.293	0.294
D	**0.185 in**	0.264	0.267	0.261	0.263	0.260	0.266
E	**0.185 in**	0.255	0.259	0.262	0.263	0.264	0.263
F	**0.185 in**	0.257	0.253	0.259	0.254	0.252	0.259
G	**0.185 in**	0.246	0.247	0.249	0.252	0.250	0.253
H	**0.185 in**	0.234	0.237	0.247	0.239	0.241	0.243
I	**0.185 in**	0.255	0.253	0.252	0.259	0.256	0.251
J	**0.185 in**	0.220	0.227	0.229	0.224	0.223	0.237
K	**0.185 in**	0.365	0.361	0.362	0.369	0.364	0.360
L	**0.185 in**	0.394	0.392	0.390	0.391	0.394	0.393
M	**0.185 in**	0.261	0.283	0.265	0.289	0.281	0.283
N	**0.185 in**	0.269	0.268	0.261	0.269	0.263	0.266
O	**0.185 in**	0.283	0.289	0.283	0.281	0.289	0.288
P	**0.185 in**	0.265	0.266	0.261	0.267	0.268	0.263
Q	**0.185 in**	0.289	0.283	0.288	0.289	0.283	0.284
R	**0.185 in**	0.285	0.288	0.286	0.284	0.286	0.281
S	**0.185 in**	0.289	0.281	0.286	0.286	0.289	0.284
T	**0.185 in**	0.359	0.351	0.357	0.359	0.355	0.351
U	**0.185 in**	0.279	0.273	0.277	0.276	0.275	0.276
V	**0.185 in**	0.283	0.279	0.284	0.283	0.287	0.286
W	**0.185 in**	0.284	0.281	0.286	0.288	0.289	0.283
X	**0.185 in**	0.275	0.279	0.275	0.276	0.278	0.271
Y	**0.185 in**	0.273	0.278	0.279	0.273	0.288	0.285
Z	**0.185 in**	0.284	0.287	0.285	0.289	0.281	0.284
AA	**0.185 in**	0.378	0.371	0.379	0.376	0.376	0.379
AB	**0.185 in**	0.259	0.257	0.267	0.269	0.263	0.265
AC	**0.185 in**	0.254	0.259	0.257	0.256	0.257	0.256
AD	**0.185 in**	0.256	0.267	0.263	0.269	0.268	0.270
AE	**0.185 in**	0.251	0.259	0.267	0.269	0.267	0.266
AF	**0.185 in**	0.491	0.493	0.495	0.490	0.493	0.497
1	**0.185 in**	-	-	-	-	-	-
2	**0.185 in**	-	-	-	-	-	-
3	**0.185 in**	-	-	-	-	-	-
4	**0.185 in**	-	-	-	-	-	-

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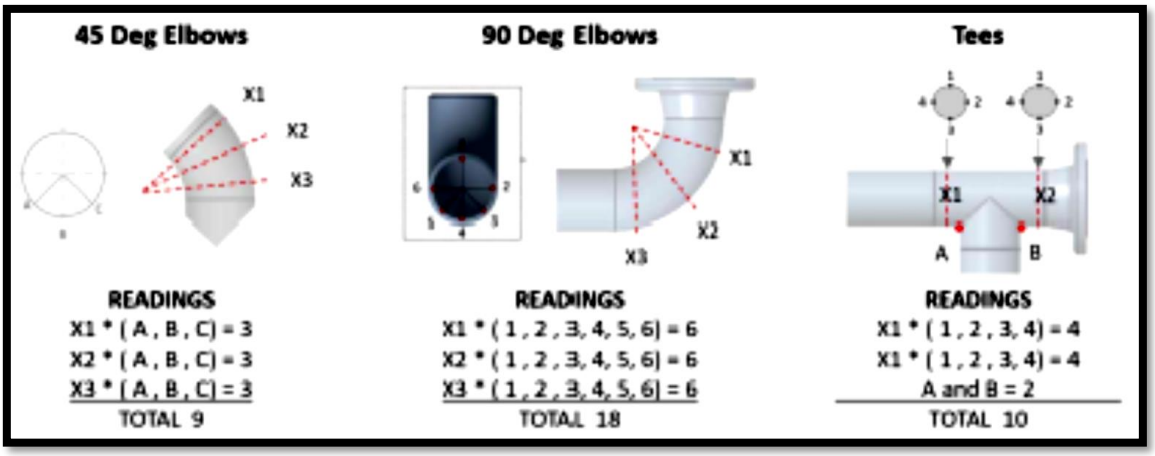
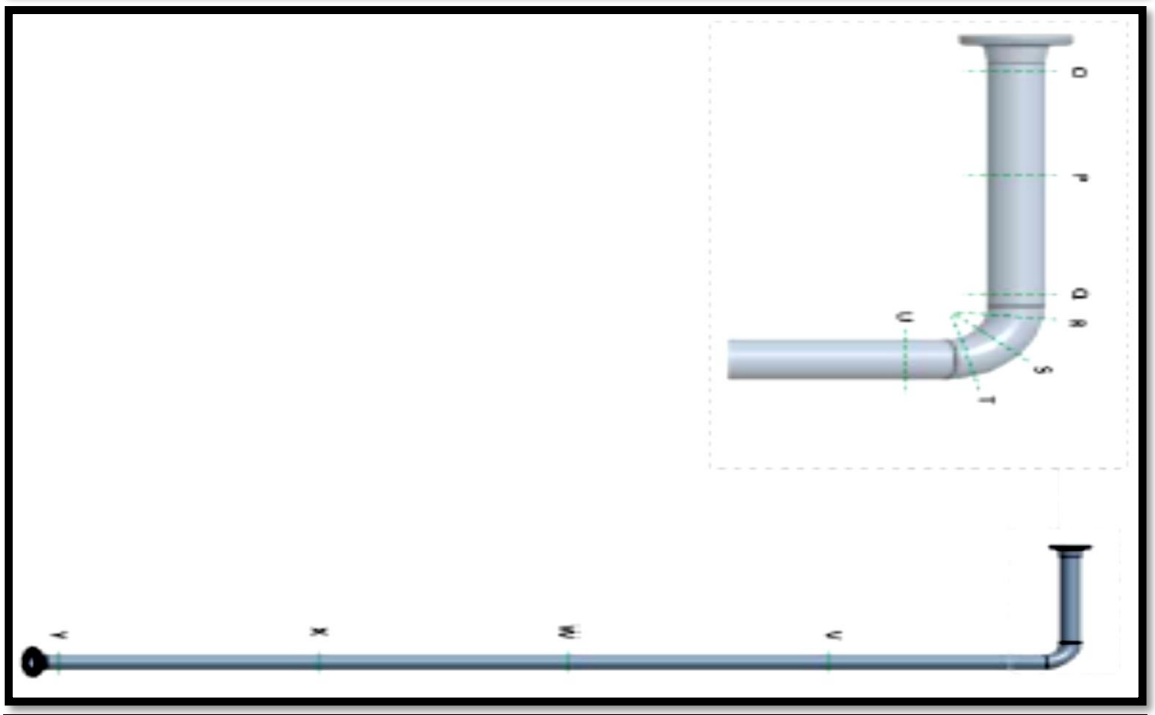
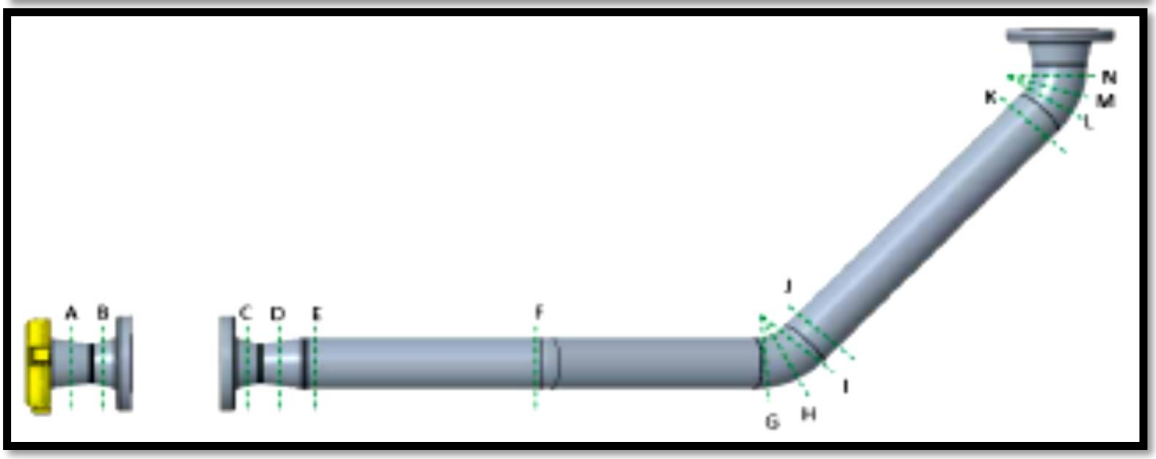
Gas Outlet Line Thickness Check







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Gas Outlet line Thickness Measurements:						
Label	**Minimum Allowable Thickness(Inc)**	**Measure 1**	**Measure 2**	**Measure 3**	**Measure 4**	**Measure 5**
A	**0.17 in**	0.277	0.279	0.273	0.271	0.278
B	**0.17 in**	0.418	0.411	0.413	0.416	0.418
C	**0.17 in**	0.325	0.321	0.328	0.327	0.325
D	**0.17 in**	0.256	0.259	0.264	0.263	0.267
E	**0.17 in**	0.283	0.281	0.287	0.283	0.281
F	**0.17 in**	0.229	0.227	0.235	0.238	0.234
G	**0.17 in**	0.227	0.229	0.234	0.236	0.231
H	**0.17 in**	0.224	0.227	0.223	0.231	0.237
I	**0.17 in**	0.277	0.279	0.287	0.281	0.285
J	**0.17 in**	0.281	0.283	0.284	0.288	0.286
K	**0.17 in**	0.271	0.276	0.279	0.273	0.270
L	**0.17 in**	0.223	0.229	0.231	0.237	0.235
M	**0.17 in**	0.227	0.229	0.228	0.221	0.229
N	**0.17 in**	0.225	0.226	0.228	0.221	0.229
O	**0.17 in**	0.240	0.247	0.243	0.249	0.247
P	**0.17 in**	0.239	0.235	0.237	0.239	0.243
Q	**0.17 in**	0.227	0.229	0.238	0.231	0.234
R	**0.17 in**	0.237	0.231	0.237	0.234	0.239
S	**0.17 in**	0.232	0.239	0.237	0.235	0.231
T	**0.17 in**	0.224	0.229	0.227	0.228	0.237
U	**0.17 in**	0.229	0.224	0.227	0.229	0.223
V	**0.17 in**	0.226	0.229	0.227	0.231	0.238
W	**0.17 in**	0.225	0.234	0.239	0.234	0.237
X	**0.17 in**	0.228	0.229	0.224	0.226	0.233
Y	**0.17 in**	0.219	0.214	0.217	0.221	0.227

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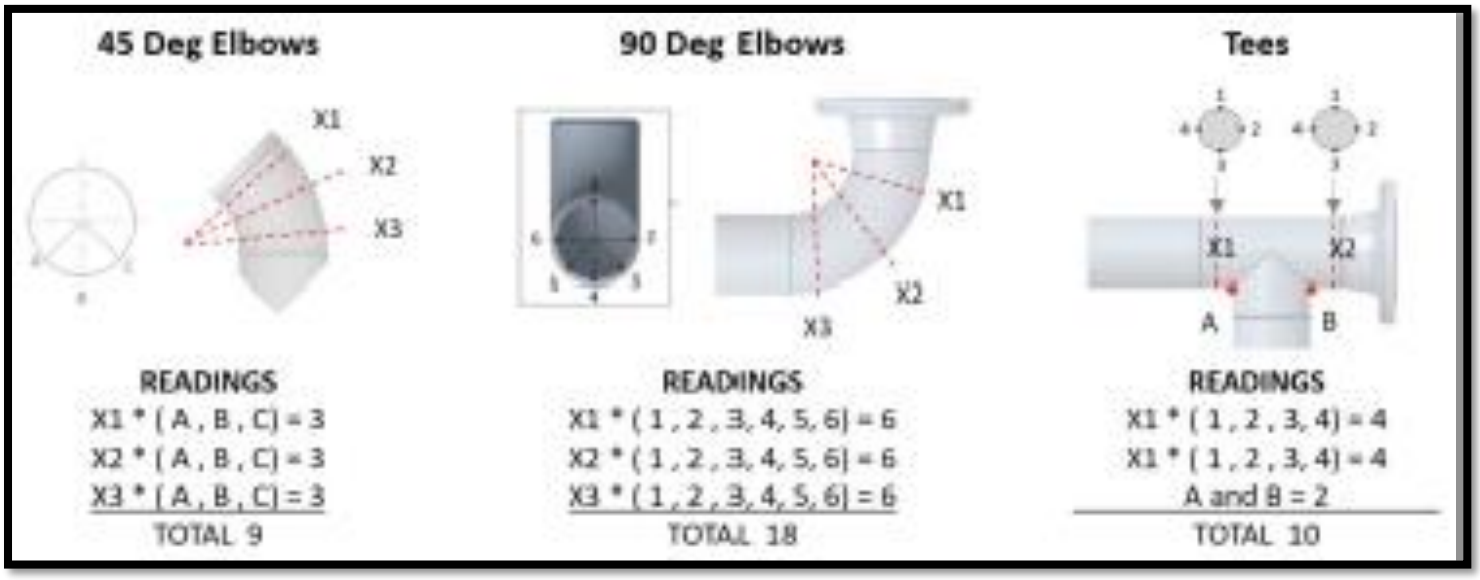
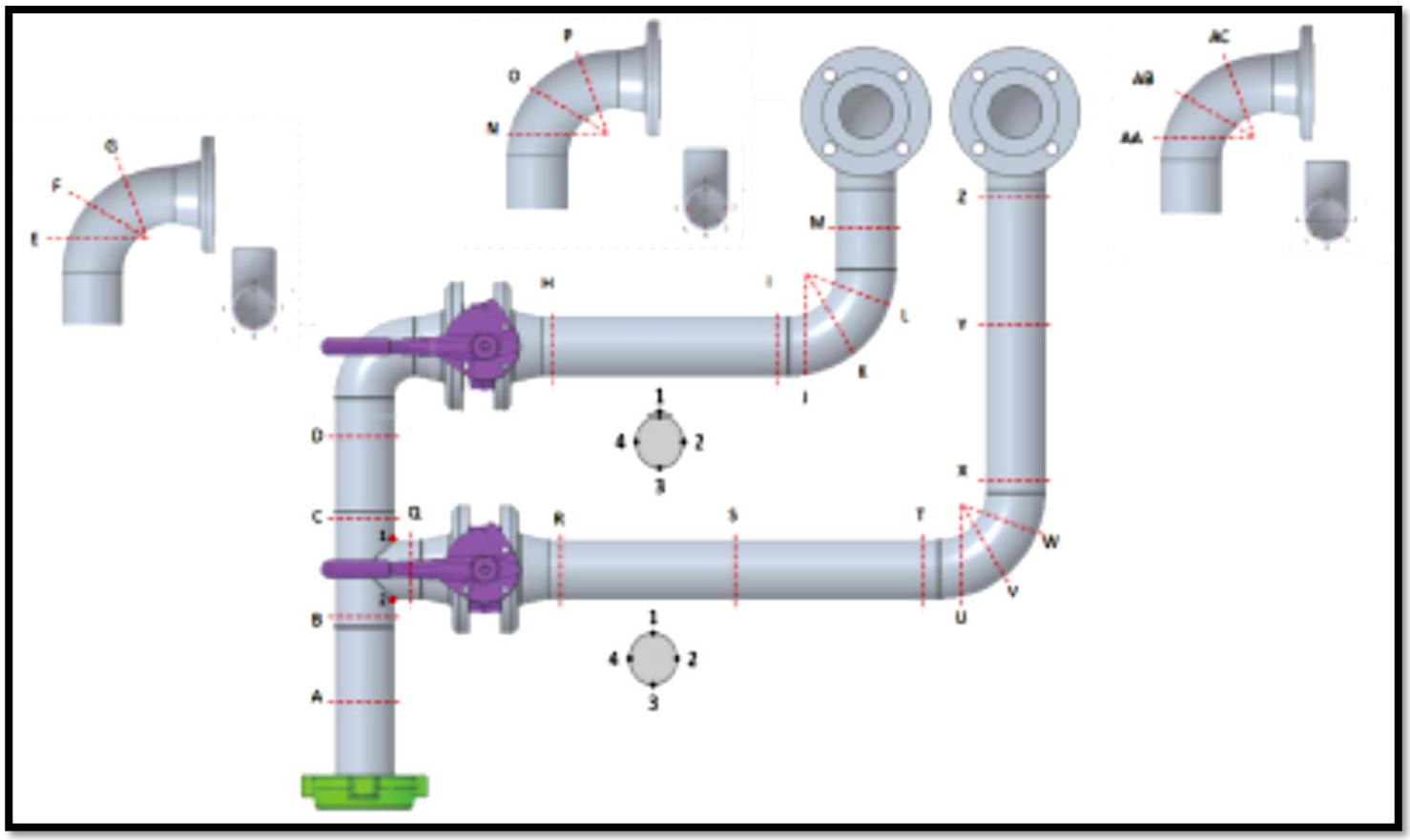
Drain Line Thickness Check





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Drain line Thickness Measurements:						
Label	**Minimum Allowable Thickness(Inc)**	**Measure 1**	**Measure 2**	**Measure 3**	**Measure 4**	**Measure 5**
A	**0.15 in**	0.301	0.298	0.303	0.299	0.297
B	**0.15 in**	0.299	0.297	0.296	0.291	0.293
C	**0.15 in**	0.298	0.295	0.299	0.297	0.295
D	**0.15 in**	0.301	0.297	0.293	0.295	0.301
E	**0.15 in**	0.302	0.307	0.304	0.301	0.309
F	**0.15 in**	0.307	0.301	0.309	0.308	0.304
G	**0.15 in**	0.309	0.307	0.311	0.315	0.309
H	**0.15 in**	0.301	0.306	0.303	0.302	0.307
I	**0.15 in**	0.307	0.309	0.308	0.301	0.305
J	**0.15 in**	0.299	0.305	0.301	0.303	0.302
K	**0.15 in**	0.304	0.301	0.303	0.305	0.307
L	**0.15 in**	0.301	0.303	0.304	0.308	0.306
M	**0.15 in**	0.291	0.293	0.295	0.297	0.299
N	**0.15 in**	0.305	0.301	0.303	0.307	0.304
O	**0.15 in**	0.299	0.293	0.298	0.301	0.303
P	**0.15 in**	0.257	0.259	0.247	0.249	0.253
Q	**0.15 in**	0.281	0.292	0.293	0.289	0.283
R	**0.15 in**	0.279	0.273	0.276	0.272	0.278
S	**0.15 in**	0.311	0.305	0.309	0.301	0.303
T	**0.15 in**	0.299	0.297	0.301	0.303	0.304
U	**0.15 in**	0.321	0.329	0.323	0.327	0.329
V	**0.15 in**	0.343	0.349	0.346	0.341	0.342
W	**0.15 in**	0.353	0.351	0.354	0.358	0.351
X	**0.15 in**	0.302	0.298	0.303	0.301	0.302
Y	**0.15 in**	0.303	0.301	0.305	0.304	0.301
Z	**0.15 in**	0.294	0.283	0.297	0.296	0.297
AA	**0.15 in**	0.307	0.301	0.305	0.302	0.303
AB	**0.15 in**	0.309	0.304	0.302	0.301	0.307
AC	**0.15 in**	0.304	0.307	0.308	0.306	0.301
1	**0.15 in**	0.301	0.303	0.304	0.307	0.301
2	**0.15 in**	0.303	0.304	0.308	0.303	0.304

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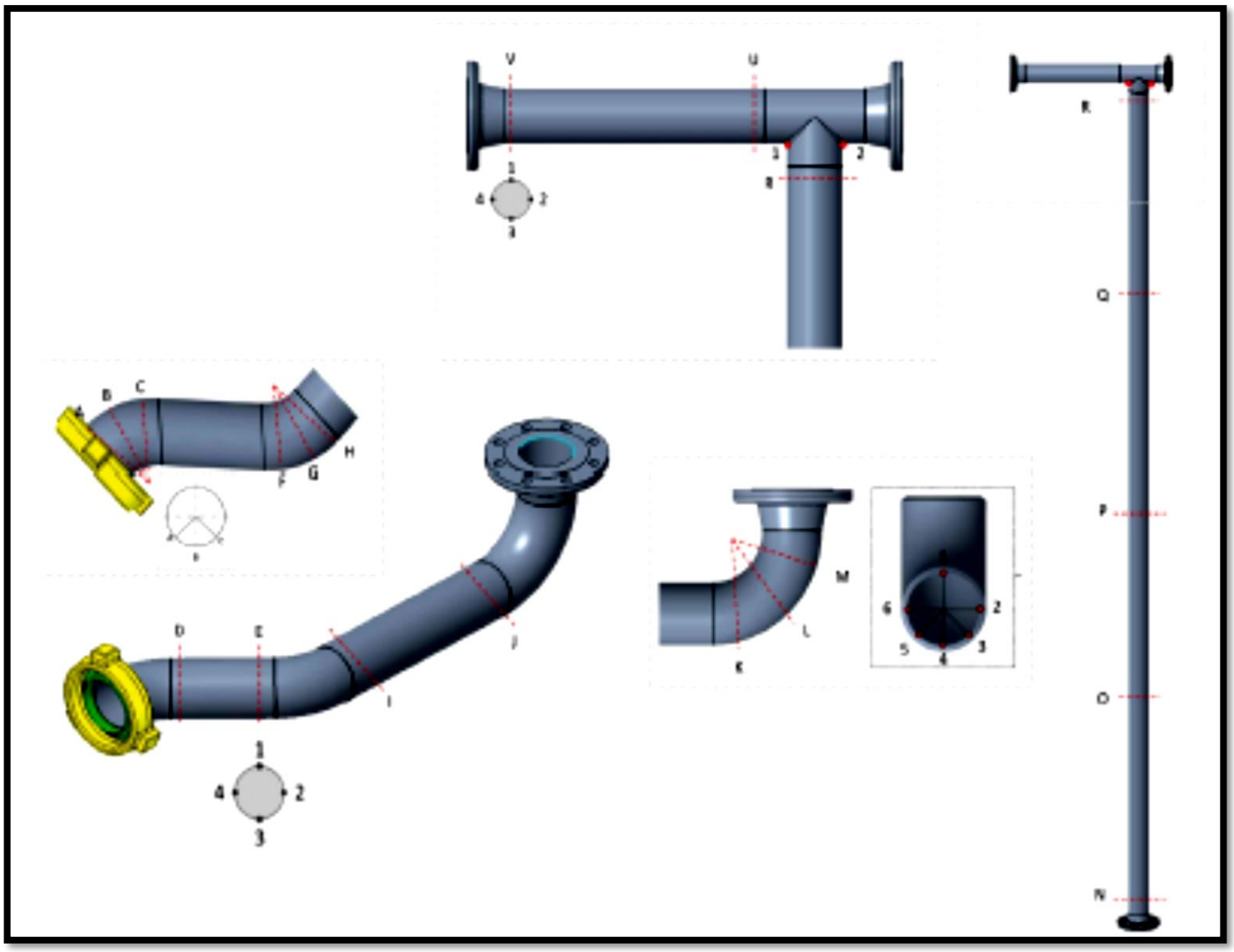
PRV Line Thickness Check



UT.Wall Thickness Inspection Certificate for PTVST Surge Tank

PRV Outlet Line Thickness Measurements:							
Label	**Minimum Allowable Thickness(Inc)**	**Measure 1**	**Measure 2**	**Measure 3**	**Measure 4**	**Measure 5**	**Measure 6**
A	**0.17 in**	0.267	0.261	0.268	0.269	0.264	0.264
B	**0.17 in**	0.271	0.273	0.275	0.273	0.271	0.279
C	**0.17 in**	0.266	0.267	0.261	0.268	0.269	0.266
D	**0.17 in**	0.281	0.283	0.289	0.281	0.289	0.284
E	**0.17 in**	0.285	0.283	0.281	0.289	0.288	0.281
F	**0.17 in**	0.273	0.270	0.278	0.274	0.279	0.276
G	**0.17 in**	0.263	0.267	0.269	0.267	0.264	0.262
H	**0.17 in**	0.269	0.264	0.267	0.269	0.263	0.269
I	**0.17 in**	0.253	0.259	0.257	0.261	0.263	0.269
J	**0.17 in**	0.264	0.263	0.267	0.269	0.264	0.263
K	**0.17 in**	0.244	0.249	0.253	0.251	0.248	0.246
L	**0.17 in**	0.246	0.243	0.249	0.247	0.241	0.249
M	**0.17 in**	0.242	0.243	0.249	0.247	0.243	0.248
N	**0.17 in**	0.249	0.248	0.243	0.248	0.247	0.243
O	**0.17 in**	0.243	0.249	0.247	0.243	0.246	0.248
P	**0.17 in**	0.253	0.257	0.259	0.258	0.257	0.253
Q	**0.17 in**	0.242	0.249	0.247	0.242	0.248	0.251
R	**0.17 in**	0.251	0.259	0.257	0.254	0.256	0.258
S	**0.17 in**	0.244	0.249	0.243	0.243	0.249	0.247
T	**0.17 in**	0.239	0.231	0.238	0.237	0.236	0.237
U	**0.17 in**	0.236	0.241	0.239	0.237	0.232	0.238
V	**0.17 in**	0.261	0.267	0.269	0.267	0.267	0.268

INSPECTION RESULT:				
UT Wall Thickness	**Accepted**	According to SLB Recommended – SLB Procedure & ASTM E797.		
Visual Test	**Accepted**	These Are The Actual Readings Need To Follow The Manufacturer's Operating Instructions.		
Pressure Test	**Accepted**	Pressure test of the relief line at 375 psi. Pressure test of the vessel at 375 psi and of the vessel components at 250 psi.		
Equipment Used	**S/N**	**EXP Cal Date**	**Inspected by**	**Reviewed by**
Thickness Gauge	14526	22/Feb/2026	**Inspector Name:**	**Shehab Magdy**
Vernier Caliper	667676	22/Feb/2026	**Qualification**	**ASNT LEVEL II UT MT & PT & VT**
Signature & Stamp:			**Su[illegible]**	**M-TAREK**