



PdM Solutions of San Antonio, Inc

**Carbon Steel Piping/pressure vessel Wall  
Thickness/Corrosion Examination Summary**

<b>Plant Name</b>	<b>XXXXXXXXXXXX, TX</b>
<b>Date</b>	<b>1/15/2020</b>
<b>Instrument</b>	<b>Olympus 37DLP</b>
<b>Operator</b>	<b>Hank Noguchi/Level-I UT/NDT</b>
<b>Description</b>	<b>Refrigeration piping/Pressure vessels</b>

<i>ID#</i>	<i>Item</i>	<i>Description</i>	<i>Dia</i>	<i>Nominal</i>	<i>Measured</i>	<i>% loss</i>	<i>Note</i>
1	C-3 Compressor	oil separator shell	20"	0.375	0.41		
2	C-3 Compressor	oil separator elliptical head	20"	0.25	0.35		
3	C-3 Compressor	Oil cooler shell	7.98"	0.322	0.326		
4	C-3 Compressor	Compressor discharge	2-1/2"	0.203	0.202	-0.49%	
5	C-4 Compressor	oil separator shell	20"	0.375	0.374	-0.27%	
6	C-4 Compressor	oil separator elliptical head	20"	0.25	0.313		
7	C-4 Compressor	Oil cooler shell	7.98"	0.322	0.316	-1.86%	
8	C-4 Compressor	Compressor discharge	2-1/2"	0.203	0.198	-2.46%	
9	C-5 Compressor	oil separator elliptical head	16"	0.2938	0.312		
10	C-5 Compressor	oil separator shell	16"	0.375	0.376		
11	C-5 Compressor	compressor discharge	2-1/2"	0.203	0.205		
12	HRP-2 High receiver	Shell	30"	0.375	0.375		
13	HRP-2 High receiver	Elliptical head	30"	0.312	0.381		
14	HRP-2 High receiver	HPL pipe	2"	0.218	0.223		
15	EC-2	Liquid Out	3"	0.218	0.217	-0.46%	
16		TSOC Vessel shell			0.255		U1A form N/A
17	C-1 Compressor	oil separator shell	30"	0.375	0.397		
18		oil separator elliptical head	30"	0.3375	0.395		
19		compressor discharge	4"	0.237	0.244		
20	C-2 Compressor	oil separator shell	20"	0.375	0.376		
21		oil separator elliptical head	20"	0.343	0.366		
22		compressor discharge	3"	0.216	0.221		
23	HPR-1 High receiver	Receiver Shell	42"	0.375	0.382		
24		Elliptical Head	42"	0.3125	0.332		
25		HPL pipe	3"	0.218	0.22		
26	C-1 Compressor	Oil cooler shell	10"	0.25	0.269		
27		TSOC Vessel shell	12.75"	0.375	0.375		
28		TSOC liquid out	3"	0.218	0.209	-4.13%	Pitting depth 5-10/1000"
29	HPL to HX-1	Pipe	1-1/2"	0.2	0.198	-1.00%	
30	C-6 Compressor	Discharge pipe	3"	0.216	0.238		
31	C-6 Compressor	Oil separator shell	8.625"	0.25	0.321		
32	C-7 compressor	Discharge pipe	3"	0.216	0.241		
33	C-7 compressor	Oil separator shell	8.625"	0.25	0.272		
34	C-8 Compressor	Discharge pipe	3"	0.216	0.224		
35	C-8 Compressor	Oil separator shell	8"	0.25	0.29		
36	C-9 Compressor	Discharge pipe	1-1/4"	0.191	0.225		
37	C-9 Compressor	Oil separator shell	8"	0.25	0.31		
38	HPR-3	Receiver shell	36"	0.375	0.376		
39	HPR-3	Elliptical Head	36"	0.312	0.412		
40	HPR-3	HPL pipe	4"	0.237	0.239		
41	EC-3	CD Pipe	4"	0.237	0.232	-2.11%	

42	EC-3	HSD Pipe	3"	0.216	0.216		
43	EC-1	HSD Pipe	6"	0.28	0.278	-0.71%	
44	EC-1	CD Pipe	3"	0.216	0.213	-1.39%	
45	C-10 Compressor	Discharge pipe	3"	0.216	0.212	-1.85%	
46	C-10 Compressor	Oil separator shell	16"	0.375	0.378		
47	C-12 Compressor	Discharge pipe	3"	0.216	0.226		
48	C-12 Compressor	Oil separator shell	12"	0.33	0.336		
49	HPR-4	Shell	30"	0.375	0.379		
50	HPR-4	Elliptical Head	30"	0.375	0.384		
51	HPR-4	HPL pipe	2"	0.154	0.229		
52	EC-4	CD Pipe	2"	0.154	0.217		
53	EC-4	HSD Pipe	2"	0.154	0.2		Pitting depth 5-10/1000"
54	ER-1 IC	Shell	36"	0.375	0.39		
55	ER-3 LTR	Shell	36"	0.25	0.257		
56	ER-4 IC	Shell	20"	0.375	0.374	-0.27%	
57	ER-4 LTR	Shell	36"	0.25	0.265		
58	Roof Top LTL #1	pipe	3/4"	0.154	0.175		
59	Roof Top LTL #1	Pipe	2-1/2"	0.203	0.216		
60	Roof Top LTL #2	pipe	3/4"	0.154	0.151	-1.95%	
61	Roof Top LTL #2	Pipe	2-1/2"	0.201	0.199	-1.00%	
62	Ice Machine surge Drum	Shell	35-1/4"	0.375	0.421		
63	Ice Machine LTL	Pipe	2-1/2"	0.203	0.21		
64	C-7 Compressor	Suction Reducer	3" x 5"	0.258	0.259		Pitting depth 5/1000"
65	C-6 compressor	Discharge pipe	3"	0.216	0.316		Pitting depth 5/1000"
66	HPR-3 Cossorion	See separate report					

**Note**

**Piping materials/wall thickness are as per ANSI/IIAR 2-2008,Sec 10(ASTM A-53/A106)**

**For pipings, loss of metal/wall thickness is as per IIAR B110/sec6.7.1. as below.**

	Up to 22.5% of piping wall loss.	Accetpable
	Deeper pitting or loss of metal more than 22.5% loss of piping wall.	Evaluate



# PdM Solutions of San Antonio, Inc

Location	Holmes Foods
Date	January 15, 2020

ID#	1
Description	C-3 oil separator shell



Size	20"
Nominal wall thickness	0.375
Measured wall thickness	0.41
% loss	

ID#	2
Description	C-3 Oil separator elliptical head



Size	20"
Nominal wall thickness	0.25
Measured wall thickness	0.35
% loss	

ID#	3
Description	C-3 Oil cooler shell



Size	8"
Nominal wall thickness	0.322
Measured wall thickness	0.326
% loss	

ID#	4
Description	C-3 compressor discharge pipe



Size	2-1/2" sch 40
Nominal wall thickness	0.203
Measured wall thickness	0.202
% loss	0.49%

ID#	5
Description	C-4 compressor oil separator shell



Size	20"
Nominal wall thickness	0.375
Measured wall thickness	0.374
% loss	0.27%

ID#	6
Description	C-4 Oil Separator elliptical head



Size	20"
Nominal wall thickness	0.25
Measured wall thickness	0.313
% loss	

ID#	7
Description	C-4 Oil cooler shell



Size	8"
Nominal wall thickness	0.322
Measured wall thickness	0.316
% loss	1.86%

ID#	8
Description	C-4 compressor discharge



Size	2-1/2" sch 40
Nominal wall thickness	0.203
Measured wall thickness	0.198
% loss	2.46%

ID#	9
Description	C-5 Oil separator elliptical Head



Size	16"
Nominal wall thickness	0.2938
Measured wall thickness	0.312
% loss	