Row #	TCID Field Value	1 Tank Shell Interior	2 Tank Shell Exterior	3 Tank Head Interior	4 Tank Head Exterior	5 Center Sill Web *(full sill)*	6 Center Sill Flange *(full sill)*	7 Center Sill Both *(full sill)*	8 Bolster Pad *(tank cradle, top cover plate, BCPM)*	9 Inboard Tank Reinforcement Pad	10 UF (Sill) Web Inbd of Bolster	11 Brake Support	12 Tank Bolster	13 Other	14 Stub Sill Web	15 Stub Sill Top Flange	16 Stub Sill Bottom Flange	17 Head Brace	18 Head Pad	19 Manway Nozzle	20 Safety Valve Nozzle	21 Top Fittings Nozzle	22 Manway Nozzle Reinforcement Pad
1	**Failure Type**																						
2	Blister	X	X	X	X																		
3	Burst	X	X	X	X															X	X	X	
4	Corrosion - Bathtub Ring	X		X																			
5	Corrosion - Girth Weld Seams	X	X	X	X																		
6	Corrosion - Grouped Pits	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
7	Corrosion - Random Pits	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8	Corrosion - Vertical Grooving	X		X																			
9	Crack - Girth Seams / Butt Welds	X	X	X	X									X						X	X	X	
10	Crack - Parent Metal	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
11	Crack - Weld Not on Templates	X	X		X	X	X	X	X	X			X	X	X	X	X			X	X	X	X
12	Dent or Buckle (Also, Bent, Twisted, Bulged)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
13	Erosion	X	X	X	X	X	X	X	X		X	X		X	X	X	X		X	X	X	X	X
14	Fire or Heat Damage	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
15	Improperly Sized Weld	X	X	X	X	X	X	X	X		X	X		X	X	X	X		X	X	X	X	X
16	Linear Indication	X	X	X	X	X	X	X	X		X	X		X	X	X	X			X	X	X	X
17	Scores and Gouges	X	X	X	X									X									
18	Weld Defect Other Than Crack	X	X	X	X	X	X	X	X		X	X		X	X	X	X		X	X	X	X	X
19	Wheel Burns		X		X																		
20																							
21	**Failure Cause**																						
22	Corrosion	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X
23	Missing Weld					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
24	Overstressed/Abused/RR Damage	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
25	Unknown	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
26	Workmanship	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
27																							
28	**How Repaired Shell**																						
29	Patch Plate Repair- AAR Tanks	X		X																			
30	Weld Surfacing *(weld buildup)*	X	X	X	X															X	X	X	
31	Welded Inserts and Tank Sections	X	X	X	X																		
32	Repairs to Tank Anchors																						
33	Reinforcing Plate Application per FM Rule 57					X	X	X							X	X	X						
34	RIK - Replace in Kind Not Otherwise Listed in the Repair Codes			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
35	Welding with PWHT	X	X	X	X									X						X	X	X	
36	Welding without PWHT or Pre-Heat	X	X	X	X									X						X	X	X	
37	Welding with Pre-Heat	X	X	X	X									X						X	X	X	
38	Pressing, or Jacking of Dents/Buckles of the Tank	X	X	X	X																		
39	Straightening					X	X	X	X	X	X	X	X	X	X	X	X						
40	Grinding and Blending with no Weld Buildup	X	X	X	X									X									
41	Repair of Threaded or Non-threaded Holes													X									
42																							
43	**Crack Length**	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
44																							
45	**Number of Cracks/Defects**	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
46																							
47	**Repair Location**																						
48	A End	X	X	X	X	X	X	X		X		X	X	X	X	X	X	X	X	X	X	X	X
49	B End	X	X	X	X	X	X	X		X		X	X	X	X	X	X	X	X	X	X	X	X
50	C Center	X	X			X	X	X		X		X		X	X	X	X			X	X	X	X
51	AL Side					X	X	X	X	X	X	X	X	X	X	X	X						
52	AR Side					X	X	X	X	X	X	X	X	X	X	X	X						
53	BL Side					X	X	X	X	X	X	X	X	X	X	X	X						
54	BR Side					X	X	X	X	X	X	X	X	X	X	X	X						
55	CL - Center Left					X	X	X				X		X									
56	CR - Center Right					X	X	X				X		X									
57	ABH - A End Bottom Head			X	X																		
58	ABS - A End Bottom Shell	X	X																				
59	ALS - A End Left Shell	X	X																				
60	ATH - A End Top Head			X	X																		
61	ATS - A End Top Shell	X	X																				
62	ARS - A End Right Shell	X	X																				
63	BBH - B End Bottom Head			X	X																		
64	BBS - B End Bottom Shell	X	X																				
65	BLS - B End Left Shell	X	X																				
66	BTH - B End Top Head			X	X																		
67	BTS - B End Top Shell	X	X																				
68	BRS - B End Right Shell	X	X																				
69	CBS - Center Bottom Shell	X	X																				
70	CLS - Center Left Shell	X	X																				
71	CRS - Center Right Shell	X	X																				
72	CTS - Center Top Shell	X	X																				
73																							
74	**Inspection Method / Techniques**																						
75	[AE] Acoustical Emission	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
76	[LT] Leak Test	X	X	X	X															X	X	X	X
77	[MT] Magnetic Particle	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
78	[OT] Other	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X
79	[PT] Liquid Penetrant	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
80	[RT] Radiographic	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
81	[RVT] Remote Visual	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
82	[UT] Ultrasonic	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
83	[UTT] Ultrasonic Thickness	X	X	X	X															X	X	X	X
84	[VT] Direct Visual	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
85																							

Row #	TCID Field Value	23 Safety Valve Nozzle Reinforcement Pad	24 Top Fitting Reinforcement Pad	25 Turnbuckle Brackets	26 Reinforcement Bars	27 Skid Attachment to Pad or Tank	28 Tank Anchor Pad *(full sill cars)*	29 Tank Anchor Web *(full sill cars)*	30 Miscellaneous Attachment Welds	31 Tank Stiffener Horn *(full sill aluminum car)*	32 Bolster Web *(BWPM)*	33 Bolster Bottom Cover Plate *(BBPM)*	34 Bolster Web Stiffener *(WBSW)*	35 Splice Plates	36 Wing Bars	37 Sill Center Filler (above center plate)	38 Miscellaneous Tank Pad	39 BOV Skid	40 Sump	41 BOV Mounting Saddle	42 Wash Out	43 Fittings / Cover Plate	44 <end of columns>
1	**Failure Type**																						
2	Blister																						
3	Burst																		X				
4	Corrosion - Bathtub Ring																						
5	Corrosion - Girth Weld Seams																						
6	Corrosion - Grouped Pits	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
7	Corrosion - Random Pits	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
8	Corrosion - Vertical Grooving																						
9	Crack - Girth Seams / Butt Welds																						
10	Crack - Parent Metal	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X		
11	Crack - Weld Not on Templates	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X		
12	Dent or Buckle (Also, Bent, Twisted, Bulged)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
13	Erosion	X		X	X	X	X	X	X	X				X	X	X	X	X	X	X			
14	Fire or Heat Damage	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
15	Improperly Sized Weld	X		X	X	X	X	X	X	X				X	X	X	X	X	X	X			
16	Linear Indication	X	X		X	X	X	X	X	X				X	X	X	X	X	X	X	X		
17	Scores and Gouges																					X	
18	Weld Defect Other Than Crack	X		X	X	X	X	X	X	X				X	X	X	X	X	X	X			
19	Wheel Burns																						
20																							
21	**Failure Cause**																						
22	Corrosion	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
23	Missing Weld	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
24	Overstressed/Abused/RR Damage	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
25	Unknown	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
26	Workmanship	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
27																							
28	**How Repaired Shell**																						
29	Patch Plate Repair- AAR Tanks																						
30	Weld Surfacing *(weld buildup)*																		X	X	X	X	
31	Welded Inserts and Tank Sections																						
32	Repairs to Tank Anchors						X	X	X														
33	Reinforcing Plate Application per FM Rule 57																						
34	RIK - Replace in Kind Not Otherwise Listed in the Repair Codes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
35	Welding with PWHT																		X	X	X		
36	Welding without PWHT or Pre-Heat																		X	X	X		
37	Welding with Pre-Heat																		X	X	X		
38	Pressing, or Jacking of Dents/Buckles of the Tank																						
39	Straightening			X	X		X	X		X	X	X	X										
40	Grinding and Blending with no Weld Buildup																					X	
41	Repair of Threaded or Non-threaded Holes						X													X		X	
42																							
43	**Crack Length**	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
44																							
45	**Number of Cracks/Defects**	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
46																							
47	**Repair Location**																						
48	A End	X	X						X	X				X		X	X					X	
49	B End	X	X						X	X				X		X	X					X	
50	C Center	X	X						X					X			X	X	X	X	X	X	
51	AL Side			X	X	X	X	X	X		X	X	X	X	X		X						
52	AR Side			X	X	X	X	X	X		X	X	X	X	X		X						
53	BL Side			X	X	X	X	X	X		X	X	X	X	X		X						
54	BR Side			X	X	X	X	X	X		X	X	X	X	X		X						
55	CL - Center Left																	X	X	X	X		
56	CR - Center Right																	X	X	X	X		
57	ABH - A End Bottom Head																						
58	ABS - A End Bottom Shell																X						
59	ALS - A End Left Shell																						
60	ATH - A End Top Head																						
61	ATS - A End Top Shell																						
62	ARS - A End Right Shell																						
63	BBH - B End Bottom Head																						
64	BBS - B End Bottom Shell																X						
65	BLS - B End Left Shell																						
66	BTH - B End Top Head																						
67	BTS - B End Top Shell																						
68	BRS - B End Right Shell																						
69	CBS - Center Bottom Shell																X						
70	CLS - Center Left Shell																						
71	CRS - Center Right Shell																						
72	CTS - Center Top Shell																						
73																							
74	**Inspection Method / Techniques**																						
75	[AE] Acoustical Emission	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
76	[LT] Leak Test	X	X														X	X	X	X	X	X	
77	[MT] Magnetic Particle	X	X	X	X	X	X	X	X	X				X	X	X	X	X	X	X	X	X	
78	[OT] Other	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
79	[PT] Liquid Penetrant	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
80	[RT] Radiographic	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
81	[RVT] Remote Visual	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
82	[UT] Ultrasonic	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
83	[UTT] Ultrasonic Thickness	X	X														X		X		X	X	
84	[VT] Direct Visual	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
85																							