



## GE Inspection Services

GEIS Job #: JXID0105

### API-653 Aboveground Storage Tank Examination Evaluation Summary

Company:	Water Recovery Inc.	Location:	Jacksonville, Florida
Equipment Title:	Oil Tank 9P	Equipment No.:	9P
Department:	Water/Oil Separation	Service Component #:	N/A
Evaluation By:	J. Carr	Evaluation Date:	7/30/2010

### INSPECTION HISTORY (Date of Examinations)

<u>(Date of Current Examinations)</u>			
Formal External Visual Examination :	<u>7/29/2010</u>	Internal Examination :	<u>7/29/2010</u>
External UT Thickness Examination :	<u>7/29/2010</u>		
<u>(Date of Previous Examinations)</u>			
Formal External Visual Examination :	<u>N/A</u>	Previous Shell Life:	<u>N/A</u> Years
External UT Thickness Examination :	<u>N/A</u>	Previous Floor Life:	<u>N/A</u> Years
Internal Examination :	<u>N/A</u>		

### Notable Visual Examination Findings

<b>External Examination</b>
No issues.
<b>Internal Examination</b>
No issues.

### Summary

In Compliance With Code For Continued Operation Under Current Conditions:			
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Could not be determined	
Maximum Corrosion R	0.002	Estimated Remaining Life:	>50 Years <b>(SHELL)</b>
★	Next API Inspection:	7/29/2015	★
The next formal <u>external</u> visual inspection should be scheduled within		5.0	years.
The next <u>external</u> UT thickness inspection should be scheduled within		15.0	years.
The next <u>internal</u> or <u>on-stream</u> inspection should be scheduled within		20.0	years.

Required Action Items:

None

Recommended Action Items:

None

External Visual: 7/29/2015  
 External UT Thickness: 7/28/2025  
 Internal Visual: 7/28/2030



# GE Inspection Services

## API 653 Minimum Acceptable Thickness Calculations

<b>TANK DATA:</b>			<b>GEIS Job #:</b>	<b>JXID0105</b>
<b>Equipment Title:</b>	<b>Oil Tank 9P</b>	<b>Inspection Date:</b>	<b>1/24/2006</b>	
<b>Equipment No.:</b>	<b>9P</b>	<b>Max. Liquid Level (ft):</b>	<b>32</b>	
<b>Department:</b>	<b>Water/Oil Separation</b>	<b>Joint Efficiency:</b>	<b>0.70</b>	
<b>Design Code:</b>	<b>API 650</b>	<b>Specific Gravity:</b>	<b>0.90</b>	
<b>Contents/Product:</b>	<b>Oil</b>	<b>Shell Material:</b>	<b>Unknown</b>	
<b>Outside Diameter (ft):</b>	<b>10.3</b>	<b>Date of Service:</b>	<b>01/01/85</b>	
<b>Inspector:</b>	<b>J. Carr</b>	<b>Evaluation Date:</b>	<b>7/30/2010</b>	

**FORMULA'S)**  $t_{min} (in) = 2.6D(H)G/SxE$  Ref. - API 653, Dec. 1995, 2.3.3.1  
**Corrosion Rate (in/yr) = ("t" Nom. - "t" Meas.) / Years in Operation (Estimated)**  
**Estimated RCA = ("t" Meas. - "t" Min.)**  
**Remaining Life = RCA / Corr. Rate**

<b>STRESS CALCS</b>	<b>TENSILE</b>	<b>k</b>	<b>S1</b>	<b>YIELD</b>	<b>k</b>	<b>S2</b>	<b>S</b>
1st & 2nd COURSE	55000	0.429	23595	30000	0.80	24000	23595
ALL OTHER COURSES	55000	0.472	25960	30000	0.88	26400	25960

\*NOTE: UTILIZE THE SMALLER OF THE TWO "S" VALUES FOR MINIMUM WALL CALCULATIONS.

<b>SHELL PLATES</b>		Using Previous Shell UT Thickness?		<b>NO</b> (YES or NO)				
<b>Elevation (ft)</b>	<b>Course</b>	<b>Height</b>	<b>S</b>	<b>API T Minimum</b>	<b>Previous T (in)</b>	<b>Governing T (in)</b>	<b>Estimated Corr. Rate</b>	<b>Estimated RCA</b>
0.25	1	31.75	23595	0.100	0.312	0.280	0.001	0.180
2.00	1	30.00	23595	0.100	0.312	0.272	0.002	0.172
4.00	1	28.00	23595	0.100	0.312	0.276	0.001	0.176
6.00	1	26.00	23595	0.100	0.312	0.269	0.002	0.169
8.00	2	24.00	23595	0.100	0.312	0.265	0.002	0.165
10.00	2	22.00	23595	0.100	0.312	0.267	0.002	0.167
12.00	2	20.00	23595	0.100	0.312	0.265	0.002	0.165
14.00	2	18.00	23595	0.100	0.312	0.272	0.002	0.172
16.00	3	16.00	25960	0.100	0.312	0.267	0.002	0.167
18.00	3	14.00	25960	0.100	0.312	0.268	0.002	0.168
20.00	3	12.00	25960	0.100	0.312	0.277	0.001	0.177
22.00	3	10.00	25960	0.100	0.312	0.271	0.002	0.171
24.00	4	8.00	25960	0.100	0.312	0.273	0.002	0.173
26.00	4	6.00	25960	0.100	0.312	0.279	0.001	0.179
28.00	4	4.00	25960	0.100	0.312	0.279	0.001	0.179
30.00	4	2.00	25960	0.100	0.312	0.282	0.001	0.182
31.00	4	1.00	25960	0.100	0.312	0.294	0.001	0.194
<b>The lowest (governing) remaining corrosion allowance for the shell is:</b>						<b>0.165 in.</b>		
<b>Anticipated remaining life of the shell is:</b>						<b>89.8 yrs.</b>		

### ROOF PLATES

UT Thickness Readings over 100 sq. in. grid (or single lowest t over 0.090")

<b>0.227</b>	0.227	0.229	0.233	0.233
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**Roof Nominal T = 0.250 in.**

**Average thickness of grid: 0.230 in.**

**Corresponding RCA for the roof is : 0.137 in. Roof Remaining Life = 152.4 yr(s).**

### FLOOR PLATES

Does tank design provide means for detection and containment of a bottom leak? **NO**

Does tank incorporate a reinforced bottom lining, >0.05 in. thick **NO**

Using Previous Floor UT Thickness for nominal thickness? **NO**

**Minimum acceptable bottom plate thickness: 0.100 in.**

**Nominal t = 0.270 in Lowest t = 0.260 in Corrosion Rate = 0.000 RCA = 0.160**

**Anticipated remaining life of floor plate is : 409.4 yr(s).**