Site: Wincombe lane,
Shaftesbury,
SP7 8QD.

Visual Tank Inspection Report

Permeate Tank

Client Contact: Paula Boult

Date of Test: 23rd January 2023

Report Number: 23-004

API 653 Inspector: Ian Hooley

Contents

Summary

Tank T1 should have been internally cleaned and inspected on a 5 yearly rolling program, however with this has not been carried out. It is now vital to the integrity of the tank that this program is implemented in the soonest possible timeframe.

The tank shell was externally lagged so a visual inspection was not possible, however the lagging is all tight and secure with no signs of water ingress.

A flange belonging to an 80mm roof nozzle has missing bolts that require installing.

The top curb angle directly above the access ladder has an area of corrosion which needs arresting. All surface corrosion should be removed from the area and a paint layer applying.

Results Summary

	Pass	Fail	Not Applicable
Base			
Visual	☐	☐	☒
Vacuum Box	☐	☐	☒
Hydrostatic Testing	☐	☐	☒
Shell Results			
Visual	☐	☐	☒
Hydrostatic Testing	☐	☐	☒
Roof			
Visual	☒	☐	☐
Nozzles			
Visual	☒	☐	☐
Hydrostatic Testing	☐	☐	☒
Foundation			
Settlement	☒	☐	☐
Planer Tilt	☒	☐	☐
Accessories			
Access Structures	☒	☐	☐
Mixers/Agitators	☒	☐	☐
Safety Critical			
Venting Capabilities	☒	☐	☐
Alarms	☒	☐	☐
Pipework			
Tank Piping	☒	☐	☐
Fire Deluge	☐	☐	☒

Actions & Conclusions

Mandatory actions

No Mandatory Actions.

Recommendations

Feature	Action	Time Frame	Page Reference
Roof Nozzles			
Missing bolts	Replace Missing bolts to nozzle.	6 months	13
Roof vent			
Product to roof	Remove all product which is in contact with mastic or GRP roof,	1 months	13
Top curb angle			
Corrosion	Remove surface corrosion and over paint affected area,	3 months	13
Internal Surfaces			
Internal Inspection	Clean out and inspect internal surfaces.	ASAP	2

Report Conclusion

Based on the inspection results, the tank is fit for operation.

Next Recommended Scheduled Inspections taken from Table B-1 Inspection frequencies: -

- Group 9
- Unknown corrosion rates
- Climate Code B

External Inspection (Visual) **January 2024**
Internal Inspection (Detailed) **ASAP**

WSG Inspection Tank Assessor

Name: Ian Hooley Signature:

Client Storage Tank Engineer

Name: Signature:

Date: 30 January 2023

Introduction

WSG Eagle Eye Ltd conducted an in-service Visual inspection to T1 Permeate Tank.

Scope:

The inspection Methods: -

- A Close Visual inspection for surface defects.

Areas Inspected (where accessible): -

- Change of surface condition.
- Visual signs of joints leaking.
- General condition of permanent fixtures eg ladders & platforms.
- The condition of the mastic fillets.
- Impact damage to shell.
- The condition of GFS coating to the face of the tank sheets
- Discolouration to the shell.
- White or coloured spots.
- Cracks and fissures.

The inspection assumes that the tank has been designed and constructed in accordance with - Specifications for design and construction of Bolted steel sectional tanks.
The inspection report should be referenced alongside the Fabrication Monitoring and Installation reports produced when the tank was first constructed.
The inspection is based around ISO 28765 & BS7543 :2003
The purpose of the report is to ensure that the tank is suitable for the intended use, is maintained in an efficient state, efficient working order and in good repair for continued safe use.

Tank Details

Tank Details

General	
Tank Identification	Permeate Tank T1
Tank Type	Steel Bolted Tank.
Design Standard	BS 7543:2003
Manufacturer	Permastore
Drawing Number	K31703-102-1110
Year of Build	2010
Tank Diameter	5.9m.
Tank Height	6.1m.
Tank Volume (m^3)	160
Construction Material Grade	Glass fused to steel
Design Pressure (mBar)	Unknown
Design Vacuum (mBar)	Unknown
Design Gravity	1.05
Design Wind Speed	45m/s.
Max Pump-In Rate	Unknown
Max Pump-out Rate	Unknown
Tank Shell	
Maximum Fill Height	5.6m
Insulation External	Yes
Lining Internal	Glass lined.
Number of Nozzles	5
Tank Base	
Design Type	Concrete Base
Number of Sumps/Nozzles	None
Tank Roof	
Roof Type	Flat (Grp)
Number of Nozzles	3
Tank Appendage & Area Details	
Foundation Type	Type D/E Concrete Raft/Raft Piled.
Bund Type	Earthen bund wall
Roof Vent PRV Details	150mm NB free vent
Roof Access Details	Access ladder

In-Service Visual Inspection

Tank Shell Visual Inspection

Action Status		
Fit for Continued Use	Maintenance/Repair Required	Major Repair/Action Required

Feature	Comments	Action Status		
		1	2	3
External Condition	Steel jacketing visually in good condition	√		
Internal Condition	Not Applicable			
External Joints	Not Visible			
External Nozzles	Not Visible			
Internal Nozzles & Pipework Connections	Not Applicable			
Patched areas	Not Visible			
Ripples/Buckles/Deformation	Not Visible			
Voids	Not Visible			
Pipework & Pipework connections	All pipework and connections are tight and secure, with adequate support.	√		
Other	N/A			

Tank Roof Visual Inspection

Action Status		
Fit for Continued Use	Maintenance/Repair Required	Major Repair/Action Required

Feature	Comments	Action Status		
		1	2	3
External Condition	The GRP roof is in good condition with no cracking or delamination noted.	√		
Internal Condition	Not Applicable			
External Joints	No joints. One piece Grp Roof	√		
Internal Joints	Not Applicable			
External Nozzles & Pipework Connections	Missing bolts noted to 80mm nozzle. (See photo 5) Vent pipework is out breathing product on to roof. (See photo 3)		√	
Internal Nozzles & Pipework Connections	Not Applicable			
Patched areas	Not Applicable	√		
Ripples/Buckles/Deformation	Not Applicable	√		
Voids	Not Applicable	√		
Pipework Hazardous to Shell Condition	None. All pipework is secured.	√		
Top curb angle	Area of corrosion noted directly above the access ladder (See photo 4)		√	

Foundation Visual Inspection

Action Status		
Fit for Continued Use	Maintenance/Repair Required	Major Repair/Action Required

Feature	Comments	Action Status		
		1	2	3
Foundation Type	Type D/E Concrete Raft/Raft Piled.	√		
Shoulder	N/A.			
Cracking/Spalling of Concrete	None.	√		
Cavities Under Foundation	None.	√		
Drainage issues	No standing water was noted to the bund floor.	√		
Tell Tail Drains	N/A			
Bit-Sand condition/Settlement	N/A			
Visible Settlement	None.	√		
Foliage/Growth	None.	√		
Evidence of Leakage	None.	√		
Anchor Points	The tank is concreted into the floor and has no anchor bolts fitted.			
Other				

Tank Accessories Inspection

Action Status		
Fit for Continued Use	Maintenance/Repair Required	Major Repair/Action Required

Feature	Comments	Action Status		
		1	2	3
Access Stairs	Not installed			
Access Ladder	Access ladders in good condition.	√		
Access Platform	In good condition	√		
Mixers/Agitators	In serviceable with no signs of leaks, vibration or noise	√		
Fire Deluge	Not installed			

Appendix A – Photographs

Photo 1	Photo 2
Shell	External jacketing
General View	All lagging is secure with no water ingress
	
Photo 3	Photo 4
Roof	Top curb angle
Product venting onto roof, may be detrimental to mastic seals & GRP roof outer layer.	Corrosion evident to top curb angle.
	
Photo 5	Photo 6
Roof Nozzles	Access Ladder
No bolts fitted to nozzle,	General View
	

Appendix B – Qualifications

API INDIVIDUAL CERTIFICATION PROGRAMS

ANAB
ANSI National Accreditation Board
ACCREDITED
ISO/IEC 17024
PERSONNEL CERTIFICATION BODY

verifies that

Ian William Hooley

HAS MET THE ESTABLISHED AND PUBLISHED REQUIREMENTS FOR API CERTIFICATION AS AN

API 653 ABOVEGROUND STORAGE TANK INSPECTOR

IN ACCORDANCE WITH THE KNOWLEDGE DEFINED IN THE **API Standard 653**

CERTIFICATION NUMBER **56108**

ORIGINAL CERTIFICATION DATE	January 31, 2015
CURRENT CERTIFICATION DATE	January 31, 2021
EXPIRATION DATE	January 31, 2024

Manager, Individual Certification Programs

API | ICP