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Bund Inspection Report

2013

G. Bruss GmbH Dichtungstechnik

Finisklin Road, Sligo

IPPC Licence No: P0465-01

Environmental Efficiency Document Number 1461-04 v1.02

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QF 1. v2 Document Lead Sheet

Document Title	Bund Integrity Assessment 2013
Project No.	1461
Document No.	1461-04
Client	G. Bruss GmbH Dichtungstechnik
Address	Finisklin Road, Sligo

Issue	Status	Date	Author	Signed for and on behalf of	
				Environmental Efficiency	Client
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Where it is a requirement that this report be issued to a regulatory or other authority, then the client should sign the appropriate place in the above table and, unless specifically agreed in writing to the contrary, forward copies to the appropriate authority (e.g. EPA).

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Summary of results

Office of Environmental Enforcement
PO Box 3000
Johnstown Castle Estate
Co Wexford

IPC Licence Number: P0465-01
Company Name: G. Bruss GmbH Dichtungstechnik
Reporting Period: 3 years
Report Name: Bund Integrity Assessment

Were all results compliant with the terms of the IPPC licence?

Yes	No
✓	

Were any complaints received during this reporting period?

Yes	No
	✓

1. Introduction

G. Bruss GmbH Dichtungstechnik has an IPPC Licence (*P0465-01)* and is required to demonstrate that bunds on site are of adequate size and construction to perform their intended purpose and are assessed as being water tight.

Determination of whether a bund is of adequate size and construction is by reference to the EPA Guidance Note on Storage and Transfer of Materials for Scheduled Activities. To prove water tightness the EPA guidance document allows two types of assessment, a Water Retention Test or, where a Water Retention Test is not practical, a visual inspection by a Chartered Engineer. Where Water Retention Test is practical, the test protocol depends on the a type of bund (See Section 3). There are three areas in which the bunds are located:

- **Oil store – Bund reference MB3 to MB12**
- **Recycling area – Bund reference MB13 to MB20**
- **Chem-store – Bund reference MB21 to MB27**

2. Summary

Table 2-1 Summary bund assessment

Bund Ref	Description	Date of Assessment	Adequate size	Suitable construction	Assessment Result
MB3	Steel	16/07/2013	Pass	Pass	Pass
MB4	Steel	16/07/2013	Pass	Pass	Pass
MB5	Steel	16/07/2013	Pass	Pass	Pass
MB6	Steel	16/07/2013	Pass	Pass	Pass
MB7	Steel	16/07/2013	Pass	Pass	Pass
MB8	Steel	16/07/2013	Pass	Pass	Pass
MB9	Steel	16/07/2013	Pass	Pass	Pass
MB10	Steel	16/07/2013	Pass	Pass	Pass
MB11	Steel	16/07/2013	Pass	Pass	Pass
MB12	Steel	16/07/2013	Pass	Pass	Pass
MB13	Steel	16/07/2013	Pass	Pass	Pass
MB14	Steel	16/07/2013	Pass	Pass	Pass
MB15	Steel	16/07/2013	Pass	Pass	Pass
MB16	Steel	16/07/2013	Pass	Pass	Pass
MB17	Steel	16/07/2013	Pass	Pass	Pass
MB18	Steel	16/07/2013	Pass	Pass	Pass
MB19	Steel	16/07/2013	Pass	Pass	Pass
MB20	Steel	16/07/2013	Pass	Pass	Pass
MB21	Plastic	16/07/2013	Pass	Pass	Pass
MB22	Steel	16/07/2013	Pass	Pass	Pass
MB23	Steel	16/07/2013	Pass	Pass	Pass
MB24	Steel	16/07/2013	Pass	Pass	Pass
MB25	Steel	16/07/2013	Pass	Pass	Pass
MB26	Steel	16/07/2013	Pass	Pass	Pass
MB27	Plastic	16/07/2013	Pass	Pass	Pass

3. Selection of test method

The EPA document 'Storage and Transfer of Materials for Scheduled Activities' gives guidance on the necessity to test bunds and, if testing is required, the test protocol to be used.

As all bunds were fabricated generally of plastic or steel, a 24 hour water retention test using test method BS 8007 was deemed to be acceptable.

4. Bund test record sheets: Oil Store MB3 to MB12

4.1 Bund: MB3

Site:	G. Bruss GmbH Dichtungstechnik	**Licence Reg. No.:**	P0465-01
Bund Ref. No.:	MB3	**Bund Type:**	Portable
Bund Dimensions, m:	264x130x33	**Primary Vessel(s) – Materials of Construction:**	Steel drums
Bund Construction Material:	Steel	**Primary Vessel(s) – Total Storage Volume, m3**	1.04
Bund Lining Material:	Steel	**Primary Vessel(s) – 110% Volume of Largest Vessel, m3**	0.228
Bund Retention Volume, m3	1.33	**Primary Vessel(s) – 25% of Total Storage Volume, m3**	0.260
Deemed Practicable / Safe to Conduct Hydrostatic Test? Yes/No			Yes

If no give reasons:

HYDROSTATIC TEST DETAILS:

BS 8007:1987 (Yes/No)?	Yes
Fill Rate	n/a
Stabilisation Period	2 days
Duration of the Test	24 hours
Acceptance Criteria (Total permissible drop in water level), mm	0
Water Level Change in Reference Vessel, mm	1

Date and Time	Water Level in Bund	Water Level in Reference Vessel
15/07/2013 10:27	22	0
15/07/2013 16:50	23	1
16/07/2013 09:23	23	1

Description / Comments of Hydrostatic Test:

Visual Test Details: Inspection Description & Results:

Result (Pass/Fail)	Pass	
Recommendation(s):		
Signed:	**Qualification:** Dip in Environmental Protection	**Date:** 16/07/2013

4.2 Bund: MB4

Site:	G. Bruss GmbH Dichtungstechnik	**Licence Reg. No.:**	P0465-01
Bund Ref. No.:	MB4	**Bund Type:**	Portable
Bund Dimensions, m:	80x120x30	**Primary Vessel(s) – Materials of Construction:**	Steel drums
Bund Construction Material:	Steel	**Primary Vessel(s) – Total Storage Volume, m3**	0.204
Bund Lining Material:	Steel	**Primary Vessel(s) – 110% Volume of Largest Vessel, m3**	0.224
Bund Retention Volume, m3	0.288	**Primary Vessel(s) – 25% of Total Storage Volume, m3**	0.051
Deemed Practicable / Safe to Conduct Hydrostatic Test? Yes/No			Yes

If no give reasons:

HYDROSTATIC TEST DETAILS:

BS 8007:1987 (Yes/No)?	Yes
Fill Rate	n/a
Stabilisation Period	2 days
Duration of the Test	24 hours
Acceptance Criteria (Total permissible drop in water level), mm	0
Water Level Change in Reference Vessel ,mm	0

Date and Time	Water Level in Bund	Water Level in Reference Vessel
15/07/2013 10:29	19	0
15/07/2013 16:31	19	0
16/07/2013 09:24	19	0

Description / Comments of Hydrostatic Test:

Visual Test Details: Inspection Description & Results:

Result (Pass/Fail)	Pass

Recommendation(s):

Signed:	**Qualification:** Dip in Environmental Protection	**Date:** 16/07/2013

4.3 Bund: MB5

Site:	G. Bruss GmbH Dichtungstechnik	**Licence Reg. No.:**	P0465-01
Bund Ref. No.:	MB5	**Bund Type:**	Portable
Bund Dimensions, m:	80x120x30	**Primary Vessel(s) – Materials of Construction:**	Steel drums
Bund Construction Material:	Steel	**Primary Vessel(s) – Total Storage Volume, m3**	0.208
Bund Lining Material:	Steel	**Primary Vessel(s) – 110% Volume of Largest Vessel, m3**	0.228
Bund Retention Volume, m3	0.228	**Primary Vessel(s) – 25% of Total Storage Volume, m3**	0.052
Deemed Practicable / Safe to Conduct Hydrostatic Test? Yes/No			Yes

If no give reasons:

HYDROSTATIC TEST DETAILS:

BS 8007:1987 (Yes/No)?	Yes
Fill Rate	n/a
Stabilisation Period	2 days
Duration of the Test	24 hours
Acceptance Criteria (Total permissible drop in water level), mm	0
Water Level Change in Reference Vessel ,mm	0

Date and Time	Water Level in Bund	Water Level in Reference Vessel
15/07/2013 10:30	20	0
15/07/2013 16:31	20	0
16/07/2013 09:24	20	0

Description / Comments of Hydrostatic Test:

Visual Test Details: Inspection Description & Results:

Result (Pass/Fail)	Pass	
Recommendation(s):		
Signed:	**Qualification:** Dip in Environmental Protection	**Date:** 16/07/2013

4.4 Bund: MB6

Site:	G. Bruss GmbH Dichtungstechnik	**Licence Reg. No.:**	P0465-01
Bund Ref. No.:	MB6	**Bund Type:**	Portable
Bund Dimensions, m:	120x120x23	**Primary Vessel(s) – Materials of Construction:**	Plastic drums
Bund Construction Material:	Steel	**Primary Vessel(s) – Total Storage Volume, m3**	0.040
Bund Lining Material:	Steel	**Primary Vessel(s) – 110% Volume of Largest Vessel, m3**	0.044
Bund Retention Volume, m3	0.331	**Primary Vessel(s) – 25% of Total Storage Volume, m3**	10
Deemed Practicable / Safe to Conduct Hydrostatic Test? Yes/No			Yes

If no give reasons:

HYDROSTATIC TEST DETAILS:

BS 8007:1987 (Yes/No)?	Yes
Fill Rate	n/a
Stabilisation Period	2 days
Duration of the Test	24 hours
Acceptance Criteria (Total permissible drop in water level), mm	0
Water Level Change in Reference Vessel ,mm	0

Date and Time	Water Level in Bund	Water Level in Reference Vessel
15/07/2013 10:34	10	0
15/07/2013 16:53	10	0
16/07/2013 09:25	10	0

Description / Comments of Hydrostatic Test:

Visual Test Details: Inspection Description & Results:

Result (Pass/Fail)	Pass

Recommendation(s):

Signed:	**Qualification:** Dip in Environmental Protection	**Date:** 16/07/2013

4.5 Bund: MB7

Site:	G. Bruss GmbH Dichtungstechnik	**Licence Reg. No.:**	P0465-01
Bund Ref. No.:	MB7	**Bund Type:**	Portable
Bund Dimensions, m:	120x120x23	**Primary Vessel(s) – Materials of Construction:**	Plastic drums
Bund Construction Material:	Steel	**Primary Vessel(s) – Total Storage, m3**	0.180
Bund Lining Material:	Steel	**Primary Vessel(s) – 110% Volume of Largest Vessel, m3**	0.022
Bund Retention Volume, m3	0.331	**Primary Vessel(s) – 25% of Total Storage Volume, m3**	0.045
Deemed Practicable / Safe to Conduct Hydrostatic Test? Yes/No			Yes

If no give reasons:

HYDROSTATIC TEST DETAILS:

BS 8007:1987 (Yes/No)?	Yes
Fill Rate	n/a
Stabilisation Period	2 days
Duration of the Test	24 hours
Acceptance Criteria (Total permissible drop in water level), mm	0
Water Level Change in Reference Vessel ,mm	0

Date and Time	Water Level in Bund	Water Level in Reference Vessel
15/07/2013 10:36	11	0
15/07/2013 16:54	11	0
16/07/2013 09:26	11	0

Description / Comments of Hydrostatic Test:

Visual Test Details: Inspection Description & Results:

Result (Pass/Fail)	Pass

Recommendation(s):

Signed:	**Qualification:** Dip in Environmental Protection	**Date:** 16/07/2013

4.6 Bund: MB8

Site:	G. Bruss GmbH Dichtungstechnik	**Licence Reg. No.:**	P0465-01
Bund Ref. No.:	MB8	**Bund Type:**	Portable
Bund Dimensions, m:	120x120x23	**Primary Vessel(s) – Materials of Construction:**	Plastic drums
Bund Construction Material:	Steel	**Primary Vessel(s) – Total Storage, m3**	0.325
Bund Lining Material:	Steel	**Primary Vessel(s) – 110% Volume of Largest Vessel, m3**	0.225
Bund Retention Volume, m3	0.331	**Primary Vessel(s) – 25% of Total Storage Volume, m3**	0.081
Deemed Practicable / Safe to Conduct Hydrostatic Test? Yes/No			Yes

If no give reasons:

HYDROSTATIC TEST DETAILS:

BS 8007:1987 (Yes/No)?	Yes
Fill Rate	n/a
Stabilisation Period	2 days
Duration of the Test	24 hours
Acceptance Criteria (Total permissible drop in water level), mm	0
Water Level Change in Reference Vessel ,mm	0

Date and Time	Water Level in Bund	Water Level in Reference Vessel
15/07/2013 10:38	11	0
15/07/2013 16:33	11	0
16/07/2013 09:26	11	0

Description / Comments of Hydrostatic Test:

Visual Test Details: Inspection Description & Results:

Result (Pass/Fail)	Pass	
Recommendation(s):		
Signed:	**Qualification:** Dip in Environmental Protection	**Date:** 16/07/2013

4.7 Bund: MB9

Site:	G. Bruss GmbH Dichtungstechnik	**Licence Reg. No.:**	P0465-01
Bund Ref. No.:	MB9	**Bund Type:**	Portable
Bund Dimensions, m:	120x120x23	**Primary Vessel(s) – Materials of Construction:**	Steel drums
Bund Construction Material:	Steel	**Primary Vessel(s) – Total Storage, m3**	0.416
Bund Lining Material:	Steel	**Primary Vessel(s) – 110% Volume of Largest Vessel, m3**	0.228
Bund Retention Volume, m3	0.331	**Primary Vessel(s) – 25% of Total Storage Volume, m3**	0.104
Deemed Practicable / Safe to Conduct Hydrostatic Test? Yes/No			Yes

If no give reasons:

HYDROSTATIC TEST DETAILS:

BS 8007:1987 (Yes/No)?	Yes
Fill Rate	n/a
Stabilisation Period	2 days
Duration of the Test	24 hours
Acceptance Criteria (Total permissible drop in water level), mm	0
Water Level Change in Reference Vessel ,mm	0

Date and Time	Water Level in Bund	Water Level in Reference Vessel
15/07/2013 10:40	11	0
15/07/2013 16:55	11	0
16/07/2013 09:26	11	0

Description / Comments of Hydrostatic Test:

Visual Test Details: Inspection Description & Results:

Result (Pass/Fail)	Pass
Recommendation(s):	

Signed:	**Qualification:** Dip in Environmental Protection	**Date:** 16/07/2013

4.8 Bund: MB10

Site:	G. Bruss GmbH Dichtungstechnik	**Licence Reg. No.:**	P0465-01
Bund Ref. No.:	MB10	**Bund Type:**	Portable
Bund Dimensions, m:	120x120x23	**Primary Vessel(s) – Materials of Construction:**	Plastic drums
Bund Construction Material:	Steel	**Primary Vessel(s) – Total Storage, m3**	0.2
Bund Lining Material:	Steel	**Primary Vessel(s) – 110% Volume of Largest Vessel, m3**	0.22
Bund Retention Volume, m3	0.331	**Primary Vessel(s) – 25% of Total Storage Volume, m3**	0.05
Deemed Practicable / Safe to Conduct Hydrostatic Test? Yes/No			Yes

If no give reasons:

HYDROSTATIC TEST DETAILS:

BS 8007:1987 (Yes/No)?	Yes
Fill Rate	n/a
Stabilisation Period	2 days
Duration of the Test	24 hours
Acceptance Criteria (Total permissible drop in water level), mm	0
Water Level Change in Reference Vessel ,mm	0

Date and Time	Water Level in Bund	Water Level in Reference Vessel
15/07/2013 10:41	12	0
15/07/2013 16:56	12	0
16/07/2013 09:27	12	0

Description / Comments of Hydrostatic Test:

Visual Test Details: Inspection Description & Results:

Result (Pass/Fail)	Pass

Recommendation(s):

Signed:	**Qualification:** Dip in Environmental Protection	**Date:** 16/07/2013

4.9 Bund: MB11

Site:	G. Bruss GmbH Dichtungstechnik	**Licence Reg. No.:**	P0465-01
Bund Ref. No.:	MB11	**Bund Type:**	Portable
Bund Dimensions, m:	120x120x23	**Primary Vessel(s) – Materials of Construction:**	Plastic drums
Bund Construction Material:	Steel	**Primary Vessel(s) – Total Storage, m3**	0.06
Bund Lining Material:	Steel	**Primary Vessel(s) – 110% Volume of Largest Vessel, m3**	0.022
Bund Retention Volume, m3	0.240	**Primary Vessel(s) – 25% of Total Storage Volume, m3**	0.015
Deemed Practicable / Safe to Conduct Hydrostatic Test? Yes/No			Yes

If no give reasons:

HYDROSTATIC TEST DETAILS:

BS 8007:1987 (Yes/No)?	Yes
Fill Rate	n/a
Stabilisation Period	2 days
Duration of the Test	24 hours
Acceptance Criteria (Total permissible drop in water level), mm	0
Water Level Change in Reference Vessel ,mm	0

Date and Time	Water Level in Bund	Water Level in Reference Vessel
15/07/2013 10:33	14	0
15/07/2013 16:52	14	0
16/07/2013 09:25	14	0

Description / Comments of Hydrostatic Test:

Visual Test Details: Inspection Description & Results:

Result (Pass/Fail)	Pass

Recommendation(s):

Signed:	**Qualification:** Dip in Environmental Protection	**Date:** 16/07/2013

4.10 Bund: MB12

Site:	G. Bruss GmbH Dichtungstechnik	**Licence Reg. No.:**	P0465-01
Bund Ref. No.:	MB12	**Bund Type:**	Portable
Bund Dimensions, m:	120x80x30	**Primary Vessel(s) – Materials of Construction:**	Steel drums
Bund Construction Material:	Steel	**Primary Vessel(s) – Total Storage, m3**	0.208
Bund Lining Material:	Steel	**Primary Vessel(s) – 110% Volume of Largest Vessel, m3**	0.228
Bund Retention Volume, m3	0.288	**Primary Vessel(s) – 25% of Total Storage Volume, m3**	0.052
Deemed Practicable / Safe to Conduct Hydrostatic Test? Yes/No			Yes

If no give reasons:

HYDROSTATIC TEST DETAILS:

BS 8007:1987 (Yes/No)?	Yes
Fill Rate	n/a
Stabilisation Period	2 days
Duration of the Test	24 hours
Acceptance Criteria (Total permissible drop in water level), mm	0
Water Level Change in Reference Vessel ,mm	0

Date and Time	Water Level in Bund	Water Level in Reference Vessel
15/07/2013 10:42	19.5	0
15/07/2013 16:56	19.5	0
16/07/2013 09:28	19.5	0

Description / Comments of Hydrostatic Test:

Visual Test Details: Inspection Description & Results:

Result (Pass/Fail)	Pass

Recommendation(s):

Signed:	**Qualification:** Dip in Environmental Protection	**Date:** 16/07/2013

5. Bund test record sheets: Recycling Area MB13 to MB20

5.1 Bund: MB13

Site:	G. Bruss GmbH Dichtungstechnik	**Licence Reg. No.:**	P0465-01
Bund Ref. No.:	MB13	**Bund Type:**	Portable
Bund Dimensions, m:	120x120x23	**Primary Vessel(s) – Materials of Construction:**	Plastic drums (Empty)
Bund Construction Material:	Steel	**Primary Vessel(s) – Total Storage, m3**	0
Bund Lining Material:	Steel	**Primary Vessel(s) – 110% Volume of Largest Vessel, m3**	0
Bund Retention Volume, m3	0.331	**Primary Vessel(s) – 25% of Total Storage Volume, m3**	0
Deemed Practicable / Safe to Conduct Hydrostatic Test? Yes/No			Yes
If no give reasons:			

HYDROSTATIC TEST DETAILS:

BS 8007:1987 (Yes/No)?	Yes
Fill Rate	n/a
Stabilisation Period	2 days
Duration of the Test	24 hours
Acceptance Criteria (Total permissible drop in water level), mm	0
Water Level Change in Reference Vessel ,mm	0

Date and Time	Water Level in Bund	Water Level in Reference Vessel
15/07/2013 10:52	9.5	0
15/07/2013 16:40	9.5	0
16/07/2013 09:13	9.5	0

Description / Comments of Hydrostatic Test:

Visual Test Details: Inspection Description & Results:		
Result (Pass/Fail)	Pass	
Recommendation(s):		
Signed:	**Qualification:** Dip in Environmental Protection	**Date:** 16/07/2013

5.2 Bund: MB14

Site:	G. Bruss GmbH Dichtungstechnik	**Licence Reg. No.:**	P0465-01
Bund Ref. No.:	MB14	**Bund Type:**	Portable
Bund Dimensions, m:	120x120x23	**Primary Vessel(s) – Materials of Construction:**	Steel drums (Empty)
Bund Construction Material:	Steel	**Primary Vessel(s) – Total Storage, m3**	0
Bund Lining Material:	Steel	**Primary Vessel(s) – 110% Volume of Largest Vessel, m3**	0
Bund Retention Volume, m3	0.331	**Primary Vessel(s) – 25% of Total Storage Volume, m3**	0
Deemed Practicable / Safe to Conduct Hydrostatic Test? Yes/No			Yes

If no give reasons:

HYDROSTATIC TEST DETAILS:

BS 8007:1987 (Yes/No)?	Yes
Fill Rate	n/a
Stabilisation Period	2 days
Duration of the Test	24 hours
Acceptance Criteria (Total permissible drop in water level), mm	0
Water Level Change in Reference Vessel ,mm	0

Date and Time	Water Level in Bund	Water Level in Reference Vessel
15/07/2013 10:06	12	0
15/07/2013 16:43	12	0
16/07/2013 09:16	12	0

Description / Comments of Hydrostatic Test:

Visual Test Details: Inspection Description & Results:

Result (Pass/Fail)	Pass

Recommendation(s):

Signed:	**Qualification:** Dip in Environmental Protection	**Date:** 16/07/2013

5.3 Bund: MB15

Site:	G. Bruss GmbH Dichtungstechnik	**Licence Reg. No.:**	P0465-01
Bund Ref. No.:	MB15	**Bund Type:**	Portable
Bund Dimensions, m:	120x120x23	**Primary Vessel(s) – Materials of Construction:**	Steel drums (Empty)
Bund Construction Material:	Steel	**Primary Vessel(s) – Total Storage, m3**	0
Bund Lining Material:	Steel	**Primary Vessel(s) – 110% Volume of Largest Vessel, m3**	0
Bund Retention Volume, m3	0.331	**Primary Vessel(s) – 25% of Total Storage Volume, m3**	0
Deemed Practicable / Safe to Conduct Hydrostatic Test? Yes/No			Yes
If no give reasons:			

HYDROSTATIC TEST DETAILS:

BS 8007:1987 (Yes/No)?	Yes
Fill Rate	n/a
Stabilisation Period	2 days
Duration of the Test	24 hours
Acceptance Criteria (Total permissible drop in water level), mm	0
Water Level Change in Reference Vessel ,mm	0

Date and Time	Water Level in Bund	Water Level in Reference Vessel
15/07/2013 10:04	12	0
15/07/2013 16:43	12	0
16/07/2013 09:15	12	0

Description / Comments of Hydrostatic Test:

Visual Test Details: Inspection Description & Results:		
Result (Pass/Fail)	Pass	
Recommendation(s):		
Signed:	**Qualification:** Dip in Environmental Protection	**Date:** 16/07/2013

5.4 Bund: MB16

Site:	G. Bruss GmbH Dichtungstechnik	**Licence Reg. No.:**	P0465-01
Bund Ref. No.:	MB16	**Bund Type:**	Portable
Bund Dimensions, m:	120x120x23	**Primary Vessel(s) – Materials of Construction:**	Steel drums (Empty)
Bund Construction Material:	Steel	**Primary Vessel(s) – Total Storage, m3**	0
Bund Lining Material:	Steel	**Primary Vessel(s) – 110% Volume of Largest Vessel, m3**	0
Bund Retention Volume, m3	0.331	**Primary Vessel(s) – 25% of Total Storage Volume, m3**	0
Deemed Practicable / Safe to Conduct Hydrostatic Test? Yes/No			Yes

If no give reasons:

HYDROSTATIC TEST DETAILS:

BS 8007:1987 (Yes/No)?	Yes
Fill Rate	n/a
Stabilisation Period	2 days
Duration of the Test	24 hours
Acceptance Criteria (Total permissible drop in water level), mm	0
Water Level Change in Reference Vessel ,mm	0

Date and Time	Water Level in Bund	Water Level in Reference Vessel
15/07/2013 10:02	14	0
15/07/2013 16:42	14	0
16/07/2013 09:15	14	0

Description / Comments of Hydrostatic Test:

Visual Test Details: Inspection Description & Results:

Result (Pass/Fail)	Pass

Recommendation(s):

Signed:	**Qualification:** Dip in Environmental Protection	**Date:** 16/07/2013

5.5 Bund: MB17

Site:	G. Bruss GmbH Dichtungstechnik	**Licence Reg. No.:**	P0465-01
Bund Ref. No.:	MB17	**Bund Type:**	Portable
Bund Dimensions, m:	120x120x23	**Primary Vessel(s) – Materials of Construction:**	Plastic/Steel drums (Empty)
Bund Construction Material:	Steel	**Primary Vessel(s) – Total Storage, m3**	0
Bund Lining Material:	Steel	**Primary Vessel(s) – 110% Volume of Largest Vessel, m3**	0
Bund Retention Volume, m3	0.331	**Primary Vessel(s) – 25% of Total Storage Volume, m3**	0
Deemed Practicable / Safe to Conduct Hydrostatic Test? Yes/No			Yes

If no give reasons:

HYDROSTATIC TEST DETAILS:

BS 8007:1987 (Yes/No)?	Yes
Fill Rate	n/a
Stabilisation Period	2 days
Duration of the Test	24 hours
Acceptance Criteria (Total permissible drop in water level), mm	0
Water Level Change in Reference Vessel ,mm	0

Date and Time	Water Level in Bund	Water Level in Reference Vessel
15/07/2013 10:00	12.25	0
15/07/2013 16:42	12.25	0
16/07/2013 09:14	12.25	0

Description / Comments of Hydrostatic Test:

Visual Test Details: Inspection Description & Results:

Result (Pass/Fail)	Pass	
Recommendation(s):		
Signed:	**Qualification:** Dip in Environmental Protection	**Date:** 16/07/2013

5.6 Bund: MB18

Site:	G. Bruss GmbH Dichtungstechnik	**Licence Reg. No.:**	P0465-01
Bund Ref. No.:	MB18	**Bund Type:**	Portable
Bund Dimensions, m:	120x120x23	**Primary Vessel(s) – Materials of Construction:**	Paint and coating cans
Bund Construction Material:	Steel	**Primary Vessel(s) – Total Storage, m3**	0.06
Bund Lining Material:	Steel	**Primary Vessel(s) – 110% Volume of Largest Vessel, m3**	0.005
Bund Retention Volume, m3	0.331	**Primary Vessel(s) – 25% of Total Storage Volume, m3**	0.0176
Deemed Practicable / Safe to Conduct Hydrostatic Test? Yes/No			Yes

If no give reasons:

HYDROSTATIC TEST DETAILS:

BS 8007:1987 (Yes/No)?	Yes
Fill Rate	n/a
Stabilisation Period	2 days
Duration of the Test	24 hours
Acceptance Criteria (Total permissible drop in water level), mm	0
Water Level Change in Reference Vessel ,mm	0

Date and Time	Water Level in Bund	Water Level in Reference Vessel
15/07/2013 09:58	12	0
15/07/2013 16:41	12	0
16/07/2013 09:14	12	0

Description / Comments of Hydrostatic Test:

Visual Test Details: Inspection Description & Results:

Result (Pass/Fail)	Pass

Recommendation(s):

Signed:	**Qualification:** Dip in Environmental Protection	**Date:** 16/07/2013

5.7 Bund: MB19

Site:	G. Bruss GmbH Dichtungstechnik	**Licence Reg. No.:**	P0465-01
Bund Ref. No.:	MB19	**Bund Type:**	Portable
Bund Dimensions, m:	120x120x23	**Primary Vessel(s) – Materials of Construction:**	Paint and coating cans
Bund Construction Material:	Steel	**Primary Vessel(s) – Total Storage, m3**	0.235
Bund Lining Material:	Steel	**Primary Vessel(s) – 110% Volume of Largest Vessel, m3**	0.005
Bund Retention Volume, m3	0.331	**Primary Vessel(s) – 25% of Total Storage Volume, m3**	0.058
Deemed Practicable / Safe to Conduct Hydrostatic Test? Yes/No			Yes

If no give reasons:

HYDROSTATIC TEST DETAILS:

BS 8007:1987 (Yes/No)?	Yes
Fill Rate	n/a
Stabilisation Period	2 days
Duration of the Test	24 hours
Acceptance Criteria (Total permissible drop in water level), mm	0
Water Level Change in Reference Vessel ,mm	0

Date and Time	Water Level in Bund	Water Level in Reference Vessel
15/07/2013 09:56	13.5	0
15/07/2013 16:41	13.5	0
16/07/2013 09:13	13.5	0

Description / Comments of Hydrostatic Test:

Visual Test Details: Inspection Description & Results:

Result (Pass/Fail)	Pass	
Recommendation(s):		
Signed:	**Qualification:** Dip in Environmental Protection	**Date:** 16/07/2013

5.8 Bund: MB20

Site:	G. Bruss GmbH Dichtungstechnik	**Licence Reg. No.:**	P0465-01
Bund Ref. No.:	MB20	**Bund Type:**	Portable
Bund Dimensions, m:	120x120x23	**Primary Vessel(s) – Materials of Construction:**	Paint and coating cans
Bund Construction Material:	Steel	**Primary Vessel(s) – Total Storage, m3**	0
Bund Lining Material:	Steel	**Primary Vessel(s) – 110% Volume of Largest Vessel, m3**	0
Bund Retention Volume, m3	0.331	**Primary Vessel(s) – 25% of Total Storage Volume, m3**	0
Deemed Practicable / Safe to Conduct Hydrostatic Test? Yes/No			Yes

If no give reasons:

HYDROSTATIC TEST DETAILS:

BS 8007:1987 (Yes/No)?	Yes
Fill Rate	n/a
Stabilisation Period	2 days
Duration of the Test	24 hours
Acceptance Criteria (Total permissible drop in water level), mm	0
Water Level Change in Reference Vessel ,mm	0

Date and Time	Water Level in Bund	Water Level in Reference Vessel
15/07/2013 09:48	8	0
15/07/2013 16:39	8	0
16/07/2013 09:12	8	0

Description / Comments of Hydrostatic Test:

Visual Test Details: Inspection Description & Results:

Result (Pass/Fail)	Pass

Recommendation(s):

Signed:	**Qualification:** Dip in Environmental Protection	**Date:** 16/07/2013

6. Bund test record sheets: Chemstore MB21 to MB27

6.1 Bund: MB21

Site:	G. Bruss GmbH Dichtungstechnik	**Licence Reg. No.:**	P0465-01
Bund Ref. No.:	MB21	**Bund Type:**	Portable
Bund Dimensions, m:	158x158x76	**Primary Vessel(s) – Materials of Construction:**	Steel reinforced plastic IBC
Bund Construction Material:	Plastic	**Primary Vessel(s) – Total Storage, m3**	1.2
Bund Lining Material:	Plastic	**Primary Vessel(s) – 110% Volume of Largest Vessel, m3**	1.32
Bund Retention Volume, m3	1.897	**Primary Vessel(s) – 25% of Total Storage Volume, m3**	0.3
Deemed Practicable / Safe to Conduct Hydrostatic Test? Yes/No			Yes
If no give reasons:			

HYDROSTATIC TEST DETAILS:

BS 8007:1987 (Yes/No)?	Yes
Fill Rate	n/a
Stabilisation Period	2 days
Duration of the Test	24 hours
Acceptance Criteria (Total permissible drop in water level), mm	0
Water Level Change in Reference Vessel, mm	0

Date and Time	Water Level in Bund	Water Level in Reference Vessel
15/07/2013 10:46	52	0
15/07/2013 16:38	52	0
16/07/2013 09:11	52	0

Description / Comments of Hydrostatic Test:

Visual Test Details: Inspection Description & Results:

Result (Pass/Fail)	Pass	
Recommendation(s):		
Signed:	**Qualification:** Dip in Environmental Protection	**Date:** 16/07/2013

6.2 Bund: MB22

Site:	G. Bruss GmbH Dichtungstechnik	**Licence Reg. No.:**	P0465-01
Bund Ref. No.:	MB22	**Bund Type:**	Portable
Bund Dimensions, m:	120x120x23	**Primary Vessel(s) – Materials of Construction:**	Plastic
Bund Construction Material:	Steel	**Primary Vessel(s) – Total Storage, m3**	0.228
Bund Lining Material:	Steel	**Primary Vessel(s) – 110% Volume of Largest Vessel, m3**	0.003
Bund Retention Volume, m3	0.331	**Primary Vessel(s) – 25% of Total Storage Volume, m3**	0.057
Deemed Practicable / Safe to Conduct Hydrostatic Test? Yes/No			Yes

If no give reasons:

HYDROSTATIC TEST DETAILS:

BS 8007:1987 (Yes/No)?	Yes
Fill Rate	n/a
Stabilisation Period	2 days
Duration of the Test	24 hours
Acceptance Criteria (Total permissible drop in water level), mm	0
Water Level Change in Reference Vessel ,mm	0

Date and Time	Water Level in Bund	Water Level in Reference Vessel
15/07/2013 10:20	12	0
15/07/2013 16:48	12	0
16/07/2013 09:20	12	0

Description / Comments of Hydrostatic Test:

Visual Test Details: Inspection Description & Results:

Result (Pass/Fail)	Pass

Recommendation(s):

Signed:	**Qualification:** Dip in Environmental Protection	**Date:** 16/07/2013

6.3 Bund: MB23

Site:	G. Bruss GmbH Dichtungstechnik	**Licence Reg. No.:**	P0465-01
Bund Ref. No.:	MB23	**Bund Type:**	Portable
Bund Dimensions, m:	120x120x23	**Primary Vessel(s) – Materials of Construction:**	Plastic
Bund Construction Material:	Steel	**Primary Vessel(s) – Total Storage, m3**	0.4
Bund Lining Material:	Steel	**Primary Vessel(s) – 110% Volume of Largest Vessel, m3**	0.027
Bund Retention Volume, m3	0.331	**Primary Vessel(s) – 25% of Total Storage Volume, m3**	0.1
Deemed Practicable / Safe to Conduct Hydrostatic Test? Yes/No			Yes

If no give reasons:

HYDROSTATIC TEST DETAILS:

BS 8007:1987 (Yes/No)?	Yes
Fill Rate	n/a
Stabilisation Period	2 days
Duration of the Test	24 hours
Acceptance Criteria (Total permissible drop in water level), mm	0
Water Level Change in Reference Vessel ,mm	0

Date and Time	Water Level in Bund	Water Level in Reference Vessel
15/07/2013 10:17	11.5	0
15/07/2013 16:48	11.5	0
16/07/2013 09:19	11.5	0

Description / Comments of Hydrostatic Test:

Visual Test Details: Inspection Description & Results:

Result (Pass/Fail)	Pass	
Recommendation(s):		
Signed:	**Qualification:** Dip in Environmental Protection	**Date:** 16/07/2013

6.4 Bund: MB24

Site:	G. Bruss GmbH Dichtungstechnik	**Licence Reg. No.:**	P0465-01
Bund Ref. No.:	MB24	**Bund Type:**	Portable
Bund Dimensions, m:	120x120x23	**Primary Vessel(s) – Materials of Construction:**	Plastic
Bund Construction Material:	Steel	**Primary Vessel(s) – Total Storage, m3**	0.62
Bund Lining Material:	Steel	**Primary Vessel(s) – 110% Volume of Largest Vessel, m3**	0.23
Bund Retention Volume, m3	0.331	**Primary Vessel(s) – 25% of Total Storage Volume, m3**	0.16
Deemed Practicable / Safe to Conduct Hydrostatic Test? Yes/No			Yes

If no give reasons:

HYDROSTATIC TEST DETAILS:

BS 8007:1987 (Yes/No)?	Yes
Fill Rate	n/a
Stabilisation Period	2 days
Duration of the Test	24 hours
Acceptance Criteria (Total permissible drop in water level), mm	0
Water Level Change in Reference Vessel ,mm	0

Date and Time	Water Level in Bund	Water Level in Reference Vessel
15/07/2013 10:16	12	0
15/07/2013 16:47	12	0
16/07/2013 09:12	12	0

Description / Comments of Hydrostatic Test:

Visual Test Details: Inspection Description & Results:

Result (Pass/Fail)	Pass

Recommendation(s):

Signed:	**Qualification:** Dip in Environmental Protection	**Date:** 16/07/2013

6.5 Bund: MB25

Site:	G. Bruss GmbH Dichtungstechnik	**Licence Reg. No.:**	P0465-01
Bund Ref. No.:	MB25	**Bund Type:**	Portable
Bund Dimensions, m:	120x120x23	**Primary Vessel(s) – Materials of Construction:**	Plastic
Bund Construction Material:	Steel	**Primary Vessel(s) – Total Storage, m3**	0.621
Bund Lining Material:	Steel	**Primary Vessel(s) – 110% Volume of Largest Vessel, m3**	0.23
Bund Retention Volume, m3	0.331	**Primary Vessel(s) – 25% of Total Storage Volume, m3**	0.16
Deemed Practicable / Safe to Conduct Hydrostatic Test? Yes/No			Yes
If no give reasons:			

HYDROSTATIC TEST DETAILS:

BS 8007:1987 (Yes/No)?	Yes
Fill Rate	n/a
Stabilisation Period	2 days
Duration of the Test	24 hours
Acceptance Criteria (Total permissible drop in water level), mm	0
Water Level Change in Reference Vessel ,mm	0

Date and Time	Water Level in Bund	Water Level in Reference Vessel
15/07/2013 10:15	12	0
15/07/2013 16:47	12	0
16/07/2013 09:18	12	0

Description / Comments of Hydrostatic Test:

Visual Test Details: Inspection Description & Results:

Result (Pass/Fail)	Pass	
Recommendation(s):		
Signed:	**Qualification:** Dip in Environmental Protection	**Date:** 16/07/2013

6.6 Bund: MB26

Site:	G. Bruss GmbH Dichtungstechnik	**Licence Reg. No.:**	P0465-01
Bund Ref. No.:	MB26	**Bund Type:**	Portable
Bund Dimensions, m:	80x120x29	**Primary Vessel(s) – Materials of Construction:**	Plastic
Bund Construction Material:	Steel	**Primary Vessel(s) – Total Storage, m3**	0.38
Bund Lining Material:	Steel	**Primary Vessel(s) – 110% Volume of Largest Vessel, m3**	0.22
Bund Retention Volume, m3	0.278	**Primary Vessel(s) – 25% of Total Storage Volume, m3**	0.95
Deemed Practicable / Safe to Conduct Hydrostatic Test? Yes/No			Yes

If no give reasons:

HYDROSTATIC TEST DETAILS:

BS 8007:1987 (Yes/No)?	Yes
Fill Rate	n/a
Stabilisation Period	2 days
Duration of the Test	24 hours
Acceptance Criteria (Total permissible drop in water level), mm	0
Water Level Change in Reference Vessel ,mm	0

Date and Time	Water Level in Bund	Water Level in Reference Vessel
15/07/2013 10:11	20.5	0
15/07/2013 16:46	20.5	0
16/07/2013 09:18	20.5	0

Description / Comments of Hydrostatic Test:

Visual Test Details: Inspection Description & Results:

Result (Pass/Fail)	Pass	
Recommendation(s):		
Signed:	**Qualification:** Dip in Environmental Protection	**Date:** 16/07/2013

6.7 Bund: MB27

Site:	G. Bruss GmbH Dichtungstechnik	**Licence Reg. No.:**	P0465-01
Bund Ref. No.:	MB27	**Bund Type:**	Portable
Bund Dimensions, m:	138x138x98	**Primary Vessel(s) – Materials of Construction:**	Steel reinforced plastic (KOH)
Bund Construction Material:	Plastic	**Primary Vessel(s) – Total Storage, m3**	1.2
Bund Lining Material:	Plastic	**Primary Vessel(s) – 110% Volume of Largest Vessel, m3**	1.32
Bund Retention Volume, m3	1.866	**Primary Vessel(s) – 25% of Total Storage Volume, m3**	0.3
Deemed Practicable / Safe to Conduct Hydrostatic Test? Yes/No			Yes

If no give reasons:

HYDROSTATIC TEST DETAILS:

BS 8007:1987 (Yes/No)?	Yes
Fill Rate	n/a
Stabilisation Period	2 days
Duration of the Test	24 hours
Acceptance Criteria (Total permissible drop in water level), mm	0
Water Level Change in Reference Vessel ,mm	0

Date and Time	Water Level in Bund	Water Level in Reference Vessel
15/07/2013 10:23	80	0
15/07/2013 16:48	80	0
16/07/2013 09:21	80	0

Description / Comments of Hydrostatic Test:

Visual Test Details: Inspection Description & Results:

Result (Pass/Fail)	Pass

Recommendation(s):

Signed:	**Qualification:** Dip in Environmental Protection	**Date:** 16/07/2013

7. Conclusions

All bunds passed the inspection.

Appendix 1 Summary of determination of Class of Containment and test method

The Test Method selection chart shown below is based on various sections as noted below of the EPA document 'Storage and Transfer of Materials for Scheduled Activities'.

Test Method Selection Chart

Volume, m^3	Non Hazardous to Waters	WHC1	WHC2	WHC3
<=0.1	Retention not required (EPA Guidance Section 5.3.1) If bunded and tested, treated as Class 1	Retention not required (EPA Guidance Section 5.3.1) If bunded and tested, treated as Class 1	Retention not required (EPA Guidance Section 5.3.1) If bunded and tested, treated as Class 1	Retention not required (EPA Guidance Section 5.3.1) If bunded and tested, treated as Class 1
<=1.0	Retention not required (EPA Guidance Section 5.3.1) If bunded and tested, treated as Class 1	Retention not required (EPA Guidance Section 5.3.1) If bunded and tested, treated as Class 1	Class 1 retention. Generally no necessity for a physical test. Visual inspection normally undertaken. (EPA Guidance Section 6.6.2.1)	Class 2 retention. Hydrostatic test required but BS8007 inappropriate (EPA Guidance Section 6.6.3.2)
<=10	Retention not required (EPA Guidance Section 5.3.1) If bunded and tested, treated as Class 1	Class 1 retention. Generally no necessity for a physical test. Visual inspection normally undertaken. (EPA Guidance Section 6.6.2.1)	Class 2 retention. Hydrostatic test required but BS8007 inappropriate (EPA Guidance Section 6.6.3.2)	Class 3 retention. Hydrostatic test required based on BS8007 (EPA Guidance Section 6.6.3.1)
<=100	Retention not required (EPA Guidance Section 5.3.1) If bunded and tested, treated as Class 1	Class 1 retention. Generally no necessity for a physical test. Visual inspection normally undertaken. (EPA Guidance Section 6.6.2.1)	Class 3 retention. Hydrostatic test required based on BS8007 (EPA Guidance Section 6.6.3.1)	Class 3 retention. Hydrostatic test required based on BS8007 (EPA Guidance Section 6.6.3.1)
<=1,000	Need for retention subject to a risk assessment (EPA Guidance Section 5.3.1)	Class 2 retention. Hydrostatic test required but BS8007 inappropriate (EPA Guidance Section 6.6.3.2)	Class 3 retention. Hydrostatic test required based on BS8007 (EPA Guidance Section 6.6.3.1)	Class 3 retention. Hydrostatic test required based on BS8007 (EPA Guidance Section 6.6.3.1)
<=10,000	Need for retention subject to a risk assessment (EPA Guidance Section 5.3.1)	Class 3 retention. Hydrostatic test required based on BS8007 (EPA Guidance Section 6.6.3.1)	Class 3 retention. Hydrostatic test required based on BS8007 (EPA Guidance Section 6.6.3.1)	Class 3 retention. Hydrostatic test required based on BS8007 (EPA Guidance Section 6.6.3.1)

Appendix 2 Selection of Test Methods

Newly constructed bunds

Where the bund is newly constructed, a hydrostatic test is carried out in accordance with the relevant codes, standards and guidelines.

- If the bund is constructed to BS8007, a 7 day test to Section 9 of BS8007 is carried out.
- If the bund is constructed to CIRIA 163, a 6 hour test to Section 5.5 of CIRIA 163 is carried out. It should be noted that bunds for containment Class 1 or 2 do not require to be constructed to BS8007 (Section 6.6.3.2 of EPA Guidance).
- Where the bund is not constructed to any recognised standard, a 7 day test to Section 9 of BS8007 is carried out unless otherwise agreed.

Existing Bunds

Where a hydrostatic test is required (i.e. for Class 2 and Class 3 containment systems), there may be practical or safety reasons why a hydrostatic test can not be undertaken, or undertake to full design level. Section 6.6.2.2 and 6.6.2.3 for the guidance document cover this.

Where there are existing bunds, the test method, is defined by various tables and sections in the EPA document 'Storage and Transfer of Materials for Scheduled Activities'. This determination is dependant on the Water Hazard Class of the substances stored within the bund and the volume of the substance stored. These rules are summarised below and shown in tabular format in Appendix 1.

- Retention not required[1]
  - Where the substances stored are non hazardous to waters, retention is not required for volumes below 100m^3.
  - For WHC 1 retention is not required for volumes below 1m^3
  - For WHC 2 and 3 retention is not required for volumes below 0.1m^3

  Where the site's own internal procedures require retention and also require the retention to be assessed, the containment is treated as a Class 1 Containment System (see below).

- Class 1 retention is required where[2]
  - Where the volume of WHC 1 substances exceeds 1 m^3 but is below 100 m^3.
  - Where the volume of WHC 2 substances exceeds 0.1 m^3 but is below 1 m^3

  The EPA guidance, in Section 6.6.2.1 notes that it is generally unnecessary to conduct a physical (i.e. a hydrostatic) test on Class 1 containment. Where this is the case, a visual assessment by a Chartered Engineer is carried out. Where there is doubt about the integrity of an individual bund, the visual assessment is usually supplemented by a low level and/or short duration hydrostatic test.

- Class 2 retention is required where
  - Where the volume of WHC 1 substances exceeds 100 m^3 but is below 1,000 m^3.

[1] Section 5.3.1, Table 5.4 of EPA document 'Storage and Transfer of Materials for Scheduled Activities'
[2] Section 5.3.1, Table 5.4 and Section 6.6.2.1 of EPA document 'Storage and Transfer of Materials for Scheduled Activities'

- Where the volume of WHC 2 substances exceeds 1 m^3 but is below 10 m^3
- Where the volume of WHC 3 substances exceeds 0.1 m^3 but is below 1 m^3

The EPA guidance, in Section 6.6.3.2 notes that a test procedure such as that defined in BS8007 will generally not be appropriate or necessary for these installations. In these cases a hydrostatic test based on CIRIA 163 is used. This is similar to BS8007 except that the test is for 6 hours and requires no drop in water level to pass the test.

- Class 3 retention is required where the volume thresholds for Class 2 retention are exceeded. In these cases testing is to BS8007 for 3 days with a maximum drop in water level of 10 mm.

Steel or plastic bunds

Where bunds are fabricated from steel or are plastic, these are hydrostatically tested for six hours with the criteria for failure set at zero drop in water level. Typical of such bunds are mobile sump pallets and chemical storage cabinets.

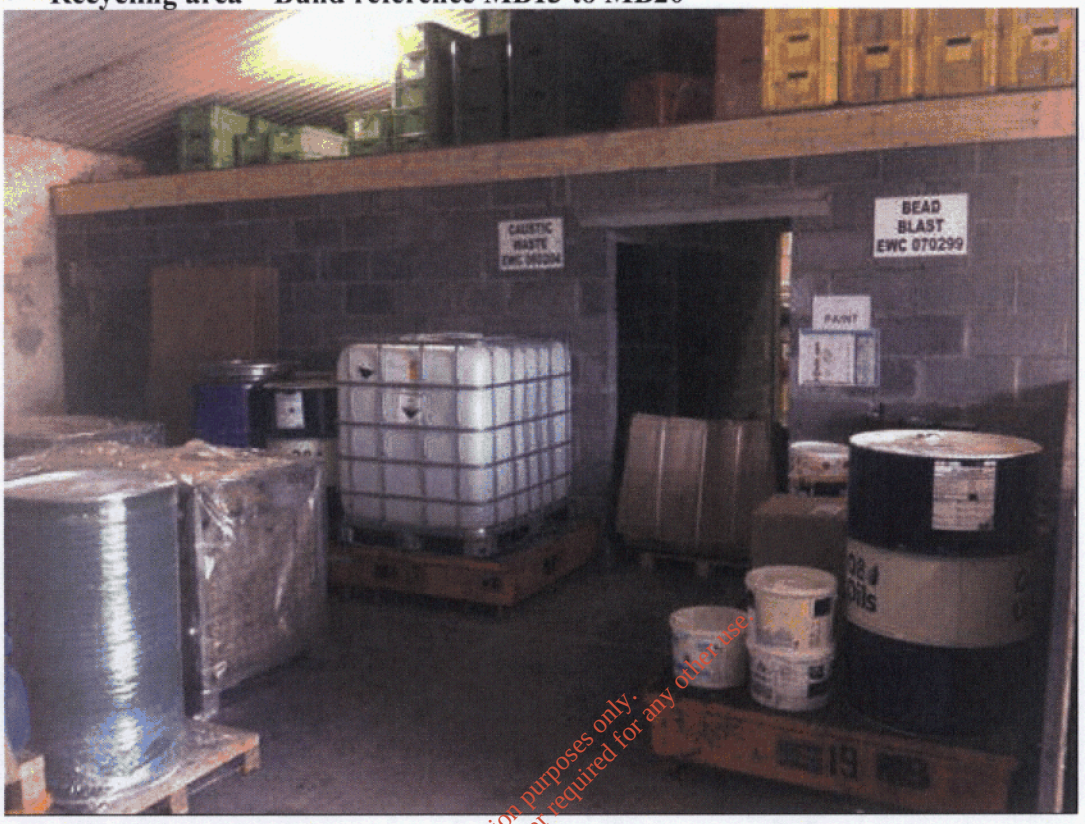
For self bunded tanks, no water retention test is practical and these are visually inspected.

Appendix 3 Identification photographs

The photographs below are for identification of bunds only; they are not necessarily indicative of the bund assessment and may not necessarily have been taken during the tests.

- **Oil store – Bund reference MB3 to MB12**

- **Recycling area – Bund reference MB13 to MB20**



- **Chem-store – Bund reference MB21 to MB27**