HIGHWAYS AGENCY

Highways Consultancy Group - Highways Research Group

De-icing Materials and Corrosion – Site Trial

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Executive Summary

The Highways Agency (HA) has a duty to ensure, so far as is reasonably practicable, that safe passage along the motorway and trunk road network in England is not endangered by snow or ice. Historically this has been achieved by precautionary anti-icing using dry crystals of sodium chloride, also known as rock salt. More recently, and after a thorough assessment of the benefits, the HA is well advanced with implementing pre-wetted salting, which in this context, means spraying the dry salt, as it leaves the winter maintenance vehicle, with a sodium chloride brine solution.

This change to the use of pre-wetted salt, now the HA's preferred treatment method, has been rolled out over the last few years with the introduction of a new fleet of winter maintenance vehicles. However, not all areas are receiving the new fleet, for example Design, Build, Finance & Operate Contractors, so some dry salt spreading will still be carried out. In addition, where salt stocks are shared with local highway authorities different materials may be spread, e.g. salt pre-treated using an Agricultural By-product (ABP).

All the aforementioned materials contain chloride ions to a significant degree, which has a corrosive effect on elements of the highway infrastructure and also vehicles using the highway, both in general and to the winter maintenance fleet in particular. This report details the findings of a site trial undertaken to assess the relative corrosiveness of the three aforementioned de-icing materials.

The approach adopted for the site trial was to place corrosion coupons made of various metals on items on verge side tensioned corrugated beam safety barrier (TCB) and winter maintenance vehicles in areas of the HA network where the different materials are used. After leaving them for a period of time and subjected to winter service treatments from a single de-icing material, they were recovered, the corrosion products removed and then the weight loss determined and compared. The first phase of samples was placed out on the network in February 2009 and were retrieved in February 2010. A further phase of samples was put out on the network in October 2009 and is still in situ with a view to carrying out longer term evaluation.

Due to the particularly severe 2009/10 winter maintenance season, the Service Providers participating in the trial ran out of ABP-treated salt part way through the season and reverted to the use of dry salt resulting in some 'cross-contamination' before the samples could be retrieved. In addition, the saturator being used to produce the brine for the pre-wetted salt trial failed part way through the season and, due to the strain the severity of the weather placed on resources, a repair could not be affected until after the end of the trial. Again the Service Provider had to revert to using dry salt, but this fact was not communicated to the trial team and so significant level of 'cross-contamination' had occurred before the test samples were recovered.

These incidents prevented any evaluation of the relative corrosiveness of pre-wetted salt when compared to the other materials. However, it was possible to conclude that the results do suggest that ABP-treated salt will be less corrosive to a user's winter maintenance fleet. The effects on network infrastructure and, it can also be surmised, other vehicles using the network were far less apparent and its use is unlikely to reduce the amount of corrosion seen by a significant amount.

1 Introduction

The Highways Agency (HA) has a duty to ensure, so far as is reasonably practicable, that safe passage on the motorway and trunk road network in England is not endangered by the presence of snow or ice. Historically this has been achieved by precautionary anti-icing using dry crystals of sodium chloride, also known as rock salt. More recently, and after a thorough assessment of the benefits, the HA is well advanced with implementing pre-wetted salting, which in this context, means spraying the dry salt, as it leaves the winter maintenance vehicle, with a sodium chloride brine solution. This slight wetting helps provide a more effective treatment and means less salt can be spread.

This change to the use of pre-wetted salt has been rolled out over the last few years with the introduction of a new fleet of winter maintenance vehicles and associated plant coinciding with the programmed re-tendering and appointment of new Service Providers in each of the HA's Management Areas. Dry salt treatments are becoming much reduced as Service Providers receive the new fleet vehicles, with the pre-wetted salting technique being the HA's preferred treatment method. Not all areas are receiving the new fleet, for example Design, Build, Finance & Operate Contractors, so some dry salt spreading will still be carried out. In addition, where salt stocks are shared with local highway authorities different materials may be spread, e.g. salt pre-treated using an Agricultural By-product (ABP).

All the aforementioned materials contain chloride ions to a significant degree, which has a corrosive effect on elements of the highway infrastructure and also vehicles using the highway. The overall aim of the task, of which this report is one of the deliverables, is to gain a better understanding of the corrosive effects of these materials and treatment regimes.

This task is divided into a number of separate experimental work items and this report documents the findings of the site trial element of the works. It sets out the methodology adopted for the works, provides an analysis of the findings to date and records, for future use, the relevant data on those samples that remain out on the network for longer-term exposure.

2 Methodology

2.1 Test procedure

2.1.1 Overview

The approach adopted for the site trials was to place corrosion coupons made of various metals on items on verge side tensioned corrugated beam safety barrier (TCB) and winter maintenance vehicles in areas of the HA network where dry salt, pre-wetted salt and ABP-treated salt are used. After leaving them for a period of time while subjected to winter service treatments from a single de-icing material, they were to be recovered, the corrosion products removed and then the weight loss determined. The first phase of samples was placed out on the network in February 2009 and retrieved for analysis in February 2010.

A further phase of samples was put out on the network in October 2009 and these samples are still in situ. The aim of this second phase of work was to allow a longer term evaluation of the corrosive effects of the various de-icing materials to be undertaken if deemed necessary at some point in the future.

The sample log giving the location of all Phase 1 and 2 samples is given in Appendix A. It records their location and when placed on the network. For the Phase 1 samples, it also records when they were retrieved and the calculated corrosion rate.

2.1.2 Limitations

The aim in selecting the trial areas was to ensure that the level of exposure of the metal coupons to the each of the three de-icing materials and the year-round climatic conditions was as consistent as possible. The ideal scenario would have been the situation where each of the three materials was being used within a single Management Area, with each of the routes within that area being of similar road type, using the same type of vehicle and located in the same Winter Maintenance weather domain. It was not possible to identify any such suitable location and it was necessary to carry out two separate trials each comprising two of the three different types of de-icing materials. As a result it was acknowledged that it would not be possible to directly compare all three materials, but that it would be necessary to compare the two materials being used in a single trial directly and then using the material common to both trials as the reference point make qualitative judgements as to the overall ranking of the three materials. The areas selected are shown in section 2.1.3.

It was originally intended that the first phase of samples would be retrieved in April 2010 after the end of the main 2009/10 winter maintenance season. However, due to the particularly severe winter and subsequent salt shortage it became necessary to retrieve them earlier when it became apparent that the Service Providers using ABP-treated salt were unable to obtain further supplies and were having to change to using dry salt. Although the samples were recovered promptly it was nevertheless after some “cross-contamination” with dry salt had occurred. This is documented in more detail in section 3.

In addition, the saturator in the Winter Maintenance depot being used to manufacture brine to enable the pre-wetted salt spreading for this trial failed in January 2010 and, again, due to the severity of the winter and the strain this placed on resources etc, the Service Provider was unable to affect a repair before the end of the trial. This meant that the samples on the pre-wetted spread route were "cross-contaminated" with dry salt. As per the requirements of HA de-icing procedures, dry salt was also applied during periods of heavy snow, which covered the entire country in January 2010.

Also when the Phase 2 samples[1] were being fitted in one area it was noted that the Phase 1 samples attached to the winter maintenance vehicles had been removed. Upon investigation it became apparent that they had been removed and disposed of by the maintenance fitters during the summer refit. To address this some of the Phase 2 samples originally intended for longer term exposure were used to replace them and were removed, albeit after a relatively short period of exposure with the remaining Phase 1 samples.

2.1.3 Trial locations

The on-network trials were/are being undertaken in the following Areas/winter maintenance routes:

Trial	HA Area	Depot/Route	Nominal De-icing regime[2]	Exposure location	Exposure date	Retrieval date
Phase 1						
No 1	6	Red Lodge 2 & 3	Pre-wetted salt	Un-garaged vehicles	11th-12th Feb 09	1st Mar 10
				Verge side TCB	11th-12th Feb 09	1st Mar 10
		Kings Lynn 1 & 4	ABP-treated salt	Un-garaged vehicles	12th Feb 09	1st Mar 10
				Verge side TCB	12th-13th Feb 09	1st-2nd Mar 10
No 2	14	Carville 1 & 2	Dry salt	Garaged vehicles	13th Oct 09	15th Feb 10
				Verge side TCB	25th Feb 09	15th Feb 10
		Bradbury 1 & 2	ABP-treated salt	Garaged vehicles	13th Oct 09	15th Feb 10
				Verge side TCB	25th Feb 09	15th Feb 10
Phase 2						
No 1	6	Red Lodge 2 & 3	Pre-wetted salt	Un-garaged vehicles	30th Sept 09	N/A
				Verge side TCB	30th Sept 09	N/A
		Kings Lynn 1 & 4	ABP-treated salt	Un-garaged vehicles	1st Oct 09	N/A
				Verge side TCB	1st Oct 09	N/A
No 2	14	Bradbury 1 & 2	ABP-treated salt	Verge side TCB	13th Oct 09	N/A
	26	Billingham 1 & 3	Dry salt	Verge side TCB	14th Oct 09	N/A

Table 2-1 Summary of scope of trial

[1] See section 2.1.1 for further information
[2] Subject to the "cross-contamination" referred to in section 2.1.2

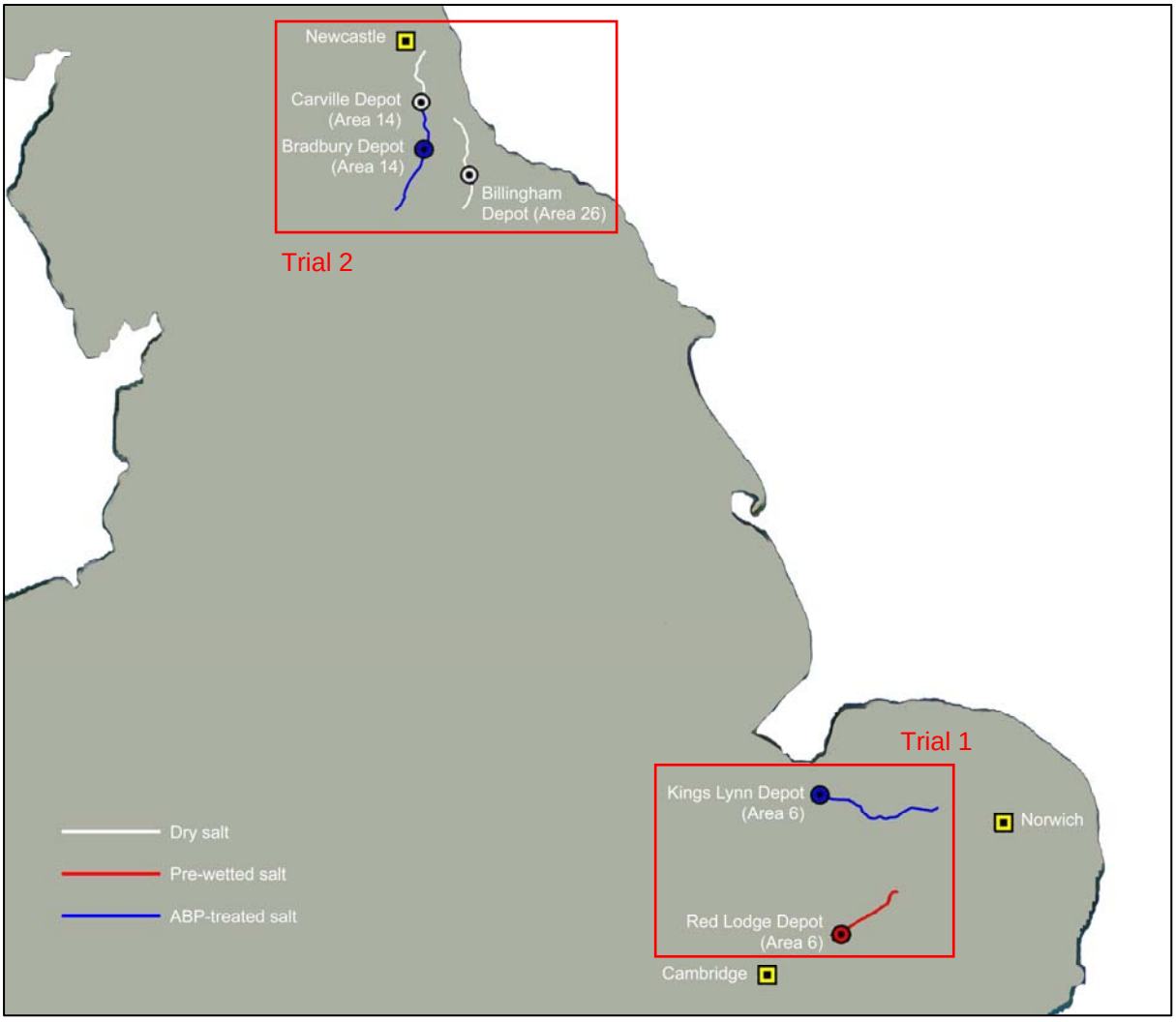

Figure 2-1 Location of Trial Areas

2.1.4 Corrosion Coupons

The corrosion coupons were 50mm x 25mm rectangular metal samples of the following metals:

- Mild steel (Grade S275J0),
- Galvanised steel (Grade S275J0, hot dip galvanised and spun to BS EN 1461)
- Aluminium (Grade 6082-T6).

All samples had a centrally located M6 clearance hole to provide a means of fixing.

Both mild steel and aluminium were supplied with a high quality grade 120 glass bead blasted surface finish, whereas the galvanised samples were supplied with an “as-galvanised” finish. Each sample was supplied uniquely marked with both the material type and a serial number, and weighed to 0.1mg accuracy. Between weighing and the start of the exposure period each one was individually stored first in a VCI[3] impregnated paper envelope, and then a heat-sealed heavy duty polythene bag.

2.2 Coupon location and means of fixing

Groups of 3 coupons (one per metal type) were fixed at various locations to both

- verge side Tensioned Corrugated Beam (TCB), and
- the winter maintenance fleet

All coupons were fixed in place using a nylon nut and bolt arrangement. The nut was of the self-locking variety to reduce the possibility of the fixing coming loose, and intermediate plain nuts and ‘mudguard’ washers were also used to hold the coupons off the surface of the item to which it was being fixed and also to compensate for different size fixing holes. The use of nylon fixings ensured that the samples were electrically isolated from the fixing point to avoid the possibility of bimetallic corrosion.

A secondary fixing arrangement using a cable tie was also developed for where holes were not available; however, in the end this was not used.

2.2.1 Winter maintenance vehicles

In the case of the vehicles, the coupons were fixed wherever suitable positions could be identified, at locations both near to and more remote from the spreader mechanism. In the case of the new generation of Schmidt vehicles, samples were only fixed in place using pre-existing holes (see Plate 2-1 to Plate 2-3 below). In the case of the older generation Foden vehicles, the original samples were generally placed in previously existing but unused holes, when the samples were replaced following their premature disposal by the maintenance fitters, they were located in purpose made holes in the plastic mudguards (see Plate 2-4).

For each vehicle type the same positions were used on each vehicle and this combined with the method of statistical analysis adopted mitigated any differences due to different exposure conditions (e.g. orientation, distance from spreader mechanism etc).

[3] Vapour-phase corrosion inhibitor

Plate 2-1 Side underrun bar support on Schmidt vehicle

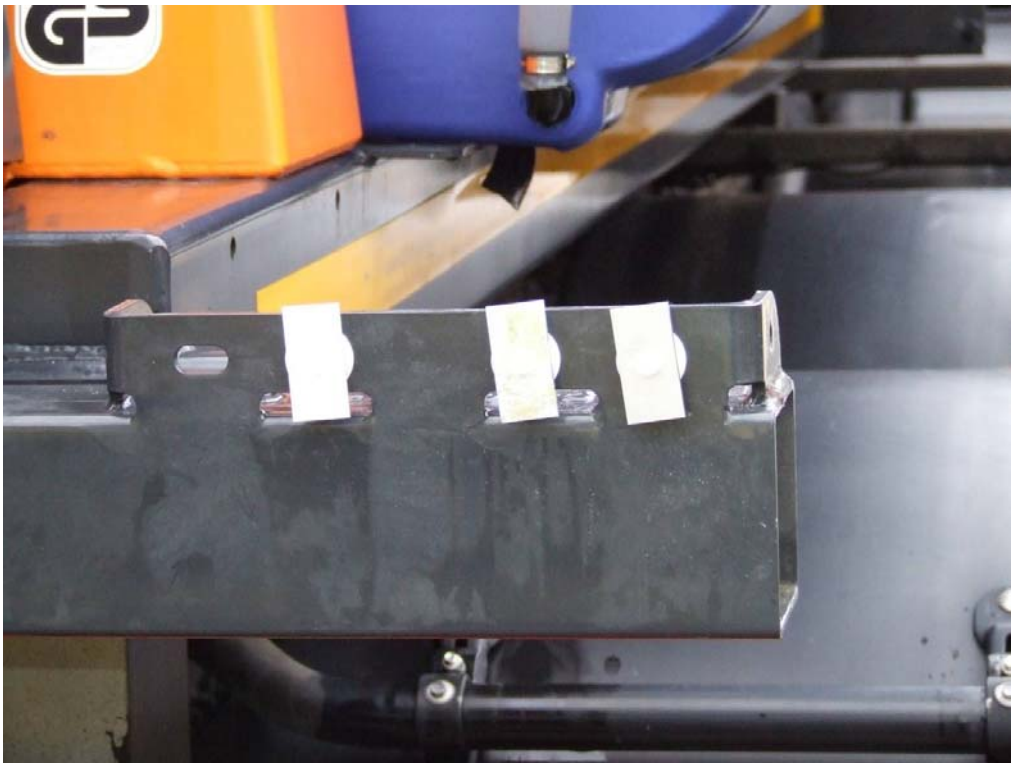

Plate 2-2 Off side rear access ladder fixing point (unused) on Schmidt vehicle

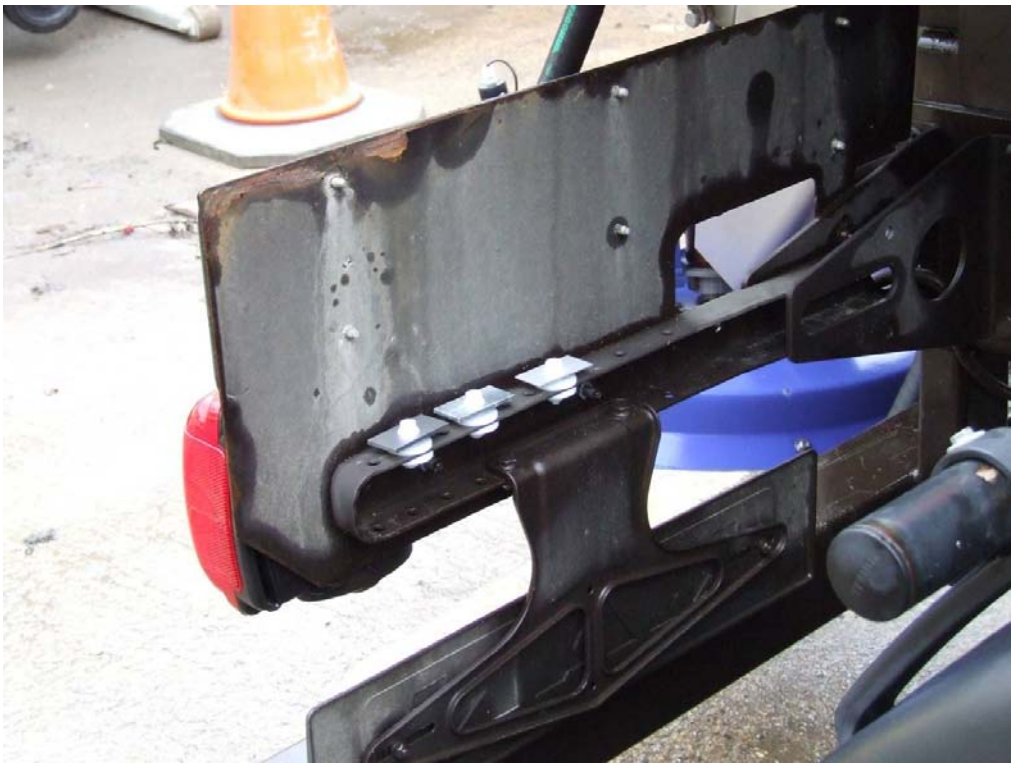

Plate 2-3 Rear of rear light bank, licence plate and chevron fixing assembly on Schmidt vehicle

Plate 2-4 Polyethylene mudguard on Foden vehicle

2.2.2 Verge side Tensioned Corrugated Beam (TCB)

In the case of the TCB, the coupons were fixed to un-used slots running down the centre line of the beam, see Plate 2-5 and Plate 2-6. In addition to the slots providing an easy means of fixing, being located behind the front face of the beam it was thought the risk of loss of the sample and of causing injury to pedestrians and cyclists/motor cyclists in the case of impact would be minimised. Furthermore, being located well above the ground they were thought to be less likely to become overgrown with vegetation therefore providing a more consistent environment with regards corrosion.

To minimise any effect on the corrosion rate resulting from differences in the amount of salt encountered and/or wash off by traffic spray, within each trial only sections of barrier with a similar distance to the nearest running lane were used, excluding any section where the distance was unusually small or large.

Plate 2-5 Fixing detail on TCB

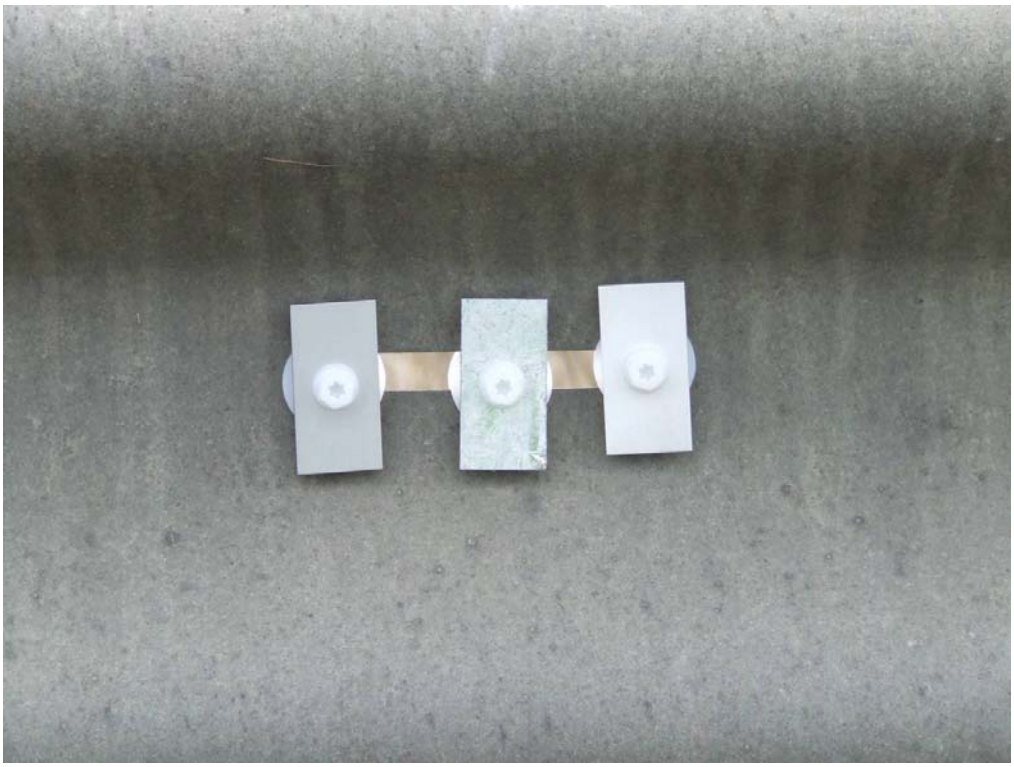

Plate 2-6 Fixing detail on TCB (close-up)

2.2.3 Analysis

At the end of the exposure period, the samples were recovered, the corrosion products removed, and then reweighed to determine the weight loss due to corrosion. Measurement of corrosion weight loss was in accordance with *ISO8407 Corrosion of metals and alloys - Removal of corrosion products from corrosion test specimens*, and a number of control coupons were used to allow the determination of 'blank' losses, ie. the loss of metal resulting from the analysis procedure, not corrosion.

In parallel to this, information on the types/volumes and dates the de-icing material was applied was obtained from the Area Service Providers to assist in evaluating the weight loss data.

3 Results

The results provided in this section relate to Phase 1 of the work, the Phase 2 sample being still out on the network for longer term exposure.

3.1 Vehicle trial

The average corrosion rate data from the samples located on the vehicles used in the trial are shown in Table 3-1 and the corresponding salt usage data are given in Table 3-2 . The salt usage data is presented in 3 time periods to give an overview of how the salt usage varied over time and also the timing and extent of the use of dry salt in the pre-wetted and ABP-treated salt areas.

Trial	HA Area	Nominal De-icing regime	Exposure location	Exposure date	Retrieval date	Mean Corrosion Loss (μm/y)		
						Aluminium	Galvanised Steel	Mild Steel
No 1	6	Pre-wetted salt*	Un-garaged vehicles	11th-12th Feb 09	1st Mar 10	2.4	26.0	76.3
		ABP-treated salt*	Un-garaged vehicles	12th Feb 09	1st Mar 10	1.5	15.0	57.4
No 2	14	Dry salt	Garaged vehicles	13th Oct 09	15th Feb 10	4.2	23.5	102.9
		ABP-treated salt*	Garaged vehicles	13th Oct 09	15th Feb 10	5.4	14.6	81.6

* See Table 3-2 for extent of dry salt usage in the pre-wetted and ABP-treated salt areas. In the case of the nominally pre-wetted salt trial area dry salt accounts for over 70% of total salt usage. The implications of this are discussed later in this section.

Table 3-1 Summary of corrosion rate data from vehicle trial

Trial	HA Area	Nominal De-icing regime (NDR)	Vehicle	Winter 2008/09 Start of Phase 1 trial to 30 April 09				Winter 20009/10 1st Oct 09 to 31st Dec 09				Winter 2009/10 1st Jan 10 to end of Phase 1 trial			
				No Tonnes.		Total no. runs		No Tonnes.		Total no. runs		No Tonnes.		Total no. runs	
				NDR	Dry Salt	NDR	Dry Salt	NDR	Dry Salt	NDR	Dry Salt	NDR	Dry Salt	NDR	Dry Salt
No 1	6	Pre-wetted salt	WX08 MWW	12	0	7	0	80	68	27	14	0	259	0	84
			WX08 MVT	63	5	18	1	135	121	27	14	0	494	0	92
		ABP-treated salt	WX08 VPT	101	0	17	0	254	16	39	2	79	239	16	49
			WX08 XKO	69	0	18	0	229	12	44	2	62	201	16	59
No 2	14	Dry salt	CR1	33		6		249		34		291		46	
			CR2	41		7		271		34		321		47	
		ABP-treated salt	BR1	41	0	7	0	284	0	35	0	156	169	20	27
			BR2	51	0	7	0	337	0	33	0	191	225	20	29

Table 3-2 Summary of salt usage during Phase 1 vehicle trial

The corrosion rate of a piece of metal in an otherwise constant environment is not constant. It would be normal for the rate to be high initially and then, over time, reduce as the corrosion products (e.g. rust) form on the surface of the metal and impede further loss of metal. This combined with the different exposure conditions means it would be unwise to compare directly the results of the vehicle trials in Area 6 and Area 14. However, provided the aforementioned differences are kept in mind, it is reasonable to directly compare the data from Area 6 against each other and also the data from Area 14, as the samples concerned were exposed for the same period of time and the differences in weather and number and frequency of de-icing treatments are less.

The data analysis was also complicated by the cross-contamination of the trials due to the shortage of ABP-treated material in the later part of the 09/10 winter maintenance season and also the breakdown of the brine saturator in January 2010. Although far from ideal, we do not consider the cross-contamination of the nominally ABP-treated salt areas with dry salt to be overly significant as the majority of the runs were done using the intended material and those that were not were done at the end of the trial when its effect on total sample corrosion loss and hence average corrosion rate will be reduced. However the breakdown of the brine saturator for the most severe part of the 09/10 season, with only around 28% of the treatments on the pre-wetted salt routes having been made with that material, has had a significant effect on the results. Consequently we feel it is not possible to make any conclusions as to the corrosive effects of pre-wetted salt, only dry salt and ABP-treated salt.

Comparing each pair of readings it is clear that in 5 of the 6 cases the corrosion was less with the ABP-treated salt than with dry salt (treating the pre-wetted salt as dry salt given the lack of treatments with the former material), the exception being the aluminium samples in Area 14. Consideration of mean values in itself is overly simplistic as it takes no account of the overall spread of data. Further analysis using a standard statistical *t-test applied to paired comparisons* significance test to compare the pairs of individual readings from the same location on the vehicles concluded that, again in 5 of the 6 cases, there was strong evidence to suggest there was a statistical difference in the rate of corrosion between the different de-icing materials being used. However, in this case, the exception was the galvanised steel samples in Area 14 and not the aluminium.

3.2 Barrier trial

The summary of the average corrosion rate data collected from the barrier trial are given in Table 3-3 and the corresponding salt usage data are given in Table 3-4. The salt usage data is presented in 3 time periods to give an overview of how the salt usage varied over time and also the timing and extent of the use of dry salt in the pre-wetted and ABP-treated salt areas.

Area	Nominal De-icing regime	Exposure date	Retrieval date	Mean Corrosion Loss (μm/y)		
				Aluminium	Galvanised Steel	Mild Steel
6	Pre-wetted salt*	11th-12th Feb 09	1st Mar 10	1.19	6.87	36.98
	ABP-treated salt*	12th-13th Feb 09	1st-2nd Mar 10	1.24	6.74	38.01
14	Dry salt	25th Feb 09	15th Feb 10	1.40	8.12	30.09
	ABP-treated salt*	25th Feb 09	15th Feb 10	1.19	3.85	30.47

* See Table 3-4 for extent of dry salt usage in the pre-wetted and ABP-treated salt areas. In the case of the nominally pre-wetted salt trial area dry salt accounts for over 70% of total salt usage. The implications of this are discussed taken in this section.

Table 3-3 Summary of corrosion rate data from Phase 1 barrier trial

Area	Nominal De-icing regime (NDR)	Route	Winter 2008/9 Start of Phase 1 trial to 30 April 09				Winter 2009/10 1st Oct 09 to 31st Dec 09				Winter 2009/10 1st Jan 10 to end of Phase 1 trial			
			No equiv.10g Dry salt runs		Total no. runs		No equiv.10g Dry salt runs		Total no. runs		No equiv.10g Dry salt runs		Total no. runs	
			NDR	Dry Salt	NDR	Dry Salt	NDR	Dry Salt	NDR	Dry Salt	NDR	Dry Salt	NDR	Dry Salt
6	Pre-wetted salt	RL2	19	1	18	1	46	28	28	14	0	106	0	89
		RL3	19	1	18	1	44	32	27	16	0	109	0	92
	ABP-treated salt	KL1	20	0	17	0	84	4	48	2	24	89	16	79
		KL4	21	0	18	0	81	4	47	2	22	84	16	74
14	Dry salt	CR1	8		6		60		34		70		46	
		CR2	9		7		60		34		71		47	
	ABP-treated salt	BR1	9	0	7	0	62	0	35	0	34	37	20	27
		BR2	9	0	7	0	60	0	33	0	34	40	20	29

Table 3-4 Summary of salt usage during Phase 1 barrier trial

As stated previously we do not consider it appropriate to compare the data from across the two Areas, but only within one Area and due to the cross contamination (with over 70% of the treatments from the pre-wet spreaders being with dry salt) it is only possible to make conclusions regarding dry salt and ABP-treated salt.

On this basis, and comparing mean values only, three of the 6 data sets (given the pre-wet spreaders had been predominantly spreading dry salt) indicate ABP-treated salt to be less corrosive than dry salt and the remaining three the opposite. When the data is analysed using a *t-test applied to two sample means* it indicates that in four of the cases there was no evidence to suggest any statistical difference. In the remaining two cases (aluminium and galvanised steel samples in Area 14) there was reasonable evidence to suggest that ABP-treated salt was the less corrosive of the two de-icing materials.

4 Discussion

Site trials of this nature, even with the best of luck, have their limitations as a result of the differences in locations when the samples have to be located. In this particular trial, these limitations were compounded by salt shortages and equipment malfunction.

However, all this being said, the results do suggest that ABP-treated salt can have a beneficial effect over dry salt as far as corrosion is concerned. The data indicate that in the case of the results of the vehicle trial there is a reasonable benefit to be had from the use of ABP-treated salt over dry in extending the life of the winter maintenance fleet. This benefit was apparent even though overall more salt was used in the ABP-treated salt areas than the dry, which one would think may cause the opposite effect, everything else being equal. The effect was also seen both on garaged and ungaraged winter maintenance vehicles subject to different wash down procedures[4].

However, in the case of the barrier trial, it was not possible to identify any major and consistent difference between the corrosive effects of the two de-icing materials. The laboratory testing also carried out under this project and reported separately was also unable to find any significant difference between the corrosive effects of the two materials.

It is thought most likely that the ABP needs to be present in a reasonable amount to have a real benefit and following its discharge from the vehicle it is clearly distributed over the highway with only a low concentration being deposited on any one piece of highway infrastructure. In addition, highway infrastructure is also exposed to the weather all year round and long after the winter maintenance season has ended the metal components will still be corroding as a result of normal exposure to moisture after all traces of either the ABP and/or salt have been washed away by rain. This will tend to mask any benefit that the use of ABP-treated salt may bring to the highway infrastructure during the winter maintenance season.

It is of course purely supposition, but it is thought more likely that the barrier trial will give a better indication than the vehicle trial as to the effects of the two de-icing materials on the corrosion of other vehicles that use the highway network.

[4] Due to the nature of the corrosion protection system we understand that Schmidt vehicles are washed down using a lower pressure jet wash than is the case with Foden vehicles.

5 Conclusions

The results of the trial suggest that overall ABP-treated salt is a less corrosive material than dry salt and it can have appreciable beneficial effects on metals exposed to it in significant amounts. However, as the level of exposure reduces so, it would appear, do the beneficial effects.

Therefore it can be concluded that the use of ABP-treated salt will contribute to extending the life of a user's winter maintenance fleet. However, any difference in the effects on network infrastructure and, it can also be surmised, other vehicles using the network are far less apparent and its use is unlikely to reduce the amount of corrosion seen by any significant amount.

6 Acknowledgements

The support of and contribution made by the management and staff of the Service Providers in HA Managing Areas 6 (Atkins plc), 14 (AOne+) and 26 (Autolink Concessionaires (A19) Ltd) in carrying out this trial is gratefully acknowledged.

Appendix A – Corrosion Coupon Log

Sample ID	Location Easting	Location Northing	Comment	Initial sample weights (g) AL6082-T6	S275J0	S275J0-GLV	Exposed	Retrieved	Mean Corrosion Rate (µm/y) AL6082-T6	S275J0	S275J0-GLV
1	570009	271751	Vehicle - Red Lodge WX08 MVT, N/S underrun bar support rear	4.5858	27.8848	31.2058	11/02/2009	01/03/2010	1.2	59.2	12.0
2	570009	271751	Vehicle - Red Lodge WX08 MWW, N/S underrun bar support rear	4.5996	28.7158	30.8740	11/02/2009	01/03/2010	1.1	38.0	13.4
3	570009	271751	Vehicle - Red Lodge WX08 MVT, N/S underrun bar support front	4.6199	28.7029	31.0237	11/02/2009	01/03/2010	1.3	59.3	11.0
4	570009	271751	Vehicle - Red Lodge WX08 MWW, N/S underrun bar support front	4.6064	28.5817	31.1478	11/02/2009	01/03/2010	1.3	33.8	8.8
5	570009	271751	Vehicle - Red Lodge WX08 MVT, O/S ladder fixing	4.6295	28.3437	31.2315	11/02/2009	01/03/2010	0.2	60.2	7.4
6	570009	271751	Vehicle - Red Lodge WX08 MWW, O/S ladder fixing	4.6075	28.7077	31.0252	11/02/2009	01/03/2010	0.1	44.3	9.3
7	570009	271751	Vehicle - Red Lodge WX08 MVT, O/S rear light console	4.6073		29.9001	11/02/2009	01/03/2010	2.3		21.3
8	570009	271751	Vehicle - Red Lodge WX08 MWW, O/S rear light console	4.6260	28.7001	31.0250	11/02/2009	01/03/2010	2.2	79.8	21.5
9	585324	283494	Area 6 - Verge TCB Barrier	4.6109	28.4071	30.9187	11/02/2009	01/03/2010	1.1	33.4	6.1
10	585338	283617	Area 6 - Verge TCB Barrier	4.5989	27.9839	29.7855	11/02/2009	01/03/2010	2.1	41.4	6.4
11	586001	284656	Area 6 - Verge TCB Barrier	4.6105	28.6494	30.9581	11/02/2009	01/03/2010	1.0	30.6	2.4
12	586226	284953	Area 6 - Verge TCB Barrier		28.1457	31.1771	11/02/2009	01/03/2010		39.1	7.6
13	587484	285476	Area 6 - Verge TCB Barrier	4.6117	28.6911	30.7000	11/02/2009	01/03/2010	0.9	38.9	5.3
14	587703	285399	Area 6 - Verge TCB Barrier	4.6035	28.5837	31.1961	11/02/2009	01/03/2010	0.4	45.5	6.0
15	587428	285455	Area 6 - Verge TCB Barrier	4.5746	27.9317	30.9383	11/02/2009	01/03/2010	0.6	44.6	8.2
16	585884	284480	Area 6 - Verge TCB Barrier	4.6083	28.3601	31.1077	11/02/2009	01/03/2010	2.4	43.2	15.3
17	585348	283538	Area 6 - Verge TCB Barrier	4.6107	28.0778	31.1647	11/02/2009	01/03/2010	1.6	38.3	8.0
18	572668	273878	Area 6 - Verge TCB Barrier	4.6079	27.8412	31.1489	11/02/2009	01/03/2010	1.7	39.1	12.1
19	568942	269978	Area 6 - Verge TCB Barrier	4.6047	28.3881	31.1878	11/02/2009	01/03/2010	0.6	33.2	2.9
20	568976	270127	Area 6 - Verge TCB Barrier	4.6210	28.4887	30.8163	11/02/2009	01/03/2010	1.4	33.7	3.9
21	569062	270317	Area 6 - Verge TCB Barrier	4.6288	28.4741	31.0326	11/02/2009	01/03/2010	1.3	35.4	2.8
22	569068	270280	Area 6 - Verge TCB Barrier	4.5948	28.4599	30.7997	11/02/2009	01/03/2010	1.4	33.8	5.5
23	568994	270114	Area 6 - Verge TCB Barrier	4.6074	28.5820	30.9141	11/02/2009	01/03/2010	0.7	36.8	11.7
24	568971	269990	Area 6 - Verge TCB Barrier	4.6130	28.3890	31.0312	11/02/2009	01/03/2010	1.9	33.1	11.9
25	570009	271751	Vehicle - Red Lodge WX08 MVW, N/S rear light console	4.6118	28.6681	30.9844	12/02/2009	01/03/2010	2.5	68.8	19.4
26	570009	271751	Vehicle - Red Lodge WX08 MWT, N/S rear light console	4.6078	27.8859	31.2101	12/02/2009	01/03/2010	3.1	73.2	26.0
27	570662	271703	Area 6 - Verge TCB Barrier	4.6085	27.9913	31.0812	12/02/2009	01/03/2010	0.8	29.4	4.7
28	570689	271740	Area 6 - Verge TCB Barrier	4.6272	27.8570	30.9877	12/02/2009	01/03/2010	0.4	36.2	2.9
29	582195	310115	Area 6 - Verge TCB Barrier	4.6073	28.0153	30.9038	12/02/2009	01/03/2010	1.8	48.2	7.3
30	580326	309491	Area 6 - Verge TCB Barrier	4.5907	27.8771	30.9691	12/02/2009	01/03/2010	0.6	43.2	3.5
31	562550	318122	Area 6 - Verge TCB Barrier	4.6264	28.6301	30.9228	12/02/2009	01/03/2010	1.7	35.8	4.9
32	562261	318074	Area 6 - Verge TCB Barrier	4.6060	28.6282	31.2196	12/02/2009	01/03/2010	2.0	43.1	5.8
33	562112	318068	Area 6 - Verge TCB Barrier	4.5878	28.6568	31.0306	12/02/2009	01/03/2010	1.2	31.9	2.1
34	561277	318332	Area 6 - Verge TCB Barrier	4.5954	28.2204	31.1663	12/02/2009	02/03/2010	1.3	50.7	8.4
35	561289	318341	Area 6 - Verge TCB Barrier	4.6068	28.2936	31.2701	12/02/2009	02/03/2010	1.2	39.0	6.4
36	561012	318555	Area 6 - Verge TCB Barrier	4.5950	28.5265	30.9786	12/02/2009	02/03/2010	0.9	36.2	5.2
37	561027	318546	Area 6 - Verge TCB Barrier	4.6009	28.6228	30.7504	12/02/2009	02/03/2010	1.1	34.7	7.7
38	561020	318519	Area 6 - Verge TCB Barrier	4.6086	28.5605	31.0319	12/02/2009	02/03/2010	1.0	37.3	8.6
39	560992	318542	Area 6 - Verge TCB Barrier	4.5849	28.3225	31.0881	12/02/2009	02/03/2010	0.8	39.0	7.7
40	562249	318093	Area 6 - Verge TCB Barrier	4.6140	28.2503	30.9541	12/02/2009	02/03/2010	1.1	35.7	3.5
41	562770	318174	Area 6 - Verge TCB Barrier	4.5950	28.4031	31.0454	12/02/2009	02/03/2010	1.4	38.0	18.5
42	562856	318180	Area 6 - Verge TCB Barrier	4.6015	28.2898	30.9944	12/02/2009	02/03/2010	1.7	42.1	9.8
43	562548	317743	Vehicle - Kings Lynn WX08 VPT, N/S front side underrun bar support	4.6306	28.4086	31.0290	12/02/2009	01/03/2010	2.0	70.5	23.6
44	562548	317743	Vehicle - Kings Lynn WX08 VPT, N/S rear side underrun bar support	4.5867	28.5104	31.0316	12/02/2009	01/03/2010	2.8	75.0	21.9
45	562548	317743	Vehicle - Kings Lynn WX08 VPT, N/S rear light console	4.6071	28.5061	30.8894	12/02/2009	01/03/2010	3.9	83.5	27.4
46	562548	317743	Vehicle - Kings Lynn WX08 VPT, O/S rear light console	4.6093	28.2607	31.0017	12/02/2009	01/03/2010	4.1	89.1	36.2
47	562548	317743	Vehicle - Kings Lynn WX08 VPT, O/S ladder fixing	4.5704	28.2222	31.1035	12/02/2009	01/03/2010	1.2	68.1	17.5
48	562548	317743	Vehicle - Kings Lynn WX08 XKO, N/S front side underrun bar support	4.6123	28.3626	31.3042	12/02/2009	01/03/2010	1.7	71.3	14.7
49	562548	317743	Vehicle - Kings Lynn WX08 XKO, N/S rear side underrun bar support	4.5620	28.3657	30.9902	12/02/2009	01/03/2010	2.3	70.2	19.3
50	562548	317743	Vehicle - Kings Lynn WX08 XKO, N/S rear light console	4.6312	28.3326	31.4214	12/02/2009	01/03/2010	2.7	97.9	40.7
51	562548	317743	Vehicle - Kings Lynn WX08 XKO, O/S rear light console	4.6129	28.1666	31.1173	12/02/2009	01/03/2010	2.5	95.9	43.0
52	562548	317743	Vehicle - Kings Lynn WX08 XKO, O/S ladder fixing	4.5892	28.6060	30.8945	12/02/2009	01/03/2010	0.6	54.4	15.6
53	574666	313841	Area 6 - Verge TCB Barrier	4.6159	28.3836	30.9537	13/03/2009	01/03/2010	0.8	37.2	8.0
54	574764	313810	Area 6 - Verge TCB Barrier	4.6173	28.4754	31.0599	13/03/2009	01/03/2010	1.0	41.1	7.8
55	574878	313778	Area 6 - Verge TCB Barrier	4.5710	28.1164	30.9849	13/03/2009	01/03/2010	1.1	41.4	7.2
56	574967	313747	Area 6 - Verge TCB Barrier	4.6343	28.5016		13/03/2009	01/03/2010	1.0	40.1	#N/A
57	580217	309501	Area 6 - Verge TCB Barrier	4.5863	28.3502	31.0302	13/03/2009	01/03/2010	1.0	43.0	5.8
58	583270	309579	Area 6 - Verge TCB Barrier	4.6193	28.1388	31.0115	13/03/2009	01/03/2010	1.8	36.3	9.6

Sample ID	Location Easting	Location Northing	Comment	Initial sample weights (g) AL6082-T6	S275J0	S275J0-GLV	Exposed	Retrieved	Mean Corrosion Rate (µm/y) AL6082-T6	S275J0	S275J0-GLV
59	593251	313047	Area 6 - Verge TCB Barrier	4.6116	28.3400	30.8780	13/03/2009	01/03/2010	1.0	38.0	5.0
60	594130	312917	Area 6 - Verge TCB Barrier	4.6252	28.6177	31.1499	13/03/2009	01/03/2010	0.8	40.2	5.2
61	596533	312561	Area 6 - Verge TCB Barrier	4.6229	28.2011	31.1008	13/03/2009	01/03/2010	1.3	27.2	2.5
62	596635	312544	Area 6 - Verge TCB Barrier	4.6036	28.6622	31.0364	13/03/2009	01/03/2010	0.9	27.3	1.8
63	598956	312138	Area 6 - Verge TCB Barrier	4.6306	28.4845	31.1083	13/03/2009	01/03/2010	1.5	33.6	4.9
64	599971	312546	Area 6 - Verge TCB Barrier	4.5930	28.2476	31.1914	13/03/2009	01/03/2010	1.5	30.5	7.8
65	600382	312640	Area 6 - Verge TCB Barrier	4.5897	28.3215	31.1340	13/03/2009	01/03/2010	1.4	36.6	5.4
66	600923	313142	Area 6 - Verge TCB Barrier	4.5944	28.3343	31.0772	13/03/2009	01/03/2010	1.7	37.0	11.5
89	422006	508542	Area 14 - Verge TCB Barrier	4.6327	28.8262	30.9249	25/02/2009	15/02/2010	1.4	35.2	6.1
90	422938	509492	Area 14 - Verge TCB Barrier	4.5893	28.8720	30.9254	25/02/2009	15/02/2010	1.1	25.7	4.2
91	423670	510435	Area 14 - Verge TCB Barrier	4.5928	28.6718	30.9184	25/02/2009	15/02/2010	1.1	28.4	4.3
93	425335	515878	Area 14 - Verge TCB Barrier	4.6075	28.4751	31.1678	25/02/2009	15/02/2010	1.2	29.1	8.6
95	430251	524303	Area 14 - Verge TCB Barrier	4.6263	28.4034	30.9697	25/02/2009	15/02/2010	1.0	27.9	4.7
96	430703	525944	Area 14 - Verge TCB Barrier	4.5988	28.6980	31.0678	25/02/2009	15/02/2010	0.5	27.6	3.3
98	428313	556376	Area 14 - Verge TCB Barrier	4.6337	28.4188	31.1553	25/02/2009	15/02/2010	1.0	30.1	3.2
99	430690	560753	Area 14 - Verge TCB Barrier	4.6284	28.8190	30.8101	25/02/2009	15/02/2010	0.8	27.8	1.1
100	429619	558941	Area 14 - Verge TCB Barrier	4.5860	28.6594	30.9085	25/02/2009	15/02/2010	1.7	32.4	6.4
101	432375	529750	Area 14 - Verge TCB Barrier	4.6069	28.4330	30.9929	25/02/2009	15/02/2010	1.5	32.9	2.2
102	432405	533798	Area 14 - Verge TCB Barrier	4.6133	28.6126	30.9370	25/02/2009	15/02/2010	1.6	35.0	9.4
103	431881	534818	Area 14 - Verge TCB Barrier	4.6107	28.4488	30.9716	25/02/2009	15/02/2010	1.3	32.6	2.3
104	431208	538952	Area 14 - Verge TCB Barrier	4.5937	28.7312	29.9380	25/02/2009	15/02/2010	0.9	34.4	6.6
105	431039	535940	Area 14 - Verge TCB Barrier	4.6315	28.3852	30.8842	25/02/2009	15/02/2010	0.7	31.8	2.0
106	432428	533786	Area 14 - Verge TCB Barrier	4.6213	28.5193	30.7903	25/02/2009	15/02/2010	1.3	29.6	4.7
107	430768	545633	Area 14 - Verge TCB Barrier	4.6021	28.5240	30.9640	25/02/2009	15/02/2010	1.2	27.3	6.5
108	430666	545104	Area 14 - Verge TCB Barrier	4.5780	28.2611	30.8331	25/02/2009	15/02/2010	1.1	29.7	5.4
109	430632	545096	Area 14 - Verge TCB Barrier	4.6165	28.4269	30.9732	25/02/2009	15/02/2010	1.5	28.9	9.8
110	430744	545677	Area 14 - Verge TCB Barrier	4.5864	28.2469	31.0204	25/02/2009	15/02/2010	1.3	34.9	6.5
111	430765	546038	Area 14 - Verge TCB Barrier	4.6278	28.3325	30.8293	25/02/2009	15/02/2010	1.5	29.8	7.3
112	430259	550475	Area 14 - Verge TCB Barrier	4.6019	28.1823	30.7256	25/02/2009	15/02/2010	1.9	31.9	11.6
113	428797	551531	Area 14 - Verge TCB Barrier	4.6064	28.0813	30.8070	25/02/2009	15/02/2010	1.2	31.2	6.7
114	428476	551809	Area 14 - Verge TCB Barrier	4.6039	28.4992	30.8972	25/02/2009	15/02/2010	1.6	29.4	16.3
115	427931	552642	Area 14 - Verge TCB Barrier	4.5759	28.4775	30.7160	25/02/2009	15/02/2010	1.2	28.5	7.8
117	428472	551850	Area 14 - Verge TCB Barrier	4.6068	28.1747	30.8528	25/02/2009	15/02/2010	1.7	31.3	9.8
118	429054	551404	Area 14 - Verge TCB Barrier	4.5945	28.6160	30.9187	25/02/2009	15/02/2010	1.4	30.8	7.8
119	432382	530435	Area 14 - Verge TCB Barrier	4.6040	28.4474	30.9834	25/02/2009	15/02/2010	0.9	30.9	1.6
121	428136	552316	Area 14 - Verge TCB Barrier	4.6097	28.5668	30.7728	25/02/2009	15/02/2010	2.1	31.3	22.5
122	430710	548471	Area 14 - Verge TCB Barrier	4.5985	28.6037	30.9847	25/02/2009	15/02/2010	1.5	30.2	5.1
123	430800	546212	Area 14 - Verge TCB Barrier	4.6222	28.1049	30.9679	25/02/2009	15/02/2010	1.3	27.6	4.4
124	430788	545914	Area 14 - Verge TCB Barrier	4.6084	28.3105	30.9068	25/02/2009	15/02/2010	1.2	28.5	7.9
125	430728	525929	Area 14 - Verge TCB Barrier	4.6116	28.5025	30.9456	25/02/2009	15/02/2010	0.8	29.5	1.2
126	430300	524375	Area 14 - Verge TCB Barrier	4.5782	28.1676	30.8564	25/02/2009	15/02/2010	0.6	30.9	3.2
127	430269	524278	Area 14 - Verge TCB Barrier	4.6090	28.2376	31.1525	25/02/2009	15/02/2010	1.0	29.0	1.2
128	426485	518170	Area 14 - Verge TCB Barrier	4.6119	28.1565	30.8609	25/02/2009	15/02/2010	1.0	28.0	1.3
129	425588	516469	Area 14 - Verge TCB Barrier	4.5813	27.9383	31.0256	25/02/2009	15/02/2010	1.5	32.0	3.7
130	425517	516280	Area 14 - Verge TCB Barrier	4.6012	28.1940	31.0570	25/02/2009	15/02/2010	1.4	31.6	3.2
131	425369	515899	Area 14 - Verge TCB Barrier	4.6217	28.2832	31.0227	25/02/2009	15/02/2010	1.4	29.5	4.1
132	425263	515619	Area 14 - Verge TCB Barrier	4.6186	28.2722	30.9244	25/02/2009	15/02/2010	1.7	30.1	3.9
133	424574	513616	Area 14 - Verge TCB Barrier	4.6143	28.1087	30.8066	25/02/2009	15/02/2010	1.7	29.4	3.5
134	424684	513100	Area 14 - Verge TCB Barrier	4.6138	28.4876	30.7886	25/02/2009	15/02/2010	1.4	26.1	4.6
135	423728	510484	Area 14 - Verge TCB Barrier	4.5943	28.1518	30.9626	25/02/2009	15/02/2010	1.4	33.6	2.9
136	423023	509537	Area 14 - Verge TCB Barrier	4.6052	28.1094	30.7051	25/02/2009	15/02/2010	1.4	31.0	3.5
141	570009	271751	Vehicle - WX08 MVT O/S Underrun rear support	4.5984	28.3965	29.3054	30/09/2010				
142	570009	271751	Vehicle - WX08 MVT O/S Light fitting	4.5898	28.2935	29.0729	30/09/2010				
143	570009	271751	Vehicle - WX08 MVT N/S Light fitting	4.5926	28.2519	29.4196	30/09/2010				
144	570009	271751	Vehicle - WX08 MVT N/S Light fitting	4.5657	28.4965	29.1969	30/09/2010				
145	570009	271751	Vehicle - WX08 MVT O/S Light fitting	4.5377	28.2164	29.2535	30/09/2010				
146	569068	270281	Area 6 - Verge TCB Barrier	4.597	28.6223	29.0616	30/09/2010				
147	569074	270283	Area 6 - Verge TCB Barrier	4.5948	28.3245	29.2974	30/09/2010				
148	568969	269984	Area 6 - Verge TCB Barrier	4.5874	28.6162	29.1013	30/09/2010				
149	568999	270108	Area 6 - Verge TCB Barrier	4.5679	28.8329	28.9961	30/09/2010				
150	568996	270103	Area 6 - Verge TCB Barrier	4.5975	28.2261	29.1197	30/09/2010				
151	568942	269977	Area 6 - Verge TCB Barrier	4.5847	28.3305	29.0593	30/09/2010				
152	568940	269980	Area 6 - Verge TCB Barrier	4.5604	28.5304	29.6126	30/09/2010				
153	568972	270131	Area 6 - Verge TCB Barrier	4.5589	28.249	29.2922	30/09/2010				
154	568978	270121	Area 6 - Verge TCB Barrier	4.5525	28.3511	28.7048	30/09/2010				
155	569062	270320	Area 6 - Verge TCB Barrier	4.5759	28.1961	29.0661	30/09/2010				
156	569065	270317	Area 6 - Verge TCB Barrier	4.5982	28.2249	28.8914	30/09/2010				
157	570664	271704	Area 6 - Verge TCB Barrier	4.5533	28.1618	28.965	30/09/2010				
158	570666	271708	Area 6 - Verge TCB Barrier	4.5732	28.4554	29.0818	30/09/2010				
159	570684	271733	Area 6 - Verge TCB Barrier	4.5556	28.2063	29.228	30/09/2010				
160	585327	283490	Area 6 - Verge TCB Barrier	4.5868	28.6077	29.5304	30/09/2010				
161	570686	271737	Area 6 - Verge TCB Barrier	4.5799	28.2529	29.3205	30/09/2010				
162	585330	283485	Area 6 - Verge TCB Barrier	4.5925	28.841	28.9135	30/09/2010				
163	585337	283613	Area 6 - Verge TCB Barrier	4.5972	28.5219	28.7774	30/09/2010				
164	585336	283608	Area 6 - Verge TCB Barrier	4.5841	28.2239	29.1352	30/09/2010				
165	585880	284477	Area 6 - Verge TCB Barrier	4.583	27.992	28.881	30/09/2010				
166	585884	284482	Area 6 - Verge TCB Barrier	4.5704	28.1147	28.9424	30/09/2010				
167	585352	283547	Area 6 - Verge TCB Barrier	4.5969	28.4133	29.2658	30/09/2010				
168	585354	283550	Area 6 - Verge TCB Barrier	4.5994	28.885	29.0902	30/09/2010				
169	585996	284652	Area 6 - Verge TCB Barrier	4.5656	28.8196	28.9923	30/09/2010				
170	585998	284654	Area 6 - Verge TCB Barrier	4.5718	28.1224	29.2798	30/09/2010				
171	586225	284945	Area 6 - Verge TCB Barrier	4.5799	28.1815	29.0967	30/09/2010				
172	586225	284945	Area 6 - Verge TCB Barrier	4.5659	28.2636	29.2419	30/09/2010				
173	587487	285472	Area 6 - Verge TCB Barrier	4.5964	28.2719	28.9236	30/09/2010				

Sample ID	Location Easting	Location Northing	Comment	Initial sample weights (g) AL6082-T6	S275J0	S275J0-GLV	Exposed	Retrieved	Mean Corrosion Rate (µm/y) AL6082-T6	S275J0	S275J0-GLV
174	587481	285474	Area 6 - Verge TCB Barrier	4.5576	28.2073	28.9691	30/09/2010				
175	587699	285401	Area 6 - Verge TCB Barrier	4.5715	28.2344	29.0659	30/09/2010				
176	587697	285398	Area 6 - Verge TCB Barrier	4.6009	28.1495	28.9529	30/09/2010				
177	587428	285460	Area 6 - Verge TCB Barrier	4.6058	28.2879	29.2993	30/09/2010				
178	587432	285457	Area 6 - Verge TCB Barrier	4.6092	28.3445	29.0557	30/09/2010				
179	572672	273881	Area 6 - Verge TCB Barrier	4.5937	28.1337	29.1414	30/09/2010				
180	572671	273882	Area 6 - Verge TCB Barrier	4.5931	28.5359	28.9275	30/09/2010				
181	593245	313048	Area 6 - Verge TCB Barrier	4.5989	27.9798	29.3601	30/09/2010				
182	593249	313045	Area 6 - Verge TCB Barrier	4.5801	28.3333	29.3568	30/09/2010				
183	594142	312915	Area 6 - Verge TCB Barrier	4.5656	28.2051	28.4105	30/09/2010				
184	594140	312914	Area 6 - Verge TCB Barrier	4.5818	28.4542	28.7375	30/09/2010				
185	596642	312542	Area 6 - Verge TCB Barrier	4.6041	28.0793	28.8868	30/09/2010				
186	596643	312540	Area 6 - Verge TCB Barrier	4.5831	28.243	29.0906	30/09/2010				
187	598961	312141	Area 6 - Verge TCB Barrier	4.598	28.189	29.0994	30/09/2010				
188	598962	312136	Area 6 - Verge TCB Barrier	4.5629	27.9815	29.2011	30/09/2010				
189	600377	312643	Area 6 - Verge TCB Barrier	4.5965	28.2154	29.1896	30/09/2010				
190	600931	313137	Area 6 - Verge TCB Barrier	4.5655	28.125	29.2325	30/09/2010				
191	600931	313138	Area 6 - Verge TCB Barrier	4.5857	28.2783	29.3246	30/09/2010				
192	599978	312541	Area 6 - Verge TCB Barrier	4.5878	27.9015	29.1548	30/09/2010				
193	599974	312542	Area 6 - Verge TCB Barrier	4.5853	28.1815	28.8667	30/09/2010				
194	600377	312644	Area 6 - Verge TCB Barrier	4.5976	28.0679	28.7399	30/09/2010				
195	583277	309576	Area 6 - Verge TCB Barrier	4.5804	28.0414	29.0182	30/09/2010				
196	583273	309575	Area 6 - Verge TCB Barrier	4.5771	28.2379	28.5821	30/09/2010				
197	582194	310115	Area 6 - Verge TCB Barrier	4.5745	28.2943	28.7371	30/09/2010				
198	582192	310119	Area 6 - Verge TCB Barrier	4.5739	28.1086	28.9993	30/09/2010				
199	580327	309495	Area 6 - Verge TCB Barrier	4.566	28.1009	29.3731	30/09/2010				
200	580329	309492	Area 6 - Verge TCB Barrier	4.5984	27.9953	28.7481	30/09/2010				
201	580215	309503	Area 6 - Verge TCB Barrier	4.5922	28.6305	29.1107	30/09/2010				
202	580212	309504	Area 6 - Verge TCB Barrier	4.5539	28.1775	29.195	30/09/2010				
203	574966	313744	Area 6 - Verge TCB Barrier	4.5843	28.4025	28.886	30/09/2010				
204	574971	313746	Area 6 - Verge TCB Barrier	4.5968	28.4581	29.4152	30/09/2010				
205	574661	313826	Area 6 - Verge TCB Barrier	4.519	28.217	29.015	30/09/2010				
206	574660	313816	Area 6 - Verge TCB Barrier	4.5829	28.2723	28.8541	30/09/2010				
207	574755	313807	Area 6 - Verge TCB Barrier	4.5638	28.0963	28.8421	30/09/2010				
208	574754	313810	Area 6 - Verge TCB Barrier	4.5922	28.3781	29.1524	30/09/2010				
209	574876	313770	Area 6 - Verge TCB Barrier	4.5784	28.5128	29.1382	30/09/2010				
210	574879	313771	Area 6 - Verge TCB Barrier	4.603	28.3508	29.2981	30/09/2010				
211	570009	271751	Vehicle WX08 MVT O/S Underrun bar front support	4.6086	28.2169	29.1282	30/09/2010				
212	570009	271751	Vehicle WX08 MVT O/S Hydraulic frame	4.5893	28.2082	29.1986	30/09/2010				
213	570009	271751	Vehicle WX08 MVT N/S Rear Chassis	4.5866	28.3835	29.3264	30/09/2010				
214	570009	271751	Vehicle WX08 MVT O/S Rear Chassis	4.5788	28.6114	29.2725	30/09/2010				
215	570009	271751	Vehicle WX08 MVT O/S Front of spreader frame	4.5978	28.2332	29.3828	30/09/2010				
216	570009	271751	Vehicle WX08 MWW O/S Hydraulic frame	4.5892	28.5736	29.4967	30/09/2010				
217	570009	271751	Vehicle WX08 MWW O/S Underrun bar front	4.5396	28.541	29.0778	30/09/2010				
218	570009	271751	Vehicle WX08 MWW O/S Underrun bar rear	4.604	28.2326	28.9699	30/09/2010				
219	570009	271751	Vehicle WX08 MWW O/S Front of spreader frame	4.5906	28.7262	29.0342	30/09/2010				
220	570009	271751	Vehicle WX08 MWW O/S Light fitting	4.5851	28.2153	29.2262	30/09/2010				
221	570009	271751	Vehicle WX08 MWW O/S Light fitting	4.5915	28.1722	29.3074	30/09/2010				
222	570009	271751	Vehicle WX08 MWW N/S Rear Light	4.5704	28.0461	29.4088	30/09/2010				
223	570009	271751	Vehicle WX08 MWW N/S Rear Chassis	4.5539	28.2663	28.9211	30/09/2010				
224	570009	271751	Vehicle WX08 MWW O/S Rear Chassis	4.5933	28.1388	29.037	30/09/2010				
225	570009	271751	Vehicle WX08 MWW N/S Rear Light	4.5753	28.4629	29.0931	30/09/2010				
226	568970	269987	Area 6 - Verge TCB Barrier	4.5912	28.6611	29.1137	01/10/2010				
227	562548	317748	Vehicle WX08 XKO O/S front underrun bar	4.5794	28.5734	28.9345	01/10/2010				
228	562548	317748	Vehicle WX08 XKO O/S Hydraulic frame	4.5946	28.1902	29.3899	01/10/2010				
229	562548	317748	Vehicle WX08 XKO O/S Lighting	4.6062	29.021	28.9705	01/10/2010				
230	562548	317748	Vehicle WX08 XKO O/S Front of spreader frame	4.5711	28.277	29.4205	01/10/2010				
231	562548	317748	Vehicle WX08 XKO O/S rear underrun bar	4.5724	28.052	29.251	01/10/2010				
232	562548	317748	Vehicle WX08 XKO O/S lighting	4.5852	28.0963	28.279	01/10/2010				
233	562548	317748	Vehicle WX08 XKO O/S chassis rear	4.5922	28.1174	29.1522	01/10/2010				
234	562548	317748	Vehicle WX08 XKO N/S chassis rear	4.5917	28.0737	29.5296	01/10/2010				
235	562548	317748	Vehicle WX08 XKO N/S lighting	4.5912	28.646	29.4637	01/10/2010				
236	562548	317748	Vehicle WX08 XKO N/S lighting	4.5703	28.1342	29.0687	01/10/2010				

Sample ID	Location		Comment	Initial sample weights (g)			Exposed	Retrieved	Mean Corrosion Rate (µm/y)		
	Easting	Northing		AL6082-T6	S275J0	S275J0-GLV			AL6082-T6	S275J0	S275J0-GLV
237	562548	317748	Vehicle WX08 VPT OS Front underrun bar	4.5908	28.2084	29.3207	01/10/2010				
238	562548	317748	Vehicle WX08 VPT OS Rear underrun bar	4.6054	28.1066	29.2028	01/10/2010				
239	562548	317748	Vehicle WX08 VPT OS Front spreader beam	4.5899	28.5668	29.2276	01/10/2010				
240	562548	317748	Vehicle WX08 VPT OS Light bar	4.5721	28.3535	28.9894	01/10/2010				
241	562548	317748	Vehicle WX08 VPT OS Light bar	4.5763	28.6132	29.2218	01/10/2010				
242	562548	317748	Vehicle WX08 VPT NS Light bar	4.6014	28.7194	29.2004	01/10/2010				
243	562548	317748	Vehicle WX08 VPT NS Light bar	4.5852	28.498	29.1337	01/10/2010				
244	562548	317748	Vehicle WX08 VPT OS Hydraulic frame	4.5802	28.7292	29.0868	01/10/2010				
245	562548	317748	Vehicle WX08 VPT NS Rear Chassis	4.5808	28.274	28.9661	01/10/2010				
246	562548	317748	Vehicle WX08 VPT OS Rear Chassis	4.5825	28.587	29.2216	01/10/2010				
247	596536	312559	Area 6 - Verge TCB Barrier	4.593	28.5888	29.265	01/10/2010				
248	596535	312558	Area 6 - Verge TCB Barrier	4.5733	28.7429	29.2812	01/10/2010				
249	562551	318120	Area 6 - Verge TCB Barrier	4.6072	28.5456	28.9351	01/10/2010				
250	562551	318121	Area 6 - Verge TCB Barrier	4.596	28.3931	29.0924	01/10/2010				
251	562113	318065	Area 6 - Verge TCB Barrier	4.5938	28.7147	29.4992	01/10/2010				
252	562113	318064	Area 6 - Verge TCB Barrier	4.5876	28.335	29.6717	01/10/2010				
253	562260	318073	Area 6 - Verge TCB Barrier	4.607	28.2929	29.4133	01/10/2010				
254	562261	318075	Area 6 - Verge TCB Barrier	4.5901	28.6639	29.1834	01/10/2010				
255	561278	318332	Area 6 - Verge TCB Barrier	4.5766	28.2029	29.3943	01/10/2010				
256	561275	318331	Area 6 - Verge TCB Barrier	4.5847	28.5175	29.4181	01/10/2010				
257	561000	318534	Area 6 - Verge TCB Barrier	4.5859	28.1425	29.1078	01/10/2010				
258	560994	318538	Area 6 - Verge TCB Barrier	4.5928	28.2207	29.785	01/10/2010				
259	561019	318554	Area 6 - Verge TCB Barrier	4.5633	28.1059	29.1746	01/10/2010				
260	561024	318550	Area 6 - Verge TCB Barrier	4.5969	28.7631	29.449	01/10/2010				
261	432381	530436	Area 14 - Verge TCB Barrier	4.5943	28.7455	29.422	13/10/2009				
262	432399	533816	Area 14 - Verge TCB Barrier	4.5669	28.4705	28.89	13/10/2009				
263	432412	533834	Area 14 - Verge TCB Barrier	4.6037	28.5549	29.4957	13/10/2009				
264	561287	318348	Area 6 - Verge TCB Barrier	4.556	28.8268	29.5285	01/10/2010				
265	561286	318350	Area 6 - Verge TCB Barrier	4.5883	28.4221	29.2598	01/10/2010				
266	562249	318086	Area 6 - Verge TCB Barrier	4.5866	28.9002	29.3553	01/10/2010				
267	562250	318085	Area 6 - Verge TCB Barrier	4.5789	28.6642	29.3929	01/10/2010				
268	562771	318176	Area 6 - Verge TCB Barrier	4.5754	28.4735	29.3405	01/10/2010				
269	562777	318177	Area 6 - Verge TCB Barrier	4.5723	28.402	29.1242	01/10/2010				
270	562842	318181	Area 6 - Verge TCB Barrier	4.6021	27.9986	28.6797	01/10/2010				
271	562843	318178	Area 6 - Verge TCB Barrier	4.5802	28.4456	28.8631	01/10/2010				
272	432380	530433	Area 14 - Verge TCB Barrier	4.604	28.1516	29.4597	13/10/2009				
273	431882	534829	Area 14 - Verge TCB Barrier	4.5972	28.1041	28.8037	13/10/2009				
274	431880	534827	Area 14 - Verge TCB Barrier	4.5579	27.9544	28.9809	13/10/2009				
275	431415	535319	Area 14 - Verge TCB Barrier	4.6018	28.2977	29.007	13/10/2009				
276	431412	535320	Area 14 - Verge TCB Barrier	4.5882	28.6309	29.3813	13/10/2009				
277	430985	536000	Area 14 - Verge TCB Barrier	4.581	28.442	29.0047	13/10/2009				
278	430988	536001	Area 14 - Verge TCB Barrier	4.5491	28.5882	29.5203	13/10/2009				
279	430866	536728	Area 14 - Verge TCB Barrier	4.5871	28.184	29.0825	13/10/2009				
280	430860	536725	Area 14 - Verge TCB Barrier	4.5941	28.7301	29.0622	13/10/2009				
281	431161	538998	Area 14 - Verge TCB Barrier	4.5905	28.142	29.2224	13/10/2009				
282	431159	539006	Area 14 - Verge TCB Barrier	4.5723	28.656	29.5609	13/10/2009				
283	430267	541459	Area 14 - Verge TCB Barrier	4.5902	28.0976	28.8839	13/10/2009				
284	430270	541457	Area 14 - Verge TCB Barrier	4.5832	27.9085	29.0985	13/10/2009				
285	431193	538987	Area 14 - Verge TCB Barrier	4.587	28.2711	29.4099	13/10/2009				
286	431196	538985	Area 14 - Verge TCB Barrier	4.5767	28.5476	29.212	13/10/2009				
287	431039	535936	Area 14 - Verge TCB Barrier	4.5833	28.2369	28.7542	13/10/2009				
288	431041	535933	Area 14 - Verge TCB Barrier	4.5924	28.3242	29.5127	13/10/2009				
289	431563	535197	Area 14 - Verge TCB Barrier	4.5938	28.5958	29.2324	13/10/2009				
290	431561	535191	Area 14 - Verge TCB Barrier	4.5552	28.0038	29.4028	13/10/2009				
291	432424	533779	Area 14 - Verge TCB Barrier	4.5643	28.5803	29.1346	13/10/2009				
292	432419	533783	Area 14 - Verge TCB Barrier	4.596	28.6771	29.0861	13/10/2009				
293	432374	529754	Area 14 - Verge TCB Barrier	4.5907	28.69	28.7508	13/10/2009				
294	432374	529750	Area 14 - Verge TCB Barrier	4.5729	28.1884	28.804	13/10/2009				
295	430726	525923	Area 14 - Verge TCB Barrier	4.6021	28.2907	28.6531	13/10/2009				
296	430726	525920	Area 14 - Verge TCB Barrier	4.5823	28.528	29.1694	13/10/2009				
297	430302	524381	Area 14 - Verge TCB Barrier	4.5825	28.6544	29.1981	13/10/2009				
298	430304	524380	Area 14 - Verge TCB Barrier	4.5836	28.4955	29.2752	13/10/2009				
299	430272	524283	Area 14 - Verge TCB Barrier	4.5994	28.0201	28.9458	13/10/2009				
300	430270	524277	Area 14 - Verge TCB Barrier	4.5917	28.5348	28.9511	13/10/2009				
301	425589	516474	Area 14 - Verge TCB Barrier	4.5934	28.2978	29.8689	13/10/2009				
302	425593	516476	Area 14 - Verge TCB Barrier	4.5357	28.6878	29.4118	13/10/2009				
303	425514	516281	Area 14 - Verge TCB Barrier	4.5804	28.5071	29.3706	13/10/2009				
304	425513	516278	Area 14 - Verge TCB Barrier	4.5501	28.3051	28.4733	13/10/2009				
305	425367	515901	Area 14 - Verge TCB Barrier	4.5996	28.4037	28.8637	13/10/2009				
306	425366	515904	Area 14 - Verge TCB Barrier	4.5927	28.558	28.9116	13/10/2009				
307	425262	515630	Area 14 - Verge TCB Barrier	4.5957	28.405	28.905	13/10/2009				
308	425262	515632	Area 14 - Verge TCB Barrier	4.6041	28.5149	29.039	13/10/2009				
309	424574	513625	Area 14 - Verge TCB Barrier	4.6261	28.2232	28.9734	13/10/2009				
310	424680	513097	Area 14 - Verge TCB Barrier	4.6096	28.4875	29.5318	13/10/2009				
311	424573	513619	Area 14 - Verge TCB Barrier	4.5845	28.3909	29.6036	13/10/2009				
312	424684	513092	Area 14 - Verge TCB Barrier	4.5536	28.4295	29.3526	13/10/2009				
313	423722	510483	Area 14 - Verge TCB Barrier	4.6281	28.4392	28.6537	13/10/2009				
314	423724	510479	Area 14 - Verge TCB Barrier	4.6015	28.1552	29.4616	13/10/2009				
315	423022	509529	Area 14 - Verge TCB Barrier	4.6168	28.1044	29.0723	13/10/2009				

Sample ID	Location Easting	Location Northing	Comment	Initial sample weights (g) AL6082-T6	S275J0	S275J0-GLV	Exposed	Retrieved	Mean Corrosion Rate (µm/y) AL6082-T6	S275J0	S275J0-GLV
316	423018	509532	Area 14 - Verge TCB Barrier	4.5957	28.4345	28.7436	13/10/2009				
317	422935	509486	Area 14 - Verge TCB Barrier	4.624	28.5668	29.0831	13/10/2009				
318	422931	509486	Area 14 - Verge TCB Barrier	4.6254	28.0486	29.3855	13/10/2009				
319	423616	510351	Area 14 - Verge TCB Barrier	4.6329	28.4058	28.4892	13/10/2009				
320	423619	510353	Area 14 - Verge TCB Barrier	4.6139	28.5262	28.7828	13/10/2009				
321	431354	528922	Vehicle - Bradbury 1 rear axle mudguard, N/S, rear facing, outer set	4.5854	28.3795	28.9539	13/10/2009	15/02/2010	3.5	76.2	6.7
322	431354	528922	Vehicle - Bradbury 1 rear axle mudguard, O/S, rear facing, outer set	4.5904	28.2682	29.1205	13/10/2009	15/02/2010	4.3	80.4	9.5
323	431354	528922	Vehicle - Bradbury 1 2nd axle mudguard, O/S, front facing	4.5971	28.3891	29.2213	13/10/2009	15/02/2010	5.9	84.3	11.3
324	431354	528922	Vehicle - Bradbury 1 2nd axle mudguard, N/S, front facing	4.5654	28.4891	29.1796	13/10/2009	15/02/2010	5.6	97.5	16.1
325	431354	528922	Vehicle - Bradbury 1 rear axle mudguard, N/S, rear facing, inner set	4.5987	28.318	29.5969	13/10/2009	15/02/2010	4.1	82.2	5.0
326	431354	528922	Vehicle - Bradbury 1 rear axle mudguard, N/S, front facing	4.5788	28.2728	29.2416	13/10/2009	15/02/2010	5.3	90.2	36.7
327	431354	528922	Vehicle - Bradbury 1 rear axle mudguard, O/S, rear facing, inner set	4.5958	28.1315	28.9027	13/10/2009	15/02/2010	3.4	75.0	4.6
328	431354	528922	Vehicle - Bradbury 1 rear axle mudguard, O/S, front facing	4.595	28.1894	28.7585	13/10/2009	15/02/2010	7.9	94.2	22.1
329	431354	528922	Vehicle - Bradbury 2 2nd axle mudguard, N/S, front facing	4.6035	28.5872	28.7056	13/10/2009	15/02/2010	6.8	75.0	7.0
330	431354	528922	Vehicle - Bradbury 2 rear axle mudguard, N/S, front facing	4.6001	28.2003	29.7714	13/10/2009	15/02/2010	7.2	73.6	3.6
331	431354	528922	Vehicle - Bradbury 2 rear axle mudguard, N/S, rear facing, outer set	4.576	28.3265	28.9137	13/10/2009	15/02/2010	4.5	68.3	4.8
332	431354	528922	Vehicle - Bradbury 2 rear axle mudguard, N/S, rear facing, inner set	4.5851	28.3365	29.1351	13/10/2009	15/02/2010	4.3	64.8	6.2
334	431354	528922	Vehicle - Bradbury 2 rear axle mudguard, O/S, rear facing, outer set	4.5764	28.0981	29.1703	13/10/2009	15/02/2010	4.8	90.3	10.0
335	431354	528922	Vehicle - Bradbury 2 rear axle mudguard, O/S, rear facing, inner set	4.5586	28.5306	29.0829	13/10/2009	15/02/2010	5.3	92.0	35.1
336	431354	528922	Vehicle - Bradbury 2 rear axle mudguard, O/S, front facing	4.5915	28.0389	29.459	13/10/2009	15/02/2010	6.5	93.0	35.8
337	431354	528922	Vehicle - Bradbury 2 2nd axle mudguard, O/S, front facing	4.5767	28.3505	28.7554	13/10/2009	15/02/2010	7.7	68.9	18.9
338	446710	514143	Area 26 - Verge TCB Barrier	4.5279	28.0106	28.9704	14/10/2009				
339	446363	513250	Area 26 - Verge TCB Barrier	4.6045	28.5869	29.274	14/10/2009				
340	446357	513255	Area 26 - Verge TCB Barrier	4.5829	28.059	29.4664	14/10/2009				
341	446137	512760	Area 26 - Verge TCB Barrier	4.5699	28.3274	29.7591	14/10/2009				
342	446139	512761	Area 26 - Verge TCB Barrier	4.5715	27.9936	29.7411	14/10/2009				
343	445823	511741	Area 26 - Verge TCB Barrier	4.5869	28.1355	29.4149	14/10/2009				
344	445820	511743	Area 26 - Verge TCB Barrier	4.5679	28.5813	29.9414	14/10/2009				
345	445409	510861	Area 26 - Verge TCB Barrier	4.5771	28.0532	28.7422	14/10/2009				
346	445409	510863	Area 26 - Verge TCB Barrier	4.5773	28.0231	29.517	14/10/2009				
347	444966	510039	Area 26 - Verge TCB Barrier	4.5654	28.2893	29.3155	14/10/2009				
348	444961	510038	Area 26 - Verge TCB Barrier	4.5462	28.3633	29.5493	14/10/2009				
349	444401	509485	Area 26 - Verge TCB Barrier	4.5872	28.6188	29.3908	14/10/2009				
350	444403	509486	Area 26 - Verge TCB Barrier	4.5625	28.555	29.7016	14/10/2009				
351	444373	509481	Area 26 - Verge TCB Barrier	4.5989	28.3295	29.2993	14/10/2009				
352	444376	509485	Area 26 - Verge TCB Barrier	4.5388	28.4338	29.1838	14/10/2009				
353	444908	510015	Area 26 - Verge TCB Barrier	4.5819	28.2817	28.9345	14/10/2009				
354	444909	510015	Area 26 - Verge TCB Barrier	4.5771	28.124	29.1062	14/10/2009				
355	445800	511738	Area 26 - Verge TCB Barrier	4.5663	28.3361	28.8535	14/10/2009				
356	445801	511740	Area 26 - Verge TCB Barrier	4.6018	28.4777	29.3787	14/10/2009				
357	446013	512350	Area 26 - Verge TCB Barrier	4.5763	28.5391	28.7749	14/10/2009				
358	446016	512353	Area 26 - Verge TCB Barrier	4.5988	28.3399	29.2791	14/10/2009				
359	446112	512749	Area 26 - Verge TCB Barrier	4.5907	28.4011	29.2356	14/10/2009				
360	446111	512752	Area 26 - Verge TCB Barrier	4.5783	28.4524	29.8019	14/10/2009				
361	446304	513194	Area 26 - Verge TCB Barrier	4.5888	28.2173	28.9403	14/10/2009				
362	446315	513198	Area 26 - Verge TCB Barrier	4.5733	28.4951	29.09	14/10/2009				
363	446694	514101	Area 26 - Verge TCB Barrier	4.6016	28.5101	29.6953	14/10/2009				
364	446696	514092	Area 26 - Verge TCB Barrier	4.5852	28.3008	29.1623	14/10/2009				
365	446682	514361	Area 26 - Verge TCB Barrier	4.5927	28.3044	29.7553	14/10/2009				
366	446687	514347	Area 26 - Verge TCB Barrier	4.5832	28.2568	29.3055	14/10/2009				
367	444353	523492	Area 26 - Verge TCB Barrier	4.577	28.1355	29.5679	14/10/2009				
368	444353	523491	Area 26 - Verge TCB Barrier	4.5789	28.3893	29.0842	14/10/2009				
369	444142	524929	Area 26 - Verge TCB Barrier	4.5997	28.0474	29.0909	14/10/2009				
370	444141	524928	Area 26 - Verge TCB Barrier	4.5902	28.538	29.3394	14/10/2009				
371	444310	525363	Area 26 - Verge TCB Barrier	4.5967	28.7837	29.3366	14/10/2009				
372	444311	525363	Area 26 - Verge TCB Barrier	4.5661	28.3252	29.4333	14/10/2009				
373	445091	528738	Area 26 - Verge TCB Barrier	4.5907	28.2471	29.2562	14/10/2009				

Sample ID	Location		Comment	Initial sample weights (g)			Exposed	Retrieved	Mean Corrosion Rate (µm/y)		
	Easting	Northing		AL6082-T6	S275J0	S275J0-GLV			AL6082-T6	S275J0	S275J0-GLV
374	445095	528744	Area 26 - Verge TCB Barrier	4.5752	28.7008	29.5685	14/10/2009				
375	442183	537351	Area 26 - Verge TCB Barrier	4.5635	28.9436	29.2268	14/10/2009				
376	442177	537350	Area 26 - Verge TCB Barrier	4.5895	27.9909	29.287	14/10/2009				
377	441630	537724	Area 26 - Verge TCB Barrier	4.5972	28.6781	29.214	14/10/2009				
378	441632	537724	Area 26 - Verge TCB Barrier	4.5758	28.6066	29.4089	14/10/2009				
379	440959	538907	Area 26 - Verge TCB Barrier	4.5389	27.9523	29.2538	14/10/2009				
380	440957	538904	Area 26 - Verge TCB Barrier	4.5846	28.5969	29.1628	14/10/2009				
381	442581	537105	Area 26 - Verge TCB Barrier	4.582	28.2877	29.2587	14/10/2009				
382	442583	537103	Area 26 - Verge TCB Barrier	4.5599	28.5019	28.7504	14/10/2009				
383	445107	532046	Area 26 - Verge TCB Barrier	4.578	28.4966	29.5456	14/10/2009				
384	445103	530108	Area 26 - Verge TCB Barrier	4.5758	28.8334	28.9817	14/10/2009				
385	445102	530112	Area 26 - Verge TCB Barrier	4.5497	28.5283	29.7133	14/10/2009				
386	445223	530478	Area 26 - Verge TCB Barrier	4.4994	28.1202	29.3354	14/10/2009				
387	445276	530767	Area 26 - Verge TCB Barrier	4.5956	28.6069	29.3318	14/10/2009				
388	445108	532041	Area 26 - Verge TCB Barrier	4.5624	28.6324	29.5	14/10/2009				
389	445276	530762	Area 26 - Verge TCB Barrier	4.5784	28.1502	29.2434	14/10/2009				
390	445221	530473	Area 26 - Verge TCB Barrier	4.5969	28.6204	29.1389	14/10/2009				
391	445162	528503	Area 26 - Verge TCB Barrier	4.5651	28.4438	29.777	14/10/2009				
392	445160	528502	Area 26 - Verge TCB Barrier	4.5804	28.5138	29.3823	14/10/2009				
393	430300	544520	Vehicle - Carrville 1 2nd axle mudguard, O/S, front facing	4.5891	28.6495	29.3183	13/10/2009	15/02/2010	4.9	103.4	17.2
394	430300	544520	Vehicle - Carrville 1 rear axle mudguard, O/S, front facing	4.593	28.3579	29.3415	13/10/2009	15/02/2010	5.2	112.8	32.4
395	430300	544520	Vehicle - Carrville 1 rear axle mudguard, O/S, rear facing, inner set	4.5684	28.3812	29.2822	13/10/2009	15/02/2010	3.8	102.0	15.7
396	430300	544520	Vehicle - Carrville 1 rear axle mudguard, O/S, rear facing, outer set	4.5901	28.1056	29.2397	13/10/2009	15/02/2010	4.6	114.9	69.1
397	430300	544520	Vehicle - Carrville 1 2nd axle mudguard, N/S, front facing	4.5348	28.0818	29.0614	13/10/2009	15/02/2010	5.1	101.1	21.8
398	430300	544520	Vehicle - Carrville 1 rear axle mudguard, N/S, front facing	4.597	28.4668	29.0372	13/10/2009	15/02/2010	5.5	110.5	21.0
399	430300	544520	Vehicle - Carrville 1 rear axle mudguard, N/S, rear facing, inner set	4.598	28.1291	29.1674	13/10/2009	15/02/2010	4.2	106.6	11.6
400	430300	544520	Vehicle - Carrville 1 rear axle mudguard, N/S, rear facing, outer set	4.599	28.3649	29.159	13/10/2009	15/02/2010	5.4	101.3	37.9
401	430300	544520	Vehicle - Carrville 2 2nd axle mudguard, O/S, front facing	4.5648	28.5527	29.1153	13/10/2009	15/02/2010	3.0	102.0	7.5
402	430300	544520	Vehicle - Carrville 2 rear axle mudguard, O/S, front facing	4.5944	28.3272	29.3286	13/10/2009	15/02/2010	3.2	93.0	11.1
403	430300	544520	Vehicle - Carrville 2 rear axle mudguard, O/S, rear facing, inner set	4.596	28.4264	28.9555	13/10/2009	15/02/2010	2.8	84.0	6.3
404	430300	544520	Vehicle - Carrville 2 rear axle mudguard, O/S, rear facing, outer set	4.5892	28.4198	29.3817	13/10/2009	15/02/2010	3.1	93.1	11.8
405	430300	544520	Vehicle - Carrville 2 2nd axle mudguard, N/S, front facing	4.5984	28.1524	29.2165	13/10/2009	15/02/2010	3.9	116.5	10.9
406	430300	544520	Vehicle - Carrville 2 rear axle mudguard, N/S, front facing	4.6132	28.5738	29.3301	13/10/2009	15/02/2010	3.1	102.2	20.4
407	430300	544520	Vehicle - Carrville 2 rear axle mudguard, N/S, front facing	4.6074	28.3455	29.1107	13/10/2009	15/02/2010	4.6	99.3	18.0
408	430300	544520	Vehicle - Carrville 2 rear axle mudguard, N/S, front facing	4.5743	28.3728	29.4132	13/10/2009	15/02/2010	4.6	103.4	62.6
409			Vehicle - Carrville 2 rear axle mudguard, N/S, front facing	4.6212	28.5653	29.2026					
410			Vehicle - Carrville 2 rear axle mudguard, N/S, front facing	4.6142	28.493	28.8803					
411			Vehicle - Carrville 2 rear axle mudguard, N/S, front facing	4.6052	28.5764	29.2165					
412			Vehicle - Carrville 2 rear axle mudguard, N/S, front facing	4.5957	28.5444	28.8531					
413			Vehicle - Carrville 2 rear axle mudguard, N/S, front facing	4.6092	28.3168	29.3862					
414			Vehicle - Carrville 2 rear axle mudguard, N/S, front facing	4.5981	28.4643	29.4316					
415			Vehicle - Carrville 2 rear axle mudguard, N/S, front facing	4.583	28.594	29.1506					

Sample ID	Location Easting	Location Northing	Comment	Initial sample weights (g) AL6082-T6	S275J0	S275J0-GLV	Exposed	Retrieved	Mean Corrosion Rate (µm/y) AL6082-T6	S275J0	S275J0-GLV
416			Vehicle - Carrville 2 rear axle mudguard, N/S, front facing	4.6023	28.4136	29.1521					
417			Vehicle - Carrville 2 rear axle mudguard, N/S, front facing	4.5868	28.8498	29.2887					
418			Vehicle - Carrville 2 rear axle mudguard, N/S, front facing	4.6007	28.8034	29.0434					
419			Vehicle - Carrville 2 rear axle mudguard, N/S, front facing	4.5946	28.5243	29.5372					
420			Vehicle - Carrville 2 rear axle mudguard, N/S, front facing	4.6246	28.8338	29.3211					
421			Vehicle - Carrville 2 rear axle mudguard, N/S, front facing	4.586	28.5051	28.908					
422			Vehicle - Carrville 2 rear axle mudguard, N/S, front facing	4.5255	28.751	29.2181					
423			Vehicle - Carrville 2 rear axle mudguard, N/S, front facing	4.5449	28.6479	29.2736					
424			Vehicle - Carrville 2 rear axle mudguard, N/S, front facing	4.5722	28.1613	29.4817					