

TATA STEEL



17th December 2015

DESIGN OF A SITE PROTECTION AND MONITORING PROGRAMME FOR TATA STEEL, SHOTTON WORKS, DEESIDE

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Summary

P Shephard

This document represents the regular update of the design Site Protection and Monitoring Programme (SPMP) for Shotton Works, Deeside, as originally submitted to the Environment Agency (the "Agency") in pursuance of Condition 4.1.7 and 4.1.8 of Permit No.BR7321 (the "Permit") authorising the operation of Shotton Works (the "installation").

The Infrastructure Monitoring plan already in place through the SMS and EMS will continue throughout the life of the Permit and will be reviewed in light of any modifications or changes to infrastructure, working practices or any guidance/statutory requirement.

This document is authored as a regular update of the SPMP and it does not necessarily follow that significant changes have been made to site. This review of the SPMP is required by condition 4.1.8 which states "The operator shall maintain the Site Protection and Monitoring Programme (SPMP) submitted under condition 4.1.7, and shall carry out regular reviews of it. The results of such reviews and any changes made to the SPMP shall be reported to the Agency within 1 month of the review or change."

This review is an auditable document of operational changes within the PPC permitted activities at Shotton Works, since the submission of the design SPMP to the Agency in October 2004.

The design SPMP concluded that there is little likelihood of pollution or leaks to land during the lifetime of the installation. Therefore no corrective action was proposed, or any reference data collected. This review also concludes that there is still little likelihood of pollution or leaks to land and, therefore, reference data or corrective actions are not required.

Since the original report was authored, there have been the following closures of buildings and reductions of processes to site (closures highlighted red are since the previous report):

- Closure of Cold Mill operations (including 2 Pickle Lines, 5 Stand Reduction Mill, 2 Temper Mills, Anneal Section, and other finishing units).
- Closure of No.2 and No.3 Electro galvanising Lines, and associated finishing units.
- Closure and selling off the Old General Office complex (including Main Office Block, West Block buildings, Central Laboratory and Directors Garage).
- Corus Living Solutions (ceased operations in 2009)
- Metal Centre (closed Q1 2015)

The Environmental and Infrastructure Monitoring Programmes have been reviewed and, where suitable, remain as in the design SPMP documented in 2004.

1.0 Objectives

The objectives of this report are:

1. To review operations at the installation against those referenced within the SPMP. Where changes have occurred, to document these, and if necessary, to complete an assessment of the likelihood of land pollution potential.
2. To review progress made on proposed corrective actions to reinstate pollution prevention controls that had previously been identified as being insufficient.
3. To review, and where necessary, amend the assessment of the likelihood of land pollution potential.
4. To review progress made, where the correction of Reference Data was deemed necessary.
5. To review, and where necessary, amend the Infrastructure Monitoring Programme.

2.0 Methodology

The 2015 review was undertaken by Mr Peter Shephard, Senior Energy & Environment Officer, and Mr Steve Hughes, Environmental Officer at Shotton Works [referenced collectively herein as "the Environment Team"].

A summary document was issued to various plant contacts across the site and they were asked to review the information contained within it and advise the Environment Team of any changes. The summary document contained:

- A plan showing the location of all potentially polluting substances (contained within Appendix A of the SPMP, as drawing A1.x etc)
- A copy of the pollution potential assessment table (contained within Appendix B of the SPMP), and
- A summary of the measures to be taken where corrective action has been recommended within the SPMP.

In areas where no plant contact had been established, the Environment Team undertook a complete review of the summary document in the areas.

The responses from plant contacts have been considered and the Environment Team arranged visits to audit any corrective action and to review the summary document. At the beginning of 2015, an audit of the plant areas was undertaken. The pollution potential of all new storage locations were assessed in accordance with the Agency's H7 Guidance (Ref. 3). Where storage locations have been added or removed, Appendices A and B have been updated accordingly.

The findings of the review are documented within sections 4 and 5 below. Where required, the pollution potential assessment tables have been revised and the updated entries are provided within Appendix B. These changes have also been reflected within the drawings seen in Appendix A. Redundant or decommissioned activities, with respect to the baseline set in the 2004 design SPMP, have been differentiated from currently operating activities.

3.0 Introduction

The original assessment (2004) of Shotton Works has been undertaken by Miss Katherine Liddle, Geo-environmental Engineer and Miss Lucy Winter, Environmental Scientist at Corus's Research Development & Technology Centre at Rotherham on behalf of Mr Ian Russon, Environment Manager at Shotton Works. The 2008 review was undertaken by Mr Richard Hardeman, also from Research Development & Technology Centre, and excluded several areas from the original report.

This iteration of the assessment has been undertaken by Mr Peter Shephard, Senior Energy and Environment Officer, TATA Colors, Shotton, as a regular review requirement. Note that content which does not require updating from the original document will not be updated. From this point, any information which has been updated will be highlighted in red, and referenced in the Content Update Table as a single entry. For information removed, this will be referenced in the Content Update Table, to allow detailed records to be kept. Where Corus details have been replaced with TATA Colors, this will not be recorded in every instance.

3.1. Site Location

The installation is located at Shotton Works, Deeside, Flintshire, CH5 2NH. The centre of the site is at National Grid Reference SS 3040 7050. The installation boundary can be seen in Drawing No. 306890 in the PPC Application (Ref. 1) reproduced in Appendix A(1).

3.2. Details of Installation

Shotton works is occupied by the fuel storage area, Coatings 2 Complex, Coatings 3 Complex, Electricity Substation, Boiler House, and the Effluent Treatment Plant. Operations conducted within the six areas are further detailed below.

Note that **Area 1: Administration Area** ("the old General Office") is no longer under the ownership or management of Tata Steel, and has therefore been removed from the report.

Note that **Area 2: Fuel Storage Area** falls outside the installation boundary at Shotton Works. Area 2, and the potentially polluting substances found within Area 2 have been removed from the SPMP.

Note that although **Area 7: Offices** fall within the geographical installation boundary at Shotton works, as there are no potentially polluting substances within the area, and therefore the area has been removed from the SPMP.

For commonality, the remaining areas are *not* renumbered; therefore the first area (Coatings 3 Complex) is still numbered as Area 3, rather than superseding Area 1 etc. This is reflected in the spreadsheet forming Appendix B.

3.2.1 Area 3: Coatings 3 Complex

There have been no significant changes to operational activities at the Coatings 3 complex since the submission of the design SPMP in 2004 or the review in 2008. There has, however, been

the introduction of a reverse osmosis plant within the area, and there are 2 new sources on the No.3 side trim line that had previously not been identified. An assessment of the land pollution potential has been undertaken and presented within Appendix B. The assessment concludes that there is little likelihood that land pollution or leaks to land will occur during the lifetime of the installation. There have also been minor changes to the storage of potentially polluting substances at several sources throughout the complex, as highlighted within Appendix B. The land pollution potential has been reassessed, however there is little likelihood of land pollution.

3.2.2 Area 4: Electricity Substation

There have been no significant changes to operational activities at the Electricity Substation since the submission of the design SPMP in 2004. Any potentially polluting substances would be located within the transformers, and therefore would represent a minimal risk under normal and abnormal operating conditions; it should be noted that the PCBs would have been removed over the preceding years as required under legislation.

3.2.3 Area 5: Boiler House

At the time of writing, the boiler house and associated buildings (i.e. old scrap bailer) are no longer in operation, and all potentially polluting substances have been removed. The boilers have been mothballed, and their function replaced with (temporary, localised) boilers while new process boilers are commissioned, local to process requirements. Since the 2004 original report, there has been a small annex added to the old scrap bailer, which would have formed part of a recycling facility and Waste to Energy plant. The Waste to Energy plant is still an ongoing project, and a new focus has begun to allow works to commence on site in 2015/6. This would be undertaken in the hard standing area to the east of the old scrap bailer; at present, there are no plans to continue any works within the old scrap bailer, or in the newer annex. It should be noted that the buildings in this Area (excluding the Boiler House installation specifically) are now **excluded** from the Site EPR Permit BR7321, and are currently not classed as permitted land.

3.2.4 Area 6: Cold Mill

The majority of the Cold Mill area of Shotton has been rented by Building Systems; this principally comprises the area of 5, 6, 7 and 8 Bay, and associated external areas; therefore the Building Systems element is considered to be external to the Shotton Site Environmental Permit. Building Systems includes Panels and Profiles, and ColorSteels operations. The majority of the works undertaken in the Cold Mill are now "passive" – in that the works are to do with cutting and shaping steel coil into panels or similar products, although the area also includes the cyclopentane tank; this is used in the construction of building materials as an insulation layer between panels. It must be stressed that this not included in the SPMP for the Site Permit, as previously stated because Building Systems do not form part of the Site Permit.

Part of 4 Bay is used for finished product storage, and is therefore inert (in terms of environmental impact); 3 Bay comprises Project spares storage. The majority of this is inert, or contains basic motor lubricant within the items. The boilers have been decommissioned; therefore the oil separation tank and water treatment equipment has been removed. The fuel tanks are planned to be removed, but are still present at time of writing.

3.2.5 Area 8: Coatings 2 Complex

There have been no significant changes to operational activities at Coatings 2 complex since the 2008 report. At the time of writing, 5 Hot Dip Galvanising Line is mothballed (estimated duration of 18 – 24 months), but the capacity for re-commissioning remains.

3.2.6 Area 9: Effluent Treatment Plant

There have been no significant changes to operational activities at the Effluent Treatment Plant since the submission of the design SPMP in 2004. There has, however, been the introduction of two new tanks in the area. An assessment of the land pollution potential has been undertaken and presented within Appendix B. The assessment concludes that there is a likelihood of land pollution or leaks to land could occur during the lifetime of the installation for source 26, the effluent holding tank. However, agreement has been reached with the Agency to use this tank without suitable secondary containment. This is discussed further in section 6. During 2014, a major maintenance and refurbishment project was undertaken at the Effluent Treatment Plant; this has continued throughout 2015, and aims to reduce the volumes of chemicals stored, as well as ensure the chemicals are the most suitable, to account for the reduction in throughput from reduced operations and effluent streams from the production areas. This will reduce the severity of any release to land which may occur in the event of an unplanned, serious release of chemical or effluent. The operational activity associated with the ETP will be unchanged (from this maintenance work), although the method will change and will be reflected in the content of the Permit. Additionally, a Pilot Plant for a potential new effluent treatment process (and plant) is being trialled at the time of writing. The decision to continue is currently with CapEx committee.

4.0 Corrective Action Progress

Where the existing pollution control measures were identified as insufficient to prevent pollution to land and the assessment concluded that the collection of Reference Data was necessary, corrective action was proposed in the design SPMP as an alternative. This approach is considered to be in keeping with the PPC (and EPR) philosophy.

The design SPMP submitted to the Agency concluded that there was little likelihood of pollution to land at Shotton Works and Reference Data was not required. Therefore, corrective action was not proposed for the storage of any potentially polluting substances.

5.0 Review of the Likelihood of Land Pollution

Upon completion of the 2008 review of the SPMP for Shotton Works, the assessment of the likelihood of land pollution was reassessed in accordance with the H7 guidance. The assessment has been based on the information provided by the works Environment Department and through audits undertaken by Corus Research, Development and Technology.

The 2008 review concluded that there is little likelihood that land pollution or leaks to land will occur during the future life of the installation for all areas with the exception of Area 9, the Effluent Treatment Plant. Source 26 the Effluent Holding Tank does not have sufficient secondary containment. However, in agreement with the Environment Agency, the area does not require secondary containment in accordance with the H7 guidance and, therefore, the

conclusion of the SPMP is that there is little likelihood that land pollution or leaks to land will occur during the future life of the installation.

Since the last iteration of the SPMP, the IPPC regulations have been replaced with the EPR regulations. The H7 requirements have not directly been transposed to an EPR requirement. However, Swinden Technology Centre (previously Corus Technology Centre) are developing an interactive web-based tool which will be used to access historic (and new) ground sampling results, as well as other similar tests; this will allow more complete access to historic data. The impact of the translation of the Oil Storage Regulations into Welsh legislation will be assessed at the time this is introduced, and appropriate measures planned and instigated. For Area 9, there has been a program of major maintenance which would reduce any potential pollution incident, and a dedicated project to investigate replacing the existing effluent plant with newer technology. This is currently subject to a letter of consent, but this expires in April 2016 – at the time of writing, the decision to continue the project is with the CapEx committee. Should this be implemented, the chemical storage in Area 9 would reduce in volume dramatically.

6.0 Collection of Reference Data

Requirement for Reference Data within the Design SPMP

The design SPMP concluded that there is little likelihood that land pollution or leaks to land will occur during the future life of the installation for all areas. Therefore, Reference Data did not need to be collected for the installation.

Requirements for Reference Data within the 2008 review of the SPMP

The 2008 SPMP review concludes that there is little likelihood that land pollution or leaks to land will occur during the future life of the installation for all areas. Therefore, Reference Data does not need to be collected for the installation.

Requirements for Reference Data within the 2015 review of the SPMP

The 2015 SPMP review concludes that there is little likelihood that land pollution or leaks to land will occur during the future life of the installation for all areas. Therefore, Reference Data does not need to be collected for the installation.

It should be noted that the historical land contamination from works previously undertaken on site periodically presents a concern for any development and/or excavation works. As such, for any works where there is a requirement to excavate, historic sources and sampling results are consulted, and if there are any known issues in the area, additional sampling would be undertaken to ensure any resulting waste is handled in the correct manner. Additionally, as our on-site land fill is not permitted to accept contaminated or hazardous waste, the spoil arising could not be disposed of on-site. As previously noted, a web based tool is being developed to allow for greater and easier access to historic land contamination or test results.

7.0 Review of Monitoring Programme

The Environmental and Infrastructure Monitoring Programmes have been reviewed as part of the 2015 review.

Environmental monitoring was not proposed within the design SPMP as it concluded that there is little likelihood that leaks to land will occur during the future life of the installation; assuming all relevant maintenance and corrective measures are completed. Beyond this, implementation of the infrastructure monitoring programme is considered sufficient. The Environment Incident Reporting system (EIRF) has been introduced since the 2008 review, and this highlights recurring issues and non-pollution incidents (e.g. paint leak within a bund), which allows higher potential events to be identified and preventative measures taken; it also highlights when an incident may become a breach of Permit and therefore reportable.

The infrastructure monitoring programme meets the objectives outlined within section 5.1.2 of the design SPMP. Consequently, there is no change.

8.0 Plan for the Next SPMP Review

All activities within the 5 operational plant Areas should be considered in the next SPMP review at Shotton works. The methodology applied shall be the same as undertaken in 2015. Any changes across the works shall be discussed with the Environment Department at Shotton Works and these changes should be included within the auditing process. Any significant changes to the process or to the site would be communicated appropriately with NRW officers.

Potential areas which will be likely to change prior to the next audit include the Boiler House (Area 5), and the Effluent Treatment Plant (Area 9).

No outstanding actions have arisen from this 2015 review and, therefore, the next review should look at the entire installation, although there will be a focus on Area 9 if the aforementioned project receives funding.

9.0 References

1. PPC Permit No. BR7321. Permit with Introductory Note. Corus UK Limited. 17 March 2004. Environment Agency.
2. Design of a Site Protection and Monitoring Programme for Shotton Works, Deeside, Corus Colors. That does not require reference data to be collected. 29th October 2004. Liddle, K.E./ AND Winter, L. Corus Research, Development and Technology.
3. Technical Guidance Note IPPC H7. Guidance on the Protection of Land Under the PPC Regime; Application Site Report and Site Protection and Monitoring Programme. August 2003. Environment Agency.

Appendix A
Figures and Plans

Contents

- Drawing No. 311580 Installation Arrangement (EPR Boundary Drawing, 2009)
- Drawing A1 General Installation
- Drawing A1.3 Coating 3 Complex
- Drawing A1.5 Boiler House
- Drawing A1.6 Cold Mill
- Drawing A1.8 Coatings 2 Complex
- Drawing A1.9 Effluent Treatment Plant

Appendix B
Assessment of Land Pollution Potential

Contents

Assessment of Activity / Substance / Pollution Potential for all areas of Shotton Site

Content Update Table:

Page Reference	Reference (where available)	Synopsis of Update	Updated by	Date of Update
1	Front cover	Replacement of Corus logo and references with TATA Steel / TATA Colors, update of content of front cover to illustrate the new document status (date etc)	Peter Shephard	December 2015
2	Circulation list & legal notice	Updated circulation list to show current site management and other interested parties, updated legal notice to replace Corus with TATA Steel.	Peter Shephard	December 2015
	Throughout	Removal / Replacement of Corus references and logos with TATA Steel (where required)	Peter Shephard	December 2015
3	Table of Contents	General update	Peter Shephard	December 2015
4	Summary	Updated to illustrate changes to author and "Agency" details. Also includes a list of site alterations since the original report	Peter Shephard	December 2015
5	1.2	Reference to and status of "Cold Mill decommissioning" removed	Peter Shephard	December 2015
5	2.0	General update	Peter Shephard	December 2015
6	3.0	General update	Peter Shephard	December 2015
6	3.2	General update, including references to Areas no longer covered by this report	Peter Shephard	December 2015
6 – 8	3.2.1 – 3.2.6	Update to content of individual Areas to reference and detail changes since the last SPMP	Peter Shephard	December 2015
9	6.0	Updated to include findings from 2015 Review	Peter Shephard	December 2015
9	7.0	Updated to include findings from 2015 Review	Peter Shephard	December 2015
10	8.0	Updated to include findings from 2015 Review Updated to include references to EIRF	Peter Shephard	December 2015

ORIGINATING OFFICE
DRG.No.

RECEIVING OFFICE
DRG.No.

FIRST ANGLE PROJECTION

CONFIDENTIAL - CORUS

DO NOT SCALE

LEGEND



INSTALLATIONS



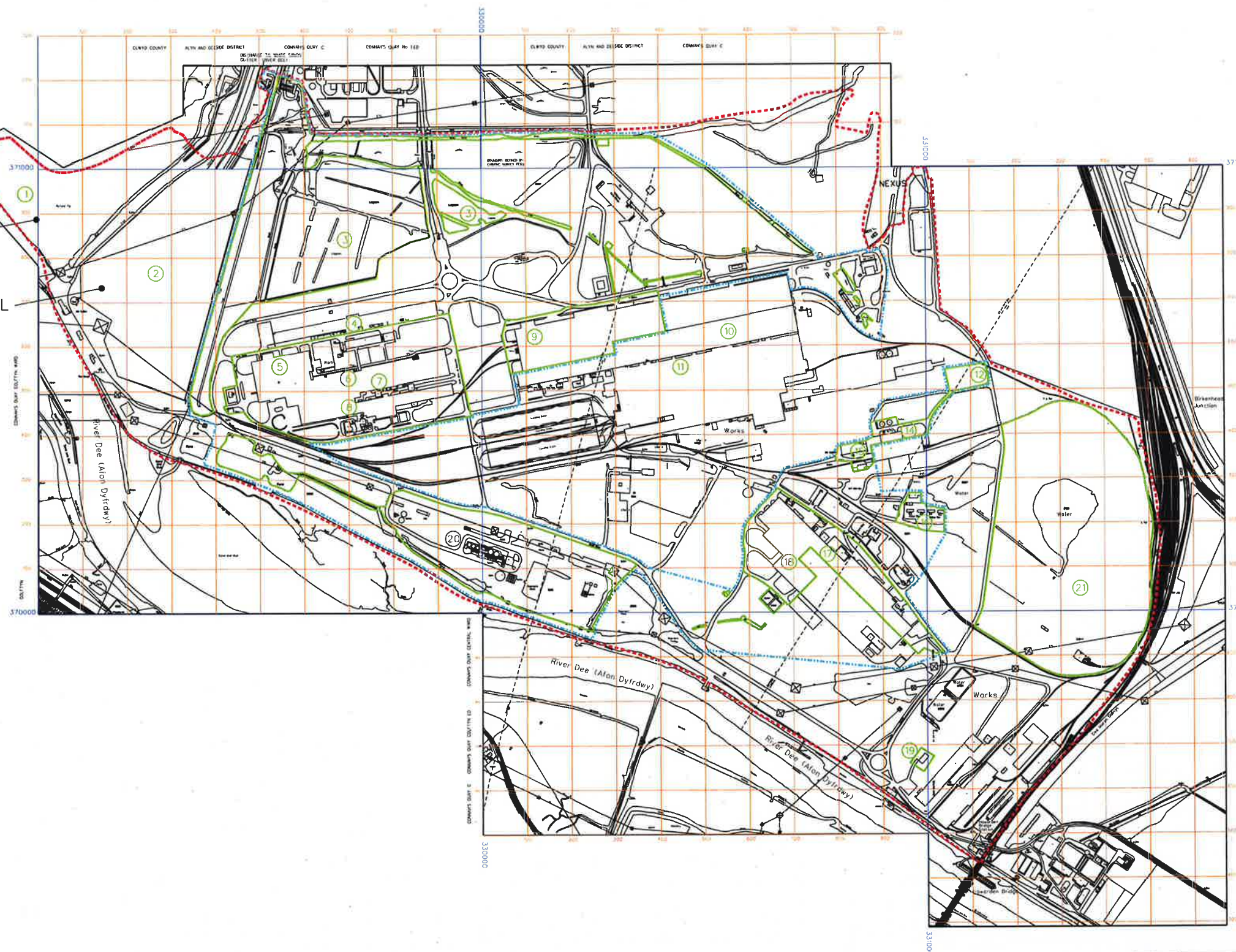
WORKS BOUNDARY



INSTALLATION BOUNDARY

OPERATIONAL
LANDFILL

NON OPERATIONAL
LANDFILL



- KEY
1. OPERATIONAL LANDFILL
 2. NON - OPERATIONAL LANDFILL
 3. TERN LAGOONS AND SITE OF SPECIAL SCIENTIFIC INTEREST
 4. COIL STORAGE (NOT IN INSTALLATION)
 5. WORKSHOP
 6. No.1 COLORCOAT LINE
 7. No.5 HOT DIP GALVANISING LINE
 8. No.6 HOT DIP GALVANISING LINE
 9. COIL STORAGE
 10. CORUS LIVING SOLUTIONS (NOT IN INSTALLATION)
 11. COIL STORAGE (NOT IN INSTALLATION)
 12. ENGINEERING SCRAP
 - 13.
 14. BOILERS
 15. SUBSTATIONS
 16. SUBSTATIONS
 17. No.2 COLORCOAT LINE
 18. ENGINEERING WORKSHOP
 19. TOP YARD FUEL STORE
 20. EFFLUENT TREATMENT PLANT AND LAGOONS
 21. FOUNDRY LAKE (AREA = 19.2 HECTARES)

No. OF	ITEM	DRG. No. OR MATL		DESCRIPTION	
		SCALE	1 : 5000 @ A1	PLANT	SHOTTON
		UNIT OF MEASUREMENT		SECTION	WORKS GENERAL
		DRAWN	BMc 22.04.09	DESCRIPTION	
		CHECKED		PPC PERMIT BR7321 INSTALLATION BOUNDARY	
		TRACED		SURRENDER 09	
		PASSED		COPYRIGHT- CORUS © 2009...	
		CONFIDENTIAL		PROCESS TECHNOLOGY BUSINESS	
REVISIONS	THIS DRAWING IS THE PROPERTY OF CORUS AND MUST NOT BE COPIED WITHOUT WRITTEN PERMISSION. ITS CONTENTS ARE CONFIDENTIAL, MUST NOT BE DISCLOSED OUTSIDE CORUS WITHOUT WRITTEN PERMISSION AND ARE TO BE USED ONLY FOR THE PURPOSE FOR WHICH THE DRAWING IS SUPPLIED.			DRG.No.	
				RECEIVING OFFICE	
				DRG.No. 311580	

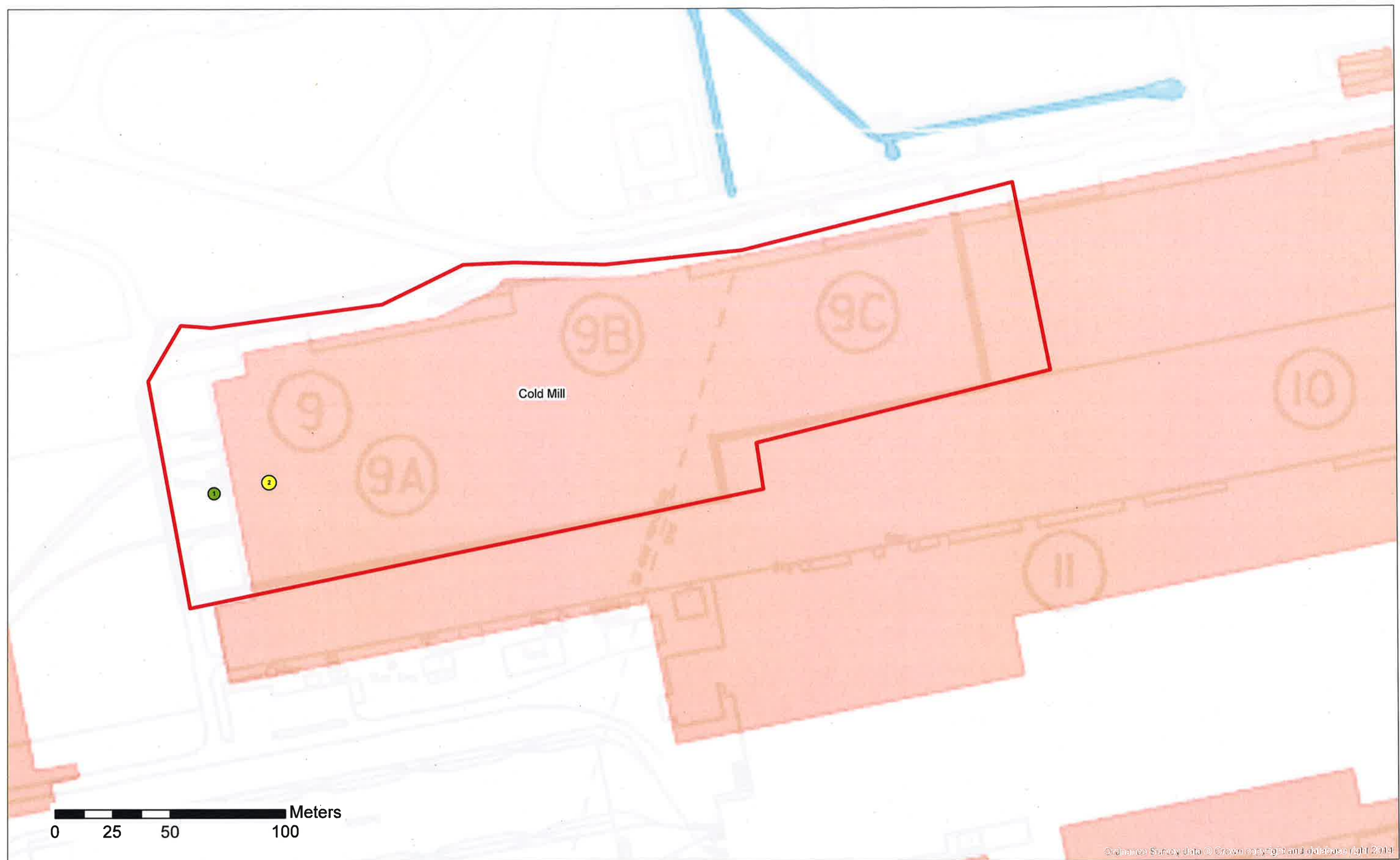


PROCESS TECHNOLOGY BUSINESS

CORUS COLORS. SHOTTON WORKS.
DEESIDE, FLINTSHIRE, CH5 2NH



REFERENCE DRAWINGS
DRAWING No. 310958 GENERAL SITE PLAN



Ordnance Survey data © Crown copyright and database right 2014

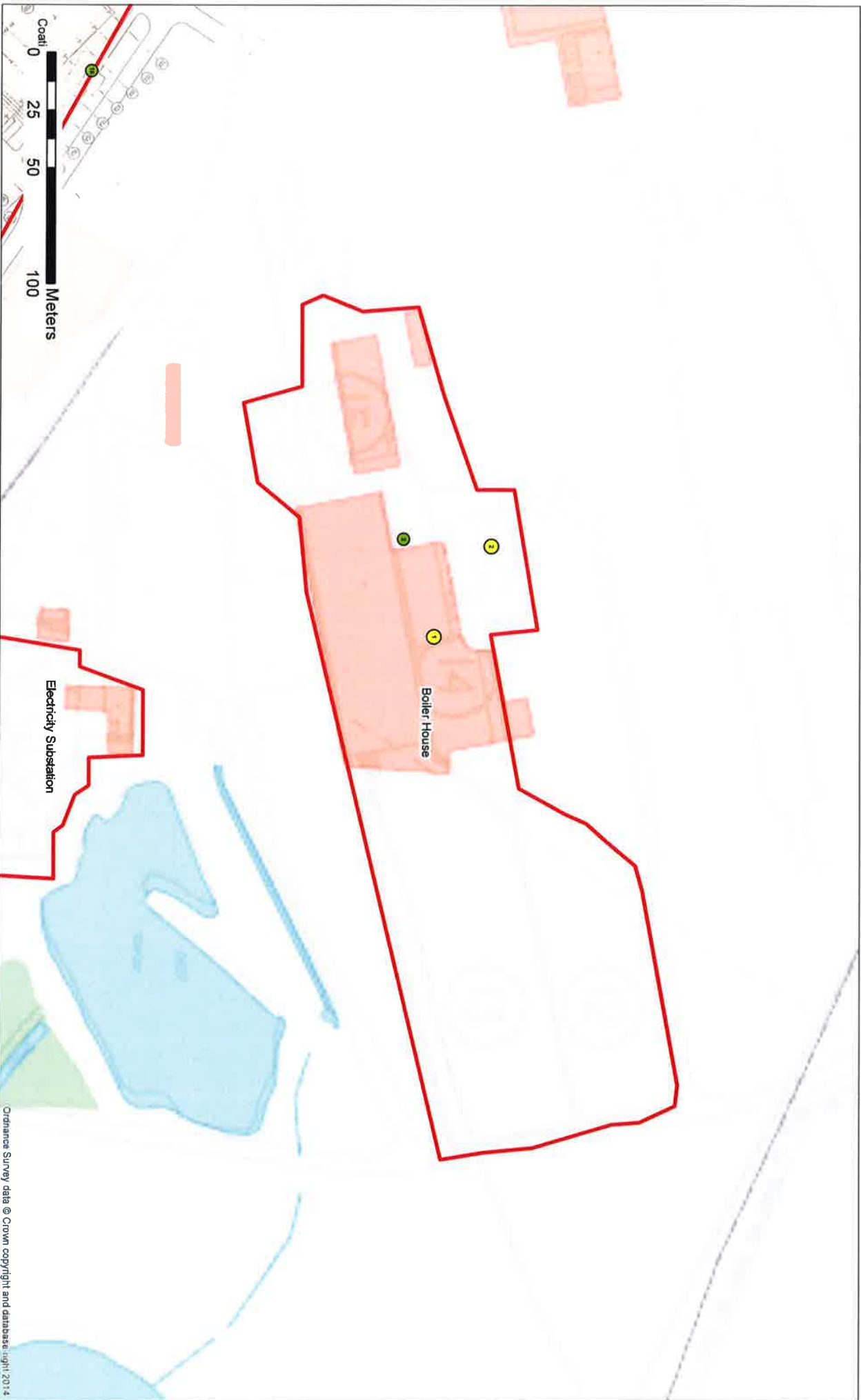
Legend

-  Historical Sources
-  Sources Not Requiring Reference Data
-  Area Boundaries



	Drawn by:	Peter Knight
	Date:	12/11/2015
	Scale:	1:1,500
	Revision No:	N/A

Drawing No:	A1.6 Cold Mill
Title:	Area 6 Cold Mill
Project:	Shotton SPMP Review



Legend

- Historical Sources
- Sources Not Requiring Reference Data
- Area Boundaries

TATA	
Drawn By:	Peter Knight
Date:	12/11/2015
Scale:	1:1,500
Revision No:	N/A

Drawing No:	A1.5 Boiler House
Title:	Area 5 Boiler House
Project:	Shotton SPMP Review

Source Code	Activity	Substance	Volume (capacity)	1. Do Preventative Measures Exist?			2. Are Preventative Measures Adequate for Above Ground Storage Bunds?										Are Preventative Measures Adequate for Subsurface Structures?		2. Are Preventative Measures Adequate for Surfacing? What is its condition?	3. There are NO records of pollution incidents or spills?	4. Are there proposals to conduct integrity testing of preventative measures?	5. Is there an adequate documented management system?	Have you answered "no" to any of the five questions?	
				Primary	Secondary	Tertiary	The bund is impermeable and resistant to the substance stored within	Bund has no outlet and drains to a collection point	Pipework routed within bund areas	Designed to catch leaks from fittings and tank	Bund has a capacity >110% of largest tank or 25% of total tankage	Contents of the bund are subject to regular visual inspection and any present are subsequently removed	Where the bund is not frequently inspected, it is fitted with a high-level probe and alarm as appropriate	Fill points are within the bund where possible, otherwise adequate containment for filling facilities are provided	The bund is subject to a routine programme of inspections (normally visual, extending to water testing where appropriate)	Can the location of the subsurface structure be identified?	Is secondary containment and/or leakage detection provided?	YES Collect Reference Data					NO Collection of Reference Data is NOT Required	
1	Tank 01 Buffer Tank	Chromate and acid	100,000 litres no longer used, virtually empty	Steel tank	Fiberglass lined	Concrete bund with asphalt lining	Yes	Yes. Bund drains to a sump with an automatic level pump and to tank no. 19.	Yes	Yes	Yes	Yes	N/A	Yes	Yes	No subsurface structures	N/A	Agree	Yes*	Environmental Management System (EMS) covers all installation	-	No		
2	Tank 04 Buffer Tank	Spent chromate and acid	61,000 litres no longer used, virtually empty	Steel tank	Fiberglass lined	Concrete bund with asphalt lining	Yes	Same as Source 1	Yes	Yes	Yes	Yes	N/A	Yes	Yes	No subsurface structures	N/A	Agree	Yes*	EMS covers all of installation	-	No		
3	Tank 07 Main effluent receipt tank	Effluent from Coatings 2 and 3	250,000 litres	Steel tank	Rubber lined	Concrete bund with asphalt lining	Yes	Same as Source 1	Yes	Yes	Yes	Yes	N/A	Yes	Yes	No subsurface structures	N/A	Agree	Yes*	EMS covers all of installation	-	No		
4	Tank 13 Back-up chromate collection tank	Waste chromate	61,000 litres, not always at capacity as only used when tank no.11 is full	Steel tank	Rubber lined	Concrete bund with asphalt lining	Yes	Same as Source 1	Yes	Yes	Yes	Yes	N/A	Yes	Yes	No subsurface structures	N/A	Agree	Yes*	EMS covers all of installation	-	No		
5	Tank 25 A&B Clarifiers	Effluent from Tank 23	2 x 437,000 litres	Steel tank	Rubber lined	Concrete bund with asphalt lining	Yes	Same as Source 1	Yes	Yes	Yes	Yes	N/A	Yes	Yes	No subsurface structures	N/A	Agree	Yes*	EMS covers all of installation	-	No		
6	Tank 62 A,B&C Lime storage	Lime slurry	3 x 12m³	Steel tank	Undercover of a building	Concrete bund with asphalt lining	Yes	Same as Source 1	Yes	Yes	Yes	Yes	N/A	Yes	Yes	No subsurface structures	N/A	Agree	Yes*	EMS covers all of installation	-	No		
7	Tank 25C Clarifier	Effluent from Tank 23, but dosed with sodium hydroxide	1,600,000 litres no longer used, contains water	Steel tank	Rubber lined	Concrete bund with asphalt lining	Yes	Same as Source 1	Yes	Yes	Yes	Yes	N/A	Yes	Yes	No subsurface structures	N/A	Agree	Yes*	EMS covers all of installation	-	No		
8	Tank 32 Filtrate Tank	Liquor from the filterpress	40,000 litres	Steel tank	Rubber lined	Concrete bund with asphalt lining	Yes	Same as Source 1	Yes	Yes	Yes	Yes	N/A	Yes	Yes	No subsurface structures	N/A	Agree	Yes*	EMS covers all of installation	-	No		
9	Tank 39 A&B Sludge Tanks (pumped to the filterpress)	Sludge from tanks 25 A&B	2 x 61m³	Steel tank	Rubber lined	Concrete bund with asphalt lining	Yes	Same as Source 1	Yes	Yes	Yes	Yes	N/A	Yes	Yes	No subsurface structures	N/A	Agree	Yes*	EMS covers all of installation	-	No		
10	Tank 37 No. 2 Neutralising Tank	Spent Hydrochloric acid mixed with lime slurry	16,000 litres no longer in use and empty	Steel tank	Rubber lined	Concrete bund with asphalt lining	Yes	Same as Source 1	Yes	Yes	Yes	Yes	N/A	Yes	Yes	No subsurface structures	N/A	Agree	Yes*	EMS covers all of installation	-	No		
11	Tank 23 No. 1 Neutralising Tank	Effluent from all tanks (excluding chromate) and dosed with quick lime	75,000 litres	Steel tank	Rubber lined	Concrete bund with asphalt lining	Yes	Same as Source 1	Yes	Yes	Yes	Yes	N/A	Yes	Yes	No subsurface structures	N/A	Agree	Yes*	EMS covers all of installation	-	No		
12	Tank 11 Chromate Collection Tank (removed by third party)	Waste chromate from across the works	102,000 litres	Steel tank	Rubber lined	Concrete bund with asphalt lining	Yes	Same as Source 1	Yes	Yes	Yes	Yes	N/A	Yes	Yes	No subsurface structures	N/A	Agree	Yes*	EMS covers all of installation	-	No		
13	Tank 15 Wet Temper	Liquor from Tank 17 is dosed with Calic (ready mixed lime)	20,000 litres	Steel tank	Rubber lined	Concrete bund with asphalt lining	Yes	Same as Source 1	Yes	Yes	Yes	Yes	N/A	Yes	Yes	No subsurface structures	N/A	Agree	Yes*	EMS covers all of installation	-	No		
14	Tank 09 Header tank for Tank 07	Effluent dosed with sulphuric acid	25,000 litres	Steel tank	Rubber lined	Concrete bund with asphalt lining	Yes	Same as Source 1	Yes	Yes	Yes	Yes	N/A	Yes	Yes	No subsurface structures	N/A	Agree	Yes*	EMS covers all of installation	-	No		
15	Tank 19 Sump Tank	Filtrate from the filterpress and the contents of the bund sump	200,000 litres	Steel tank	Rubber lined	Concrete bund with asphalt lining	Yes	Same as Source 1	Yes	Yes	Yes	Yes	N/A	Yes	Yes	No subsurface structures	N/A	Agree	Yes*	EMS covers all of installation	-	No		
16	Tank 21	Liquor from Tank 17 is dosed with contents of Tank 15	200,000 litres	Steel tank	Rubber lined	Concrete bund with asphalt lining	Yes	Same as Source 1	Yes	Yes	Yes	Yes	N/A	Yes	Yes	No subsurface structures	N/A	Agree	Yes*	EMS covers all of installation	-	No		
17	Tank 17	Effluent from oil coating rollers in Coatings 3 and 5&6 Galvanising lines in Coatings 2	200,000 litres	Steel tank	Rubber lined	Concrete bund with asphalt lining	Yes	Same as Source 1	Yes	Yes	Yes	Yes	N/A	Yes	Yes	No subsurface structures	N/A	Agree	Yes*	EMS covers all of installation	-	No		
18	Reagent House	Sulphuric Acid	2,000 litres	Steel tank	Sump beneath the tank which drains to the main bund sump	Within a building	Yes	Same as Source 1	Yes	Yes	Yes	N/A	N/A	Fill point from Source 19 is within the building	N/A	Yes	Not necessary	Yes, good condition	Agree	Yes*	EMS covers all of installation	-	No	
18	Reagent House	7% Conc. Hydrochloric Acid	Max. 10 x 25 litres	Plastic drums	On brickwork hardstanding	Within a building	N/A	N/A	N/A	Yes floor of the building drains to the main bund sump	N/A	N/A	N/A	N/A	N/A	No subsurface structures	Yes, good condition	Agree	N/A	EMS covers all of installation	-	No		
19	Sulphuric Acid Storage Tank	96% Sulphuric Acid	10,000 litres	Steel tank	Concrete bund	Asphalt lining	Yes	Same as Source 1	Yes	Yes	Yes	Yes	N/A	Yes	Yes	No subsurface structures	N/A	Agree	Yes*	EMS covers all of installation	-	No		
20	Waste Oil Tank	Waste oil from the skimmer pump in Tank 17	15,000 litres	Steel tank	Concrete bund	Asphalt lining	Yes	Agree. Drains to a collection point.	Yes	Yes	Yes	Yes	N/A	Yes. Pumped out by third party for disposal.	Yes	No subsurface structures	N/A	Agree	Yes*	EMS covers all of installation	-	No		

Source Code	Activity	Substance	Volume (capacity)	1. Do Preventative Measures Exist?			2. Are Preventative Measures Adequate for Above Ground Storage Bunds?										Are Preventative Measures Adequate for Subsurface Structures?	Have you answered "no" to any of the five questions?																																																																																																																																																																																																																																																																																							
				Primary	Secondary	Tertiary	The bund is impermeable and resistant to the substance stored within	Bund has no outlet and drains to a collection point	Pipework routed within banded areas	Designed to catch leaks from fittings and tank	Bund has a capacity >110% of largest tank or 25% of total tankage	Contents of the bund are subject to regular visual inspection and any present are subsequently removed	Where the bund is not frequently inspected, it is fitted with a high-level probe and alarm as appropriate	Fill points are within the bund where possible, otherwise adequate containment for filling facilities are provided	The bund is subject to a routine programme of inspections (normally visual, extending to water testing where appropriate)	Skip is emptied frequently and disposed of to landfill			No subsurface structures	Yes good condition	Agree	No	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of installation	EMS covers all of 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Source Code	Activity	Substance	Volume (capacity)	1. Do Preventative Measures Exist?			2. Are Preventative Measures Adequate for Above Ground Storage Bunds?										Are Preventative Measures Adequate for Subsurface Structures?		2. Are Preventative Measures Adequate for Surfacing? What is its condition?	3. There are NO records of pollution incidents or spills?	4. Are there proposals to conduct integrity testing of preventative measures?	5. Is there an adequate documented management system?	Have you answered "no" to any of the five questions?	
				Primary	Secondary	Tertiary	The bund is impermeable and resistant to the substance stored within	Bund has no outlet and drains to a collection point	Pipework routed within banded areas	Designed to catch leaks from fittings and tank	Bund has a capacity >110% of largest tank or 25% of total tankage	Contents of the bund are subject to regular visual inspection and any present are subsequently removed	Where the bund is not frequently inspected, it is fitted with a high-level probe and alarm as appropriate	Fill points are within the bund where possible, otherwise adequate containment for filling facilities are provided	The bund is subject to a routine programme of inspections (normally visual, extending to water testing where	Can the location of the subsurface structure be identified?	Is secondary containment and/or leakage detection provided?	YES Collect Reference Data					NO Collection of Reference Data Is NOT Required	
27	Effluent treatment plant - pilot plant chemical dosing pumps	Sulphuric Acid 40% conc.	2 litres	Plastic pump body and pipework fittings	Enclosed coated steel mounted skid with sump	Sensor in skid sump which switches of plant if leak occurs to prevent skid overflowing	Yes	Yes	Yes	Yes	Yes, larger than capacity of pump and pipework within enclosed skid, sensor switches of whole plant if leak detected to prevent overflowing	Yes	N/A	N/A	Yes	No subsurface structures	N/A	Agree	Yes*	Environmental Management System (EMS) covers all installation		No		
		Gaustic Soda 32% conc.	2 litres	Plastic pump body and pipework fittings	Enclosed coated steel mounted skid with sump	Sensor in skid sump which switches of plant if leak occurs to prevent skid overflowing	Yes	Yes	Yes	Yes	Yes, larger than capacity of pump and pipework within enclosed skid, sensor switches of whole plant if leak detected to prevent overflowing	Yes	N/A	N/A	Yes	No subsurface structures	N/A	Agree	Yes*	Environmental Management System (EMS) covers all installation		No		
		Ferric Chloride	2 litres	Plastic pump body and pipework fittings	Enclosed coated steel mounted skid with sump	Sensor in skid sump which switches of plant if leak occurs to prevent skid overflowing	Yes	Yes	Yes	Yes	Yes, larger than capacity of pump and pipework within enclosed skid, sensor switches of whole plant if leak detected to prevent overflowing	Yes	N/A	N/A	Yes	No subsurface structures	N/A	Agree	Yes*	Environmental Management System (EMS) covers all installation		No		
		Polymer	2 litres	Plastic pump body and pipework fittings	Enclosed coated steel mounted skid with sump	Sensor in skid sump which switches of plant if leak occurs to prevent skid overflowing	Yes	Yes	Yes	Yes	Yes, larger than capacity of pump and pipework within enclosed skid, sensor switches of whole plant if leak detected to prevent overflowing	Yes	N/A	N/A	Yes	No subsurface structures	N/A	Agree	Yes*	Environmental Management System (EMS) covers all installation		No		

Note:



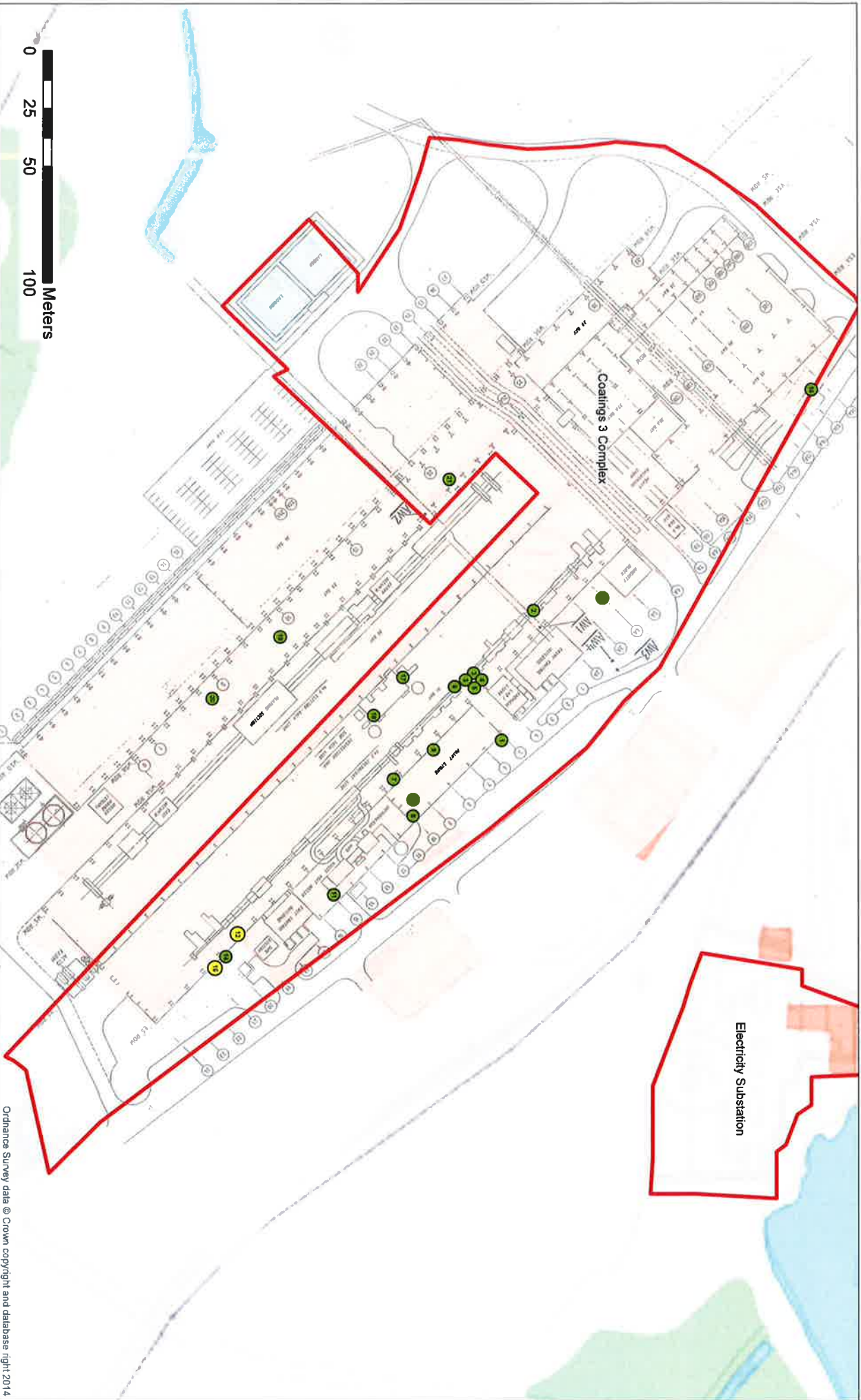
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- Historical Sources
- Sources Not Requiring Reference Data
- Area Boundaries

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Date:	12/11/2015
Scale:	1:1,500
Revision No:	N/A

Drawing No:	A1.9 Effluent Treatment Plant
Title:	Area 9 Effluent Treatment Plant
Project:	Shotton SPMP Review





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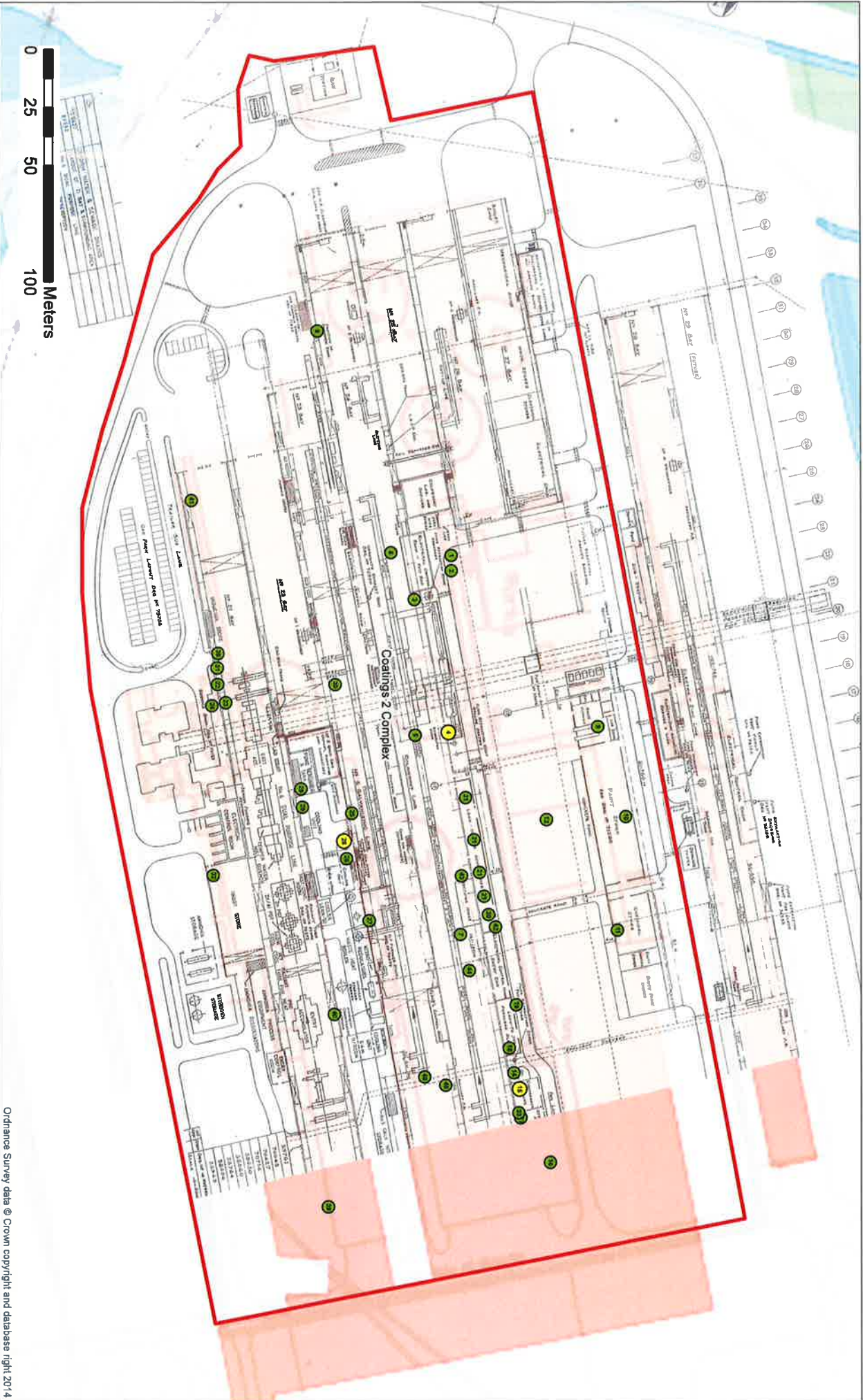
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Revision No:	N/A

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Title:	Area 3 Coating 3 Complex
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Area Boundaries

N

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Date:

12/11/2015

Scale:

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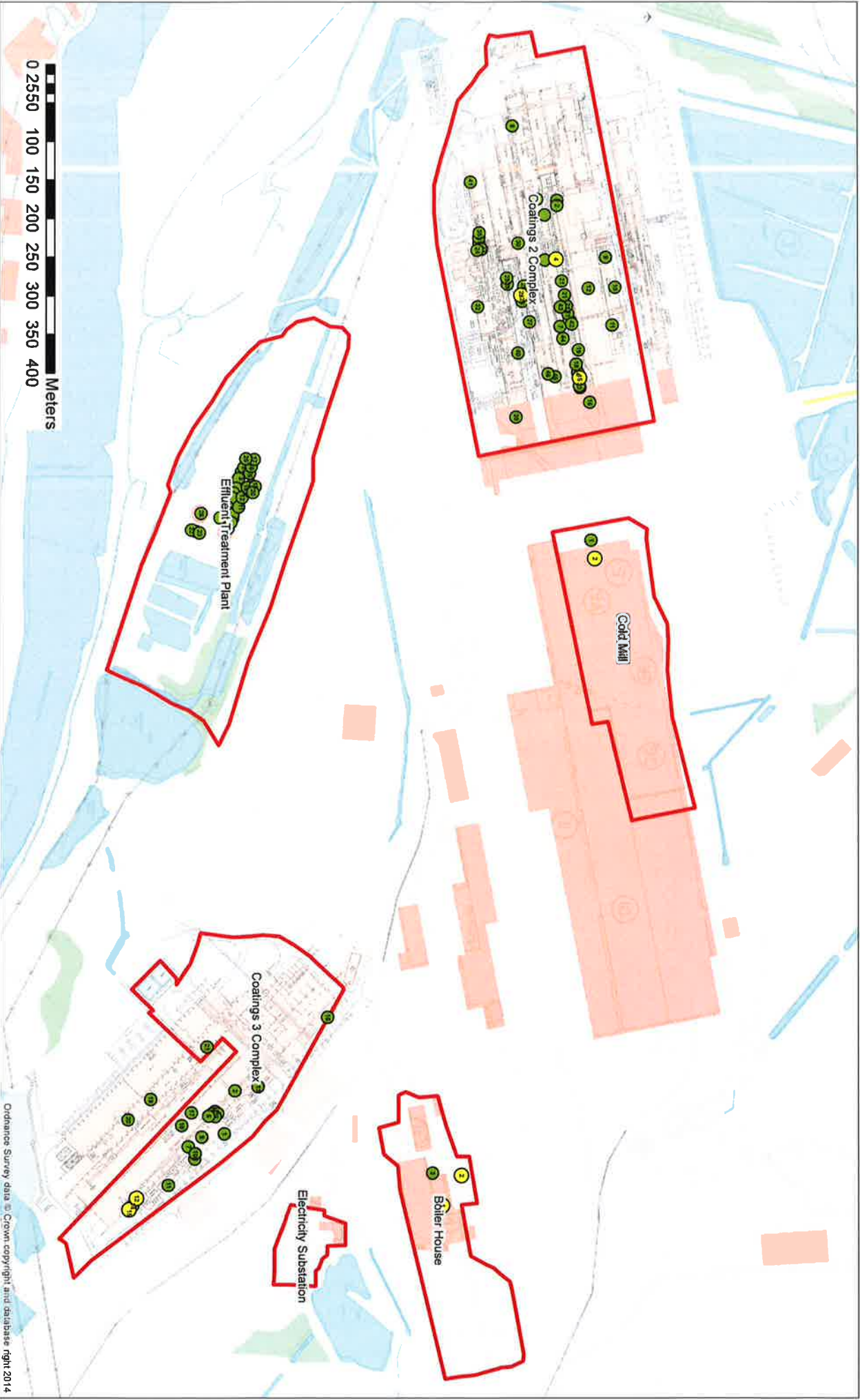
A1.8 Coating 2 Complex

Title:

Area 8 Coating 2 Complex

Project:

Shotton SPMP Review



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- Sources Not Requiring Reference Data
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Revision No:	N/A

Drawing No:	A1
Title:	Insulation Arrangement
Project:	Shotton SPMP Review

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