



nationalgrid

Willow Works, Merthyr Tydfil

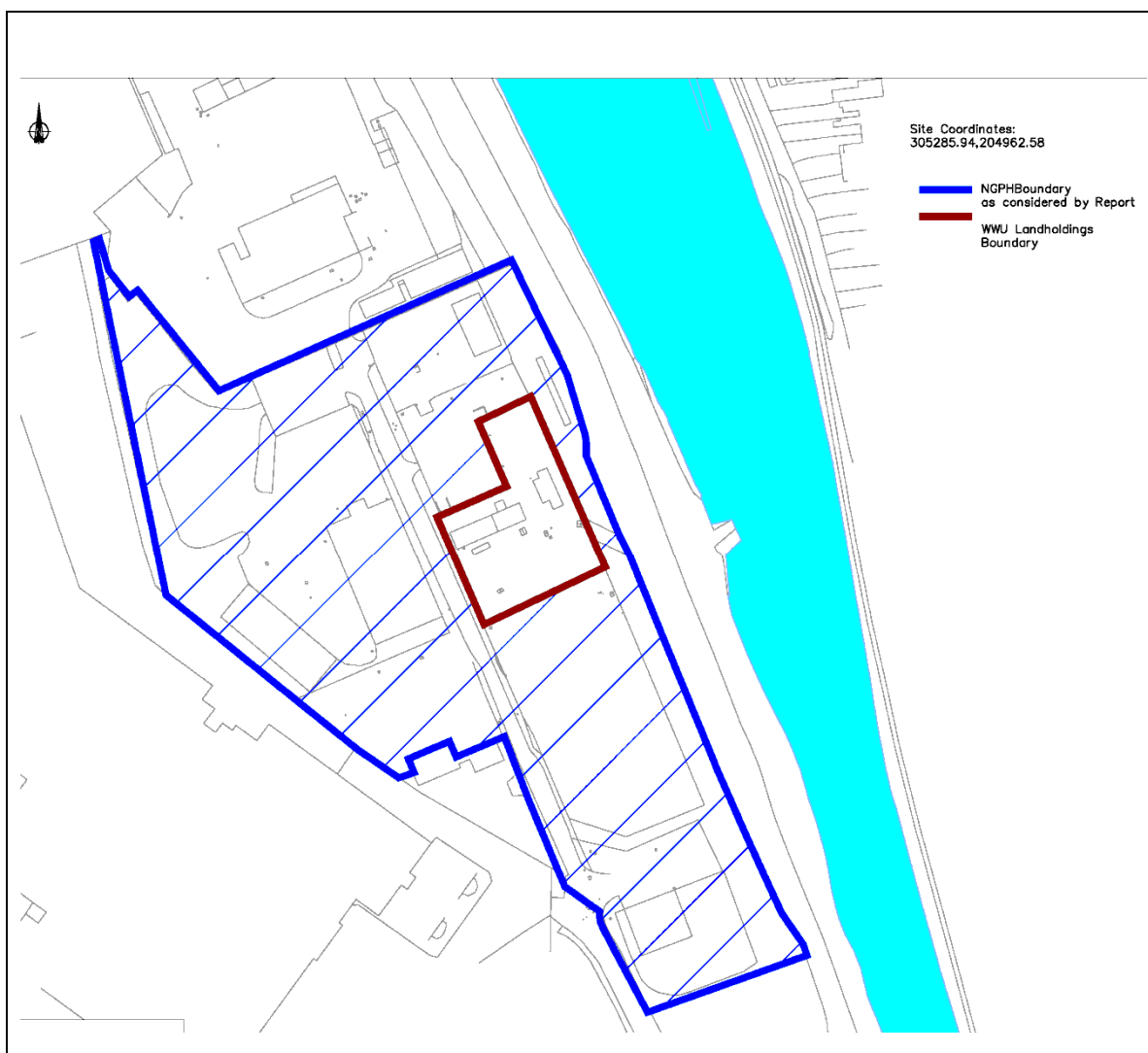
Site Location Code: 525

Factual Site Investigation Report

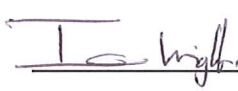
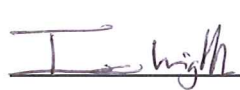
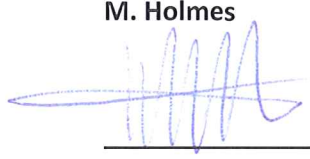
Final

R1538/12/4337

January 2013



Site Address:	Willow Works Abercanaid Ind Est Merthyr Tydfil CF48 1YH	NGP Document Tracking Code	
Report Title	Factual Site Investigation Report		
Report Type:	Contamination	Retention Period	
Site Code	525	Author (Company)	Celtic Technologies
Report Date	January 2013	Factual/Interpretative	Factual
Draft / Final	Draft	H & S File?	No
Work Stage	SI		
Brief description of contents	Factual Site Investigation to provide further information for the design of remediation works proposed for the site. The investigation focussed on an area of the site to the north east of the current site.		
Access Permitted	NGP Land Regeneration Team	NGP Contact	Sarah Rea

Client:	National Grid Property Holdings Ltd
Report Number:	R1538/12/4337
Report Title:	Factual Site Investigation Report
	Willow Works, Merthyr Tydfil
Report Status:	Final
Author(s):	I. Wright/J. Howe
(Signature & Date)	 19/01/13.
Project Manager:	I. Wright
(Signature & Date)	 19/01/13.
QA Approved:	M. Holmes
(Signature & Date)	 19/1/13

Celtic is the trading name of Celtic Technologies Limited.

This report has been prepared for National Grid Property Holdings Ltd. and their advisors as part of the 2012-2015 Framework Agreement for the provision of Land Remediation Contracting Services (Design and Build) Soils South in accordance with the terms and conditions set out therein.

TABLE OF CONTENTS

1.0	INTRODUCTION	1
2.0	SITE INFORMATION	2
2.1	Site Location	2
2.2	Previous Reports	2
2.3	Site Description	2
2.4	Site History	3
2.5	Services, Plant and Equipment	3
3.0	INVESTIGATION METHODOLOGY	4
3.1	Enabling Works	4
3.2	Drilling Works	4
3.3	Trial Pitting Works	4
3.4	Surveying of Exploratory Hole Positions	4
3.5	Waste Disposal	4
3.6	Ambient Monitoring	5
3.7	Testing and Chemical Analysis	5
3.7.1	Well Dipping	5
3.7.2	Sampling and Chemical Analysis	5
3.7.3	NAPL Recovery Tests	5
3.8	Incidents and Near Misses	6
4.0	FINDINGS OF INVESTIGATION WORKS	7
4.1	Ground Conditions Encountered	7
4.2	Chemical Results	7
4.3	Other Findings	9
5.0	REFERENCES	10

APPENDICES

APPENDIX A	DRAWINGS
APPENDIX B	PHOTOGRAPHS
APPENDIX C	TRIAL PIT AND BOREHOLE LOGS
APPENDIX D	CHEMICAL ANALYSIS RESULTS
APPENDIX E	DIPPING RECORDS
APPENDIX F	PRODUCT RECOVERY TEST RESULTS
APPENDIX G	WASTE DISPOSAL RECORDS
APPENDIX H	ENVIRONMENTAL MONITORING
APPENDIX I	INFORMATION SOURCES
APPENDIX J	LOW LEVEL HAZARD REPORTS

(Appendices C to J on CD)

1.0 INTRODUCTION

Celtic Technologies Limited (Celtic) has been commissioned by National Grid Property Holdings (NGPH) to provide a Factual Site Investigation Report on NGPH land at The Former Willow Works, Merthyr Tydfil, South Wales.

The objective of the Factual Site Investigation was to provide further information for the design of remediation works proposed for the site as part of the Stage 1 Pre-Remediation Risk Mitigation and Site Investigation Works. The investigation focussed on an area of the site to the north east of the current site. No work was carried out on a parcel of land at the very north of the NGPH site. This area is currently leased by Dairy Crest and no access to the area was possible during this investigation.

Contact points for the work are detailed in Table 1, below:

Table 1 – Contact Points

Organisation	Name	Role	Contact Details
NGPH	Sarah Rea	Regeneration Manager	National Grid House, Warwick Technology Park Gallows Hill Warwick CV34 6DA T: 07768 856409
NGPH	Hannah White	Land Regeneration Advisor	National Grid House, Warwick Technology Park Gallows Hill Warwick CV34 6DA T: 07812 237738
Wales and West Utilities	Jeff Smale	Plant Protection Network Support Officer	Wales and West House Spooners Close Coedkernow Newport NP10 8FZ T: 02920 278683
3cRisk	Ken Buchanan	Safety Advisor/CDM-C	The Sail Loft Lime House Court 3-11 Dod Street London E14 7EQ T: 07717 760121

2.0 SITE INFORMATION

2.1 Site Location

The site (NGPH Code 525) is situated on the Abercanaid Industrial Estate just west of the River Taff in Merthyr Tydfil at Ordnance Survey (OS) National Grid Reference 305,290 mE, 204,950 mN as shown on Drawing No. D1538/4337/A1, Appendix A. The NGPH area of land ownership is 1.98 hectares. An island of land owned by Wales & West Utilities (WWU) comprising 0.18 hectares is present within the NGPH, the NGPH land ownership area of 1.98 hectares excludes the land area owned by WWU.

The site is located to the south west of Merthyr Tydfil town centre and is immediately west of the River Taff.

2.2 Previous Reports

The previous reports associated with the site are listed below:

- Komex Clarke Bond, Desk Study Environmental Assessment of Former Reporting Centre, Willow Works, Merthyr Tydfil. Report No. 50286, June 1999⁽¹⁾;
- WSP Environmental, Factual Site Investigation Report, Willow Works, Merthyr Tydfil. Report No. 13010049, June 2002⁽²⁾;
- WSP Environmental, Ground Investigation Factual Report, Willow Works, Merthyr Tydfil. Report No. 23183_Fact, July 2011⁽³⁾; and
- Celtic Technologies, Willow Works, Merthyr Tydfil, Risk Management Plan. R1305/09/3567, April 2009⁽⁴⁾.

2.3 Site Description

The sites setting, ground cover and desk based information are described in full in WSP Environmental's 2002 Site Investigation Report⁽²⁾. At the time of the investigation, the NGPH site had a mix of commercial uses as detailed below:

- Far North – Area leased by Dairy Crest and disused at time of this investigation;
- West – Area leased by a transport company. The former Oxide Reviving Shed (Structure 14 on Drawing D1538/4337/A3, Appendix A), was in a poor condition and was currently disused;
- Far South – Willows Garden Centre;
- Central South (former Gasholder Compound) – Used for storage of shipping container type accommodation cabins;
- North east – disused land; and
- Eastern Edge – Bank to the River Taff with unofficial footpath.

A compound owned by WWU was present in the centre of the NGPH site, this area comprised an operational gas governor compound and was therefore Operational Gas Land during the investigation.

This investigation focussed on the disused area of land at the north east of the site. No access to the land at the far north of the site was possible – this was an area leased by Dairy Crest at the time of the investigation.

2.4 Site History

The site history is detailed in full in WSP Environmental's 2002 Site Investigation Report⁽²⁾. The site was the location of the Willows Gasworks which was constructed between 1908 and 1910. The facility ceased coal gas production in 1951 and was subsequently used as a gasholder station, depot and storage yard. The gasholders were decommissioned and dismantled in 1993. During this investigation, additional historic photographs and a higher resolution copy of an existing aerial photograph were obtained, this information is included in Appendix I. Information was obtained from the following sources:

- Glamorgan Archives – Clos Parc Morgannwg, Leckwith, Cardiff, CF11 8AW;
- Merthyr Library – High Street, Merthyr Tydfil, CF47 8AF; and
- National Gas Archives – Unit 1, Europa Court, Warrington, WA5 7TN.

2.5 Services, Plant and Equipment

Prior to works, the WWU Plant Protection process was initiated (See contact details in Table 1). WWU Plant Protection Officers visited the site at the start of the works and provided an updated services plan, however, no live gas services were present near areas scheduled for investigation. The updated services plan is included in Appendix I. WWU also confirmed that the gas service supplying the former building for demolition at the north east of the site was not live, however, they were not able to provide any written confirmation of this.

Prior to any other ground opening works, a full services survey was carried out in the area of the investigation and any services identified were investigated further using vacuum excavation techniques. The service plan for the site was updated on completion of the survey and this is presented as Drawing D1538/4337/A2 in Appendix A.

3.0 INVESTIGATION METHODOLOGY

3.1 Enabling Works

Prior to the site investigation works, enabling works were carried out. This comprised the demolition of a single storey prefabricated building in the north east of the site. The building was demolished between the 8th and 10th of October 2012 by Walters Environmental. The building was demolished to its ground floor slab and all materials resulting from the demolition were removed from site by Waters Environmental. Consignment notes for the materials removed from site are included in Appendix H. Photographs of the works are included in Appendix B.

3.2 Drilling Works

A total of 11 boreholes were drilled using cable percussive methods between the 15th and 26th of October 2012. The boreholes were drilled by Apex Drilling Services. At each location, a hand dug trial pit was excavated to 1.2 m to check for services. The boreholes were sunk to a maximum depth of 8.0 m. Four of the other boreholes (CBH4/4a, 7 and 8) had to be aborted due to obstructions generally associated with slag deposits at the base of the made ground. Where completed to depth, standpipe installations were installed in the boreholes. The locations of the boreholes are shown on Drawing D1538/4337/A3 in Appendix A. Engineers logs for the boreholes are presented in Appendix C.

3.3 Trial Pitting Works

A total of 10 trial pits were excavated using a hydraulic excavator between the 12th and 25th of October 2012. The pits were excavated to depths between 1.4 m to 4.1 m. Standpipe installations were installed in three of the pits prior to backfilling. The trial pits were backfilled using excavated arisings in the approximate order of excavation.

Two hand dug trial pits were hand excavated on the bank of the River Taff adjacent to the site on the 23rd October 2012. The locations of all trial pits are shown on Drawing D1538/4337/A3 in Appendix A. Engineers logs for the trial pits are presented in Appendix C.

3.4 Surveying of Exploratory Hole Positions

The positions and level of all exploratory holes put down during the works were surveyed on the 6th November 2012 using GPS survey equipment to OS National Grid and level datum. Drawing D1538/4337/A3 in Appendix A shows the positions and levels as surveyed.

3.5 Waste Disposal

Materials arising from the demolition, including asbestos, metal and brick/concrete were disposed of off-site under appropriate Duty of Care. Water and non-aqueous phase liquid (NAPL) recovered from boreholes during the works was stored in a bunded IBC container during the works. On completion of the works, the contents were removed from site under appropriate Duty of Care. All other waste generated by the works was disposed of under appropriate Duty of Care.

All consignment notes for waste disposal during the works are included in Appendix G.

3.6 Ambient Monitoring

Prior to and during the site investigation works, ambient air monitoring was carried out. Ambient vapour levels were monitored using a hand held photo ionisation detector (PID) meter. Noise levels were monitored using a hand held noise meter. Dust levels were monitored using a hand held (Dust Mate) meter. The monitoring was generally carried out once a day at locations around the site. Longer term monitoring of ambient vapour levels was also carried out by deploying the PID meter adjacent to work areas and leaving it to log during the working day. Ambient monitoring data is included in Appendix H.

No significant vapour, noise or dust levels were measured during the works with all measured levels below appropriate safety legislation thresholds. No complaints were received during the works.

3.7 Testing and Chemical Analysis

3.7.1 Well Dipping

The installed boreholes and existing boreholes on the site were dipped on three occasions – 22nd October, 30th October and 6th November 2012. The wells were dipped using an oil/water interface meter with non aqueous phase liquid (NAPL) levels being recorded, where present, together with water levels in the boreholes. The dipping records are included in Appendix E.

3.7.2 Sampling and Chemical Analysis

During the works, a total of seven soil samples were recovered from the boreholes/trial pits and sent for chemical analysis for the NG Suite of contaminants and Total Petroleum Hydrocarbons (TPH) Criteria Working Group (CWG) fractions. Two soil samples were recovered from the waste soil arisings skip and sent for Waste Acceptance Criteria (WAC) analysis. Four samples of NAPL were recovered during the works, these were sent for NAPL fingerprinting analysis with kinematic viscosity and density testing. Two samples of natural gravel were also sent for particle size distribution analysis.

Water samples were recovered from six boreholes during the works. The boreholes sampled were not impacted with NAPL and were either at the up or down hydraulic gradient side of the NAPL areas. Prior to sampling, all sampled wells were developed by the removal of at least three well volumes of water prior to sampling. Samples were recovered using a low flow peristaltic pump. The recovered samples were sent for chemical analysis for the NG Suite of contaminants and CWG TPH.

The results of all soil, water, NAPL and WAC testing analysis is presented in Appendix D and summaries of soil and groundwater analysis are presented in Section 4.2.

3.7.3 NAPL Recovery Tests

NAPL recovery tests were carried out on boreholes where NAPL was encountered - BH103 and BH105. The testing was carried out between the 12th and 19th of October 2012. Tests were performed once on each borehole with NAPL. The tests were carried out by removing NAPL from

the borehole using a peristaltic pump until the NAPL thickness had been substantially removed. The recovery of the NAPL thickness was then monitored incrementally until the product levels had recovered to a thickness equal to or near the original thickness.

In addition to the NAPL recovery tests, one boreholes adjacent to an area of product – CBH6 was dewatered in an attempt to draw in product on 31st October 2012. These wells were near boreholes with significant thicknesses of NAPL and signs of NAPL were encountered during drilling, however, no significant thickness of NAPL (<5 cm) was measured immediately after drilling. It was thought this was possibly due to water added to the boreholes to facilitate drilling and the pumping the effect of bailing type drilling through gravel strata. On completion of the removal of approximately 200 L of water from each borehole, approximately 0.01 m of product was present on the groundwater in each borehole as indicated by the well dipping records in Appendix E.

3.8 Incidents and Near Misses

No accidents, incidents or near misses occurred during the works. A copy of the low level hazards reports issued during the project are included in Appendix J.

4.0 FINDINGS OF INVESTIGATION WORKS

4.1 Ground Conditions Encountered

The ground conditions encountered are summarised in Table 2, below. The information presented is based on the materials encountered in the exploratory holes put down and the 1:50,000 British Geological Survey (BGS) geological mapping sheet 231 (Merthyr Tydfil) Solid and Drift Edition⁽⁵⁾, together with an assessment of BGS borehole logs available on the BGS Website⁽⁶⁾.

Table 2 - Summary of Ground Conditions Encountered

<i>Geological Unit and Lithology</i>	<i>Depth and Thickness Encountered</i>
Made Ground Gravels, ash and clinker, slag, stone cobbles, reworked natural material, building rubble and concrete bases.	Encountered to depths between 1.2 – 3.2 m bgl.
Alluvium Sandy gravel and cobbles with occasional boulders.	Encountered between 1.2 to 3.2 m bgl, not fully penetrated during investigation.
Lower Coal Measures Mudstones, sandstones, siltstones, carbonaceous mudstones and siltstones, and occasional coal seams.	> 42 m bgl (not encountered).

Groundwater is present at approximately 4 m bgl. During the works, fluctuations of approximately 30 cm were measured.

4.2 Chemical Results

The following tables summarise the chemical analysis results from soil and groundwater samples taken from the site. Full results are displayed in Appendix D.

Table 3 – Summary of Soil Analysis

<i>Determinand</i>	<i>No. of Samples Analysed</i>	<i>Concentration (mg/kg)</i>		
		<i>Min.</i>	<i>Max.</i>	<i>Average</i>
Cyanide, Total	7	1.15	31.2	11
Cyanide, Free	7	<1	<1	<1
pH	7	6.52	10.2	7.7
Sulphur, Elemental	7	15.8	329	188
Arsenic	7	5.65	24.9	12
Cadmium	7	0.142	3.31	0.911
Chromium	7	12.7	48.3	27
Mercury	7	<0.14	1.07	0.28
Benzene	7	<0.009	0.0674	0.020
Toluene	7	<0.005	0.0433	0.014
Ethyl benzene	7	<0.004	0.0153	0.007
p/m-Xylene	7	<0.014	0.0549	0.020
o-Xylene	7	<0.01	<0.01	<0.01
Naphthalene	7	0.135	1.81	0.804
Benzo(a)pyrene	7	0.48	21.9	4.4
PAH, Total Detected USEPA 16	7	5.55	293	62
Total TPH Aliphatics & Aromatics C5-C44	7	120	4,060	1,289

Table 4 – Summary of Groundwater Analysis

<i>Determinand</i>	<i>No. of Samples Analysed</i>	<i>Concentration (mg/kg)</i>		
		<i>Min.</i>	<i>Max.</i>	<i>Average</i>
Cyanide, Total	5	7.43	8.22	7.8
Cyanide, Free	5	<0.05	0.258	0.109
pH	5	<0.05	<0.05	<0.05
Sulphur, Elemental	5	<0.05	<0.05	<0.05
Arsenic	5	<0.00001	<0.00001	<0.00001
Cadmium	5	0.00173	0.00414	0.003
Chromium	5	<0.045	<0.045	<0.045
Copper	5	0.051	3.38	1.4
Lead	5	<0.0001	0.0001	0.0001
Mercury	5	<0.000247	0.00759	0.004
Benzene	5	<0.001	0.331	0.099
Toluene	5	<0.001	0.00317	0.002
Ethyl benzene	5	<0.001	0.0543	0.018
p/m-Xylene	5	<0.001	0.0141	0.006
o-Xylene	5	<0.001	0.0325	0.011

4.3 Other Findings

The main findings of the investigation are shown on Drawing D1538/4337/A4 in Appendix A and are detailed below.

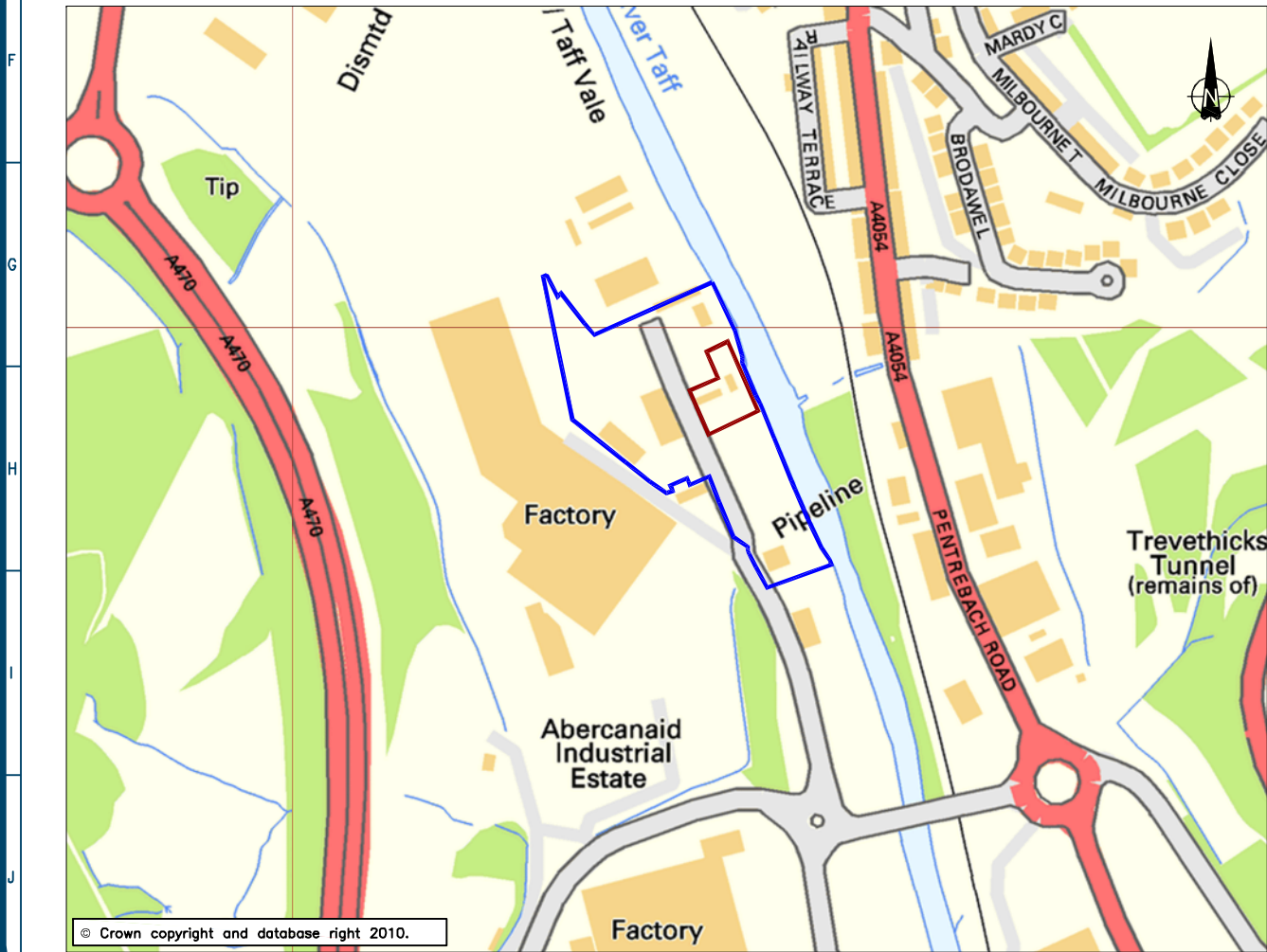
- A tank of approximate plan dimensions 4 x 8 m was encountered at the location of trial pit CTP7. The tank was approximately 2.6 m deep and was an open top type structure. The structure was infilled with ashy brick fill and the perched water level in the structure was approximately 1.5 m below ground level. Water in the tank had brown LNAPL on the surface.
- The bottom of the Relief Holder Base structure was proved at 1.7 m below ground level. No live services were encountered passing over this structure and the structure was found to be approximately 12.5 m in diameter.
- Two separate areas of NAPL are present on the site. An area of brown LNAPL is present in the area of boreholes BH105 and CBH6. An area of grey LNAPL is present in the area of BH103.

5.0 REFERENCES

1. Komex Clarke Bond, Desk Study Environmental Assessment of Former Reporting Centre, Willow Works, Merthyr Tydfil. Report No. 50286, June 1999.
2. WSP Environmental, Factual Site Investigation Report, Willow Works, Merthyr Tydfil. Report No. 13010049, June 2002.
3. WSP Environmental, Ground Investigation Factual Report, Willow Works, Merthyr Tydfil. Report No. 23183_Fact, July 2011.
4. Celtic Technologies, Willow Works, Merthyr Tydfil, Risk Management Plan. R1305/09/3567, April 2009.
5. British Geological Survey 1:50,000 Solid Edition Mapping Sheet 231, Merthyr Tydfil.
6. British Geological Survey, Maps and Spatial Data – www.bgs.ac.uk , 2012.

APPENDICES

APPENDIX A DRAWINGS



Legend

Site Coordinates: 305285.94,204962.58

- NGPHBoundary as considered by Report
- WWU Landholdings Boundary

0 ISSUED FOR COMMENT 17/06/11

REV COMMENT DATE

Celtic
Design and Construct Remediation

Columbus House
Village Way
Cardiff
CF15 7NE
029 2036 8636

Centrix House
Crow Lane East
Newton Le Willows
WA12 9UY
01925 273222

enquiries@celtic-tech.co.uk
www.celtic-td.com

Client

nationalgrid

Project

Willow Works, Merthyr Tydfil

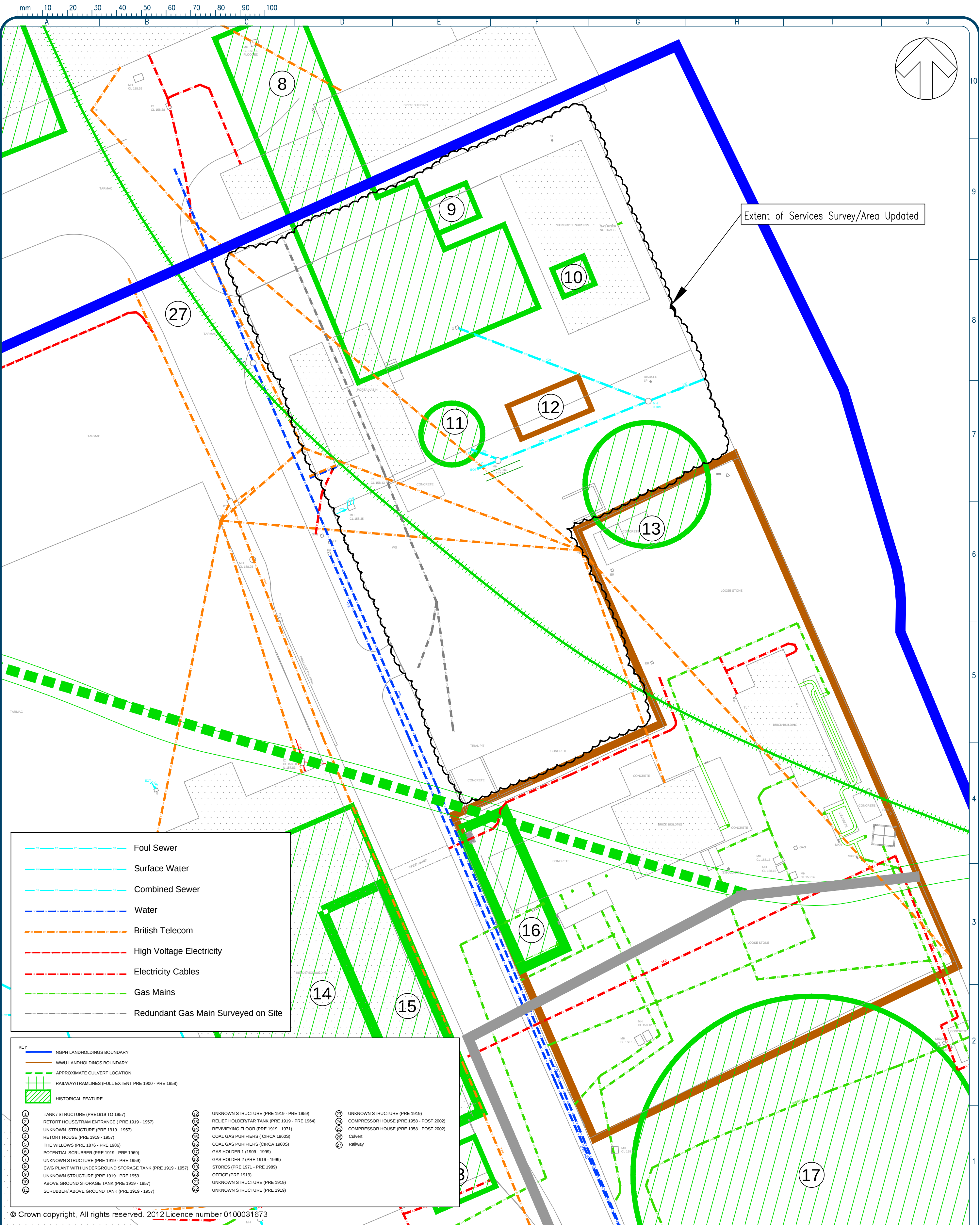
Title

Site Location Plan

Drawn by	Checked	Date	Authorised	Date
GEP	IW	05/11/12		
Original Scale	Date	Rev	Paper	
N.T.S	05/11/12	0	A3	

Drawing Number

D1538/4337/A1



- Foul Sewer
- Surface Water
- Combined Sewer
- Water
- British Telecom
- High Voltage Electricity
- Electricity Cables
- Gas Mains
- Redundant Gas Main Surveyed on Site

- KEY
- NGPH LANDHOLDINGS BOUNDARY
 - WWU LANDHOLDINGS BOUNDARY
 - APPROXIMATE CULVERT LOCATION
 - RAILWAY/TRAMLINES (FULL EXTENT PRE 1900 - PRE 1958)
 - HISTORICAL FEATURE
- | | | |
|---|---|--|
| 1 TANK / STRUCTURE (PRE1919 TO 1957) | 22 UNKNOWN STRUCTURE (PRE 1919 - PRE 1959) | 23 UNKNOWN STRUCTURE (PRE 1919) |
| 2 RETORT HOUSE/TRAM ENTRANCE (PRE 1919 - 1957) | 24 RELIEF HOLDER/TANK (PRE 1919 - PRE 1964) | 24 COMPRESSOR HOUSE (PRE 1958 - POST 2002) |
| 3 UNKNOWN STRUCTURE (PRE 1919 - 1957) | 25 REVIVIFYING FLOOR (PRE 1919 - 1971) | 25 COMPRESSOR HOUSE (PRE 1958 - POST 2002) |
| 4 RETORT HOUSE (PRE 1919 - 1957) | 26 COAL GAS PURIFIERS (CIRCA 1960S) | 26 Culvert |
| 5 THE WILLOWS (PRE 1876 - PRE 1986) | 27 COAL GAS PURIFIERS (CIRCA 1960S) | 27 Railway |
| 6 POTENTIAL SCRUBBER (PRE 1919 - PRE 1969) | 28 GAS HOLDER 1 (1909 - 1999) | |
| 7 UNKNOWN STRUCTURE (PRE 1919 - PRE 1959) | 29 GAS HOLDER 2 (PRE 1919 - 1999) | |
| 8 CWG PLANT WITH UNDERGROUND STORAGE TANK (PRE 1919 - 1957) | 30 STORES (PRE 1971 - PRE 1989) | |
| 9 UNKNOWN STRUCTURE (PRE 1919 - PRE 1959) | 31 OFFICE (PRE 1919) | |
| 10 ABOVE GROUND STORAGE TANK (PRE 1919 - 1957) | 32 UNKNOWN STRUCTURE (PRE 1919) | |
| 11 SCRUBBER/ ABOVE GROUND TANK (PRE 1919 - 1957) | | |

© Crown copyright, All rights reserved. 2012 Licence number 0100031673

Columbus House
Village Way
Cardiff
CF15 7NE
029 2036 8636

Centrix House
Crow Lane East
Newton Le Willows
WA12 9UY
01925 273222

enquiries@celtic-tech.co.uk
www.celtic-hd.com

2 OS Base Revised
1 NGPH Boundary Revised
0 ISSUED FOR COMMENT

12/12/12
26/11/12

Legend

- NGPH LANDHOLDINGS BOUNDARY
- WWU LANDHOLDINGS BOUNDARY

SITE CO-ORDS:305297.72,204941.54

Project
Willow Works, Merthyr

Title
Updated Services

Drawn by GEP	Checked IW	Date 09/11/12	Authorised	Date
Original Scale 1:250	Date 09/11/12	Rev 2	Paper A2	

Drawing Number
D1538/4337/A2

CAD REF:-

APPENDIX B PHOTOGRAPHS



Plate No.: 1

Title: Demolition works undertaken on the pre-fabricated building.



Plate No.: 2

Title: Waste materials from the demolition were segregated and sent for offsite disposal or recycling.

Celtic
Design and Construct Remediation

Client: National Grid

Project Name: Willow Works, Merthyr Tydfil

Project No.: C1538

Date: Nov 2012



Plate No.: 3

Title: The building was demolished to slab level with all associated waste removed from site.



Plate No.: 4

Title: Trial pits within the Relief Holder Base exposed heavily contaminated waters. The majority of the tank was backfilled with brick and rubble fill.

Celtic
Design and Construct Remediation

Client: National Grid

Project Name: Willow Works, Merthyr Tydfil

Project No.: C1538

Date: Nov 2012



Plate No.: 5

Title: Boreholes were drilled using cable percussion methods.



Plate No.: 6

Title: A number of the boreholes encountered grossly contaminated strata at the groundwater level.

Celtic
Design and Construct Remediation

Client: National Grid

Project Name: Willow Works, Merthyr Tydfil

Project No.: C1538

Date: Nov 2012



Plate No.: 7

Title: Within CTP3, a cylindrical concrete structure was uncovered which is situated in the same location as the historical air scrubber stack.



Plate No.: 8

Title: Within CTP4, a red brick wall was encountered which is possibly the western wall of the historical CWG plant.



Plate No.: 9

Title: Within CTP7, the red brick walls of the rectangular structure were encountered.



Plate No.:10

Title: Grossly contaminated silty perched waters were encountered within CTP7.

Celtic
Design and Construct Remediation

Client: National Grid

Project Name: Willow Works, Merthyr Tydfil

Project No.: C1538

Date: Nov 2012

South East (Registered Office)

1210 Parkview
Arlington Business Park
Theale
Reading
RG7 4TY

t. 0118 963 5819
f. 01189 930 2371
www.celtic-ltd.com

South

Columbus House
Village Way
Tongwynlais
Cardiff
CF15 7NE

t. 029 2036 8636
f. 029 2036 8637
www.celtic-ltd.com

North West

Centrix House
Crow Lane East
Newton le Willows
St Helens
WA12 9UY



t. 01925 273 222
f. 01925 273 001
www.celtic-ltd.com

