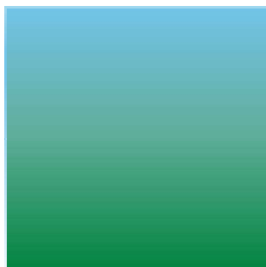
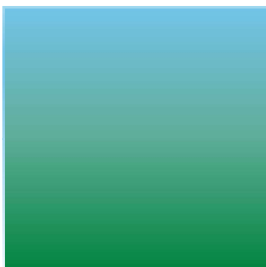
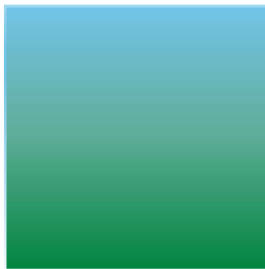
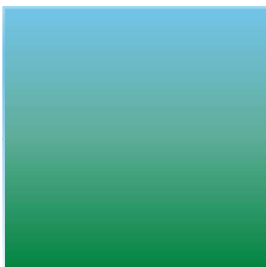


VHE Construction PLC
Verification Report:
Reading Gas Holder 4
Remediation Works

Client: Scotia Gas Networks (SGN) Ltd



May 2025

Reading Gas Holder 4 - Remediation Works
Scotia Gas Networks (SGN) Ltd



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Reading Gas Holder 4 - Remediation Works

Scotia Gas Networks (SGN) Ltd



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Date:	30/03/2025	12/05/2025	12/5/2025

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Reading Gas Holder 4 - Remediation Works
Scotia Gas Networks (SGN) Ltd



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List of Appendices.....	6
1. Introduction.....	8
1.1. Report Objectives and Brief.....	8
1.2. Site Description & Location	8
1.3. Involved Parties	8
1.4. Limitations	9
1.5. Structure of Verification Report	10
2. Licenses, Permits, Plans and Consents	10
2.1. Works Commencement Authority	10
2.2. CEMP.....	10
2.3. MMP	10
3. Scope of Works	10
4. Overview of Works	11
4.1. RCL4B	11
4.2. RCL1	11
4.3. RCL2	11
4.4. RCL4C	11
4.5. RCL4A.....	12
4.1. Groundwater	12
5. Material Management	12
5.1. Incidental Site Derived Wastes.....	12
5.2. Imported Materials.....	12
5.3. Exported Materials	12
6. Sample Analysis	13
6.1. Imported Materials.....	13
6.2. Chemical Analysis	13
7. Groundwater Monitoring	13
8. Environmental Monitoring	14
8.1. Background Monitoring.....	14
8.2. Dust Monitoring	14
8.3. Asbestos Reassurance Monitoring	14



Reading Gas Holder 4 - Remediation Works

Scotia Gas Networks (SGN) Ltd

8.4.	Noise Monitoring.....	14
8.5.	Vibration Monitoring.....	15
9.	Health and Safety.....	15
10.	Complaints.....	15
11.	Final Site Conditions.....	15
12.	Appendices	16

List of Appendices

Appendix A	Drawings
Appendix B	Permits
Appendix C	Material Management
C.1	Import Logs
C.2	Export Logs
C.3	Material Source Assessment
Appendix D	Chemical Analysis
D.1	Material Import
D.2	Groundwater
Appendix E	Environmental Monitoring
E.1	Background Monitoring
E.1.1	Noise
E.1.2	Vibration
E.2	Dust Monitoring
E.3	Asbestos Monitoring
E.2.1	Dust Reports
E.2.2	Dust Roses
E.4	Noise Monitoring
E.5	Vibration Monitoring
Appendix F	Site Photographs
F.1	RCL1
F.2	RCL2
F.3	RCL4A
F.4	RCL4B
F.5	RCL4C
F.6	Site Wide
Appendix G	Borehole Log
Appendix H	Health & Safety



List of Tables:

Table 1. Involved Parties 8

Table 2. VHE Sub-Contractors used during Live Works 9

Table 3 Material Import Sources and Placement Destinations 12

Table 4 Material Arising Sources and Export Destinations..... 13

1. Introduction

1.1. Report Objectives and Brief

The main objectives of this report are:

- To detail the works undertaken by VHE.
- To provide verification that the works have been undertaken in accordance with the relevant specifications.
- To provide verification that the works have met the requirements of the project brief.

1.2. Site Description & Location

Reading Gas Holder 4 Compound (the site) is located at National Grid Reference SU 72916 73693 (Lat. Long. 51.457528, -0.95191667). The site was part of Reading Gasworks and now consists of a tank base void from the demolished Gasholder No.4, surrounded by hard standing and lightly vegetated scrubland with some semi-mature trees. An image of the site and site boundary can be seen in **Appendix A**.

The 0.7-hectare triangular shaped site is bordered by a Network Rail embankment to the North, the river Kennet to the south and a housing estate to the west and enclosed by a mixture of chain-link and palisade fencing, with the former gasholder base surrounded by Heras fencing.

1.3. Involved Parties

The key parties involved in the works are provided in Table 1 below and the main project contacts and their role within the works are provided in Table 2.

Table 1. Involved Parties

Company & Registered Address	Association with Works	Key Contacts
Scotia Gas Networks (SGN) Ltd , St Lawrence House, Station Approach, Horley, Surrey, RH6 9HJ	Client	Scott Lewis – Senior Property Operations and Land Quality Manager Mob: +44 (0)7583 685 958 scott.lewis@sgn.co.uk
VHE Construction plc 6 Newton Business Centre, Thornccliffe Park Estate, Newton Chambers Rd, Chapelton, Sheffield, S35 2PH	Principal Contractor	Chris Thompson – Contracts Manager Mob: 07894 607762 Chris.Thompson@vhe.co.uk Lawrence Bell – Site Manager Mob: 0781 7780379 Lawrence.Bell@vhe.co.uk Dave Shelon Site Supervisor

Reading Gas Holder 4 - Remediation Works

Scotia Gas Networks (SGN) Ltd



Company & Registered Address	Association with Works	Key Contacts
		Mob: 07725 457832 Dave.Sheldon@vhe.co.uk
WSP WSP House, 70 Chancery Lane, London, WC2A 1AF	Principal Designer	Gavin Davis Director – Decommissioning, Demolition, Remediation Mob: +44 (0)7368 939123 Gavin.Davis@wsp.com Edward Long Assistant Consultant Mob: +44 (0)7811 040381 edward.long@wsp.com
Perses Safety Limited 36 Venturefair Dr, Edinburgh, EH17 8WD	Safety Consultants	JR Regan Demolition & Asbestos Principal Consultant Mob: 07800 552266 jr@perses.org.uk

Table 2. VHE Sub-Contractors used during Live Works

Company & Association with Works	Association with Works	Key Contacts
i2 Analytical 7 Woodshots Meadow, Croxley Park, Watford, WD18 8YS	Chemical Laboratory	Charlotte Andrew Key Account Manager 01923225404 reception@i2analytical.com
Environtec Ltd. 5a Turner Street Newport NP19 7BA	Asbestos Monitoring	Adam Ladd Regional Operations Manager (North) 07825 518036 adam.ladd@environtec.com
Geotron UK Ltd Unit E, 201B Warmco Industry Park Eastgate Mossley OL5 9AY	Borehole Drilling	Sarah van Enk BSc. PhD Managing Director Mob: 07747 035970 sarah@geotronuk.co.uk

1.4. Limitations

The information provided within this report and the opinions expressed are based on ground

conditions encountered during the works by VHE, previous site investigation reports and on the results of laboratory and in-situ testing.

1.5. Structure of Verification Report

This report provides details on the procedures of the remedial works supplemented at each stage by evidence collated during the live works presented in the appendices. The structure of the report discusses the progression of works in chronological order, as far as reasonably practicable and is as follows:

- Licenses, Permits, Plans and Consents
- Scope of Works
- Overview of Works
- Material Management
- Sample Analysis
- Environmental Monitoring
- Health and Safety
- Complaints
- Final Site Conditions
- Appendices

2. Licenses, Permits, Plans and Consents

Copies of all relevant documentation can be found in **Appendix B**

2.1. Works Commencement Authority

A works commenced authority was issued by SGN on the 14 January 2005

2.2. CEMP

VHE issued a CEMP for the project in June 2024. (Rev C)

2.3. MMP

VHE applied for a CL: AIRE DoWCoP Materials Management Plan.

3. Scope of Works

The works were conducted in accordance with the Reading No. 4 Site, Alexander Turner Close Works Information: Remediation document. Key aspects of the infilling works consisted of:

- Excavation and removal from site of area RCL1.
- Excavation and removal from site of area RCL2 Tar Tank.
- Excavation and removal from site of areas RCL4A, RCL4B, RCL4C.

This report details the specific works that were conducted over the duration of the works.

4. Overview of Works

Works commenced on Monday the 13th of January 2025. A baseline groundwater sampling round and an Asbestos background survey was undertaken 15th of January 2025 prior to breaking ground. The asbestos monitoring report can be found in **Appendix E - Background Monitoring**; The results of the monitoring are in **Appendix D.2** Groundwater.

4.1. RCL4B

RCL4B was broken out on the 20th January and excavated on the 24th of January, with all arisings stockpiled on visqueen for later export. The excavation was backfilled the following day with preexisting site won 6F5 material. The backfill was placed, level to the surrounding area in 275mm layers as per the Specification for Highway Works. and compacted with a Rammax remote-controlled roller.

4.2. RCL1

RCL1 was broken out and excavated to depth on the 21st of January, with all arisings stockpiled on visqueen for later export. A 100mm layer of site won crush was placed into the base of the excavation on the 27th of February and the excavation lined with a geotextile marker membrane. The excavation was backfilled on the 5th of March with imported natural 6F5 stone. The backfill was placed in 275mm layers, level to the surrounding area and compacted with a Rammax remote-controlled roller.

4.3. RCL2

RCL2 was broken out on the 5th of February and excavated on the 19th of February after some preliminary investigative digging for samples. The hazardous TPH impacted excavated material was placed in a visqueen lined bund for later offsite disposal. Once the tank walls were exposed and after consultation with WSP the brick tank surround, concrete walls and cast-iron sides were broken out, segregated and stockpiled within a separate visqueen bunded area for later off-site disposal. The excavation was backfilled with imported recycled 6F5 on the 21st of February. The backfill was placed in 275mm layers, level to the surrounding area and compacted with a Rammax remote-controlled roller.

4.4. RCL4C

RCL4C was broken out and excavated on the 28th of January, with all arisings stockpiled on visqueen for later export. The extent of the excavation was limited by extensive concrete foundations in the northeast corner of the dig that extended below the prescribed dig depth. As can be seen in the photos in **Appendix F.5**, the foundations, as well as a borehole and HV cables were left intact within the specified dig area. The excavation was backfilled the following day with preexisting site won 6F5 material. The backfill was placed in 275mm layers, level to the surrounding area and compacted with a Rammax remote-controlled roller.

Reading Gas Holder 4 - Remediation Works

Scotia Gas Networks (SGN) Ltd

4.5. RCL4A

RCL4A was broken out on the 3rd of February and excavated on the 4th of February, with the arisings segregated between Non-Hazardous and Hazardous material and stockpiled on visqueen for off-site disposal over the next four days. The excavation was backfilled on the 17th of February with imported recycled 6F5 material. The backfill was placed in 275mm layers, level to the surrounding area and compacted with a Rammax remote-controlled roller.

4.1. Groundwater

Two rounds of groundwater sampling were undertaken during the active works on site, the first partly undertaken on the 13th of January and the remainder on the 28th. With the second round taken on the 13th of February.

5. Material Management

5.1. Incidental Site Derived Wastes

Incidental site derived waste from the office and welfare facilities, comprising a general waste skip and welfare effluent tank were disposed of appropriately.

5.2. Imported Materials

A total of 421.8 tonnes of material was imported to site between the 14th of February and the 5th of March. Total import quantities are provided in the import logs which can be found in **Appendix C.1**. Table 3 details the import sources and final onsite destinations.

Table 3 Material Import Sources and Placement Destinations

Material ID	Material Description	Weight (tonnes)	Source	Placement Destination
6F5	Class 6F5	367.80	J Mould, Berry Lane, Pingewood, Reading RG30 3XA	RCL4- A & RCL2
6F5 Natural Stone	Class 6F5	54.00	Heidelberg Materials Wigmore Lane, Theale, Reading Berkshire RG7 5HG	RCL1

5.3. Exported Materials

A total of 767.04 tonnes waste material was exported from site between the 30th of January and the 6th of March. Export quantities and classification are provided in the export logs which can be found in **Appendix C.2 – Export Logs**. Waste transfer records for the same material can also be seen in - Export Logs.

Table 4 details the import sources and disposal destinations.

Reading Gas Holder 4 - Remediation Works

Scotia Gas Networks (SGN) Ltd

Table 4 Material Arising Sources and Export Destinations

Material ID	Material Description	Weight (tonnes)	Source	Destination
Non Haz Soil	TPH impacted soil	345.24	Excavations RCL4A, B, & C	Biogenie Remediation UK Ltd, Redhill Soil Treatment Facility Redhill Landfill, Cormongers Lane, Redhill, RH1 4ER
Xc Hazardous Soil	Highly TPH impacted soils	19.02	Excavations RCL2 & RCL4B	Mick George Ltd Witcham, Mepal, Cambridgeshire CB6 2AY
Oversize Concrete	Broken out Concrete	256	All excavations	J Mould Berry Lane, Pingewood, Reading RG30 3XA

6. Sample Analysis

All imported materials were tested to determine if they met chemical site-specific criteria. All testing undertaken is discussed in further detail in Sections 6.1 and below, with relevant chemical testing results provided in **Appendix D**.

6.1. Imported Materials

Prior to import, sample sources were sampled and assessed to determine their suitability. Once the import sources were determined, all import materials were chemically tested at a rate of 1 per 500m³ or 3 samples per source. All chemical laboratory reports pertaining to import samples are provided in **Appendix D.1**.

All results were assessed against the *Site-Specific Assessment Criteria* as set out in of WSPs Remediation Scheme. A table of the results assessed against the site criteria can be seen in **Appendix C.3** - Material Source Assessment. No exceedances of the criteria were noted.

6.2. Chemical Analysis

Chemical analysis was carried out during the works on the following materials:

- Class 6F5 Recycled.
- Class 6F5 Quarried Stone (capping)

All soil and leachate chemical analysis, scheduled by VHE, were conducted by i2 Analytical Ltd (i2). i2 holds accreditations in accordance with the internationally recognised ISO 17025 Standard and to the UK Environmental Agency's MCERTS Monitoring Certification Scheme for a range of soils and asbestos analysis. The materials were chemically validated in accordance with the *Site-Specific Assessment Criteria*. Details of the sampling conducted are presented in the sections below.

7. Groundwater Monitoring

Three rounds of groundwater sampling have been undertaken to date on the 15th and 28th

of January 2025, the 13th of February 2025 and the week commencing the 7th April 2025.

A further three rounds are still to be conducted. The results of the monitoring are in **Appendix D.2** Groundwater.

BH104 was deemed ineffective and was subsequently decommissioned with a replacement borehole installed (BH104B) on the 21st of February. The installation log can be seen in **Appendix G**. This was duly sampled on the 6th of March. The data can be seen in **Appendix D.2** - Groundwater.

Boreholes, BH101, BH201 & BH105 had damaged headworks replaced.

8. Environmental Monitoring

Environmental monitoring was conducted to monitor the site's dust, noise, odour, and vibration levels. A detailed daily log of environmental conditions can be seen in **Appendix E** along with data gathered from monitors placed out on site. The locations of environmental monitoring can be found in **Appendix E**.

8.1. Background Monitoring

At the outset of site setup, background monitoring levels were determined for airborne asbestos, noise, and vapours. Asbestos levels were shown to be below 0.0013 fibres per millilitre of air (f/ml). Vapour level logged as a time weighted average of 0.1 ppm. And the highest recorded background noise level was noted as LAeq 70.4 dB. The data for the background monitoring can be seen in **Appendix E.1**.

8.2. Dust Monitoring

Dust monitoring was conducted to work out the total deposited dust, and directional dust. Four dust monitors were set up, with one on each boundary to allow accurate tracking of dust leaving site. They were labelled DM-1, DM-2, DM-3, and DM-4. The fortnightly directional and deposited dust samples and daily inhalable dust samples were determined by an external laboratory. No exceedances of the dust thresholds were recorded during the works. Dust monitoring data can be seen in **Appendix E.2**.

8.3. Asbestos Reassurance Monitoring

Asbestos reassurance monitoring was continued two occasions. The results showed that atmospheric asbestos on site was typical for a site in that locale. The asbestos air monitoring reports can be seen in **Appendix E.3**.

8.4. Noise Monitoring

Prior to the commencement of works, background noise monitoring was undertaken. The results of this can be found in **Appendix E.1.1**. Daily noise monitoring was conducted during work activities. These noise reports can also be found in **Appendix E.4**.



Based on the pre-works monitoring and the ABC method in BS 5228:2014: Part 1, a threshold for noise of 75dB was derived. This threshold was used as an initial indicator, flagging up data which required further investigation. There were no exceedances of this as a weighted equivalent continuous sound level. The average LAeq value was 62.14 dB.

8.5. Vibration Monitoring

Prior to the commencement of works, background vibration monitoring was undertaken. The results of this can be found in **Appendix E.1.2**. Daily vibration monitoring was conducted in various locations. Vibration reports can also be seen in **Appendix E.5**. The average value was less than 1 for the peak. The highest peak was 18.23 which was probably associated with a random event not associated with the site operations, such as it being accidentally knocked.

9. Health and Safety

Health, Safety, and Environmental issues on-site were monitored throughout the project according to VHE's standards, which were reviewed and updated fortnightly during site meetings and monthly at SHEQ meetings at VHE Head Office.

Internal audits of the site were conducted on the 29th of January and 3rd of March. Copies of the audits can be seen in **Appendix H** Health & Safety.

An external audit was also conducted by the clients visiting SHEQ Managers (PERSES) on the 17th of February.

No accident or incidents occurred during the works.

10. Complaints

VHE did not receive any complaints during the works.

11. Final Site Conditions

The works were undertaken in full accordance with the specification. The excavations were conducted as per the dimensions detailed in the PWI, backfilled to surrounding levels with 6F5 and compacted in accordance with the specification. Images of the final site condition can be seen in **Appendix F** Site Photographs, Site Wide.

An as built drawing detailing the completed fill levels can be seen in **Appendix A**, with photographs of the completed works presented in **Appendix F**.



12. Appendices



Appendix A Drawings



Appendix B Permits



Appendix C Material Management



Import Logs



Export Logs



Material Source Assessment



Appendix D Chemical Analysis



Material Import



Groundwater



Appendix E Environmental Monitoring



Background Monitoring



Dust Monitoring



Noise Monitoring



Vibration Monitoring



Appendix F Site Photographs



RCL1



RCL2



RCL4A



RCL4B



RCL4C



Site Wide



Appendix G Borehole Log



Appendix H Health & Safety

Reading Gas Holder 4 - Remediation Works
Scotia Gas Networks (SGN) Ltd

