Glan Llyn, Newport

Phase 4B 5D

Chemical Validation Report

Glan Llyn, Newport

Phase 4B & 5D

Chemical Validation Report

for

Brighton STM Developments (Llanwern) Limited

February 2026

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1.0 Introduction

1.1 Terms of Reference

Rodgers Leask Ltd (RLL) has been commissioned by Brighton STM Developments (Llanwern) (BSTMD) Ltd to prepare a Chemical Validation Report following the remediation of Phase 4B & 5D of the Glan Llyn development in Newport (hereafter referred to as the 'Site').

The eastern part of Phase 4B & 5D formed part of a separate contract managed by Vertase FLI and was approved under planning application references 23/1127 (PC27) and 24/0468 (PC28). This area is not included in the study area.

The Site is situated within the Glan Llyn development on the site of the former Llanwern Steelworks. The Site location is shown on RLL drawing 18669-RLL-22-XX-DR-O-0323-P03 (**Appendix A**).

In July 2024 the Client, St Modwen Developments was rebranded to be called Brighton STM Developments (Llanwern) (BSTMD) Ltd. Any reference to the previous company name in this report should be referred to accordingly.

This report should be read in conjunction with the Glan Llyn Remediation Strategy (Ref. 18669-RLL-21-XX-RP-O-0157), the Phase 4B & 5D Remediation Strategy (18669-RLL-24-XX-RP-O-0587-P02), the Glan Llyn: Soils Validation Strategy for Protection of Controlled Waters (Ref. 30937 R2) and the Phase 4B & 5D Earthworks Specification (Ref. 18669-RLL-23-XX-RP-O-0405). The relevant earthworks performance criteria have been included in this validation report for ease of reference.

1.2 Objectives

In accordance with the requirements of Planning Condition 28 of Outline Planning Permission Reference 06/0471, this report has been prepared to verify that the Phase 4B & 5D remediation works, undertaken by McCarthy Contractors (Bridgend) Ltd, between September 2022 and June 2023, were completed in general accordance with the RLL Earthworks Specification, the Glan Llyn: Soils Validation Strategy for Protection of Controlled Waters, the RLL Remediation Strategy and the Phase 4B & 5D Remediation Strategy.

1.3 Proposed Development

It is understood that the Site is proposed to be redeveloped for a residential end use. An illustrative masterplan (ref. 8111-08-A011, dated April 2019) is available in **Appendix A**. Phase 4B & 5D will form part of the wider Glan Llyn development.

1.4 Purpose

This report has been prepared pursuant to the partial discharge (P1 - pre-construction stage) of Planning Condition 28 of the Outline Planning Permission

Reference 06/0471 for the proposed development of residential development Phase 4B & 5D as part of a wider mixed-use development at Llanwern, Newport.

Planning Condition 28 states the following:

Prior to the commencement of each phase of development as defined by Condition 03 (that is any development excluding that required as part of the remediation strategy), unless an alternative timescale for the component parts of that phase and/or for specific remediation works has firstly been agreed in writing by the Local Planning Authority, a verification report demonstrating completion of the works set out in the approved remediation strategy for that phase (or each part of the phase if an alternative timescale has been agreed by the Local Planning Authority for the component parts) and the effectiveness of the remediation shall be submitted and approved, in writing, by the Local Planning Authority. The report shall include results of sampling and monitoring carried out in accordance with the approved verification plan for that phase to demonstrate that the site remediation criteria has been met. It shall also include any plan for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action, as identified in the verification plan, and for the reporting of this to the Local Planning Authority.

Reason: To demonstrate that the remediation criteria elating to controlled waters have been met and (if necessary) to secure longer-term monitoring of groundwater quality. This will ensure that there are no longer remaining unacceptable risks to controlled waters following remediation of the site and in the interests of residential amenities and human health.

A non-material amendment has been made to the planning permission 06/0471, to allow for a phased approach to the discharge of Condition 28, where development and housebuilder requirements have been clearly divided. PC28-1 relates to pre-construction stage validation, and PC28-2 relates to the construction stage validation.

The report has been produced pursuant to the partial discharge of PC28 relating to the interim state of remediation following pre-construction stage works (PC28-1). This will include chemical validation reports covering risk to human health and risk to controlled waters for pre-construction remedial works demonstrating that these works be undertaken in accordance with the approved Remediation Strategy and the Glan Llyn: Soils Validation Strategy for Protection of Controlled Waters.

To discharge PC28 in full for each phase, the future housebuilder, undertaking the construction phase, will be required to provide suitable documentation to demonstrate that the construction phase remedial works (PC28-2) have been completed to a satisfactory condition.

1.5 References

The following documents have been referred to in the preparation of this report:

- Phase 4B & 5D Desk Study & Phase 2 Geo-Environmental Assessment, ref 18669-RLL-22-XX-RP-O-0328-P03, dated June 2025 (**Ref. 1**)

- Glan Llyn Llanwern (Sitewide) Detailed Quantitative Controlled Waters Risk Assessment (CWDQRA) 2017, Atkins, 5111373-LLA-OUT-0257 Rev. 3.0, February 2017 (**Ref. 2**)
- Glan Llyn Phase 4B & 5D Earthworks Specification, RLL, ref. 18669-RLL-23-RP-O-0405-P01, dated April 2023 (**Ref. 3**)
- Phase 4B & 5D Remediation Strategy, RLL, Ref. 18669-RLL-24-XX-RP-O-0587-P02, dated June 2025 (**Ref. 4**)
- Phase 4B & 5D Geotechnical Assessment and Validation Report, RLL, Ref. 18669-RLL-26-XX-RP-O-0495-P01, dated December 2025 (**Ref. 5**)
- Former Llanwern Steelworks Site Assessment of Asbestos Contamination, The Institute of Occupational Medicine (IOM), 610-34464, March 2014 (**Ref. 5**)
- Glan Llyn Remediation Strategy Addendum Information, RLL, ref. 18669-RLL-22-XX-RP-O-0192, dated January 2022 (**Ref. 6**)
- Glan Llyn: Soils Validation Strategy for Protection of Controlled Waters Hannah Fraser Consulting Ref. 30937 R2, dated December 2024 (**Ref. 7**)
- Glan Llyn CWDQRA (2019 update), RLL ref. 18669-RLL-19-XX-RP-O-0006_Rev A, dated June 2022 (**Ref. 8**)

1.6 Limitations and Confidentiality

All conclusions and recommendations made within this report are based on and limited to the factual information obtained as part of these works. No responsibility can be taken by RLL for information obtained by third parties and it has been assumed that all third-party information provided is true and correct.

RLL has undertaken the work in accordance with our understanding of current best practice at the time of undertaking the work. Further assessment and revision of this report may be required should new information come to light or legislation/ changes to best practice be introduced after the date of issue of the report.

RLL has prepared the report for the sole use and reliance of the Client. The report may not be used or relied upon by any unauthorised third party without the explicit written agreement of RLL.

The interpretive work undertaken within this report remains the intellectual property of RLL and must not be divulged to any commercial third party without prior written agreement of RLL.

2.0 Site Characteristics

2.1 Site Location and Description

The Site is located within the Glan Llyn development at the former Llanwern Steelworks, approximately 4.0km to the east of Newport City Centre at approximate National Grid Reference 335990E, 186950N. The Site location and boundary is shown on drawing 18669-RLL-22-XX-DR-O-0323-P03, **Appendix A**.

The Site is irregular in shape, covers an area of approximately 3.10ha, and is located in the approximate centre of the wider Glan Llyn development. The Site historically housed a bag filter plant, conveyors, hoppers and a travelling boom. Following closure of the steelworks and prior to the completion of remedial earthworks, the Site comprised an area used for the stockpiling of materials from the wider Glan Llyn Site with a temporary ditch across the eastern Site boundary.

2.2 Site History Summary

Historically, the Site comprised agricultural land segregated into part of four fields by hedgerows and drains. Three structures associated with Decoypool Farm were located in the north of the Site and Decoy Pool (marshy pond) with associated deciduous woodland and orchard was located in the northeast.

From 1967 onwards, the Site formed part of the Spencer Steelworks (later known as the Llanwern Steelworks), where the former farm buildings, orchards, Decoy Pool, hedgerows and the reen network were removed. The Site housed a conveyor network which included two primary conveyors, a travelling boom, stanchions, hoppers, a lighting tower, numerous vehicle tracks and two drains within an area of marshland. From 1986, the Steelworks continued to expand with additional structures located in the north of the Site and the Bag Filter Plant located in the centre with ore stocks in the west. The Site was partially demolished by 2004 and fully demolished by 2021 (**Ref. 1**).

2.3 Ground Conditions and Contamination Summary

Historical and recent ground investigations undertaken prior to the remediation works, summarised in the RLL Desk Study and Phase 2 Report (**Ref. 1**), generally recorded the following conditions across the Site:

- Surfacing of reworked topsoil or asphalt encountered from ground level to depths of 0.10m to 0.50m.
- Made Ground at thicknesses of 0.50m to 3.10m, generally comprising sandy gravelly CLAY with occasional cobbles; sandy occasionally cobbly GRAVEL; GRAVEL of slag or fused slag; clayey SAND; or SAND of slag and coal. Gravel and cobble components typically comprised sandstone, mudstone, shale, concrete, brick, and slag, as well as occasional fragments of plastic, timber, iron ore and metal.
- Tidal Flat Deposits from a minimum of 1.20m; the base of the formation was not encountered, but the strata was recorded to depths of up to 2.60m. It generally comprised very soft to firm occasionally peaty CLAY.

- The bedrock of Mercia Mudstone Group was not encountered during the intrusive investigation.

Nineteen locations refused or were terminated within the Made Ground at depths ranging from 0.50m to 3.10m. Refusals were generally due to fused slag, hard ground or buried concrete obstructions.

Buried obstructions were encountered in eleven exploratory locations in the Made Ground strata from depths ranging 0.20m to a maximum depth of 3.10m. Obstructions generally comprised fused slag, concrete piles, concrete obstructions and asphalt.

Isolated sheens, hydrocarbon odours or sulphurous odours were encountered in nine locations within the Made Ground on Site from depths ranging from a minimum depth of 0.20m to a maximum depth of 2.00m.

Chemical analysis of 60 soil samples taken during previous ground investigations recorded exceedances of the approved reuse criteria for arsenic, lead, mercury, vanadium, aromatic TPH >C12-C16, aromatic TPH >C16-C21, naphthalene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, dibenz(a,h)anthracene and benzene across the Site. Asbestos was identified in five of the thirty samples analysed in the form of amosite and chrysotile at concentrations of between <0.001%w/w and 0.0039%w/w.

Perched groundwater was encountered in twenty-four locations, typically within the Made Ground or towards the base of the Made Ground overlying the Tidal Flat Deposits from depths of 0.60m to 2.10m.

According to the Atkins DQCWRA (**Ref. 2**) regional groundwater is typically encountered within a gravelly fine to coarse sand at approximately 9mbgl towards the base of the Tidal Flat Deposits. The groundwater is typically sub artesian, confined by the clay rich Tidal Flat Deposits at approximately 9mbgl, with a rest water level of approximately 2mbgl.

3.0 Enabling Works

3.1 Earthworks Summary

During previous intrusive ground investigations on Phase 4B & 5D, the Made Ground was found to contain numerous buried obstructions including structures and buried fused slag, as well as exceedances of heavy metals, TPHs, PAHs and asbestos. As such, remedial earthworks were required.

Remedial earthworks were undertaken by McCarthy Contractors (Bridgend) Ltd between September 2022 and June 2023.

The works included an approximate area of 31,000m^2 and was completed in accordance with the RLL Phase 4B & 5D Earthworks Specification (**Ref. 3**) and the Phase 4B & 5D Remediation Strategy (**Ref. 4**).

The remedial earthworks generally comprised:

- Site clearance;
- Excavation of Made Ground to natural underlying Tidal Flat Deposits;
- Removal of Made Ground from site with evidence of gross visual and olfactory contamination;
- Removal of below ground obstructions;
- Cropping of piles to the level of the underlying Tidal Flat Deposits;
- Re-engineering of Made Ground;
- In situ geotechnical testing;
- Soft spot excavation/ removal; and
- Monitoring for compliance with relevant specifications.

The purpose of the remedial earthworks was to remove material assessed as unsuitable following the chemical testing on a 25m grid, and turnover of the remaining Made Ground to expose the underlying natural clay. The turnover allowed for the removal of additional unsuitable material with evidence of visual and olfactory contamination, as well as removal of material assessed as unsuitable for reuse following a 25m trial pitting exercise.

Material assessed as unsuitable for re-use in a residential scenario during the fill operation on Phase 4B & 5D was re-located, where suitable, to the commercial area for use as an engineering fill at depth in accordance with the wider site Material Management Plan. Material suitable for reuse in the commercial area will be recorded as part of the validation reports for that area. Unsuitable material amounted to approximately 4,200m^3.

Drawing 18669-RLL-26-XX-DR-O-0848-P01 (**Appendix A**) shows the sources of material and material movement within the phase, the primary sources being the excavated Made Ground from within the phase and the Made Ground stockpiles on the Phase.

The natural Tidal Flat Deposits were chemically validated during earthworks between September 2022 and June 2023, locations shown in RLL Drawing 18669-18669-RLL-23-XX-DR-O-0409-P02 P03 (**Appendix A**).

The earthworks included a turnover of approximately 50,800m^3 of Made Ground which allowed for the surveying and chemical validation of the natural clay at the base of excavation, as shown on the McCarthy Contractors (Bridgend) Ltd 5D & 4B As Built Formation 1 of 2 and 5D & 4B As Built Formation 2 of 2, in **Appendix A**. Retained supporting piles and exceptional obstructions are shown on McCarthy Contractors (Bridgend) Ltd on Drawings 5D & 4B As Built Obstructions 1 of 2 and 5D & 4B As Built Obstructions 2 of 2, also presented in **Appendix A**.

Approximately 4,500m^3 of stockpiled site won suitable material was used to achieve the formation levels. Chemical testing of the material is presented in Section 4.0.

The reengineering of the material to create a low permeability layer of Made Ground is in accordance with the Remediation Strategy (**Ref. 4**). The works also enabled existing obstructions to be uncovered and, where possible, removed.

In accordance with the RLL Earthworks Specification (**Ref. 3**) material excavated from Phase 4B & 5D and material located within stockpiles on the wider Glan Llyn development was used as fill within the Site to achieve the formation level of between approximately 5.75mAOD and 6.15mAOD. The material was reengineered to achieve 95% compaction and <10% air voids. The Site is 750mm below the proposed final levels, to allow for placement clean cover.

The completed earthworks topographical survey is shown on the McCarthy Contractors (Bridgend) Ltd Drawings 5D & 4B As Built Topo 1 of 2 and 5D & 4B As Built Topo 2 of 2, both in **Appendix A**. Photographs of the earthworks operation are presented in **Appendix B**.

3.2 Geotechnical Assessment

Geotechnical validation of the earthworks comprised geotechnical testing, California Bearing Ratio (CBR) testing, Electronic Soil Density Gauge (SDG) Non-Nuclear Test, and expansivity testing of the slag material. The appropriate compaction of the material is relevant in terms of limiting/ reducing the permeability to support the Remediation Strategy.

55 particle size distribution tests were undertaken on samples of the fill material used within the Site. The results indicate that the fill comprised slightly clayey sandy GRAVEL and occasional cobbles. Samples were classed as 1B – uniformly graded granular material (≤15% fines) which is a General Granular Fill or 2C stony cohesive material (>15% fines).

Table 3.1 summarises the relevant performance criteria for material compaction set out in the earthworks specification and the in-situ test results recording compliance in accordance with the Earthworks Specification.

Table 3.1. Relevant Earthworks Performance Criteria & Validation Results

Test	Required Limits		In-situ Results **	
	Min	Max	Min	Max
Phase 4B 5D (September 2022 and June 2023)				
Moisture Content (%)	6.00*	20.00*	0.70	20.10

Maximum Dry Density (Mg/m^3)	1.37*	2.50*	1.62	2.83
Degree of Compaction	>95% (Maximum Dry Density)		86.0%	139.0%
Air Voids Ratio **	<10%		-65%	49.5%
CBR Tests	Target 5%, Minimum 2.5%		3.50%	136.80%

* Taken from laboratory test results
** Soil Density Gauge (SDG)

317 of the 333 EDG tests achieved 95% or greater relative compaction, and 326 tests achieved the minimum 90% or greater relative compaction. 7 tests achieved a relative compaction of less than 90%, ranging from 86% to 89%. It is considered that these failures are likely due to the significant variability of the Made Ground and the associated difficulty with assigning target compliance values.

It was considered that in accordance with BS6031:2009 an acceptance envelope should be developed. The acceptance envelope provides a range where suitable results could fall to show sufficient compaction. Following the development of the envelope some results sat outside of compliance range, however this is thought to be a minor proportion of the testing and the majority of the engineered fill meets requirements of the Earthworks Specification.

314 in situ BS1377-2 moisture content tests were undertaken during the material placement, with a recorded moisture content range of 0.70% to 20.1%.

The equivalent California Bearing Ratio (CBR) values for all 65 tests were in excess of the minimum 2.5% value.

3.2.1 Discussion

The results show that the appropriate compaction has been achieved and that the earthworks have been undertaken in accordance with the Earthworks Specification(s). The validation information for the earthworks was reviewed and approved as being in accordance with the earthworks specification. More information will be available in the Geotechnical Validation Report (**Ref 5**).

4.0 Chemical Validation of Soils

4.1 General

The site-won fill material used and re-engineered to achieve the proposed formation levels was predominantly granular, comprising sandy gravel with variable quantities of clay, silt and cobbles. The gravel was described as comprising of sandstone, mudstone, shale, concrete, brick and slag.

Material was tested in accordance with the RLL Earthworks Specification (**Ref. 3**) and the RLL Remediation Strategy (**Ref. 4**). Chemical data was screened against the S4UL Generic Assessment Criteria for Residential End Use with Homegrown Produce.

Fill material was sampled prior to placement by RLL between January 2021 and September 2022 during the various intrusive investigations undertaken across the Site. Chemical testing was undertaken by Eurofins Chemtest Ltd and ALS Global Ltd.

Clay validation samples were taken from the natural deposits during the mass excavation operation to confirm the Tidal Flat Deposits had not been impacted by contamination.

Surface validation sampling of the re-engineered formation surface was undertaken by RLL on a 50m grid at 100mm below the formation surface in May 2023. The formation surface validation sample locations and clay validation sample locations are shown on RLL Drawing 18669-RLL-23-XX-DR-O-0409-P03 (**Appendix A**).

4.2 Tidal Flat Deposits

Nine soil samples were collected from the Tidal Flat Deposits exposed during the earthworks and sent for contamination testing, locations shown in RLL Drawing 18669-RLL-23-XX-DR-O-0409-P03 **Appendix A**. Samples were tested for heavy metals, polycyclic aromatic hydrocarbons (PAH), total petroleum hydrocarbon (TPH), BTEX (benzene, toluene, ethylbenzene and xylenes), pH, soil organic matter (SOM), ammoniacal nitrogen, cyanide, phenols.

The samples were assessed against the S4UL Generic Assessment Criteria Residential End Use with Homegrown Produce screening criteria in accordance with the Remediation Strategy (**Ref. 4**).

A summary of the laboratory chemical results, screened against relevant assessment criteria, is presented in **Appendix C**. Laboratory certificates are presented in **Appendix D**.

Table 4.1 summarises the exceedances of the S4UL Generic Assessment Criteria Residential End Use with Homegrown Produce criteria.

Table 4.1 Summary of exceedances of S4UL Generic Assessment Criteria Residential End Use with Homegrown Produce for the Clay Validation Samples.			
Contaminant	**No. of samples exceeding**	**S4UL Residential with plant uptake value (mg/kg)**	**Exceedances Concentration Range (mg/kg)**
Benzo[b]fluoranthene	1 of 9 (11%)	2.60	2.90
Dibenz(a,h)Anthracene	3 of 9 (11%)	0.24	0.36

One sample was shown to marginally exceed the screening criteria for benzo[b]fluoranthene and dibenz(a,h)anthracene from a the natural deposits. The sample was obtained during the earthworks operation and it is considered it is likely to have picked up some of the overlying Made Ground in the sample. The natural deposits are not considered to have been impacted by the overlying Made Ground on the site (this has also been confirmed on the wider development) and it is considered an anomalous result.

4.3 Fill Material

A combined volume of approximately 55,300m^3 of Made Ground makes up Phase 4B & 5D. In accordance with the Remediation Strategy, 92 soil samples were collected between January 2021 and September 2022 for contamination testing, all of which was sourced from Phase 4B & 5D and the wider Glan Llyn site, comprising the in-situ or stockpiled Made Ground. Samples were tested for heavy metals, polycyclic aromatic hydrocarbons (PAH), total petroleum hydrocarbon (TPH), BTEX, pH, soil organic matter (SOM), ammoniacal nitrogen, cyanide, phenols and select samples were also tested for asbestos. The provenance of material reused is tracked by the sample name.

The samples were screened against the S4UL Generic Assessment Criteria Residential End Use with Homegrown Produce in accordance with the Remediation Strategy (**Ref. 4**). A summary of the laboratory chemical results is presented in **Appendix C**. Laboratory certificates are presented in **Appendix D**.

Table 4.2 summarises the exceedances of the S4UL Generic Assessment Criteria Residential End Use with Homegrown Produce criteria.

Table 4.2 Summary of exceedances of S4UL Generic Assessment Criteria Residential End Use with Homegrown Produce for the Fill Material.			
Contaminant	**No. of samples exceeding**	**S4UL Residential with plant uptake value (mg/kg)**	**Exceedances Concentration Range (mg/kg)**
Arsenic	3 of 92 (3.26%)	37.00	67.00 – 280.00

Table 4.2 Summary of exceedances of S4UL Generic Assessment Criteria Residential End Use with Homegrown Produce for the Fill Material.			
Contaminant	**No. of samples exceeding**	**S4UL Residential with plant uptake value (mg/kg)**	**Exceedances Concentration Range (mg/kg)**
Mercury	14 of 92 (15.22%)	1.20	<1.40 - 2.13
Nickel	1 of 92 (1.10%)	130.00	270.00
Lead	2 of 92 (2.17%)	200.00	253.00 – 408.00
Vanadium	11 of 92 (11.96%)	410.00	413.00 – 2300.00
Benzene	55 of 92 (59.78%)	87.00	140.00 – 1800.00
Naphthalene	3 of 92 (3.26%)	15.00	20.50 – 73.00
Benzo[a]anthracene	6 of 92 (6.52%)	7.20	8.30 – 14.90
Benzo[b]fluoranthene	36 of 92 (39.13%)	2.60	2.62 – 20.80
Benzo[a]pyrene	29 of 92 (31.52%)	2.20	2.31 – 11.80
Dibenz(a,h)Anthracene	26 of 92 (28.26%)	0.24	0.268 – 1.900

55 of the 92 samples were shown to exceed the screening criteria for benzene. The detection limit for 49 of the 92 samples tested for benzene samples was listed by the laboratory as 180µg/kg (0.180mg/kg) or 1800µg/kg (1.800mg/kg), this is greater than the screening value of 87ug/kg (0.087mg/kg) and causes a significant skew to the results. Where samples are reported at the detection limit, for screening purposes, it has been conservatively assumed that the value is 180µg/kg (0.018mg/kg) or 1800µg/kg (1.800mg/kg). The true concentration is likely to be significantly lower than this value.

Asbestos was identified in 7 samples from the 47 analysed, six of the seven samples were then quantified. Results are summarised in the table below.

Table 4.3 - Summary of Asbestos Results for the Fill Material		
Location	**Asbestos Type**	**Quantification (%w/w)**
P15-1 (0.30m)	Amosite (Brown) Asbestos	0.001
R14-1 (0.10m)	Chrysotile (White) Asbestos	0.001
S14-1 (0.50m)	Chrysotile (White) Asbestos	<0.001
U15-1 (1.00m)	Chrysotile (White) Asbestos	0.001
R12-1 (0.30m)	Chrysotile (White) Asbestos	N/A
T19-1 (0.30m)	Chrysotile (White) Asbestos	0.0159
R140-1	Chrysotile (White) Asbestos	0.002

The Institute of Occupational Medicine (IOM) risk assessment report for the reuse of soils containing asbestos at Llanwern (**Ref. 6**) states that Made Ground is suitable for reuse in residential areas if concentrations are less than 0.02% (200PPM) and 600mm of clean cover (soils with asbestos content <0.001%) is provided. The Made Ground material will be a minimum of 750mm below finished levels based on the proposed formation levels.

4.4 Formation Surface

Following consultation with the Senior Scientific Officer at Newport City Council (NCC) additional chemical sampling of formation surface was proposed as an addendum to the Remediation Strategy (**Ref 6**). The additional sampling was undertaken in accordance with the Remediation Strategy and, in addition to the pre-remediation testing, validation samples were collected to assess the contamination status of the formation surface.

Fifteen chemical samples were taken from the formation surface, following the earthworks, to assess the contamination status on an approximate 50m grid. The validation testing of the formation surface (750mm below final ground level) was assessed against S4UL Generic Assessment Criteria for Residential End Use with Homegrown Produce screening values in accordance with the Remediation Strategy. Samples were tested for heavy metals, polycyclic aromatic hydrocarbons (PAH), total petroleum hydrocarbon (TPH), BTEX, pH, soil organic matter (SOM), ammoniacal nitrogen, cyanide, phenols and all of the samples were additionally tested for asbestos. A summary of the laboratory chemical results is presented in **Appendix C**. Laboratory certificates are presented in **Appendix D**.

The locations of the surface validation samples are shown on RLL Drawing reference 18669-RLL-23-XX-DR-O-0409-P03, included in **Appendix A**.

The samples were screened against the S4UL Generic Assessment Criteria for Residential End Use with Homegrown Produce screening values in accordance with the Remediation Strategy (**Ref. 4**). The following table summarises the exceedances.

Table 4.4 Summary of exceedances of S4UL Generic Assessment Criteria Residential End Use with Homegrown Produce for the Surface Validation Samples (750mm Below Final Ground Level)			
Contaminant	**No. of samples exceeding**	**Critical Value (mg/kg)**	**Exceedances Concentration Range (mg/kg)**
Aromatic EPH >C10-C12	1 of 15 (6.67%)	74.00	120.00
Naphthalene	6 of 15 (40.00%)	15.00	16.00 – 31.00
Benzo[a]anthracene	4 of 15 (26.67%)	7.20	7.30 – 20.00
Chrysene	1 of 15 (6.67%)	15.00	19.00
Benzo[b]fluoranthene	12 of 15 (80.00%)	2.60	3.40 – 24.00
Benzo[a]pyrene	12 of 15 (80.00%)	2.20	2.30 – 16.00
Dibenz(a,h)Anthracene	10 of 15 (66.67%)	0.24	0.28 – 2.40

The formation surface material is 750mm below final ground levels to facilitate the provision of clean cover and appropriate construction material. As such, the pathway between the limited residual exceedances in the Made Ground and the site end-use receptors will be broken with the addition of the imported clean cover in accordance with the Remediation Strategy.

Asbestos was identified in one sample from the fifteen analysed, this samples was then quantified. Results are summarised in the table below.

Table 4.5 - Summary of Asbestos Results for the Surface Validation Samples		
Location	**Asbestos Type**	**Quantification (%w/w)**
5d/4b-SV7	Amosite (Brown) Asbestos	<0.001

The locations of recorded exceedances in surface validation samples are presented on RLL Drawing 18669-RLL-25-XX-DR-O-0804-P01, in **Appendix A**.

4.5 Soils Contamination Summary

One marginal exceedance of Benzo[b]fluoranthene and Dibenz(a,h)Anthracene was recorded from a sample of the natural deposits when compared to the S4UL Generic Assessment Criteria Residential End-Use Homegrown Produce. These exceedances are not thought to represent wider contamination within the natural clays, but rather isolated contamination within the collected sample container; as supported by other samples returning no exceedances of the relevant screening criteria.

Exceedances of arsenic, mercury, nickel, lead, vanadium, benzene, naphthalene, benzo[a]anthracene, benzo[b]fluoranthene, benzo[a]pyrene and dibenz(a,h)anthracene were encountered in a limited number of samples taken from fill material when compared to the S4UL Generic Assessment Criteria Residential End-use with Homegrown Produce.

Due to the recorded exceedances when compared against the S4UL generic assessment criteria, a clean cover system will be required to break the pathway to any potential contaminants.

Asbestos was identified within 7 of the 47 fill material soil samples tested at concentrations of between <0.001% to 0.0159%. As the concentrations are less than 0.02% (200PPM), the material is considered suitable for reuse in residential areas beneath suitable inert clean cover, as per the IOM risk assessment report (**Ref. 6**).

An assessment on the risk to controlled waters will be validated in a separate validation report in accordance with the Hannah Fraser Consulting Soils Verification methodology (**Ref 8**).

5.0 Ground Gas Assessment

5.1 Gas Monitoring

Gas monitoring was undertaken in six monitoring wells (4B&5D- WS01, WS02, WS04, WS05, WS06 and WS07) between March 2023 and December 2025 by RLL. The location of the monitoring wells are shown on RLL Drawing 18669-RLL-23-XX-DR-O-0406-P04 (**Appendix A**), and the monitoring results are available in **Appendix E**.

Four to ten rounds of gas monitoring have been undertaken at locations installed between March 2023 and December 2025. A maximum methane concentration of 5.2% was recorded, and a maximum concentration of 0.2% for carbon dioxide was recorded. Low oxygen concentrations (minimum of 2.9%) were encountered during the monitoring period.

Low oxygen concentrations are often indicative of the presence of other gasses, or anaerobic soil conditions due to water saturated ground. Anaerobic soil conditions were likely encountered during the time of monitoring due to the thickness of engineered fill and the presence of partially flooded monitoring positions during the gas monitoring rounds.

A summary of the gas monitoring is presented in the table below:

Table 5.1 - Gas Monitoring Results Summary

Hole ID	Barometric Pressure (mb)	Peak Methane (%)	Peak Carbon Dioxide (%)	Min Oxygen (%)	Maximum Flow Rate (l/hr)
4B & 5D – WS01	1015 - 1030	0.0 – 0.2	0.0 – 0.2	16.1 – 18.5	-3.1 – 0.0
4B & 5D – WS02	995 - 1030	0.0 – 5.2	0.0 – 0.2	2.9 – 15.6	-0.8 – 0.0
4B & 5D – WS04	1015 – 1030	0.0 – 0.3	0.0 – 0.1	17.1 – 20.8	-1.7 – 4.8
4B & 5D – WS05	999 - 1031	0.0 – 2.8	0.0 – 0.1	19.5 – 19.7	-1.6 – 1.7
4B & 5D – WS06	995 - 1027	0.0 – 0.6	0.0 – 0.1	17.7 – 20.4	0.0
4B & 5D – WS07	994 - 1027	0.0 – 1.7	0.0 – 0.1	17.7 – 19.9	0.0 – 3.8

GSVs were calculated for each monitoring borehole and are initially conservatively based on the peak methane and carbon dioxide readings and the maximum flow rate encountered within each exploratory hole.

Table 5.2 - Gas Screening Values						
Hole ID	**Max. CO_2 conc. (%)***	**Max. CH_4 conc. (%)***	**Peak Flow Rate (l/hr)****	**CO_2 GSV**	**CH_4 GSV**	**Borehole Characterisation**
4B & 5D – WS01	0.2	0.2	0.3	0.0006	0.0006	CS1
4B & 5D – WS02	0.2	5.2	0.3	0.0006	0.0156	CS2
4B & 5D – WS04	0.1	0.3	4.8	0.0048	0.0144	CS1
4B & 5D – WS05	0.1	2.8	1.7	0.0017	0.0476	CS2
4B & 5D – WS06	0.1	0.6	0.3	0.0003	0.0018	CS1
4B & 5D – WS07	0.1	1.7	3.8	0.0038	0.0646	CS2

*0.1% concentration value has been used on any value less than 0.1%, based on the gas analyser margin of error.
**0.3 l/hr flow has been used on any value less than 0.3 l/hr, based on the gas analyser margin of error.

In accordance with BS 8485+A1-2019 and based on the gas monitoring completed to date half of Phase 4B & 5D would fall within Characteristic Situation 1 (CS1) classification; with the area of 4B & 5D-WS02, 4B & 5D-WS05 and 4B & 5D-WS07 falling within Characteristic Situation 2 (CS2) classification due to elevated peak methane concentrations of 1.7% to 5.2%.

If a worst case scenario GSV for methane and flow is considered for the site, 0.2496 is calculated, equating to CS2 gas protection requirements.

5.2 Proposed Gas Protection

In accordance with BS8485+A1:2019, a classification of CS2 would require a score of 3.5 based on the units being preliminary classed as Type A structures.

For all areas (Type A) we propose the following:

Item	Feature	Score
1	Passive sub floor dispersal layer of very good performance.	2.5
2	Independently inspected and validated gas resistant membrane.	2.0
	Total Score	**4.5**

The above proposed design meets the required scored for Type A structures for CS2 gas protection. Based on the available information, the protection suggested in the table is considered suitably protective of the proposed residential building.

5.3 Radon

A Radon Risk Address Search was undertaken and issued by the British Geological Survey, dated 24 June 2025 (Report ID: BGS_343319/61146), which stated that the Site does not lie within a radon affected area and 'no radon protective measures are required for the report area'. A radon affected area is defined as: 'where less than 1% of homes are estimated to be at or above the action level'.

6.0 Permeability Assessment

6.1 Introduction

The Glan Llyn Soils Validation Strategy for Protection of Controlled Waters (**Ref. 8**) assumes a hydraulic conductivity of 1 x 10-6 m/s or less for the engineered fill and also presents a rationale for the assessment of permeability.

It is proposed that the hydraulic conductivity of the fill is validated by taking at least three hydraulic conductivity measurements per phase, with a guide density of one test per 6.25 ha.

An assessment on the risk to controlled waters will be validated in a separate Controlled Waters Validation Report, but the following sections provide supporting infiltration testing using falling head tests, rising head tests and formation falling head tests.

6.2 Formation Falling Head Tests

Formation falling head tests were undertaken in three locations across the Site (4B/5D-INF01 to 4B/5D-INF03) in Phase 4B 5D between October 2025 and January 2026.

A 270mm diameter and 500mm high metal pipe was keyed in the ground approximately 25mm, a second 100mm pipe was keyed into the Made Ground within the larger pipe. The outside circumference of both pipes was sealed with natural clay and the pipes covered with a plastic sheet.

The purpose of the second pipe is to reduce surface wetting and horizontal movement of water, the plastic sheet was placed to reduce evaporation and rainfall interfering with the test.

Both pipes were filled with approximately 270mm of clean water and measurements were taken to the top of water from the top of the inner pipe to measure the permeability of the underlying soils. The test is non-standard but is intended to be consistently repeatable to provide site specific data as a line of evidence to support the assumption that reengineering the near surface Made Ground has reduced the permeability.

Formation falling head tests were conducted for a minimum of 120 minutes, at the end of the testing period it was found that infiltration rates (measured in increments) had substantially stabilised and the calculated rate is considered more representative of the ground conditions.

The location of the formation falling head tests are shown on RLL Drawing 18669-RLL-26-XX-DR-O-0843-P01 (**Appendix A**), and the raw data is available in **Appendix F**.

Table 6.1 - Infiltration Test Results Summary						
Test ID	**Date**	**Initial Water Level (mm)**	**Duration of Test (mins)**	**Final Water Level (mm)**	**Total Fall in Water Level (mm)**	**Permeability (m/s)**
4B/5D-INF01	30/10/2025	274	1600	214	60	$6.25E^{-07}$
4B/5D-INF02	19/01/2026	270	230	259	11	$7.97E^{-07}$
4B/5D-INF03	20/01/2026	270	120	264	6	$8.33E^{-07}$

6.3 Falling Head Tests

Falling head tests were undertaken on three occasions within boreholes 4B5D-WS05, 4B5D-WS06 and 4B5D-WS07 between August 2025 and October 2025. Boreholes were installed to an approximate depth of 2.3-3.0mBGL and filled to surface level with clean water and intermittently measured as water returned to equilibrium levels. Tests were conducted for a minimum of 450 minutes. The full results of the falling head tests are presented in **Appendix F**.

The location of the falling head tests are shown on RLL Drawing 18669-RLL-26-XX-DR-O-0845-P01 (**Appendix A**).

Table 6.2 – Falling Head Test Results Summary			
Test ID	**Duration of Test (mins)**	**Total Fall in Water Level (mm)**	**Permeability (m/s)**
4B5D-WS05	1310	0.078	$9.92E^{-07}$
4B5D-WS06	450	0.021	$7.78E^{-07}$
4B5D-WS07	1660	0.094	$9.44E^{-07}$

The falling head tests indicated the permeability of the underlying soils to be very low, with a range of $7.78E^{-07}$m/s to $9.92E^{-07}$m/s.

Based on the formation falling head test results the ground is considered to have poor drainage characteristics consistent with the modelling discussed within the Soils Validation Strategy for Protection of Controlled Waters (**Ref. 8**).

Rising Head Tests

Due to the lack of water present within the monitoring positions, the wells were unsuitable for the rising head tests and therefore could not be undertaken.

7.0 Conclusions

During previous intrusive ground investigations on Phase 4B & 5D, the Made Ground was found to contain numerous buried obstructions as well as exceedances of heavy metals, benzene, TPH, PAHs and asbestos. As such, remediation and earthworks were required to provide a suitable site for development.

The remediation works were undertaken by McCarthys Contractors (Bridgend) Ltd between September 2022 and June 2023. The works comprised site clearance, removal of obstructions, removal of unsuitable material, excavation and turnover of the suitable for reuse Made Ground to the underlying Tidal Flat Deposits and re-engineering to a formation level of approximately 750mm below the proposed final ground level to facilitate the provision of clean cover requirements.

During the removal of the Made Ground, numerous buried obstructions were encountered including piles and fused slag. The buried obstructions were removed in their entirety, or in the case of the deep piles, cropped to the top of the underlying Tidal Flat Deposits. Following the 25m grid sampling exercise a total of approximately 4,200m^3 of unsuitable Made Ground was removed from the Site for treatment or reuse prior to the turnover over works. An approximate total of 55,000m^3 of Made Ground was assessed as suitable for reuse during the turnover operation. A total of approximately 4,500m^3 of pre validated stockpiled site won material was used to achieve the formation level.

Throughout the removal and re-engineering of the Made Ground, the Site was assessed by an RLL engineer for visual and olfactory evidence of contamination. Validation of the remedial earthworks relevant to Phase 4B & 5D comprised validation soil sampling, permeability testing, and gas monitoring. The fill material used to re-engineer Phase 4B & 5D was predominantly granular, comprising slightly clayey sandy GRAVEL and occasional cobbles.

The engineered Made Ground within the phase is considered to have poor drainage characteristics (1 x 10-6 m/s or less), based on the falling head and formation falling head test results, and is consistent with the modelling and in accordance with the hydraulic conductivity assumptions made within the CWDQRA report and the Soils Validation Strategy for Protection of Controlled Waters.

Nine soil samples were collected from the Tidal Flat Deposits exposed during the earthworks and sent for contamination testing. One sample was shown to marginally exceed the screening criteria for benzo(b)fluoranthene and dibenz(a,h)Anthracene when screened against the S4UL generic assessment criteria for residential end-use with homegrown produce screening criteria. The sample was obtained during the earthworks operation and it is considered it may have picked up some of the overlying Made Ground in the sample. The natural deposits are not considered to have been impacted by the overlying Made Ground on the site (this has also been confirmed on the wider development) and it is considered an anomalous result.

Exceedances of arsenic, mercury, nickel, lead, vanadium, benzene, aromatic EPH >C10-C12, naphthalene, benzo[a]anthracene, chrysene, benzo[b]fluoranthene, benzo[a]pyrene and dibenz(a,h)anthracene were encountered in a limited number

of samples taken from the fill and surface validation samples when compared to the S4UL generic assessment criteria for residential end use with homegrown produce screening values.

Asbestos was identified within 7 samples from the 47 fill material soil samples, and 1 from the 15 surface validation samples, tested at concentrations of between <0.0010% to 0.0159%. As the concentrations are less than 0.02% (200 PPM), the material is considered suitable for reuse in residential areas beneath suitable inert clean cover, as per the IOM risk assessment report.

It is considered that a suitable clean cover system of 600mm placed above the Made Ground will be sufficient in breaking the pathway between source and end users of the Site.

In accordance with BS 8485+A1-2019, based on the completed gas monitoring, Phase 4B & 5D would fall under Characteristic Situation 2 (CS2) classification. The Site is located within an area where less than 1-3% of properties being above the Action Level. As such, the site is in a radon effected area but no radon protection measures are likely to be required in the construction of the new development.

An assessment on the risk to controlled waters will be validated in a separate Controlled Waters Validation Report in accordance with the Hannah Fraser consulting Soils Verification Methodology.

The removal of contaminated material, the excavation to natural clay and the re-engineering of the Site has removed potential sources of contamination and has reduced the permeability of the Made Ground. Made Ground assessed to be suitable for reuse beneath the clean cover (when compared with criteria outlined in the RLL Remediation Strategy) was re-engineered and compacted in accordance with the RLL Earthworks Specification. The Site has been re-engineered to be 750mm below final formation levels to facilitate the provision of clean cover across the Site. The pathway between the residual exceedances in the Made Ground and the site end-users will be broken with the provision of the imported clean cover, in accordance with the RLL Remediation Strategy.

Based on the site monitoring and validation information RLL consider that the remediation works at the site have been undertaken in accordance with the requirements of the Remediation Strategy.

Appendix A: Drawings



N

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KEY:

Approximate Site Boundary

Rev	Date	Amendments	By	Chk
P03	27/06/2025	Updated per client comments	ET	CW
P02	10/09/2024	Update to site boundary, excluding Vertase Area.	AMS	CW

Client

St Modwen Developments

Project

P18-669 Llanwern Reclamation

Drawing Title

Phase 4b & 5d

Site Location Plan

INFORMATION

	Drawn	Checked	Date
1:1250 @ A1	SR	CW	06.09.22

Drawing No. Rev.

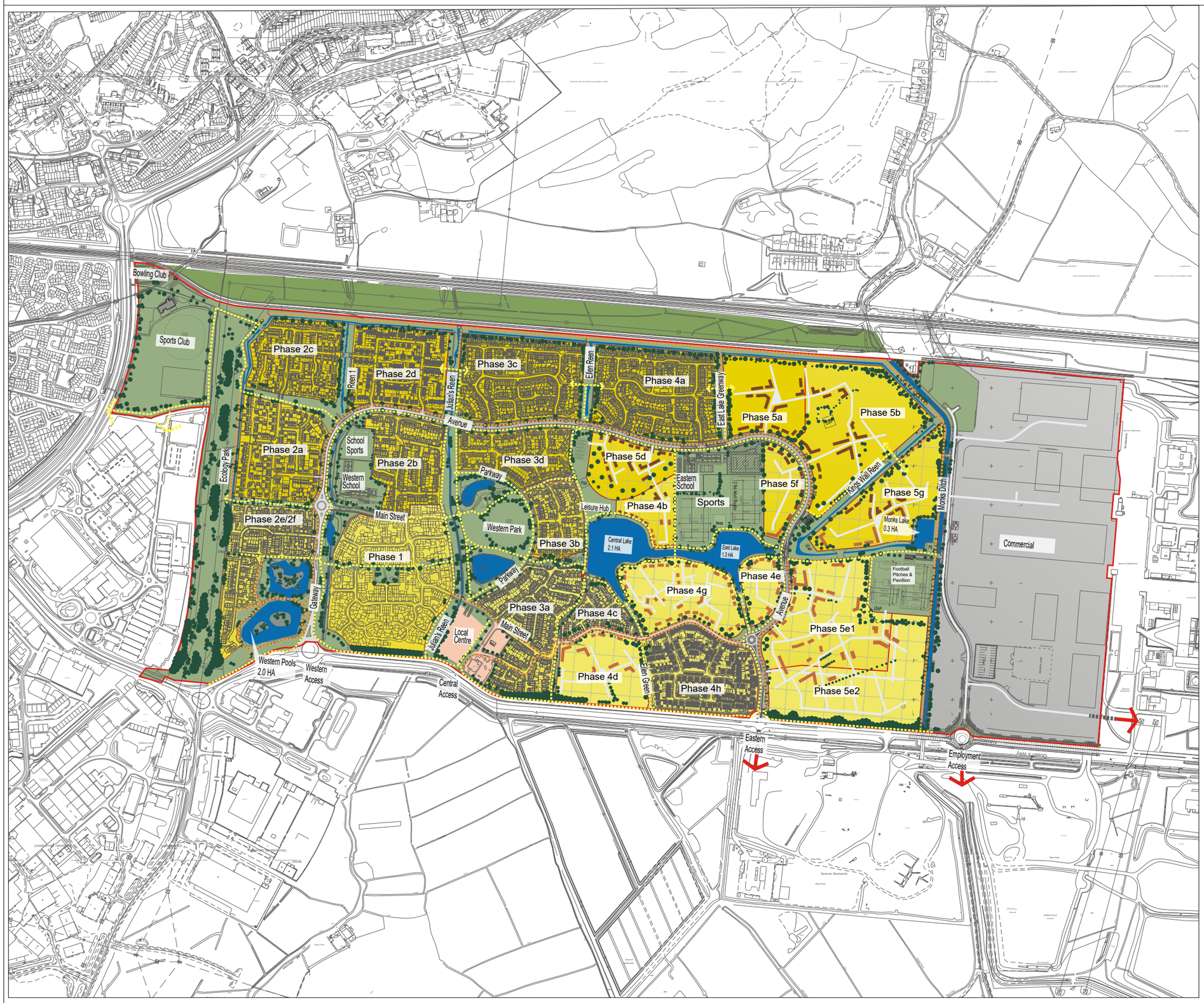
18669-RLL-22-XX-DR-O-0323 P03

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Glan Llyn -ESAMP Indicative Masterplan



SGP
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SGP File Ref:	8111-08-A011	**Drawing No:**	8111-08-A012
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Drawn By:	NV	**Scale:**	1:5000 @A1
Date:	10/04/2019		

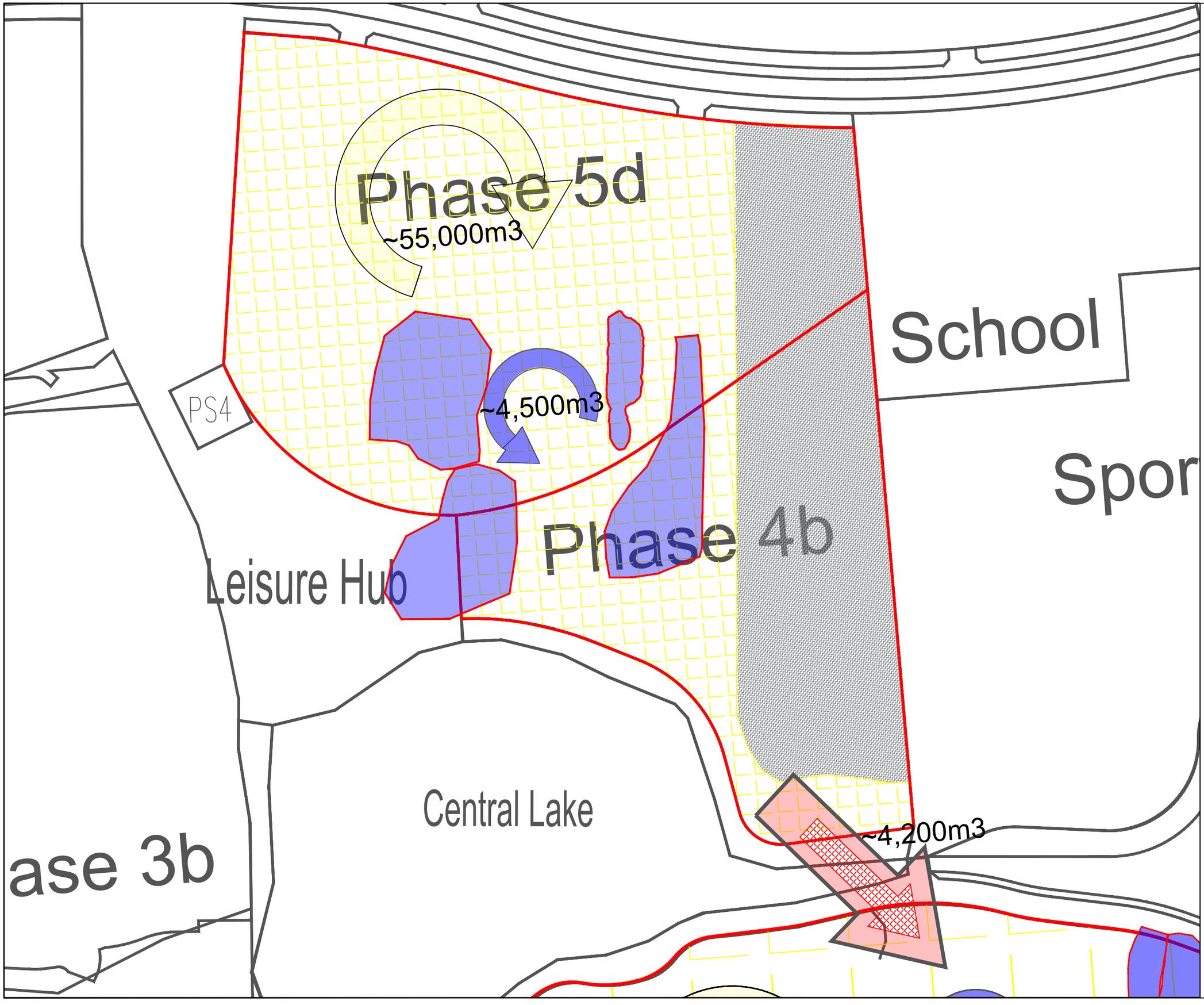
Notes:
Residential areas quoted are approximate gross site areas and include Leaps, Laps and on plot road infrastructure

Notes:
Residential areas quoted are approximate gross site areas and include Leaps, Laps and on plot road infrastructlayture

0 50 100 200 250 300 400 500
Metres at scale 1:5000

ST.MODWEN

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KEY:

- SIGNED OFF IN ADJACENT PHASE
- MADE GROUND (STOCKPILES) REUSED WITHIN PHASE 5D & 4B
- PHASE 5D & 4B SOURCE MATERIAL FROM EXCAVATION
- PHASE 5D & 4B SITE BOUNDARY
- UNSUITABLE MATERIAL OFFSITED

Rev	Date	Amendments	By	Chk
P01	05/02/2026	First Issue	DM	CW

Client

Revantage Real Estate

Project

P18-669
Llanwern Reclamation

Drawing Title

Phase 5d 4b
Material Tracking Information

INFORMATION

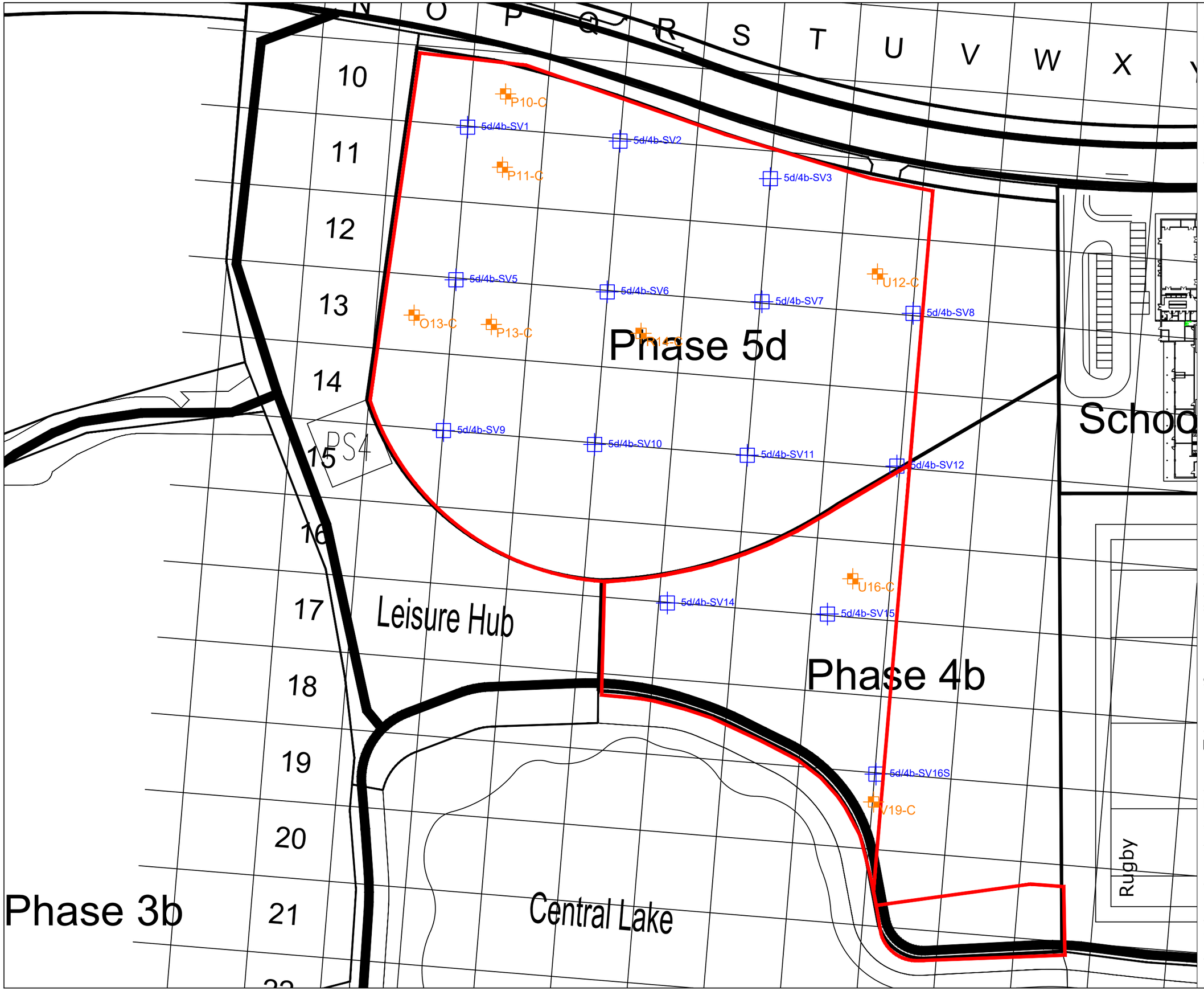
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NTS	DM	CW	05/02/2026

Drawing No. | Rev.

18669-RLL-26-XX-DR-O-0848 | P01

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KEY:

SURFACE VALIDATION SAMPLE

CLAY VALIDATION SAMPLE

Rev	Date	Amendments	By	Chk
P03	05/02/2025	Clay Validation locations added	DM	CW
P02	10/09/2025	Updated Site Boundary	AMS	CW
P01	23/02/2023	First Issue	SR	CW

Client

Revantage Real Estate

Project

P18-669 Llanwern Reclamation

Drawing Title

Phase 4b & 5d

Surface & Clay Validation Plan

INFORMATION

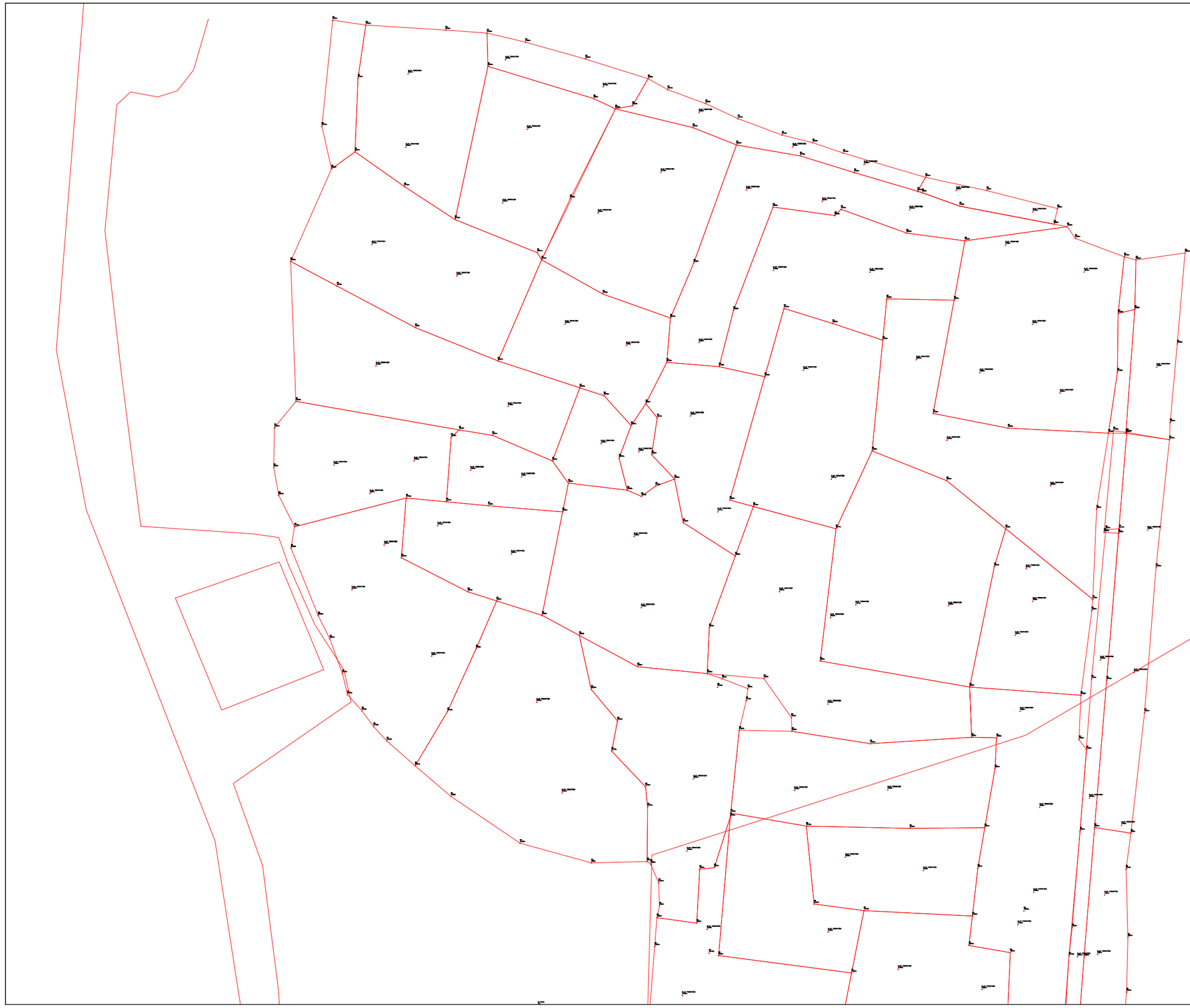
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NOTES

1.

REV.	DESCRIPTION	BY	DATE
A	AS BUILT	MP	19/07/2023

McCarthy Contractors (Bridgend) Ltd

46A Village Farm Industrial Estate
Pyle - CF33 6BP
Tel - (01656) 745858 Fax - (01656) 740596

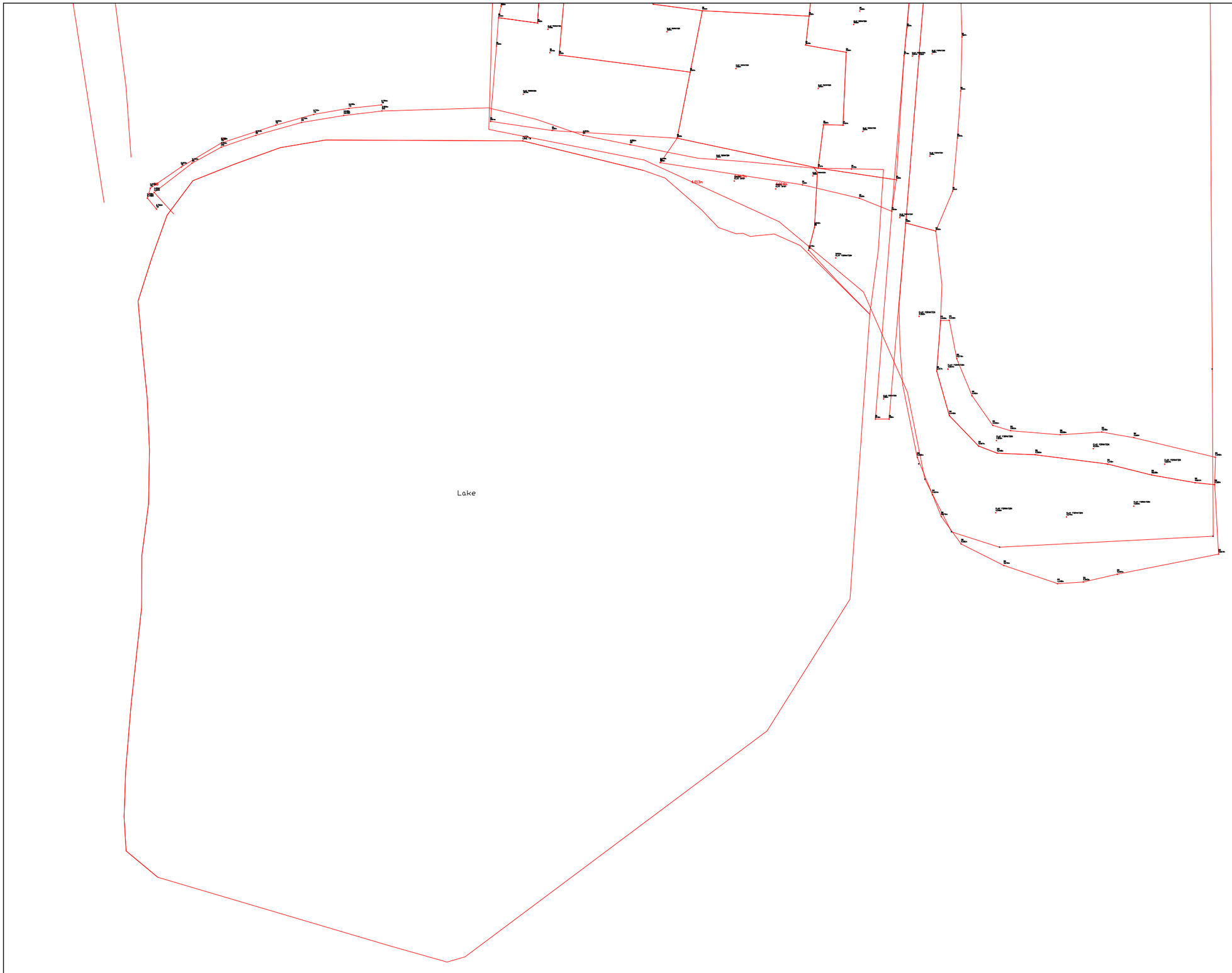
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project: LLANWERN

drawing title: 5D & 4B AS BUILT FORMATION 1 OF 2

Drawn	Chkd	Scale	Date
MP	-	N.T.S @A0	JULY 2023

As Built	Job No.	Drawing No.	Rev.
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REV.	DESCRIPTION	BY	DATE
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McCarthy Contractors (Bridgend) Ltd

46A Village Farm Industrial Estate
Pyle - CF33 6BP
Tel - (01656) 745838 Fax - (01656) 740596

client: ST MODWENS

project: LLANWERN

drawing title: 5D & 4B AS BUILT FORMATION 2 OF 2

Drawn	Chkd	Scale	Date
MP	-	N.T.S @A0	JULY 2023

As Built	Job No.	Drawing No.	Rev.
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McCarthy Contractors (Bridgend) Ltd

46A Village Farm Industrial Estate
Pyle - CF33 6BP
Tel - 01656 745838 Fax - 01656 740596

client: ST MODWENS

project: LLANWERN

drawing title: 5D & 4B AS BUILT OBSTRUCTIONS 1 OF 2

Drawn	Chkd	Scale	Date
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As Built	Job No.	Drawing No.	Rev.
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REV.	DESCRIPTION	BY	DATE
A	AS BUILT	MP	19/07/2023

McCarthy Contractors
(Bridgend) Ltd

44A Village Farm Industrial Estate
Pyle - CF33 6BP
Tel - (01656) 745838 Fax - (01656) 740596

client: ST MODWENS

project: LLANWERN

drawing title: 5D & 4B AS BUILT OBSTRUCTIONS 2 OF 2

Drawn	Chkd	Scale	Date
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client: ST MODWENS

project: LLANWERN

drawing title: 5D & 4B AS BUILT
TOPO 1 OF 2

Drawn	Chkd	Scale	Date
MP	-	N.T.S @A0	JULY 2023

As Built	Job No.	Drawing No.	Rev.
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A	AS BUILT	MP	19/07/2023

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44A Village Farm Industrial Estate
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Tel - 01656671458 38 Fax - 01656671405 96

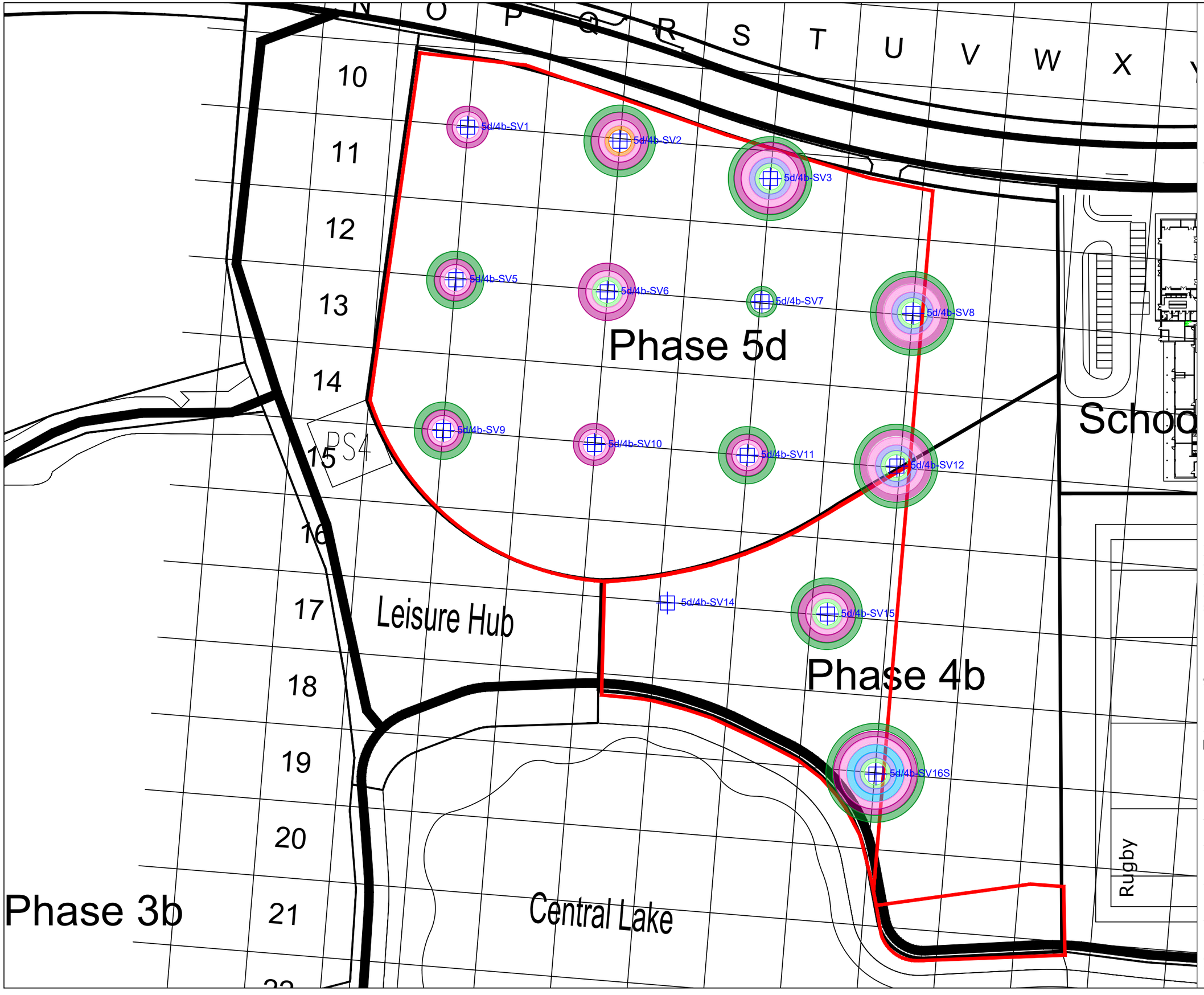
client: ST MODWENS

project: LLANWERN

drawing title: 5D & 4B AS BUILT TOPO 2 OF 2

Drawn	Chkd	Scale	Date
MP	-	N.T.S @A0	JULY 2023

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KEY:

- SURFACE VALIDATION SAMPLE
- AROMATIC EPH >C10-C12
- NAPHTHALENE
- BENZO[A]ANTHRACENE
- CHRYSENE
- BENZO[B]FLUORANTHENE
- BENZO[A]PYRENE
- DIBENZ(A,H)ANTHRACENE

Rev	Date	Amendments	By	Chk
P01	09/10/2025	First Issue	AMS	CW

Client

Revantage Real Estate

Project

P18-669 Llanwern Reclamation

Drawing Title

Phase 4B & 5D Surface Validation Exceedance Plan

INFORMATION

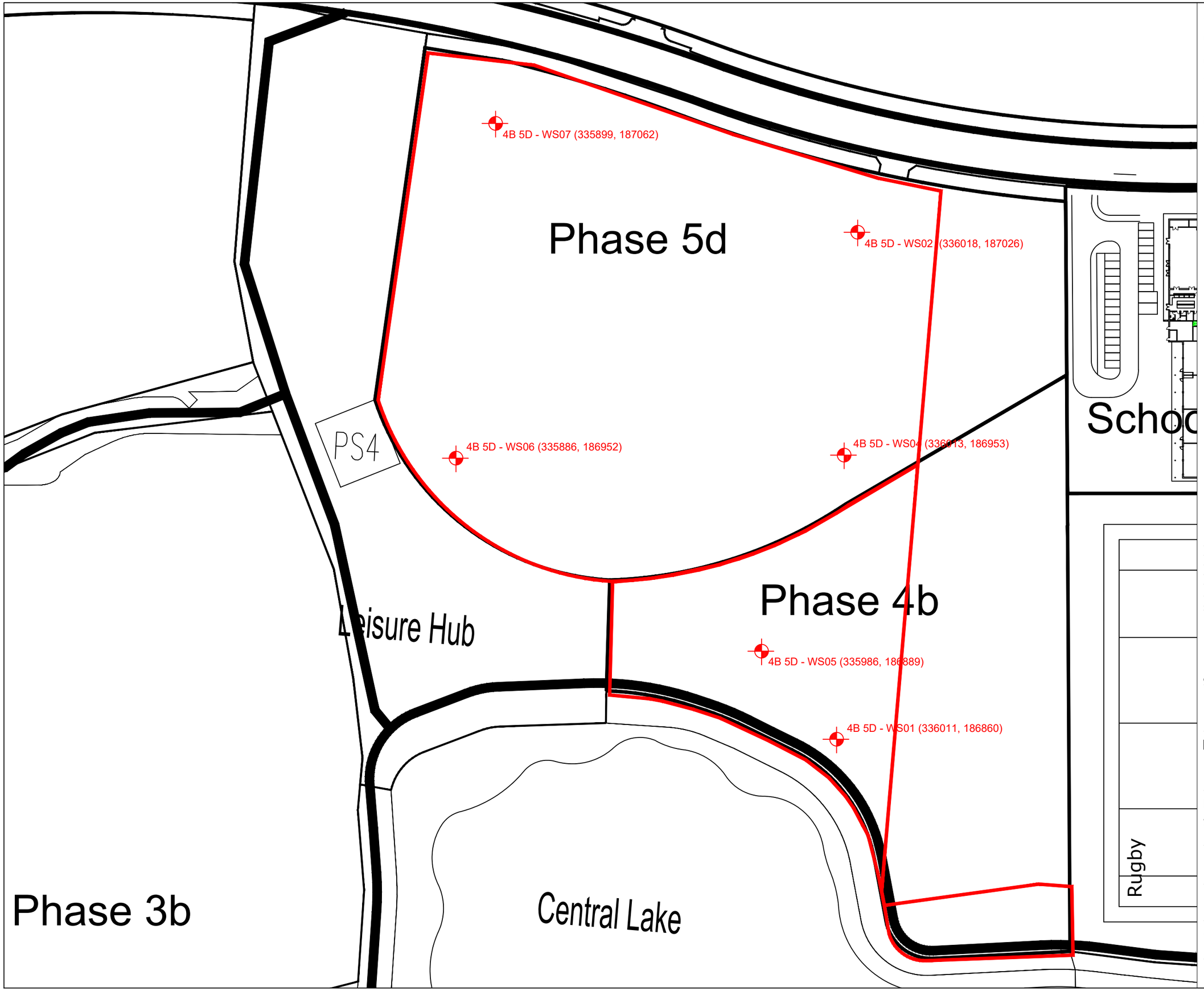
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Drawing No. — Rev.

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KEY:

WINDOW SAMPLE LOCATION

Rev	Date	Amendments	By	Chk
P04	06/01/2026	Final Gas WS Positions	AMS	CW
P03	20/06/2023	Extra Proposed Locations	DM	CW

Client

Revantage Real Estate

Project

P18-669 Llanwern Reclamation

Drawing Title

Phase 4b & 5d

Window Sample Location Plan

INFORMATION

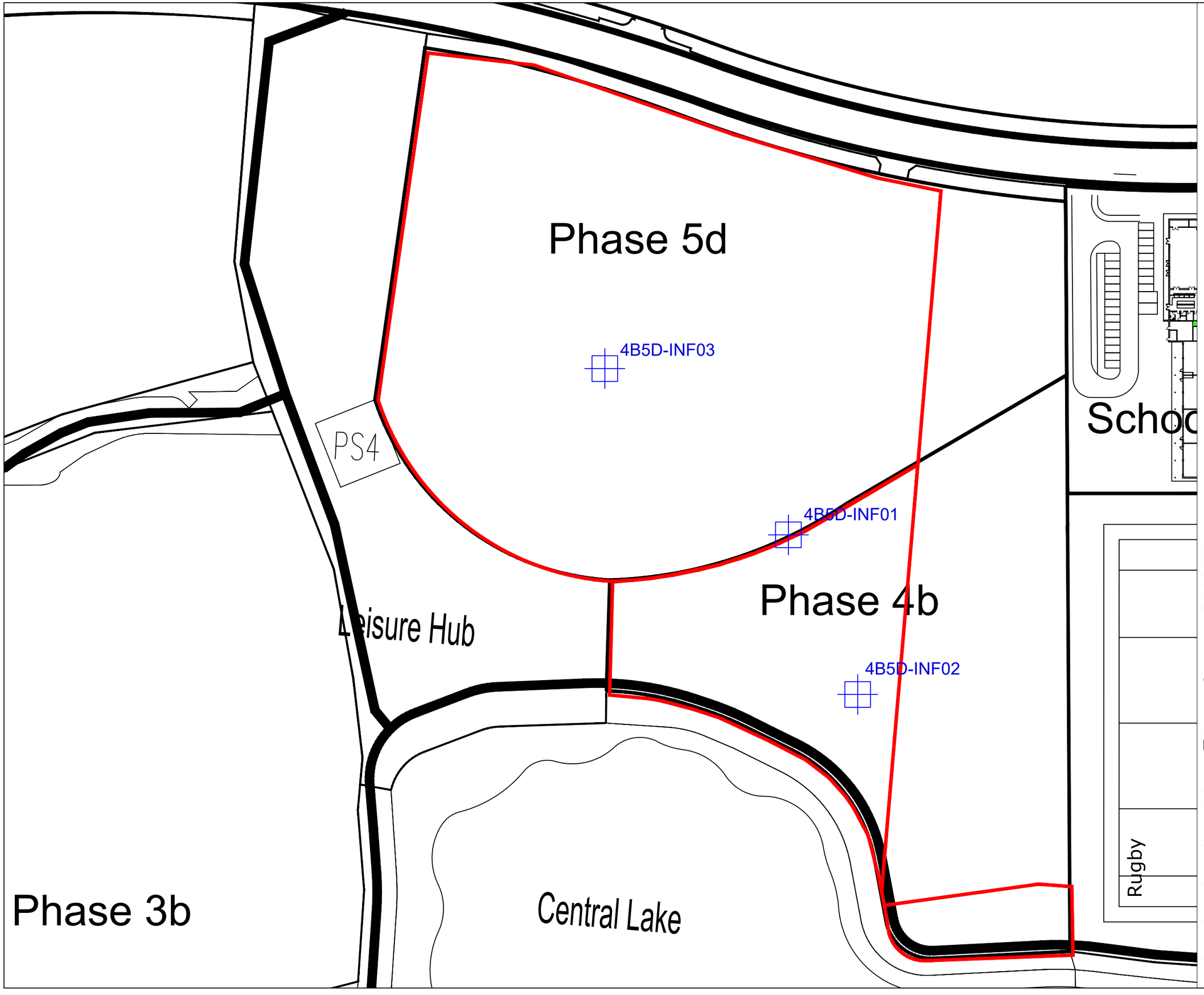
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NTS	SR	CW	23.02.23

Drawing No. Rev. A

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KEY:

SITE BOUNDARY

4B5D-INF03 FORMATION FALLING HEAD TEST LOCATION

Rev	Date	Amendments	By	Chk
P01	28/01/2026	First Issue	AMS	CW

Client

Revantage Real Estate

Project

P18-669 Llanwern Reclamation

Drawing Title

Phase 4B 5D Formation Falling Head Test Location Plan

INFORMATION

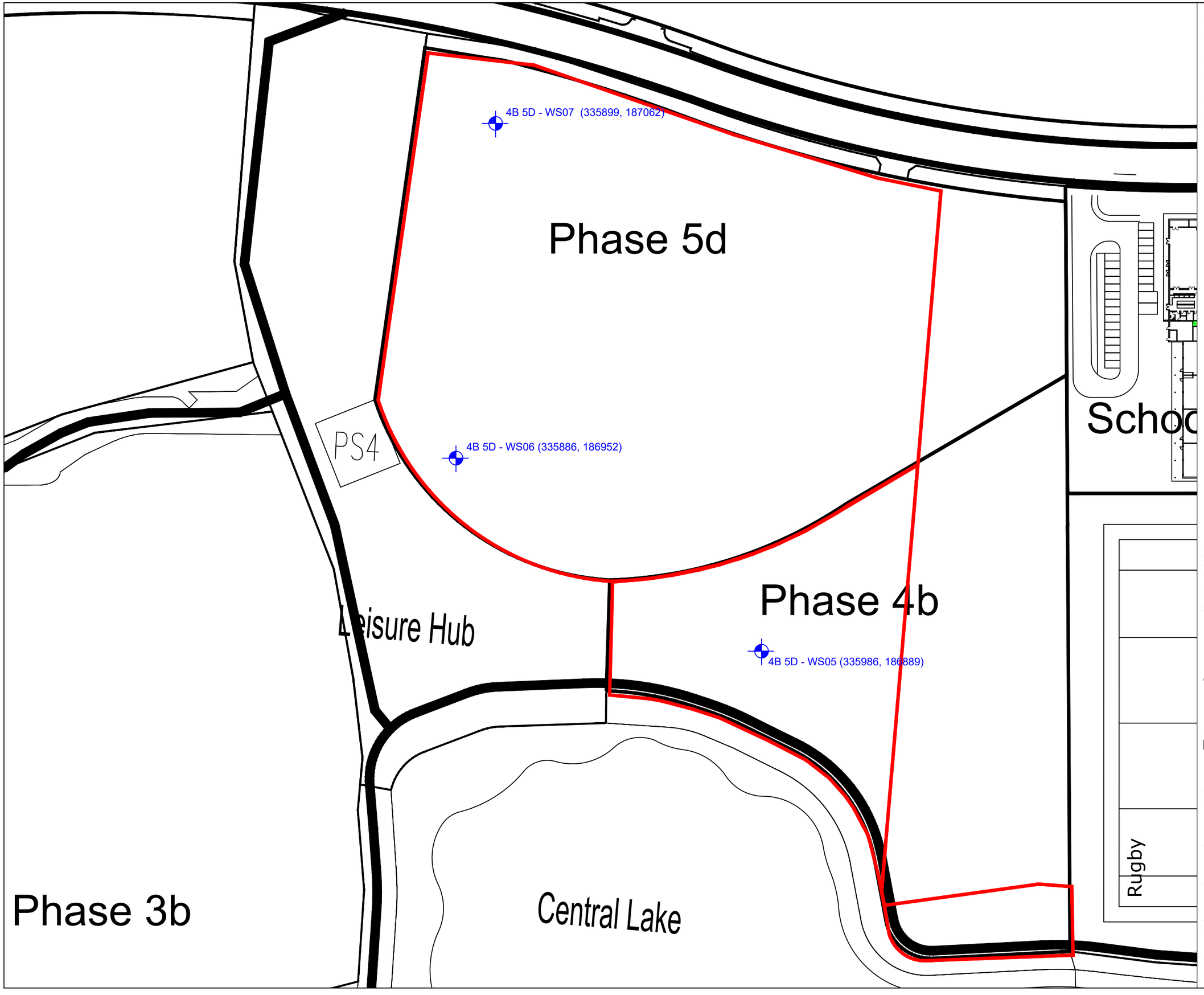
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KEY:

SITE BOUNDARY

FALLING HEAD LOCATION PLAN

Rev	Date	Amendments	By	Chk
P01	28/01/2026	First Issue	AMS	CW

Client

Revantage Real Estate

Project

P18-669 Llanwern Reclamation

Drawing Title

Phase 4B 5D Window Sample
Falling Head Location Plan

INFORMATION

	Drawn	Checked	Date
NTS	AMS	CW	28/01/26

Drawing No. Rev.

18669-RLL-26-XX-DR-O-0845 P01

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Appendix B: Photographic Report

Llanwern Reclamation – Phase 4B 5D – Photographic Report



Photograph 1 (26/09/2022) *– Drain 3 broken out of phase, exposing pile and natural clay.*



Photograph 2 (03/10/2023) *– Excavation within Phase 5D, where a large gravel soakaway was encountered and excavated down to the natural clay.*



Photograph 3 (25/10/2022) *– Numerous concrete piles encountered as part of the made ground turnover in Phase 4B 5D.*



Photograph 4 (04/11/2022) *– Suitable stockpiled fill material utilised as engineered fill in Phase 4B.*



Photograph 5 (22/11/2022) *– Engineered material compacted across Phase 5D.*



Photograph 6 (18/01/2023) *– Excavation to natural clays within Phase 5D.*



Photograph 7 (30/01/23) *– CBR plate testing undertaken on engineered fill surface in Phase 5D.*



Photograph 8 (15/02/2023) *– Material placed in engineered layers prior to compaction in Phase 4B.*



Photograph 9 (21/02/2023) *– Breakout of hard fused slag within the made ground in Phase 4B 5D.*



Photograph 10 (02/03/2023) *– Engineered fill compaction progresses across Phase 4B 5D.*



Photograph 13 (11/04/2023) *– Large section of natural clay exposed during Phase 4B 5D excavations.*



Photograph 14 (10/05/2023) *– Finished formation level has been met across the majority of Phase 4B 5D.*



Photograph 15 (23/05/2023) *– Final floor formation level for Phase 4B 5D.*



Photograph 16 (22/06/2023) *– Final excavation area in Phase 4B 5D on the boundary with the Vertase working area.*

Appendix C: S4UL Screening Summary Table

Client: Rodgers Leask Environmental	Chemtest Job No.:					210128-35	210128-35	210128-35	210128-35	210127-42	210127-42	210128-35	210128-35	210205-65	210128-35	210128-35	210128-35	210128-35	210127-42	210127-42	210205-65
Quotation No.: Q21-24056	Chemtest Sample ID.:				S4UL Generic Assessment Criteria (1% SOM)	23621438	23621447	23621452	23621293	23613950	23613957	23621418	23621429	23672946	23621397	23621406	23621287	23621351	23614011	23613914	23672951
Order No.: .	Client Sample Ref.:					P14-1	P14-2	P15-1	P15-2	P16-1	P16-2	Q14-1	Q14-2	T12-1	R14-1	R14-2	R15-1	R15-2	R18-1	R18-2	S14-1
	Sample Type:					SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
	Top Depth (m):					0.30-0.30	1.80-1.80	0.30-0.30	2.20-2.20	0.30-0.30	1.30-1.30	0.50-0.50	1.60-1.60	0.15-0.15	0.10-0.10	1.70-1.70	0.50-0.50	1.20-1.20	0.60-0.60	1.80-1.80	0.50-0.50
	Bottom Depth (m):																				
	Date Sampled:					26/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021	04/02/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021	04/02/2021
	Asbestos Lab:																				
Determinand	Accred.	SOP	Units	LOD																	
ACM Type	U	2192		N/A				Amosite (Brown) Asbestos							Chrysotile (White) Asbestos						Chrysotile (White) Asbestos
Asbestos Identification	U	2192		N/A		Not Detected		Detected		Not Detected		Not Detected			Detected		Not Detected		Not Detected		Detected
Asbestos by Gravimetry	U	2192	%	0				0.001							0.001						<0.001
Total Asbestos	U	2192	%	0				0.001							0.001						<0.001
Moisture	N	2030	%	0.02		16.0	11.0	11.0	8.5	8.6	10.0	9.1	13.0	3.0	13.0	14.0	6.3	11.0	7.7	17.0	13.0
Soil Colour	N	2040		N/A		Dark Brown	Dark Brown	Dark Brown	Black	Grey	Grey	Black	Black	Dark Brown	Dark Brown	Dark Brown	Dark Brown	Black	Dark Brown	Dark Brown	Black
Other Material	N	2040		N/A		Stones / None	Stones / None	Stones / None	Stones / None	Stones / None	Stones / N/A	None / Stones	None / Stones	Stones / Vegetation	Stones / Vegetation	Stones / None	Stones / Vegetation	None / Stones	Stones / Brick	None / Stones	Stones / Vegetation
Soil Texture	N	2040		N/A		Loamy Sand	Loamy Sand	Loamy Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sandy Loam	Loamy Sand	Loamy Sand	Sand	Loamy Sand	Sand	Sand
pH at 20C	M	2010		4		11.4	11.9	12.8	12.7	12.4	12.6	9.0	8.9	10.7	9.0	11.1	10.8	11.3	11.1	10.9	9.3
pH (2.5:1) at 20C	N	2010		4																	
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.01																	
Total Sulphur	U	2175	%	0.01																	
Chloride (Water Soluble)	M	2220	g/l	0.01																	
Nitrate (Water Soluble)	N	2220	g/l	0.01																	
Cyanide (Total)	M	2300	mg/kg	0.5		1.06	6.23	<1	<1	<1.00	<1.00	6.24	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ammonium (Extractable)	M	2425	mg/kg	0.5																	
Ammoniacal Nitrogen	M	2425	mg/kg	0.5		<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	15.60	<12
Iron (Total)	N	2430	mg/kg	100		103000.00	144000.00	141000.00	162000.00	144000.00	127000.00	23500.00	19500.00	11200.00	129000.00	73100.00	93400.00	94800.00	66600.00	33700.00	30800.00
Sulphate (Total)	U	2430	%	0.01																	
Arsenic	M	2450	mg/kg	1	37.00	<6	<6	6.85	<6	78.60	<6	<6	8.89	<6	13.40	<6	10.60	<6	9.32	12.10	5.83
Cadmium	M	2450	mg/kg	0.1	26.00	0.91	1.56	1.71	1.75	<0.2	0.63	0.54	0.64	<0.2	2.19	1.00	2.14	1.11	0.43	0.22	0.33
Chromium	M	2450	mg/kg	1	910.00	234.00	421.00	741.00	783.00	378.00	546.00	62.30	17.50	29.00	106.00	235.00	184.00	300.00	58.10	45.80	39.20
Manganese	M	2450	mg/kg	5		18000.00	21400.00	32300.00	34400.00	93900.00	27400.00	17500.00	522.00	5290.00	8710.00	14100.00	10400.00	16600.00	4170.00	2950.00	4130.00
Copper	M	2450	mg/kg	0.5	2400.00	18.10	<14	36.50	22.60	54.40	22.50	<14	46.40	<14	31.30	25.60	33.60	14.50	22.10	32.40	16.20
Mercury	M	2450	mg/kg	0.1	1.20	<1.4	<1.4	<1.4	<1.4	<1.40	<1.40	2.13	<1.40	<1	<1.40	<1.40	<1.40	<1.40	<1.40	<1.40	<0.1
Nickel	M	2450	mg/kg	0.5	130.00	11.10	5.46	21.30	14.30	50.80	8.48	5.35	18.40	2.01	30.10	20.20	34.00	9.65	20.20	24.40	11.80
Lead	M	2450	mg/kg	0.5	200.00	23.10	26.00	16.30	<7	55.20	10.10	35.30	38.80	<7	143.00	11.50	146.00	9.90	52.20	29.80	29.90
Selenium	M	2450	mg/kg	0.2	250.00	13.20	<10	15.00	19.80	71.30	12.70	14.30	<10	<10	<10	<10	<10	<10	<10	<10	1.80
Vanadium	U	2450	mg/kg	5	410.00	270.00	413.00	680.00	655.00	416.00	473.00	62.80	21.40	47.50	174.00	373.00	228.00	249.00	95.30	61.30	59.50
Zinc	M	2450	mg/kg	0.5	3700.00	63.00	66.70	76.90	40.80	95.30	51.70	77.70	90.40	<19	482.00	113.00	420.00	82.50	137.00	48.60	87.00
Aliphatic VPH >C5-C6	M	2780	mg/kg	0.05	42.00	<0.01	<0.01	<0.01	<0.01	0.04	0.03	<0.01	0.05	<0.01	<0.01	0.03	<0.01	<0.01	<0.01	0.01	<0.01
Aliphatic VPH >C6-C7	M	2780	mg/kg	0.05																	
Aliphatic VPH >C7-C8	M	2780	mg/kg	0.05																	
Aliphatic VPH >C6-C8	N	2780	mg/kg	0.1	100.00	0.03	<0.01	<0.01	<0.01	0.04	0.07	<0.01	0.23	<0.01	<0.01	0.15	0.02	0.04	<0.01	0.05	<0.01
Aliphatic VPH >C8-C10	M	2780	mg/kg	0.05	27.00	0.03	<0.01	<0.01	<0.01	0.04	0.07	<0.01	0.11	<0.01	<0.01	0.15	0.02	0.04	0.01	0.05	<0.01
Total Aliphatic VPH >C5-C10	M	2780	mg/kg	0.25																	
Aliphatic EPH >C10-C12	M	2690	mg/kg	2	130.00	1.74	<1	<1	<1	<1	<1	4.08	1.42	<1	<1	<1	<1	<1	<1	4.65	6.37
Aliphatic EPH >C12-C16	M	2690	mg/kg	1	1100.00	23.30	<1	1.32	<1	1.64	<1	7.92	6.30	<1	<1	4.20	<1	<1	3.77	19.70	13.60
Aliphatic EPH >C16-C21	M	2690	mg/kg	2	65000.00	64.20	1.22	5.29	2.23	5.25	3.98	54.00	6.45	3.53	<1	10.50	4.27	2.74	9.54	81.10	18.50
Aliphatic EPH >C21-C35	M	2690	mg/kg	3	65000.00	125.00	5.81	39.30	15.30	38.90	31.30	35.20	10.70	15.70	<1	49.30	26.70	12.10	31.00	241.00	37.30
Aliphatic EPH >C35-C40	N	2690	mg/kg	1	65000.00	25.40	1.76	12.00	3.86	9.52	6.17	3.87	<1	4.27	<1	44.20	5.85	1.34	7.11	34.80	9.37
Total Aliphatic EPH >C10-C35	M	2690	mg/kg	5																	
Total Aliphatic EPH >C10-C40	N	2690	mg/kg	10		239.00	9.19	57.90	22.00	56.00	42.60	105.00	25.80	24.20	<5	109.00	37.20	17.30	52.20	381.00	85.10
Aromatic VPH >C5-C7	M	2780	mg/kg	0.05	70.00	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	<0.01	0.01	<0.01
Aromatic VPH >C7-C8	M	2780	mg/kg	0.05	130.00	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	0.01	<0.01	<0.01	0.06	<0.01	0.02	<0.01	0.01	<0.01
Aromatic VPH >C8-C10	M	2780	mg/kg	0.05	34.00	0.02	<0.01	<0.01	<0.01	0.06	0.04	<0.01	0.07	<0.01	<0.01	0.05	0.02	0.02	<0.01	0.17	<0.01
Total Aromatic VPH >C5-C10	M	2780	mg/kg	0.25																	
Aromatic EPH >C10-C12	M	2690	mg/kg	1	74.00	1.31	<1	<1	<1	1.40	<1	19.00	<1	<1	<1	<1	<1	<1	<1	<1	1.67
Aromatic EPH >C12-C16	M	2690	mg/kg	1	140.00	6.34	<1	<1	<1	3.02	<1	22.50	6.86	<1	<1	4.10	<1	1.06	3.55	1.07	11.50
Aromatic EPH >C16-C21	N	2690	mg/kg	2	260.00	14.70	1.11	5.68	7.27	13.70	6.53	98.80	8.55	1.23	1.27	7.96	2.17	4.63	8.58	2.38	15.00
Aromatic EPH >C21-C35	M	2690	mg/kg	2	1100.00	35.80	1.51	29.90	21.50	14.70	11.70	218.00	14.40	6.64	2.94	20.10	18.10	9.32	26.10	41.90	30.90
Aromatic EPH >C35-C40	N	2690	mg/kg	1	1100.00	3.49	<1	3.47	1.51	<1	<1	21.30	<1	<1	<1	2.95	1.46	<1	1.95	2.17	<1
Total Aromatic EPH >C10-C35	M	2690	mg/kg	5																	
Total Aromatic EPH >C10-C40	N	2690	mg/kg	10		61.70	<5	39.30	31.00	33.80	20.10	380.00	31.30	9.23	5.71	35.60	22.00	16.60	40.50	47.70	60.10
Total VPH >C5-C10	M	2780	mg/kg	0.5																	
Total EPH >C10-C35	M	2690	mg/kg	10		301.00	<10	97.20	53.00	90.00	62.90	485.00	57.50	33.50	<10	145.00	59.20	34.10	92.70	429.00	145.00
Total EPH >C10-C40	N	2690	mg/kg	10																	
Organic Matter	M	2625	%	0.4		49.50	6.36	3.19	1.59	18.80	2.16			2.17	5.97	22.60	12.40	20.50	7.29	8.69	71.20
Benzene	M	2760	µg/kg	1	87.00	<180	<180	<180	<180	<180	<180	<180	<180	<180	<180	<180	<180	<180	<180	<180	<1800
Toluene	M	2760	µg/kg	1	130000.00	<140	<140	<140	<140	<140	<140	<140	<140	<140	<140	<140	<140	<140	<140	<140	<1400
Ethylbenzene	M	2760	µg/kg	1	47000.00	<80	<80	<80	<80	<80	<80	<80	<80	<80	<80	<80	<80	<80	<80	<80	<800
m & p-Xylene	M	2760	µg/kg	1	56000.00	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<2000
o-Xylene	M	2760	µg/kg	1	60000.00	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<2000
Methyl Tert-Butyl Ether	M	2760	µg/kg	1		<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<2000
Naphthalene	M	2800	mg/kg	0.1	15.00	1.29	0.72	0.23	0.20	0.78	0.39	20.50	0.44	0.12	0.09	0.27	0.19	2.04	0.27	0.13	0.61
Acenaphthylene	N	2800	mg/kg	0.1	170.00	0.33	0.04	0.05	0.24	0.37	0.26	4.25	0.07	0.03	0.03	<0.06	0.04	1.24	<0.06	0.02	0.13
Acenaphthene	M	2800	mg/kg	0.1	210.00	0.04	0.03	0.05	0.10	0.01	0.02	0.24	0.11	0.01	<0.008	<0.04	0.03	0.09	0.10	0.03	0.03
Fluorene	M	2800	mg/kg	0.1	170.00	0.15	0.05	0.09	0.61	0.08	0.15	1.82	0.18	0.04	0.02	0.07	0.05	1.33	0.18	0.04	0.12
Phenanthrene	M	2800	mg/kg	0.1	95.00	1.91	0.42	0.92	9.33	2.43	3.04	19.20	0.94	0.34	0.16	0.43	0.37	11.40	0.97	0.21	1.12
Anthracene	M	2800	mg/kg	0.1	2400.00	0.44	<0.016	0.15	2.74	0.43	1.22	4.73	0.14	0.08	0.04	<0.08	0.10	2.09	0.24	0.05	0.15
Fluoranthene	M	2800	mg/kg	0.1	280.00	2.45	0.42	1.50	12.30	1.78	3.66	33.30	0.77	0.48	0.26	0.44	0.57	12.00	1.34	0.24	1.12
Pyrene	M	2800	mg/kg	0.1	620.00	1.83	0.35	1.34	8.95	1.13	2.40	23.50	0.56	0.34	0.20	0.37	0.48	8.03	1.14	0.20	0.82
Benzo[a]anthracene	M	2800	mg/kg	0.1	7.20	1.08	0.21	0.95	4.15	0.56	1.56	14.90	0.28	0.23	0.14	0.24	0.27	4.10	0.92	0.10	0.51
Chrysene	M	2800	mg/kg	0.1	15.00	1.02	0.22	0.95	4.31	0.46	1.32	12.90	0.27	0.26	0.14	0.26	0.23	3.30	0.79	0.09	0.60
Benzo[b]fluoranthene	M	2800	mg/kg	0.1	2.60	1.36	0.31	1.61	5.02	0.39	1.53	20.80	0.25	0.30	0.20	0.30	0.38	4.55	0.68	0.10	0.80
Benzo[k]fluoranthene	M	2800	mg/kg	0.1	77.00	0.51	0.12	0.55	1.71	0.19	0.56	6.69	0.10	0.11	0.07	0.08	0.13	1.54	0.32	0.04	0.24
Benzo[a]pyrene	M	2800	mg/kg	0.1	2.20	0.87	0.22	1.16	3.29	0.35	1.06	11.80	0.22	0.16	0.12	0.23	0.22	2.75	0.64	0.05	0.38
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.1	27.00	0.81	0.19	1.04	2.70	0.29	0.86	11.90	0.12	0.13	0.12	0.17	0.20	2.61	0.41	0.04	0.28
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.1	0.24	0.12	0.03	0.15	0.37	0.06	0.16	1.90	0.04	0.03	<0.023	<0.115	0.03	0.42	<0.115	<0.023	0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.1	320.00	0.61	0.15	0.83	2.23	0.23	0.65	8.97	0.15	0.11	0.09	0.18	0.17	1.90	0.36	0.03	0.33
Total Of 16 PAH's	N	2800	mg/kg	2		14.80	3.50	11.60	58.20	9.53	18.80	197.00	4.63	2.77	1.69	3.02	3.46	59.40	8.35	1.36	7.34
Resorcinol	M	2920	mg/kg	0.02																	
Phenol	M	2920	mg/kg	0.02	280.00	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Cresols	M	2920	mg/kg	0.02		<0.01	<0.01	<0.01	0.011	<0.0109	<0.0109	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Xylenols	M	2920	mg/kg	0.02		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
1-Naphthol	N	2920	mg/kg	0.02																	
Trimethylphenols	M	2920	mg/kg	0.02																	
Total Phenols	M	2920	mg/kg	0.1		<0.035	<0.035	<0.035	0.055	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035

Chemtest Job No.:	210205-65	210205-65	210205-65	210206-39	210206-39	210204-77	210204-77	210204-77	210204-77	210205-65	210204-77	210204-77	210205-65	210205-65	210205-65	210205-65
Chemtest Sample ID.:	23672957	23672963	23672967	23677975	23678020	23666114	23666124	23666133	23666144	23672941	23666154	23666163	23673002	23673008	23672993	23672997
Client Sample Ref.:	S14-2	S15-1	S15-2	S16-1	S16-2	T13-1	T13-2	T14-1	T14-2	T15-1	U11-1	U11-2	U12-1	U12-2	U14-1	U14-2
Sample Type:	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
Top Depth (m):	1.30-1.30	0.70-0.70	1.40-1.40	0.90-0.90	2.20-2.20	0.40-0.40	1.10-1.10	0.30-0.30	1.40-1.40	1.00-1.00	1.00-1.00	1.40-1.40	0.60-0.60	1.90-1.90	0.30-0.30	2.00-2.00
Bottom Depth (m):																
Date Sampled:	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021	02/02/2021	02/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021
Asbestos Lab:																
Determinand																
ACM Type																
Asbestos Identification		Not Detected		Not Detected		Not Detected		Not Detected			Not Detected			Not Detected		Not Detected
Asbestos by Gravimetry																
Total Asbestos																
Moisture	14.0	9.9	32.0	11.0	19.0	9.7	14.0	12.0	32.0	4.1	1.6	4.4	9.9	9.7	11.0	6.8
Soil Colour	Dark Brown	Dark Brown	Dark Brown	Dark Brown	Dark Brown	Black	Dark Brown	Grey	Grey	Dark Brown	Dark Brown	Dark Brown	Black	Dark Brown	Black	Dark Brown
Other Material	Stones / None	Stones / Vegetation	Stones / None	Stones / None	Stones / Crushed Brick	None / Stones	Stones / N/A	Stones / None	Stones / None	Stones / Vegetation	Stones / Vegetation	Stones / None	Stones / None	Stones / Vegetation	Stones / None	Stones / None
Soil Texture	Sand	Sand	Sand	Loamy Sand	Sand	Sand	Sandy Loam	Sandy Loam	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Stone/Soil
pH at 20C	10.6	10.6	8.3	11.1	9.0	10.0	8.7	9.0	9.2	9.9	10.5	10.9	9.1	9.9	9.2	10.9
pH (2.5:1) at 20C																
Sulphate (2:1 Water Soluble) as SO4																
Total Sulphur																
Chloride (Water Soluble)																
Nitrate (Water Soluble)																
Cyanide (Total)	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ammonium (Extractable)																
Ammoniacal Nitrogen	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12	<12
Iron (Total)	53800.00	171000.00	41300.00	40100.00	24200.00	12400.00	19600.00	14700.00	14800.00	20400.00	85900.00	76300.00	<10000	<10000	<10000	<10000
Sulphate (Total)																
Arsenic	<6	9.45	6.00	<6	6.47	2.47	6.48	<6	6.93	3.72	3.37	6.00	2.68	<6	2.71	<6
Cadmium	0.48	1.59	0.20	<0.2	<0.2	0.10	<0.2	0.33	<0.20	0.30	0.39	<0.2	0.09	<0.2	0.11	<0.2
Chromium	27.40	89.90	11.90	83.60	11.70	20.00	42.90	10.30	12.40	22.70	144.00	302.00	36.90	11.50	9.06	46.20
Manganese	3230.00	8150.00	724.00	4880.00	4100.00	4480.00	3430.00	2760.00	5500.00	3200.00	13300.00	11300.00	3880.00	831.00	3530.00	4430.00
Copper	<14	33.90	27.40	<14	22.60	5.72	<14	<14	29.00	8.49	14.80	<14	7.98	<14	6.92	<14
Mercury	<1	<0.1	<1	<1	<1	<0.1	<1	<1	<1	<0.1	<0.1	<1	<0.1	<1	<0.1	<1
Nickel	8.00	22.00	28.20	8.99	19.90	3.76	15.30	6.21	30.00	6.21	8.82	9.85	4.33	8.92	3.24	2.00
Lead	61.70	97.30	32.00	22.20	20.20	14.40	27.30	30.20	27.80	14.00	1.08	<7	27.10	8.31	3.62	<7
Selenium	<10	<1	10.00	<10	<10	3.55	<10	<10	<10	1.59	4.90	10.10	2.89	<10	2.11	<10
Vanadium	46.40	134.00	33.80	94.10	31.10	39.90	98.20	25.30	28.30	32.60	277.00	265.00	32.40	24.50	20.30	29.90
Zinc	143.00	380.00	55.90	55.30	73.80	61.50	60.50	74.20	61.60	66.30	30.80	40.00	52.70	23.00	36.90	<19
Aliphatic VPH >C5-C6	<0.01	<0.01	<0.01	0.07	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Aliphatic VPH >C6-C7																
Aliphatic VPH >C7-C8																
Aliphatic VPH >C6-C8	<0.01	<0.01	<0.01	0.36	0.05	0.03	<0.01	<0.01	<0.01	<0.01	0.04	0.02	<0.01	<0.01	<0.01	<0.01
Aliphatic VPH >C8-C10	<0.01	<0.01	<0.01	0.36	0.05	0.03	<0.01	<0.01	<0.01	<0.01	0.04	0.02	<0.01	<0.01	<0.01	<0.01
Total Aliphatic VPH >C5-C10																
Aliphatic EPH >C10-C12	1.08	<1	<1	17.60	1.00	<1	<1	<1	<1	1.23	<1	<1	1.19	<1	1.27	<1
Aliphatic EPH >C12-C16	5.43	1.90	<1	77.20	8.06	4.36	<1	5.13	<1	4.35	1.28	<1	3.72	<1	5.13	<1
Aliphatic EPH >C16-C21	9.24	5.49	2.60	87.50	15.80	7.64	<1	13.10	1.36	11.20	4.20	<1	6.44	<1	13.20	<1
Aliphatic EPH >C21-C35	18.40	24.00	20.50	60.00	16.60	19.80	<1	19.60	10.60	31.10	7.58	1.67	11.40	3.54	39.50	<1
Aliphatic EPH >C35-C40	4.80	6.70	6.74	12.00	3.11	3.74	<1	<1	<1	4.70	1.12	<1	<1	<1	5.17	<1
Total Aliphatic EPH >C10-C35																
Total Aliphatic EPH >C10-C40	38.90	38.70	30.30	254.00	43.60	36.40	5.00	39.20	12.40	52.50	14.20	<5	23.30	5.10	64.20	5.00
Aromatic VPH >C5-C7	<0.01	<0.01	<0.01	0.09	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Aromatic VPH >C7-C8	<0.01	<0.01	<0.01	0.12	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Aromatic VPH >C8-C10	<0.01	<0.01	<0.01	0.20	0.04	0.01	<0.01	<0.01	<0.01	<0.01	0.06	0.01	<0.01	<0.01	<0.01	<0.01
Total Aromatic VPH >C5-C10																
Aromatic EPH >C10-C12	<1	<1	<1	4.41	1.00	<1	<1	1.01	<1	<1	<1	<1	<1	<1	<1	<1
Aromatic EPH >C12-C16	5.35	2.16	1.00	31.50	2.42	3.47	<1	5.07	<1	4.03	<1	<1	3.46	<1	3.64	<1
Aromatic EPH >C16-C21	11.50	9.31	1.00	14.50	2.83	5.08	<1	7.27	1.30	12.40	3.79	6.66	8.69	8.03	7.60	<1
Aromatic EPH >C21-C35	39.60	27.60	15.80	17.20	9.70	19.00	1.51	33.30	8.19	44.80	21.20	18.60	34.20	10.50	32.40	<1
Aromatic EPH >C35-C40	2.30	1.07	1.00	<1	<1	1.86	<1	5.57	<1	3.93	2.23	1.84	5.47	<1	2.27	<1
Total Aromatic EPH >C10-C35																
Total Aromatic EPH >C10-C40	59.70	40.60	17.10	68.80	16.00	29.80	<5	52.20	10.80	65.80	27.60	27.30	52.30	19.90	46.30	<5
Total VPH >C5-C10																
Total EPH >C10-C35	98.60	79.30	47.40	324.00	59.70	66.30	<10	91.40	23.20	118.00	41.90	27.30	75.70	25.00	111.00	<10
Total EPH >C10-C40																
Organic Matter	29.30	17.10	65.90	61.70	32.10	24.30	7.57	36.50	84.00	55.70	6.24	1.64	27.80	4.52	30.20	0.35
Benzene	<1800	<180	<180	205.00	<180	<180	<180	<180	<180	<1800	<180	<180	<1800	<180	<1800	<180
Toluene	<1400	<140	<140	380.00	<140	<140	<140	<140	<140	<1400	<140	<140	<1400	<140	<1400	<140
Ethylbenzene	<800	<80	<80	<80	<80	<80	<80	<80	<80	<800	<80	<80	<800	<80	<800	<80
m & p-Xylene	<2000	<200	<200	271.00	<200	<200	<200	<200	<200	<2000	<200	<200	<2000	<200	<2000	<200
o-Xylene	<2000	<200	<200	<200	<200	<200	<200	<200	<200	<2000	<200	<200	<2000	<200	<2000	<200
Methyl Tert-Butyl Ether	<2000	<200	<200	<200	<200	<200	<200	<200	<200	<2000	<200	<200	<2000	<200	<2000	<200
Naphthalene	0.73	0.73	0.10	0.38	0.17	0.31	0.07	0.36	0.12	0.53	0.04	0.02	0.85	0.05	0.66	0.03
Acenaphthylene	0.25	0.31	0.01	0.03	0.04	0.08	0.03	0.09	0.03	0.14	0.02	<0.012	0.27	0.02	0.20	0.02
Acenaphthene	0.03	0.04	0.02	0.05	0.02	<0.04	<0.008	0.01	<0.008	0.03	0.03	0.08	0.03	<0.008	<0.08	<0.008
Fluorene	0.14	0.18	0.04	0.15	0.04	0.07	0.03	0.07	0.04	0.10	0.02	0.06	0.17	0.02	0.12	0.01
Phenanthrene	1.38	1.67	0.15	0.65	0.26	0.57	0.19	0.62	0.23	1.06	0.52	1.27	1.72	0.15	1.15	0.09
Anthracene	0.32	0.49	0.02	0.07	0.05	0.12	0.04	0.10	<0.016	0.28	0.08	0.21	0.37	0.04	0.24	0.02
Fluoranthene	2.17	2.69	0.07	0.36	0.29	0.68	0.26	0.69	0.23	1.65	1.68	2.01	2.52	0.24	1.45	0.13
Pyrene	1.57	2.01	0.06	0.30	0.22	0.51	0.20	0.49	0.17	1.26	1.48	1.66	1.84	0.18	1.10	0.09
Benzo[a]anthracene	0.95	1.26	0.04	0.17	0.12	0.30	0.14	0.35	0.11	0.89	1.12	0.88	1.30	0.12	0.69	0.06
Chrysene	0.81	1.18	0.05	0.29	0.13	0.38	0.15	0.39	0.10	0.88	1.22	0.84	1.41	0.11	0.84	0.06
Benzo[b]fluoranthene	1.30	1.73	0.06	0.27	0.11	0.45	0.22	0.59	0.11	1.33	1.41	1.16	2.05	0.15	1.03	0.06
Benzo[k]fluoranthene	0.41	0.56	0.01	0.08	0.05	0.15	0.07	0.17	<0.014	0.40	0.70	0.44	0.57	0.05	0.35	0.02
Benzo[a]pyrene	0.70	1.02	0.03	0.14	0.10	0.27	0.11	0.26	0.09	0.73	1.23	0.80	0.99	0.08	0.53	0.04
Indeno(1,2,3-c,d)Pyrene	0.62	0.88	0.02	0.09	0.09	0.26	0.09	0.25	0.09	0.57	1.17	0.73	0.87	0.08	0.37	0.03
Dibenz(a,h)Anthracene	0.14	0.18	0.02	0.03	<0.023	<0.115	<0.023	0.06	<0.023	0.14	0.21	0.13	0.24	<0.023	<0.23	<0.023
Benzo[g,h,i]perylene	0.50	0.69	0.02	0.13	0.08	0.25	0.09	0.23	0.08	0.49	1.00	0.59	0.89	0.06	0.43	0.03
Total Of 16 PAH's	12.00	15.60	0.61	3.17	1.76	4.39	1.68	4.75	1.40	10.50	11.90	10.90	16.10	1.35	9.15	0.69
Resorcinol																
Phenol	0.01	<0.01	<0.01	0.01	<0.01	<1	<1	<1	<1	<0.01	<1	<1	<0.01	<0.01	<0.01	<0.01
Cresols	0.03	<0.01	<0.01	<0.01	<0.01	<1	<1	<1	<0.1	<0.01	<1	<1	<0.01	<0.01	<0.01	<0.01
Xylenols	<0.015	<0.015	<0.015	<0.015	<0.015	<1.5	<1.5	<1.5	<0.15	<0.015	<1.5	<1.5	<0.015	<0.015	<0.015	<0.015
1-Naphthol																
Trimethylphenols																
Total Phenols	0.05	<0.035	<0.035	<0.035	<0.035	<3.5	<3.5	<3.5	<0.35	<0.035	<3.5	<3.5	<0.035	<0.035	<0.035	<0.035

Fill Material

Trial Pit Samples

210205-65	210205-65	210205-65	210206-39	22-32672	22-32672	22-36113	22-36113	22-36113	22-36113	22-32672	22-32672	22-33719	22-33719	22-33719	22-33719	210206-39	22-32672
23672977	23672982	23672987	23678044	1494916	1494917	1510447	1510448	1510449	1510450	1494918	1494915	1499801	1499802	1499812	1499813		1494911
U15-1	U16-1	U16-2	U19-1	R13-1	R13-2	R12-1	R12-2	S11-1	R11-1	S12-1	S13-1	Q12-1	Q12-2	Q11-1	Q11-2	S18-1	S17-1
SOLID	SOLID	SOLID	SOLID	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOLID	SOIL
1.00-1.00	1.00-1.00	2.00-2.00	0.30-0.30	0.70	2.20	0.3	1.6	1	0.6	1.00	1.10	1.8	2.8	0.7	1.5	0.70-0.70	0.60
03/02/2021	04/02/2021	04/02/2021	05/02/2021	24-Aug-2022	24-Aug-2022	20-Sep-2022	20-Sep-2022	20-Sep-2022	20-Sep-2022	24-Aug-2022	24-Aug-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	04/02/2021	24-Aug-2022
				DURHAM		DURHAM		DURHAM	DURHAM	DURHAM	DURHAM	DURHAM		DURHAM			
Chrysotile (White) Asbestos						Chrysotile (White) Asbestos											
Detected		Not Detected		No Asbestos Detected		Detected		No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		No Asbestos Detected		Not Detected	
0.001																	
0.039																	
0.0	3.6	12.0	11.0	9.1	9.1	8.8	8.2	16.0	9.5	5.8	12.0	9.8	1.1	9.4	9.4	11.0	6.9
Black	Black	Dark Brown	Dark Brown	Brown	Brown	Brown	Brown	Black	Brown	Black	Black	Black	Brown	Brown	Black	Dark Brown	Brown
Stones / Vegetation	Stones / Vegetation	Stones / Vegetation	Stones / None	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones and Roots
Sand	Sand	Sand	Loamy Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand		Sand
9.5	8.9	9.8	12.0	11.4	11.4	10.0	9.6	10.8	9.7	11.2	9.2	10.3	10.5	10.6	> 12.0	12.6	9.5
<1	4.06	1.46	<1	0.60	2.60	6.20	0.70	< 0.50	3.50	0.80	0.50	1.00	< 0.50	< 0.50	< 0.50	<1	< 0.50
<12	<12	<12	<12	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.60	4.70	0.58	10.00	< 0.50	< 0.50	<12	3.00
12000.00	49100.00	24500.00	154000.00	72000.00	84000.00	62000.00	34000.00	30000.00	16000.00	25000.00	15000.00	42000.00	31000.00	89000.00	54000.00	134000.00	28000.00
3.49	<6	5.23	<6	2.90	4.30	8.20	8.60	9.70	4.00	4.70	2.60	5.90	6.80	4.40	1.60	<6	8.40
0.23	<0.20	0.36	0.89	0.13	0.29	1.20	0.39	0.85	0.25	0.27	0.10	0.17	0.42	0.29	< 0.10	<0.2	0.32
14.10	93.70	25.20	476.00	290.00	210.00	280.00	190.00	140.00	60.00	69.00	29.00	110.00	75.00	190.00	200.00	458.00	20.00
1080.00	4590.00	2040.00	28200.00	17000.00	14000.00	14000.00	8000.00	6000.00	2400.00	4900.00	1700.00	5800.00	4500.00	9900.00	7500.00	29000.00	1200.00
6.65	16.70	11.90	<14	14.00	17.00	22.00	25.00	27.00	11.00	13.00	9.80	18.00	15.00	20.00	7.30	<14	23.00
<0.1	<1	<0.1	<1	< 0.05	0.06	0.28	0.08	0.11	0.05	0.07	< 0.05	0.08	0.08	0.05	< 0.05	<1	0.11
4.15	10.20	10.80	10.10	6.80	11.00	18.00	22.00	14.00	7.20	7.90	6.50	13.00	19.00	12.00	6.70	2.79	15.00
15.90	89.40	408.00	31.50	26.00	56.00	130.00	45.00	190.00	82.00	45.00	72.00	42.00	52.00	37.00	5.40	9.23	50.00
<1	<10	<1	12.00	0.31	0.60	1.60	1.20	1.40	0.36	0.98	1.00	0.89	1.70	0.74	0.44	<10	0.76
31.00	56.60	23.40	409.00	280.00	220.00	310.00	180.00	130.00	45.00	120.00	32.00	100.00	81.00	240.00	250.00	458.00	30.00
33.50	207.00	107.00	86.10	67.00	150.00	280.00	87.00	270.00	82.00	110.00	160.00	69.00	100.00	96.00	21.00	60.50	120.00
<0.01	<0.01	0.01	<0.01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<0.01	< 1.0
<0.01	<0.01	0.07	0.01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.02	< 1.0
<0.01	<0.01	0.07	0.01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.04	< 1.0
<1	1.11	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	23.00	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	< 1.0
2.40	3.62	1.99	1.50	< 1.0	< 1.0	< 1.0	< 1.0	37.00	< 1.0	< 1.0	23.00	< 1.0	< 1.0	< 1.0	< 1.0	<1	< 1.0
9.34	6.29	4.31	5.90	< 1.0	< 1.0	< 1.0	< 1.0	50.00	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.80	< 1.0
26.10	18.10	6.99	59.60	89.00	< 1.0	< 1.0	< 1.0	73.00	< 1.0	69.00	< 1.0	280.00	< 1.0	< 1.0	< 1.0	37.00	< 1.0
2.89	4.70	<1	10.20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.79	< 1.0
41.20	33.80	13.40	77.20	89.00	< 5.0	< 5.0	< 5.0	180.00	< 5.0	69.00	23.00	280.00	< 5.0	< 5.0	< 5.0	45.20	< 5.0
<0.01	<0.01	<0.01	<0.01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<0.01	< 1.0
<0.01	<0.01	<0.01	<0.01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<0.01	< 1.0
<0.01	<0.01	0.04	<0.01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.03	< 1.0
<1	<1	<1	<1	< 1.0	< 1.0	< 1.0	7.80	28.00	< 1.0	< 1.0	5.30	< 1.0	< 1.0	12.00	< 1.0	<1	< 1.0
2.75	3.13	<1	<1	< 1.0	< 1.0	< 1.0	5.20	43.00	< 1.0	< 1.0	5.40	< 1.0	< 1.0	< 1.0	< 1.0	1.86	< 1.0
8.83	10.50	3.89	2.43	< 1.0	< 1.0	< 1.0	18.00	64.00	10.00	< 1.0	5.20	< 1.0	< 1.0	26.00	< 1.0	1.93	< 1.0
29.50	31.30	21.00	<1	19.00	< 1.0	< 1.0	28.00	110.00	< 1.0	23.00	9.70	140.00	< 1.0	96.00	< 1.0	9.17	< 1.0
1.67	<1	3.74	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	< 1.0
43.00	46.70	29.80	15.80	19.00	< 5.0	< 5.0	59.00	240.00	10.00	23.00	26.00	140.00	< 5.0	130.00	< 5.0	14.20	< 5.0
84.20	80.40	43.40	93.00	110.00	< 10	< 10	59.00	430.00	10.00	92.00	48.00	420.00	< 10	130.00	< 10	59.50	< 10
41.40	44.30	31.70	8.26	31.00	12.00	27.00	70.00	69.00	50.00	24.00	100.00	88.00	9.00	23.00	83.00	4.47	25.00
<180	<1800	<180	<180	4.40	< 1.0	5.80	8.30	15.00	13.00	8.20	< 1.0	150.00	17.00	21.00	140.00	<180	< 1.0
<140	<1400	<140	<140	4.50	< 1.0	8.90	8.20	14.00	12.00	8.30	< 1.0	130.00	18.00	18.00	170.00	<140	< 1.0
<80	<800	<80	<80	< 1.0	< 1.0	< 1.0	< 1.0	1.30	< 1.0	< 1.0	< 1.0	5.20	< 1.0	< 1.0	< 1.0	<80	< 1.0
<200	<2000	<200	<200	< 1.0	< 1.0	7.70	5.70	10.00	5.70	< 1.0	< 1.0	57.00	11.00	< 1.0	< 1.0	<200	< 1.0
<200	<2000	<200	<200	< 1.0	< 1.0	2.40	2.20	5.40	2.10	< 1.0	< 1.0	16.00	3.40	< 1.0	< 1.0	<200	< 1.0
<200	<2000	<200	<200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<200	< 1.0
0.26	1.15	0.78	0.28	4.30	8.20	73.00	< 0.10	< 0.10	15.00	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.45	< 0.10
0.10	0.57	0.46	0.10	0.70	1.30	2.60	< 0.10	< 0.10	1.30	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.06	< 0.10
0.02	0.05	0.04	<0.008	0.23	0.32	0.44	< 0.10	< 0.10	0.18	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.01	< 0.10
0.09	0.24	0.20	0.06	0.48	0.77	2.00	< 0.10	< 0.10	1.40	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.06	< 0.10
0.64	2.68	2.09	1.04	3.90	8.20	16.00	2.80	11.00	12.00	8.00	5.80	9.60	2.70	19.00	3.60	0.59	1.20
0.15	0.87	0.57	0.23	1.10	2.20	4.30	0.89	2.50	2.80	2.00	1.40	1.40	0.64	3.30	0.38	0.09	0.23
0.82	5.14	4.03	1.60	5.30	12.00	23.00	3.20	8.40	15.00	9.90	5.70	7.50	3.20	21.00	1.50	0.53	1.40
0.61	3.80	2.92	1.09	3.80	8.60	19.00	2.50	6.00	10.00	7.00	4.10	6.10	2.60	15.00	1.50	0.37	1.00
0.51	2.36	1.81	0.65	2.40	5.30	11.00	1.70	3.20	6.40	4.00	2.40	3.70	< 0.10	10.00	0.69	0.23	0.78
0.57	2.14	1.79	0.68	2.20	6.00	12.00	2.70	3.80	6.80	4.70	3.30	3.80	< 0.10	8.30	1.00	0.25	0.70
0.71	3.44	2.62	0.62	3.90	6.80	16.00	2.40	4.30	8.30	5.20	3.50	< 0.10	< 0.10	14.00	< 0.10	0.38	1.00
0.23	1.17	0.78	0.29	1.10	2.20	5.20	0.90	1.30	2.80	1.80	1.10	< 0.10	< 0.10	4.50	< 0.10	0.12	0.26
0.40	1.91	1.44	0.51	2.60	4.60	11.00	1.70	2.90	5.90	3.60	2.10	< 0.10	< 0.10	10.00	< 0.10	0.19	0.75
0.30	1.84	1.35	0.43	2.00	3.20	7.80	< 0.10	2.10	3.30	2.50	1.60	< 0.10	< 0.10	7.00	< 0.10	0.16	< 0.10
0.09	0.38	0.27	0.08	0.64	0.57	0.94	< 0.10	0.41	0.65	0.52	0.70	< 0.10	< 0.10	1.20	< 0.10	0.04	< 0.10
0.23	1.41	1.01	0.38	2.00	3.00	7.40	< 0.10	1.80	3.80	2.70	1.50	< 0.10	< 0.10	5.80	< 0.10	0.18	< 0.10
5.72	29.20	22.10	8.04	37.00	73.00	210.00	19.00	48.00	96.00	52.00	33.00	32.00	9.10	120.00	8.70	3.70	7.30
				< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020		< 0.020
<0.01	<0.01	<0.01	<0.01	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	1.20	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	<0.01	< 0.020
<0.01	<0.01	<0.01	<0.01	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	0.12	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	<0.01	< 0.020
<0.015	<0.015	<0.015	<0.015	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	<0.015	< 0.020
				< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020		< 0.020
				< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020		< 0.020
<0.035	<0.035	<0.035	<0.035	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	1.30	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	<0.035	< 0.10

22-32672	22-32672	22-32672	210203-41	22-33719	22-33719	22-33719	22-36113	22-36113	22-32672	22-32672	22-32672	22-33719	22-33719	22-33719	22-33719	22-33719	22-33719	22-33719
1494912	1494909	1494910		1499814	1499815	1499816	1510445	1510446	1494913	1494914	1494906	1499805	1499806	1499809	1499810	1499811	1499807	1499808
S17-2	R17-1	R17-2	T19-1	P10-1	P10-2	P10-3	T11-1	T11-2	T17-1	T17-2	R16-1	O12-1	O12-2	O11-1	O11-2	O11-3	O10-1	O10-2
SOIL	SOIL	SOIL	SOLID	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
1.30	0.50	2.50	0.30-0.30	1.0	1.8	2.8	0.8	1.4	0.20	2.00	1.20	1.1	2.5	0.2	1.4	3.0	0.1	1.8
24-Aug-2022	24-Aug-2022	24-Aug-2022	2/1/2021	01-Sep-2022	01-Sep-2022	01-Sep-2022	20-Sep-2022	20-Sep-2022	24-Aug-2022	24-Aug-2022	24-Aug-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022
DURHAM		DURHAM		DURHAM			DURHAM			DURHAM	DURHAM	DURHAM			DURHAM			DURHAM
			Chrysotile (White) Asbestos															
No Asbestos Detected		No Asbestos Detected	Detected	No Asbestos Detected			No Asbestos Detected			No Asbestos Detected	No Asbestos Detected	No Asbestos Detected			No Asbestos Detected			No Asbestos Detected
			0.0159															
			0.0159															
9.0	15.0	46.0	7.6	9.0	10.0	11.0	6.8	13	10.0	11.0	6.6	11.0	28.0	5.6	9.0	15.0	8.6	10.0
Brown	Brown	Grey	Dark Brown	Brown	Brown	Brown	Brown	Brown	Black	Brown	Black	Brown	Grey	Brown	Grey	Brown	Brown	Brown
Stones and Roots	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones
Sand	Sand	Sand		Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand
9.7	10.4	10.4	10.4	12.0	11.8	11.7	9.1	9.2	10.6	10.3	11.4	10.8	9.2	11.4	11.7	9.7	9.7	10.3
< 0.50	< 0.50	< 0.50	<1	< 0.50	< 0.50	0.50	1.20	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.70	0.80	< 0.50	< 0.50	< 0.50	< 0.50
2.20	1.60	1.50	<12	< 0.50	< 0.50	18.00	< 0.50	1.00	< 0.50	1.30	< 0.50	0.86	5.90	2.20	< 0.50	23.00	< 0.50	4.70
32000.00	16000.00	11000.00	60800.00	82000.00	130000.00	31000.00	40000.00	26000.00	30000.00	16000.00	43000.00	42000.00	15000.00	76000.00	78000.00	47000.00	47000.00	33000.00
4.60	6.30	4.80	<6	1.60	1.50	5.70	9.30	12.00	2.00	3.00	2.40	9.40	15.00	5.70	3.50	11.00	2.60	5.30
0.25	< 0.10	< 0.10	0.42	< 0.10	< 0.10	0.14	0.70	0.10	0.10	< 0.10	0.14	0.16	0.31	0.78	0.22	0.18	0.28	0.11
30.00	17.00	17.00	17.60	200.00	470.00	160.00	100.00	17.00	79.00	32.00	140.00	150.00	14.00	130.00	110.00	50.00	79.00	54.00
2100.00	820.00	600.00	2630.00	13000.00	31000.00	9600.00	6500.00	520.00	5100.00	2300.00	6100.00	6900.00	340.00	7800.00	7600.00	3100.00	3400.00	3600.00
13.00	16.00	9.00	<14	10.00	13.00	15.00	20.00	19.00	11.00	11.00	11.00	37.00	23.00	13.00	19.00	52.00	8.70	13.00
0.09	0.11	< 0.05	<1	< 0.05	< 0.05	0.06	0.08	0.08	0.05	0.05	0.08	0.07	0.08	0.10	< 0.05	0.20	< 0.05	0.10
10.00	9.40	8.20	13.10	7.30	9.20	15.00	15.00	28.00	5.10	7.80	6.40	21.00	17.00	11.00	13.00	19.00	6.10	9.50
36.00	37.00	12.00	26.90	12.00	7.30	17.00	110.00	18.00	23.00	14.00	22.00	29.00	14.00	92.00	25.00	100.00	31.00	14.00
0.59	0.48	0.40	<10	0.82	0.78	0.83	1.80	1.80	0.99	0.61	0.52	1.30	1.60	0.77	0.60	1.10	0.54	0.67
42.00	23.00	17.00	52.40	880.00	2300.00	700.00	110.00	28.00	78.00	38.00	120.00	130.00	24.00	150.00	400.00	160.00	69.00	200.00
91.00	38.00	24.00	80.00	33.00	21.00	52.00	310.00	60.00	56.00	38.00	65.00	79.00	27.00	230.00	69.00	120.00	100.00	31.00
< 1.0	< 1.0	< 1.0	<0.01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
< 1.0	< 1.0	< 1.0	0.03	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
< 1.0	< 1.0	< 1.0	0.02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
< 1.0	< 1.0	< 1.0	1.53	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
< 1.0	< 1.0	< 1.0	6.42	< 1.0	< 1.0	< 1.0	41.00	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
< 1.0	< 1.0	< 1.0	19.70	< 1.0	< 1.0	< 1.0	130.00	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
< 1.0	< 1.0	< 1.0	68.10	< 1.0	< 1.0	< 1.0	72.00	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
< 1.0	< 1.0	< 1.0	60.40	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
< 5.0	< 5.0	< 5.0	156.00	< 5.0	< 5.0	< 5.0	240.00	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
< 1.0	< 1.0	< 1.0	<0.01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
< 1.0	< 1.0	< 1.0	<0.01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
< 1.0	< 1.0	< 1.0	0.02	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
< 1.0	< 1.0	< 1.0	1.27	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	9.40	< 1.0	< 1.0	< 1.0	< 1.0
< 1.0	< 1.0	< 1.0	5.43	< 1.0	< 1.0	< 1.0	7.00	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
< 1.0	< 1.0	< 1.0	15.00	< 1.0	< 1.0	< 1.0	8.30	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	25.00	< 1.0	< 1.0	< 1.0	< 1.0
< 1.0	< 1.0	< 1.0	50.70	< 1.0	< 1.0	< 1.0	88.00	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	110.00	< 1.0	< 1.0	< 1.0	< 1.0
< 1.0	< 1.0	< 1.0	4.24	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
< 5.0	< 5.0	< 5.0	76.70	< 5.0	< 5.0	< 5.0	100.00	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	140.00	< 5.0	< 5.0	< 5.0	< 5.0
< 10	< 10	< 10	233.00	< 10	< 10	< 10	340.00	< 10	< 10	< 10	< 10	< 10	< 10	140.00	< 10	< 10	< 10	< 10
28.00	13.00	20.00	13.30	14.00	15.00	11.00	25.00	15.00	42.00	4.60	11.00	29.00	27.00	23.00	42.00	41.00	44.00	12.00
< 1.0	< 1.0	< 1.0	<180	15.00	< 1.0	< 1.0	6.80	< 1.0	11.00	< 1.0	14.00	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
< 1.0	< 1.0	< 1.0	<140	21.00	< 1.0	< 1.0	9.40	1.80	13.00	< 1.0	9.90	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
< 1.0	< 1.0	< 1.0	<80	< 1.0	< 1.0	< 1.0	1.60	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
< 1.0	< 1.0	< 1.0	<200	< 1.0	< 1.0	< 1.0	8.20	< 1.0	13.00	< 1.0	4.90	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
< 1.0	< 1.0	< 1.0	<200	< 1.0	< 1.0	< 1.0	3.20	1.20	2.20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
< 1.0	< 1.0	< 1.0	<200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
< 0.10	< 0.10	< 0.10	0.53	3.70	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	2.70	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
< 0.10	< 0.10	< 0.10	0.22	0.30	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.25	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
< 0.10	< 0.10	< 0.10	0.02	0.42	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.30	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
< 0.10	< 0.10	< 0.10	0.11	0.50	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.55	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
0.70	0.58	< 0.10	1.26	12.00	9.20	< 0.10	2.30	< 0.10	2.80	0.89	3.50	6.40	< 0.10	13.00	9.10	2.50	8.10	2.80
0.20	0.13	< 0.10	0.31	1.20	0.46	< 0.10	0.60	< 0.10	0.77	0.28	0.56	1.60	< 0.10	4.30	1.20	0.55	1.80	0.40
0.84	0.54	0.27	1.96	9.50	3.70	1.10	3.20	< 0.10	3.40	1.20	3.40	8.50	1.10	15.00	9.40	2.90	9.10	3.30
0.68	0.44	0.21	1.48	6.60	2.70	0.82	2.80	< 0.10	2.50	0.92	2.60	7.70	0.77	11.00	6.70	2.70	6.90	3.10
< 0.10	0.36	< 0.10	0.94	4.50	1.30	< 0.10	1.80	< 0.10	1.80	0.53	1.80	5.50	< 0.10	6.40	4.70	2.10	4.40	2.30
< 0.10	0.33	< 0.10	0.99	4.80	1.20	< 0.10	1.80	< 0.10	1.70	0.55	2.10	5.70	< 0.10	5.20	5.10	2.40	3.70	2.10
< 0.10	< 0.10	< 0.10	1.45	5.60	< 0.10	< 0.10	3.00	< 0.10	2.80	< 0.10	2.50	6.50	< 0.10	8.10	6.50	2.90	6.00	2.60
< 0.10	< 0.10	< 0.10	0.42	2.40	< 0.10	< 0.10	1.20	< 0.10	0.93	< 0.10	0.79	2.90	< 0.10	3.30	2.50	0.98	2.30	0.61
< 0.10	< 0.10	< 0.10	0.78	5.70	< 0.10	< 0.10	2.20	< 0.10	1.90	< 0.10	1.90	5.60	< 0.10	6.00	4.30	2.20	4.60	2.40
< 0.10	< 0.10	< 0.10	0.54	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	1.40	< 0.10	1.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
< 0.10	< 0.10	< 0.10	0.14	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.63	< 0.10	0.34	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
< 0.10	< 0.10	< 0.10	0.53	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	1.40	< 0.10	1.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2.40	2.40	< 2.0	11.70	57.00	19.00	< 2.0	19.00	< 2.0	22.00	4.40	26.00	50.00	< 2.0	72.00	50.00	19.00	47.00	20.00
< 0.020	< 0.020	< 0.020		< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
< 0.020	< 0.020	< 0.020	<0.01	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
< 0.020	< 0.020	< 0.020	<0.01	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
< 0.020	< 0.020	< 0.020	<0.015	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
< 0.020	< 0.020	< 0.020		< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
< 0.020	< 0.020	< 0.020		< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	0.23	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
< 0.10	< 0.10	< 0.10	<0.035	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.23	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

																	Stockpiles									Fill Material Summary									
22-26760	22-26760	210114-156	210130-32	22-33719	22-33719	22-33719	22-33719	22-33719	22-33719	22-33719	22-32672	22-32672	210212-101	210212-101	210212-101	210212-101	210212-101	210212-101	210212-101	210212-101	22-32332	22-32332	Number of Exceedances	Maximum Concentration Check	Minimum Exceedance Concentration	Maximum Concentration	95th Percentile	Average Concentration	Minimum Concentration	23-17731	23-17731	23-17731	23-17731	23-17731	23-17731
1468356	1468354			1499819	1499820	1499817	1499818	1499821	1499822	1499823	1494919	1494920									1493556	1493557								1646287	1646289	1646290	1646292	1646293	1646294
AW32-1	AV31-1	AU28-1	AL32-1	O14-1	O14-2	O13-1	O13-2	O15-1	O15-2	O15-3	R140-1	R140-2	W213-1	W213-2	W213-3	W213-4	W213-5	W213-6	W213-7	W213-8	W53-1	W53-2								5d/4b-SV1	5d/4b-SV2	5d/4b-SV3	5d/4b-SV5	5d/4b-SV6	5d/4b-SV7
SOIL	SOIL	SOLID	SOLID	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOIL	SOIL								SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
1.00	0.70	0.50-0.50	0.50-0.50	1.4	2.4	1.8	2.2	1.4	2.2	3.2			0.20-0.20	0.20-0.20	0.20-0.20	0.20-0.20	0.20-0.20	0.20-0.20	0.20-0.20	0.20-0.20	0.2	0.2								0.2	0.2	0.2	0.2	0.2	0.2
1.00	0.70																				0.2	0.2								0.2	0.2	0.2	0.2	0.2	0.2
13-Jul-2022	13-Jul-2022	13/01/2021	1/28/2021	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	24-Aug-2022	24-Aug-2022	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	22-Aug-2022	22-Aug-2022								24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023
	DURHAM			DURHAM		DURHAM			DURHAM		COVENTRY										NEW-ASB									DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
											Chrysotile (White) Asbestos																								Amosite (Brown) Asbestos
	No Asbestos Detected		Not Detected	No Asbestos Detected		No Asbestos Detected			No Asbestos Detected		Detected		Not Detected		Not Detected		Not Detected		Not Detected		No Asbestos Detected		7	0.04	0.001					No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	Detected
											0.002																								<0.001
											0.002																								<0.001
0.8	2.9	13.0	9.4	7.2	17.0	9.1	11.0	12.0	10	9.5	7.0	6.1	13.0	12.0	18.0	9.8	13.0	14.0	14.0	11	5.1	5.3								4.8	6	3.7	5.9	6.2	4
Brown	Black	Dark Brown	Black	Brown	Brown	Black	Brown	Brown	Brown	Brown	Brown	Brown	Dark Brown	Dark Brown	Dark Brown	Dark Brown	Dark Brown	Dark Brown	Dark Brown	Dark Brown	Brown	Brown								Brown	Brown	Brown	Brown	Brown	Brown
Roots and Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones								Stones	Stones	Stones	Stones	Stones	Stones
Sand	Sand			Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand									Sand	Sand								Sand	Sand	Sand	Sand	Sand	Sand
9.0	9.6	9.1	11.3	10.4	10.5	11.4	10.3	> 12.0	> 12.0	> 12.0	8.3	8.7	8.9	8.7	8.6	8.6	8.9	8.6	8.7	10.7	9.1	8.9								8.9	10.2	9.5	9.3	9.6	9.2
																																			0.2
																																			0.5
																																			0.0
																																			0.0
< 0.50	1.20	<1	<1	1.00	0.80	< 0.50	< 0.50	0.90	< 0.50	3.10	< 0.50	< 0.50	<1	2.04	<1	<1	<1	1.43	<1	<1	2.60	1.80								0.50	0.80	5.80	0.60	< 0.50	< 0.50
1.70	< 0.50	<12	<12	< 0.50	1.20	< 0.50	9.30	< 0.50	< 0.50	< 0.50	< 0.50	1.50	<12	<12	<12	<12	<12	<12	<12	<12	< 0.50	< 0.50								2.00	3.90	1.90	5.10	5.20	1.40
91000.00	110000.00	53200.00	138000.00	56000.00	37000.00	27000.00	43000.00	88000.00	120000.00	99000.00	61000.00	41000.00	65400.00	52400.00	76900.00	33400.00	45900.00	86800.00	86900.00	105000.00	81000.00	50000.00								36000.00	52000.00	48000.00	39000.00	42000.00	39000.00
280.00	8.20	7.86	8.28	5.10	7.50	1.60	6.70	5.30	6.60	6.00	9.00	11.00	14.40	13.10	20.20	9.93	67.00	14.60	13.00	6.51	6.80	7.90	3	280.000	67.000	280.000	14.78	11.163	1.5	7.10	7.90	7.60	7.90	8.20	7.70
1.50	0.14	<0.02	1.87	0.41	0.25	< 0.10	0.27	0.23	0.16	0.31	1.40	0.69	1.11	0.36	1.39	<0.2	0.58	0.33	1.39	<0.2	0.37	0.54	0	no exc.	0.000	2.190	1.64	0.493	0.02	0.45	0.46	0.76	0.41	0.58	0.55
57.00	28.00	26.50	160.00	96.00	72.00	100.00	70.00	510.00	640.00	290.00	62.00	88.00	59.70	50.00	68.50	34.20	18.60	111.00	162.00	267.00	120.00	73.00	0	no exc.	0.000	783.000	491.30	141.548	9.06	70.00	140.00	150.00	110.00	120.00	69.00
76000.00	2200.00	4440.00	12900.00	7100.00	5100.00	4200.00	3900.00	21000.00	39000.00	15000.00	4900.00	4400.00	4490.00	2850.00	4420.00	2050.00	657.00	5460.00	12000.00	12600.00	7600.00	4700.00				93900.000	31585.00	10013.957	340	3700.00	6800.00	7100.00	5600.00	5400.00	3400.00
200.00	13.00	15.20	20.40	16.00	20.00	7.20	17.00	20.00	41.00	26.00	34.00	37.00	31.80	81.90	30.70	27.80	91.40	29.70	26.30	20.80	25.00	22.00	0	no exc.	0.000	200.000	48.92	23.264	5.72	20.00	30.00	29.00	45.00	24.00	25.00
0.24	< 0.05	<0.14	<1	0.11	0.08	< 0.05	0.05	0.15	0.13	0.11	0.51	0.27	<0.1	<1	<0.1	<1	<0.1	<1	<0.1	<1	0.16	0.17	14	2.130	1.400	2.130	1.40	0.504	0.05	0.11	0.08	0.14	0.20	0.11	0.10
270.00	11.00	14.60	34.60	13.00	17.00	3.10	17.00	15.00	23.00	16.00	16.00	28.00	21.70	27.20	31.90	18.90	24.50	28.50	19.30	13.30	20.00	20.00	1	270.000	270.000	270.000	30.91	17.447	2	16.00	22.00	21.00	24.00	21.00	18.00
100.00	44.00	37.60	37.60	68.00	47.00	6.80	36.00	23.00	12.00	44.00	180.00	150.00	90.70	142.00	121.00	42.60	253.00	174.00	85.10	54.20	63.00	80.00	2	408.000	253.000	408.000	160.80	53.919	1.08	54.00	61.00	99.00	120.00	81.00	74.00
1.00	1.20	1.61	<10	1.30	1.60	0.63	1.00	1.30	0.88	0.93	1.60	1.80	1.10	<10	<1	<10	<1	<10	3.36	<10	0.76	1.10	0	no exc.	0.000	71.300	12.93	5.430	0.31	1.50	1.40	1.20	1.30	1.50	1.50
160.00	40.00	60.30	157.00	250.00	170.00	70.00	180.00	590.00	1000.00	400.00	100.00	95.00	61.60	91.20	142.00	45.40	34.00	164.00	385.00	380.00	140.00	90.00	11	2300.000	413.000	2300.000	666.25	204.505	17	110.00	290.00	190.00	150.00	180.00	82.00
270.00	74.00	136.00	98.70	150.00	78.00	21.00	110.00	63.00	42.00	110.00	390.00	260.00	267.00	376.00	401.00	103.00	207.00	400.00	278.00	141.00	160.00	260.00	0	no exc.	0.000	482.000	384.50	121.868	19	170.00	160.00	240.00	200.00	210.00	170.00
< 1.0	< 1.0	<0.01	<0.01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	< 1.0	< 1.0	0	no exc.	0.000	1.000	1.00	0.485	0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
																										0.000	#NUM!	#DIV/0!	0	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
																										0.000	#NUM!	#DIV/0!	0	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
< 1.0	< 1.0	<0.01	<0.01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	< 1.0	< 1.0	0	no exc.	0.000	1.000	1.00	0.495	0.01	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
< 1.0	< 1.0	<0.01	<0.01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	< 1.0	< 1.0	0	no exc.	0.000	1.000	1.00	0.494	0.01	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
																										0.000	#NUM!	#DIV/0!	0	5.00	4.80	3.40	4.30	4.80	4.00
< 1.0	< 1.0	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	3.27	<1	<1	<1	<1	< 1.0	< 1.0	0	no exc.	0.000	23.000	3.63	1.604	1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
< 1.0	8.80	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	29.00	< 1.0	<1	<1	<1	11.30	<1	<1	<1	3.16	< 1.0	< 1.0	0	no exc.	0.000	77.200	23.14	4.658	1	5.20	12.00	4.60	5.80	8.50	1.50
< 1.0	19.00	1.19	4.38	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	320.00	< 1.0	1.15	3.67	1.62	50.50	1.73	1.41	1.16	17.30	< 1.0	< 1.0	0	no exc.	0.000	320.000	58.59	12.468	1	14.00	22.00	17.00	16.00	20.00	< 2.0
< 1.0	< 1.0	9.02	18.70	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4400.00	< 1.0	4.52	10.70	11.70	2660.00	6.16	10.50	8.80	42.20	< 1.0	< 1.0	0	no exc.	0.000	4400.000	105.20	98.055	1	49.00	77.00	43.00	50.00	60.00	4.60
< 1.0	< 1.0	1.37	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	2.07	319.00	<1	1.14	<1	12.00	< 1.0	< 1.0	0	no exc.	0.000	319.000	18.03	7.556	1	18.00	24.00	15.00	15.00	18.00	< 10
																										0.000	#NUM!	#DIV/0!	0	73.00	120.00	68.00	76.00	94.00	11.00
< 5.0	28.00	11.70	24.30	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	4800.00	< 5.0	6.44	14.90	15.70	3040.00	8.34	13.30	10.60	74.90	< 5.0	< 5.0				4800.000	246.30	124.046	5	91.00	140.00	82.00	91.00	110.00	11.00
< 1.0	< 1.0	<0.01	<0.01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	< 1.0	< 1.0	0	no exc.	0.000	1.000	1.00	0.485	0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
< 1.0	< 1.0	<0.01	<0.01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	< 1.0	< 1.0	0	no exc.	0.000	1.000	1.00	0.485	0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
< 1.0	< 1.0	<0.01	<0.01	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	< 1.0	< 1.0	0	no exc.	0.000	1.000	1.00	0.491	0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
																										0.000	#NUM!	#DIV/0!	0	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
< 1.0	< 1.0	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<1	<1	<1	<1	<1	<1	<1	9.95	< 1.0	< 1.0	0	no exc.	0.000	28.000	8.52	1.973	1	1.50	120.00	2.60	2.20	5.10	1.50
< 1.0	< 1.0	<1	<1	< 1.0	< 1.0	< 1.0	< 1.0	18.00	< 1.0	< 1.0	< 1.0	< 1.0	1.97	<1	<1	4.44	<1	<1	1.23	6.32	< 1.0	< 1.0	0	no exc.	0.000	43.000	9.03	3.129	1	< 1.0	14.00	< 1.0	5.10	5.30	< 1.0
< 1.0	< 1.0	2.34	<1	< 1.0	< 1.0	< 1.0	< 1.0	100.00	< 1.0	< 1.0	95.00	< 1.0	20.10	4.80	7.80	15.30	7.29	10.70	9.35	33.40	9.90	14.00	0	no exc.	0.000	100.000	29.33	9.398	1	13.00	28.00	18.00	39.00	31.00	3.60
< 1.0	< 1.0	17.40	43.50	< 1.0	< 1.0	< 1.0	< 1.0	140.00	< 1.0	< 1.0	890.00	< 1.0	108.00	35.70	40.20	24.80	183.00	55.00	38.10	93.20	140.00	110.00	0	no exc.	0.000	890.000	140.00	38.635	1	35.00	53.00	49.00	71.00	59.00	3.10
< 1.0	< 1.0	1.34	1.00	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	10.20	12.40	4.94	<1	5.27	6.29	2.87	10.40	< 1.0	< 1.0	0	no exc.	0.000	21.300	5.89	2.089	1	7.80	8.30	9.20	8.60	8.90	2.70
																										0.000	#NUM!	#DIV/0!	0	50.00	220.00	71.00	120.00	100.00	8.30
< 5.0	< 5.0	21.00	45.20	< 5.0	< 5.0	< 5.0	< 5.0	260.00	< 5.0	< 5.0	990.00	< 5.0	141.00	53.20	53.80	46.20	196.00	72.60	51.80	153.00	150.00	120.00				990.000	172.35	54.357	5	58.00	220.00	80.00	130.00	110.00	11.00
																										0.000	#NUM!	#DIV/0!	0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
< 10	28.00	32.70	69.50	< 10	< 10	< 10	< 10	260.00	< 10	< 10	5700.00	< 10	147.00	68.00	69.50	3090.00	204.00	85.90	62.50	228.00	150.00	120.00				5700.000	424.05	177.082	10	120.00	330.00	140.00	190.00	190.00	19.00
																										0.000	#NUM!	#DIV/0!	0	150.00	360.00	160.00	220.00	220.00	22.00
41.00	67.00	3.28	18.10	17.00	23.00	100.00	27.00	5.70	0.95	6.80	19.00	11.00	6.74	7.69	6.02	22.20	8.21	7.55	7.76	25.20	19.00	24.00				#VALUE!	#VALUE!	#VALUE!	#VALUE!	29.00	33.00	26.00	30.00	30.00	28.00
< 1.0	< 1.0	<180	<180	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<180	<180	<180	<180	<180	<180	<180	<180	< 1.0	< 1.0	55	205.000	140.000	1800.000	1800.00	204.832	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
< 1.0	< 1.0	<140	<140	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<140	<140	<140	<140	<140	<140	<140	<140	< 1.0	< 1.0	0	no exc.	0.000	1400.000	1400.00	163.000	1	< 1.0	< 1.0	3.10	< 1.0	< 1.0	< 1.0
< 1.0	< 1.0	<80	<80	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<80	<80	<80	<80	<80	<80	<80	<80	< 1.0	< 1.0	0	no exc.	0.000	800.000	800.00	89.229	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
< 1.0	< 1.0	<200	<200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<200	<200	<200	<200	<200	<200	<200	<200	< 1.0	< 1.0	0	no exc.	0.000	2000.000	2000.00	224.230	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
< 1.0	< 1.0	<200	<200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<200	<200	<200	<200	<200	<200	<200	<200	< 1.0	< 1.0	0	no exc.	0.000	2000.000	2000.00	222.534	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
< 1.0	< 1.0	<200	<200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	<200	<200	<200	<200	<200	<200	<200	<200	< 1.0	< 1.0				2000.000	2000.00	222.217	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
4.40	< 0.10	<0.009	0.04	11.00	6.50	22.00	< 0.10	2.90	< 0.10	< 0.10	< 0.10	< 0.10	0.18	0.16	0.30	0.43	<0.009	0.25	0.31	8.43	1.70	2.80	3	73.000	20.500	73.000	9.59	2.264	0.009	5.70	11.00	17.00	12.00	18.00	1.40
0.87	< 0.10	<0.012	0.04	3.50	1.20	1.20	< 0.10	0.77	< 0.10	< 0.10	< 0.10	< 0.10	0.14	0.22	0.27	0.28	<0.012	0.20	0.20	1.29	0.82	0.83	0	no exc.	0.000	4.250	1.29	0.344	0.012	0.59	1.00	1.70	1.20	2.00	0.24
0.15	< 0.10	<0.008	<0.008	0.46	0.27	0.33	< 0.10	0.96	< 0.10	< 0.10	< 0.10	< 0.10	0.23	0.12	0.33	0.02	<0.008	0.10	<0.008	0.27	0.18	0.29	0	no exc.	0.000	0.960	0.33	0.112	0.008	< 0.10	0.43	< 0.10	0.35	< 0.10	0.15
0.50	< 0.10	<0.01	0.01	2.30	1.30	1.10	< 0.10	3.50	< 0.10	< 0.10	< 0.10	< 0.10	0.21	0.24	0.44	0.20	<0.01	0.14	0.13	0.84	0.41	0.38	0	no exc.	0.000	3.500	1.36	0.299	0.01	0.66	0.92	1.10	1.10	< 0.10	0.30
3.20	0.86	<0.015	0.14	16.00	6.40	7.00	2.60	14.00	1.30	3.50	1.10	3.60	1.74	1.80	2.92	1.94	0.99	1.09	0.99	5.74	3.10	3.30	0	no exc.	0.000	19.200	13.45	3.636	0.015	4.70	6.80	11.00	8.40	15.00	1.20
0.88	0.16	<0.016	0.04	5.60	2.30	1.10	0.57	4.20	0.30	1.00	0.30	1.10	0.45	1.11	0.81	0.48	<0.016	0.31	0.29	1.81	0.95	1.10	0	no exc.	0.000	5.600	3.71	0.868	0.016	1.10	1.30	2.90	1.90	3.10	0.40
5.40	0.64	<0.017	0.35	29.00	11.00	4.00	3.10	17.00	3.40	6.70	2.20	4.10	4.59	12.70	5.25	3.70	1.98	2.66	2.60	8.49	7.00	6.70	0	no exc.	0.000	33.300	15.90	4.783	0.017	4.60	6.60	15.00	9.20	13.00	1.40
3.70	0.56	<0.015	0.28	20.00	7.60	2.90	2.60	12.00	3.20	5.40	2.80	3.10	3.61	10.40	3.73	2.58	1.51	2.04	1.97	6.29	6.70	6.00	0	no exc.	0.000	23.500	11.45	3.592	0.015	3.10	4.80	11.00	6.50	8.90	1.10
2.90	0.42	<0.014	0.24	12.00	5.40	1.50	1.70	8.30	2.20	3.70	1.50	2.60	2.58	9.05	2.90	1.10	1.12	1.66	1.36	3.52	4.90	5.00	6	14.900	8.300	14.900	8.64	2.288	0.014	2.00	3.10	7.30	4.20	4.70	0.79
2.70	0.32	<0.01	0.21	10.00	6.00	1.20	1.30	9.00	2.50	3.60	1.40	2.90	2.41	9.16	2.60	0.98	1.11	1.51	1.44	3.58	5.40	4.90	0	no exc.	0.000	12.900	8.62	2.274	0.01	2.20	3.30	8.50	4.60	5.00	0.80
4.20	0.50	<0.015	0.43	15.00	7.80	< 0.10	< 0.10	13.00	3.30	5.90	3.30	4.00	3.85	12.30	4.25	1.40	1.85	2.67	2.26	4.87	7.90	8.10	36	20.800	2.620	20.800	12.62	3.042	0.015	3.40	4.30	10.00	5.60	6.30	1.00
1.40	0.16	<0.014	0.13	5.20	2.70	< 0.10	< 0.10	4.70	1.20	2.20	1.10	1.30	1.48	4.19	1.27	0.48	0.61	0.96	0.77	1.60	2.80	2.90	0	no exc.	0.000	6.690	4.33	1.060	0.014	1.10	1.40	3.30	1.60	2.10	0.49
2.90	0.38	<0.015	0.27	11.00	5.40	< 0.10	< 0.10	11.00	3.30	4.70	1.80	2.50	2.31	7.01	2.44	0.78	0.95	1.64	1.27	3.22	5.80	6.40	29	11.800	2.310	11.800	8.36	2.111	0.015	2.30	3.10	6.40	3.70	3.80	0.74
2.40	< 0.10	<0.018	0.27	8.00	3.50	< 0.10	< 0.10	6.50	< 0.10	< 0.10	< 0.10	< 0.10	1.73	4.94	1.93	0.69	0.79	1.34	1.09	2.53	3.90	5.60	0	no exc.	0.000	11.900	6.01	1.225	0.018	1.90	2.50	5.70	3.00	3.20	0.69
0.49	< 0.10	<0.023	0.05	1.80	1.00	< 0.10	< 0.10	1.50	< 0.10	< 0.10	< 0.10	< 0.10	0.34	1.05	0.36	0.12	<0.023	0.23	0.28	0.55	0.73	0.90	26	1.900	0.268	1.900	1.02	0.273	0.023	< 0.10	0.50	1.20	0.63	< 0.10	0.31
2.10	< 0.10	<0.024	0.23	7.60	3.50	< 0.10	< 0.10	6.60	< 0.10	< 0.10	< 0.10	< 0.10	1.45	3.81	1.57	0.58	0.69	1.14	0.99	2.31	4.00	4.80	0	no exc.	0.000	8.970	5.25	1.098	0.024	2.00	2.20	5.10	2.50	3.00	0.62
38.00	4.00	<0.118	2.73	160.00	72.00	42.00	12.00	120.00	21.00	37.00	16.00	25.00	27.30	78.20	31.40	15.80	11.60	17.90	15.90	55.30	56.00	60.00				210.000	106.80	29.070	0.118	35.00	53.00	110.00	67.00	88.00	12.00
< 0.020	< 0.020			< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020									< 0.020	< 0.020				0.020	0.02	0.020	0.02	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
< 0.020	< 0.020	<0.01	<0.01	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	< 0.020	< 0.020	0	no exc.	0.000	1.200	1.00	0.093	0.01	< 0.020	< 0.020	< 0.020	0.14	< 0.020	< 0.020
< 0.020	< 0.020	<0.01	<0.01	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	< 0.020	< 0.020				1.000	0.52	0.071	0.01	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
< 0.020	< 0.020	<0.015	<0.015	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	0.05	< 0.020	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	< 0.020	< 0.020				1.500	0.76	0.100	0.015	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
< 0.020	< 0.020			< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020									< 0.020	< 0.020				0.020	0.02	0.020	0.02	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
< 0.020	< 0.020			< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	0.10	< 0.020									< 0.020	< 0.020				0.230	0.02	0.027	0.02	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
< 0.10	< 0.10	<0.035	<0.035	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.16	< 0.10	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	< 0.10	< 0.10				3.500	2.29	0.273	0.035	< 0.10	< 0.10	< 0.10	0.14	< 0.10	< 0.10

Validation Samples

Surface Validation

Surface Validation									Surface Validation Summary						
23-17731	23-17731	23-17731	23-17731	23-17731	23-17731	23-17731	23-17731	23-17731	Number of Exceedances	Maximum Concentration Check	Minimum Exceedance Concentration	Maximum Concentration	95th Percentile	Average Concentration	Minimum Concentration
1646295	1646296	1646297	1646298	1646299	1646301	1646303	1646304	1646306							
5d/4b-SV7 S	5d/4b-SV8	5d/4b-SV9	5d/4b-SV10	5d/4b-SV11	5d/4b-SV12	5d/4b-SV14	5d/4b-SV15	5d/4b-SV16 S							
SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL							
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2							
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2							
24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023							
DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM							
No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	1	<0.001	0.001				
2.6	4.5	3.1	5.9	3.9	4.1	5.1	8.5	6.4							
Brown	Brown	Brown	Brown	Brown	Brown	Brown	Black	Brown							
Stones	Stones	Stones	Stones	50% Stones	Stones	Stones	Stones	Stones							
Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand							
9.3	9.2	10.2	9.3	9.2	9.2	9.9	10.1	8.9							
				0.7											
				0.6											
				0.0											
				< 0.010											
< 0.50	1.00	1.10	1.60	0.70	0.80	1.60	1.10	5.00							
2.20	3.70	1.20	10.00	4.00	5.60	3.80	5.60	5.40							
22000.00	58000.00	58000.00	49000.00	35000.00	54000.00	49000.00	52000.00	25000.00							
2.10	8.30	6.70	5.90	4.20	9.10	9.10	6.90	4.20	0	no exc.	0.000	9.100	9.10	6.860	2.1
0.11	1.20	0.29	0.35	0.20	1.10	0.37	0.42	0.18	0	no exc.	0.000	1.200	1.13	0.495	0.11
20.00	110.00	240.00	160.00	95.00	110.00	160.00	150.00	35.00	0	no exc.	0.000	240.000	184.00	115.933	20
1100.00	6200.00	11000.00	7100.00	4200.00	4300.00	6800.00	6400.00	1900.00	0	11000.000	1100.000	11000.000	8270.00	5400.000	1100
6.10	28.00	22.00	18.00	14.00	25.00	80.00	22.00	13.00	0	no exc.	0.000	80.000	55.50	26.740	6.1
< 0.05	0.19	0.19	0.83	0.09	0.15	0.33	0.18	0.11	0	no exc.	0.000	0.830	0.48	0.191	0.05
5.30	25.00	25.00	13.00	9.10	20.00	18.00	17.00	10.00	0	no exc.	0.000	25.000	25.00	17.627	5.3
21.00	180.00	54.00	58.00	32.00	140.00	62.00	62.00	32.00	0	no exc.	0.000	180.000	152.00	75.333	21
0.26	1.20	1.00	1.00	0.75	1.30	1.30	1.00	0.84	0	no exc.	0.000	1.500	1.50	1.137	0.26
27.00	180.00	390.00	250.00	120.00	160.00	210.00	180.00	44.00	0	no exc.	0.000	390.000	320.00	170.867	27
57.00	470.00	100.00	190.00	78.00	460.00	140.00	170.00	92.00	0	no exc.	0.000	470.000	463.00	193.800	57
< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0	no exc.	0.000	0.050	0.05	0.050	0.05
< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05				0.050	0.05	0.050	0.05
< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05				0.050	0.05	0.050	0.05
< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0	no exc.	0.000	0.100	0.10	0.100	0.1
< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	0	no exc.	0.000	0.250	0.25	0.250	0.25
5.40	4.70	5.20	4.20	7.50	5.00	7.20	6.00	6.20				7.500	7.29	5.180	3.4
< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0	no exc.	0.000	0.050	0.05	0.050	0.05
11.00	9.10	14.00	8.70	7.30	4.30	9.90	9.90	8.00	0	no exc.	0.000	14.000	12.60	7.987	1.5
25.00	35.00	61.00	18.00	18.00	15.00	27.00	38.00	36.00	0	no exc.	0.000	61.000	44.90	24.267	2
69.00	74.00	78.00	46.00	67.00	48.00	67.00	91.00	82.00	0	no exc.	0.000	91.000	84.70	60.373	4.6
17.00	22.00	24.00	17.00	18.00	14.00	19.00	28.00	19.00	0	no exc.	0.000	28.000	25.20	18.533	10
110.00	120.00	160.00	77.00	100.00	72.00	110.00	140.00	130.00				160.000	146.00	97.400	11
130.00	150.00	180.00	94.00	120.00	86.00	130.00	170.00	150.00				180.000	173.00	115.667	11
< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0	no exc.	0.000	0.050	0.05	0.050	0.05
< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0	no exc.	0.000	0.050	0.05	0.050	0.05
< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0	no exc.	0.000	0.050	0.05	0.050	0.05
< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25				0.250	0.25	0.250	0.25
2.50	5.20	3.90	3.50	6.40	18.00	5.00	21.00	10.00	1	120.000	120.000	120.000	50.70	13.893	1.5
5.70	6.70	7.20	< 1.0	4.50	11.00	1.70	8.00	23.00	0	no exc.	0.000	23.000	16.70	6.413	1
30.00	52.00	50.00	16.00	35.00	66.00	51.00	57.00	110.00	0	no exc.	0.000	110.000	79.20	39.973	3.6
77.00	150.00	160.00	63.00	69.00	120.00	66.00	120.00	200.00	0	no exc.	0.000	200.000	172.00	86.340	3.1
10.00	20.00	28.00	9.50	6.00	5.80	5.10	19.00	9.10	0	no exc.	0.000	28.000	22.40	10.533	2.7
120.00	210.00	220.00	83.00	120.00	220.00	120.00	210.00	350.00				350.000	259.00	148.153	8.3
130.00	230.00	250.00	92.00	120.00	220.00	130.00	230.00	360.00				360.000	283.00	158.067	11
< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50				0.500	0.50	0.500	0.5
230.00	340.00	380.00	160.00	210.00	290.00	230.00	350.00	480.00				480.000	410.00	243.933	19
250.00	380.00	430.00	190.00	240.00	310.00	260.00	400.00	510.00				510.000	454.00	273.467	22
34.00	38.00	30.00	34.00	64.00	26.00	34.00	44.00	39.00				64.000	50.00	34.600	26
< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0	no exc.	0.000	1.000	1.00	1.000	1
< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0	no exc.	0.000	3.100	1.63	1.140	1
< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0	no exc.	0.000	1.000	1.00	1.000	1
< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0	no exc.	0.000	1.000	1.00	1.000	1
< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0				1.000	1.00	1.000	1
< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0				1.000	1.00	1.000	1
1.70	16.00	11.00	12.00	15.00	31.00	2.00	31.00	23.00	6	31.000	16.000	31.000	31.00	13.853	1.4
0.17	2.10	1.10	1.10	1.10	7.30	0.19	2.20	5.30	0	no exc.	0.000	7.300	5.90	1.819	0.17
< 0.10	0.42	0.36	< 0.10	0.47	0.76	< 0.10	0.48	< 0.10	0	no exc.	0.000	0.760	0.56	0.275	0.1
0.20	1.60	1.70	1.60	1.70	9.80	0.25	2.00	7.60	0	no exc.	0.000	9.800	8.26	2.042	0.1
1.30	10.00	11.00	9.90	9.40	39.00	1.30	15.00	29.00	0	no exc.	0.000	39.000	32.00	11.533	1.2
0.36	3.40	4.40	2.20	1.90	13.00	0.34	3.20	9.80	0	no exc.	0.000	13.000	10.76	3.287	0.34
1.40	15.00	11.00	11.00	9.30	45.00	1.50	16.00	34.00	0	no exc.	0.000	45.000	37.30	12.933	1.4
1.00	12.00	7.70	7.60	6.70	30.00	1.10	11.00	23.00	0	no exc.	0.000	30.000	25.10	9.033	1
0.61	8.70	4.80	4.60	4.00	20.00	0.63	6.80	14.00	4	20.000	7.300	20.000	15.80	5.749	0.61
0.75	9.20	4.90	4.40	4.20	19.00	0.80	7.30	15.00	1	19.000	19.000	19.000	16.20	5.997	0.75
0.85	12.00	6.20	6.60	5.30	24.00	0.87	9.80	18.00	12	24.000	3.400	24.000	19.80	7.615	0.85
0.31	3.80	2.40	2.40	1.70	7.70	0.34	3.20	6.80	0	no exc.	0.000	7.700	7.07	2.576	0.31
0.54	7.90	4.40	4.70	3.70	16.00	0.60	6.40	12.00	12	16.000	2.300	16.000	13.20	5.085	0.54
0.48	6.30	3.50	3.40	2.90	13.00	0.47	4.90	8.50	0	no exc.	0.000	13.000	9.85	4.029	0.47
0.17	1.40	0.28	< 0.10	0.61	2.40	< 0.10	1.20	1.80	10	2.400	0.280	2.400	1.98	0.727	0.1
0.46	5.20	3.30	3.30	2.40	9.80	0.44	4.50	7.20	0	no exc.	0.000	9.800	7.98	3.468	0.44
10.00	120.00	78.00	75.00	70.00	290.00	11.00	130.00	220.00				290.000	241.00	91.267	10
< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020				0.020	0.02	0.020	0.02
< 0.020	< 0.020	0.06	0.08	0.07	< 0.020	< 0.020	< 0.020	< 0.020	0	no exc.	0.000	0.140	0.10	0.038	0.02
< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020				0.020	0.02	0.020	0.02
< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020				0.020	0.02	0.020	0.02
< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020				0.020	0.02	0.020	0.02
< 0.020	< 0.020	0.06	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020				0.058	0.03	0.023	0.02
< 0.10	< 0.10	0.11	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10				0.140	0.12	0.103	0.1

Clay Validation

Clay Validation									Clay Validation Summary						
23-07800	23-07800	23-07800	23-20982	23-17731	22-47986	22-47986	23-05642	23-07122	Number of Exceedances	Maximum Concentration Check	Minimum Exceedance Concentration	Maximum Concentration	95th Percentile	Average Concentration	Minimum Concentration
1603347	1603348	1603349	1661283	1646288	1564831	1564832	1592915	1599938							
R14-C	U16-C	U12-C	V19-C	5d/4b-SV1 C	P10-C	P11-C	O13-C	P13-C							
SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL							
0.2	0.2	0.2	0.2	0.2											
0.2	0.2	0.2	0.2	0.2											
07-Mar-2023	07-Mar-2023	07-Mar-2023	19-Jun-2023	24-May-2023	14-Dec-2022	14-Dec-2022	17-Feb-2023	01-Mar-2023							
		DURHAM	COVENTRY	DURHAM		NEW-ASB	DURHAM	NEW-ASB							
		No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	0	0.00	0.000				
25	23	21	22	3.5	23	23	6.6	26							
Brown	Grey	Brown	Grey	Brown	grey	Grey	Brown	Grey							
Stones	Stones	Stones	None	Stones	Stones	Stones	NONE	None							
Sand	Clay	Clay	Clay	Sand	Loam	Loam	Sand	Clay							
8.7	8.4	8.4	8.4	9.0	7.8	8.0	7.2	8.1							
< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0	no exc.	0.000	0.500	0.50	0.50	0.5
1.20	0.77	93.00	100.00	1.40	150.00	110.00	190.00	200.00	0	200.000	0.770	200.000	196.00	94.041	0.77
5900.00	7200.00	33000.00	21000.00	40000.00	44000.00	44000.00	< 100	29000.00	0	44000.000	5900.000	44000.000	44000.00	24911.111	100
1.90	1.90	11.00	13.00	8.50	12.00	14.00	9.00	12.00	0	no exc.	0.000	14.000	13.60	9.256	1.9
< 0.10	< 0.10	< 0.10	< 0.10	0.46	0.18	< 0.10	0.10	0.11	0	no exc.	0.000	0.460	0.35	0.150	0.1
6.70	8.90	49.00	43.00	82.00	55.00	57.00	36.00	36.00	0	no exc.	0.000	82.000	72.00	41.511	6.7
98.00	75.00	520.00	790.00	5000.00	1500.00	1400.00	270.00	440.00	0	5000.000	75.000	5000.000	3600.00	1121.444	75
2.00	2.50	13.00	15.00	24.00	18.00	18.00	12.00	11.00	0	no exc.	0.000	24.000	21.60	12.833	2
< 0.05	< 0.05	< 0.05	< 0.05	0.10	< 0.05	< 0.05	< 0.05	< 0.05	0	no exc.	0.000	0.100	0.08	0.056	0.05
5.60	6.30	42.00	37.00	19.00	51.00	49.00	33.00	32.00	0	no exc.	0.000	51.000	50.20	30.544	5.6
4.10	5.30	30.00	31.00	60.00	34.00	38.00	26.00	24.00	0	no exc.	0.000	60.000	51.20	28.044	4.1
< 0.25	< 0.25	1.10	0.84	1.90	1.30	1.30	0.95	0.96	0	no exc.	0.000	1.900	1.66	0.983	0.25
7.80	11.00	58.00	47.00	130.00	79.00	65.00	43.00	42.00	0	no exc.	0.000	130.000	109.60	53.644	7.8
14.00	18.00	110.00	100.00	150.00	130.00	130.00	97.00	93.00	0	no exc.	0.000	150.000	142.00	93.556	14
< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0	no exc.	0.000	0.050	0.05	0.050	0.05
< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05				0.050	0.05	0.050	0.05
< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05				0.050	0.05	0.050	0.05
			< 0.10	< 0.10					0	no exc.	0.000	0.100	0.10	0.100	0.1
< 0.05	< 0.05	< 0.05	< 0.25	< 0.25	< 0.05	< 0.05	< 0.05	< 0.05	0	no exc.	0.000	0.250	0.25	0.094	0.05
< 0.25	< 0.25	< 0.25	< 2.0	4.10	< 0.25	< 0.25	< 0.25	< 0.25				4.100	3.26	0.872	0.25
< 2.0	< 2.0	< 2.0	< 0.05	< 0.05	< 2.0	< 2.0	< 2.0	3.10	0	no exc.	0.000	3.100	2.66	1.689	0.05
2.00	1.90	1.80	< 1.0	5.80	< 1.0	< 1.0	1.90	2.90	0	no exc.	0.000	5.800	4.64	2.144	1
2.00	< 2.0	< 2.0	< 2.0	12.00	< 2.0	< 2.0	< 2.0	< 2.0	0	no exc.	0.000	12.000	8.00	3.111	2
5.80	5.00	5.30	< 3.0	41.00	5.30	5.60	8.20	3.70	0	no exc.	0.000	41.000	27.88	9.211	3
< 10	< 10	< 10	< 10	14.00	3.30	2.30	< 10	< 10	0	no exc.	0.000	14.000	12.40	8.844	2.3
12.00	10.00	10.00	< 5.0	63.00	8.40	8.20	12.00	11.00				63.000	42.60	15.511	5
12.00	10.00	10.00	< 10	76.00	< 10	< 10	12.00	11.00				76.000	50.40	17.889	10
< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0	no exc.	0.000	0.050	0.05	0.050	0.05
< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0	no exc.	0.000	0.050	0.05	0.050	0.05
< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0	no exc.	0.000	0.050	0.05	0.050	0.05
< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25				0.250	0.25	0.250	0.25
2.70	2.80	1.30	< 1.0	1.40	< 1.0	< 1.0	9.80	2.20	0	no exc.	0.000	9.800	7.00	2.578	1
4.50	3.30	3.30	< 1.0	< 1.0	< 1.0	< 1.0	6.30	3.80	0	no exc.	0.000	6.300	5.58	2.800	1
10.00	9.20	8.10	2.90	11.00	5.70	5.00	13.00	11.00	0	no exc.	0.000	13.000	12.20	8.433	2.9
10.00	12.00	11.00	8.30	38.00	7.30	2.20	12.00	14.00	0	no exc.	0.000	38.000	28.40	12.756	2.2
3.70	3.10	2.80	1.60	8.30	11.00	9.50	4.80	3.10	0	no exc.	0.000	11.000	10.40	5.322	1.6
28.00	27.00	24.00	11.00	51.00	13.00	7.50	41.00	30.00				51.000	47.00	25.833	7.5
31.00	31.00	27.00	13.00	59.00	24.00	17.00	46.00	34.00				59.000	53.80	31.333	13
< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50				0.500	0.50	0.500	0.5
39.00	37.00	34.00	13.00	110.00	22.00	16.00	54.00	42.00				110.000	87.60	40.778	13
43.00	41.00	37.00	14.00	140.00	20.00	15.00	59.00	45.00				140.000	107.60	46.000	14
2.00	2.30	1.30	1.00	30.00	2.30	2.50	1.10	1.10				30.000	19.00	4.844	1
< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0	no exc.	0.000	1.000	1.00	1.000	1
< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.30	< 1.0	0	no exc.	0.000	4.300	2.98	1.367	1
< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0	no exc.	0.000	1.000	1.00	1.000	1
< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0	no exc.	0.000	1.000	1.00	1.000	1
< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.70	< 1.0				3.700	2.62	1.300	1
< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0				1.000	1.00	1.000	1
< 0.10	< 0.10	< 0.10	0.17	4.70	< 0.10	< 0.10	0.23	0.10	0	no exc.	0.000	4.700	2.91	0.633	0.1
< 0.10	< 0.10	< 0.10	< 0.10	0.54	< 0.10	< 0.10	< 0.10	< 0.10	0	no exc.	0.000	0.540	0.36	0.149	0.1
< 0.10	< 0.10	< 0.10	< 0.10	0.21	< 0.10	< 0.10	< 0.10	< 0.10	0	no exc.	0.000	0.210	0.17	0.112	0.1
< 0.10	< 0.10	< 0.10	< 0.10	0.61	< 0.10	< 0.10	< 0.10	< 0.10	0	no exc.	0.000	0.610	0.41	0.157	0.1
< 0.10	0.17	< 0.10	0.19	4.30	< 0.10	< 0.10	< 0.10	< 0.10	0	no exc.	0.000	4.300	2.66	0.584	0.1
< 0.10	< 0.10	< 0.10	< 0.10	0.91	< 0.10	< 0.10	< 0.10	< 0.10	0	no exc.	0.000	0.910	0.59	0.190	0.1
< 0.10	< 0.10	< 0.10	0.16	4.70	< 0.10	< 0.10	< 0.10	< 0.10	0	no exc.	0.000	4.700	2.88	0.618	0.1
< 0.10	< 0.10	< 0.10	0.22	3.20	< 0.10	< 0.10	< 0.10	< 0.10	0	no exc.	0.000	3.200	2.01	0.458	0.1
< 0.10	< 0.10	< 0.10	< 0.10	2.10	< 0.10	< 0.10	< 0.10	< 0.10	0	no exc.	0.000	2.100	1.30	0.322	0.1
< 0.10	< 0.10	< 0.10	< 0.10	2.30	< 0.10	< 0.10	< 0.10	< 0.10	0	no exc.	0.000	2.300	1.42	0.344	0.1
< 0.10	< 0.10	< 0.10	< 0.10	2.90	< 0.10	< 0.10	< 0.10	< 0.10	1	2.900	2.900	2.900	1.78	0.411	0.1
< 0.10	< 0.10	< 0.10	< 0.10	0.91	< 0.10	< 0.10	< 0.10	< 0.10	0	no exc.	0.000	0.910	0.59	0.190	0.1
< 0.10	< 0.10	< 0.10	< 0.10	1.90	< 0.10	< 0.10	< 0.10	< 0.10	0	no exc.	0.000	1.900	1.18	0.300	0.1
< 0.10	< 0.10	< 0.10	< 0.10	1.70	< 0.10	< 0.10	< 0.10	< 0.10	0	no exc.	0.000	1.700	1.06	0.278	0.1
< 0.10	< 0.10	< 0.10	< 0.10	0.36	< 0.10	< 0.10	< 0.10	< 0.10	1	0.360	0.360	0.360	0.26	0.129	0.1
< 0.10	< 0.10	< 0.10	< 0.10	1.40	< 0.10	< 0.10	< 0.10	< 0.10	0	no exc.	0.000	1.400	0.88	0.244	0.1
< 2.0	< 2.0	< 2.0	< 2.0	33.00	< 2.0	< 2.0	< 2.0	< 2.0				33.000	20.60	5.444	2
< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020				0.020	0.02	0.020	0.02
< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	0	no exc.	0.000	0.020	0.02	0.020	0.02
< 0.020	< 0.020	0.09	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020				0.086	0.06	0.027	0.02
< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020				0.020	0.02	0.020	0.02
< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020				0.020	0.02	0.020	0.02
< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020				0.020	0.02	0.020	0.02
< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10				0.100	0.10	0.100	0.1

Appendix D: Chemical Laboratory Results

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	22-32332-1
Initial Date of Issue:	07-Sep-2022
Client	Rodgers Leask Environmental
Client Address:	Office 225 2430/2440 Aztec West Almoundsbury Bristol BS32 4AQ
Contact(s):	Caitlin Davies Chris Wilson David McCarroll
Project	P18-669
Quotation No.:	Q22-28243
Order No.:	115623
No. of Samples:	6
Turnaround (Wkdays):	5
Date Approved:	07-Sep-2022
Approved By:	
Details:	Stuart Henderson, Technical Manager

Date Received:	24-Aug-2022
Date Instructed:	24-Aug-2022
Results Due:	31-Aug-2022

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental		**Chemtest Job No.:**			22-32332	22-32332	22-32332	22-32332	22-32332	22-32332
Quotation No.: Q22-28243		**Chemtest Sample ID.:**			1493556	1493557	1493558	1493559	1493560	1493561
		Client Sample ID.:			W53-1	W53-2	R176-1	R176-2	R176-3	R176-4
		Sample Type:			SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			0.2	0.2	0.2	0.2	0.2	0.2
		Bottom Depth (m):			0.2	0.2	0.2	0.2	0.2	0.2
		Date Sampled:			22-Aug-2022	22-Aug-2022	22-Aug-2022	22-Aug-2022	22-Aug-2022	22-Aug-2022
		Asbestos Lab:			NEW-ASB			NEW-ASB		NEW-ASB
Determinand	**Accred.**	**SOP**	**Units**	**LOD**						
ACM Type	U	2192		N/A	-			-		-
Asbestos Identification	U	2192		N/A	No Asbestos Detected			No Asbestos Detected		No Asbestos Detected
Moisture	N	2030	%	0.020	5.1	5.3	11	11	9.2	11
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones	Stones	Stones	Stones	Stones and Roots	Stones
Soil Texture	N	2040		N/A	Sand	Sand	Sand	Sand	Sand	Sand
pH	M	2010		4.0	9.1	8.9	9.2	9.1	8.8	9.4
Cyanide (Total)	M	2300	mg/kg	0.50	2.6	1.8	1.8	0.80	1.1	< 0.50
Ammoniacal Nitrogen	M	2425	mg/kg	0.50	< 0.50	< 0.50	1.4	< 0.50	0.75	0.65
Iron (Total)	N	2430	mg/kg	100	81000	50000	58000	54000	47000	67000
Arsenic	M	2455	mg/kg	0.5	6.8	7.9	8.7	6.7	6.2	0.6
Cadmium	M	2455	mg/kg	0.10	0.37	0.54	0.63	0.31	0.43	0.24
Chromium	M	2455	mg/kg	0.5	120	73	120	28	180	41
Manganese	M	2455	mg/kg	1.0	7600	4700	4600	2200	6200	100
Copper	M	2455	mg/kg	0.50	25	22	29	14	16	23
Mercury	M	2455	mg/kg	0.05	0.16	0.17	0.19	0.20	0.15	0.05
Nickel	M	2455	mg/kg	0.50	20	20	59	12	14	24
Lead	M	2455	mg/kg	0.50	63	80	89	51	62	8.1
Selenium	M	2455	mg/kg	0.25	0.76	1.1	2.0	0.94	0.98	< 0.25
Vanadium	U	2455	mg/kg	0.5	140	90	88	51	120	4.8
Zinc	M	2455	mg/kg	0.50	160	260	250	150	200	98
Organic Matter	M	2625	%	0.40	19	24	11	9.2	12	9.9
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	22	< 1.0	< 1.0
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	190	120	< 1.0
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	< 5.0	210	120	< 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	9.9	14	9.9	11	24	< 1.0
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	140	110	72	100	140	< 1.0

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental		**Chemtest Job No.:**			22-32332	22-32332	22-32332	22-32332	22-32332	22-32332
Quotation No.: Q22-28243		**Chemtest Sample ID.:**			1493556	1493557	1493558	1493559	1493560	1493561
			Client Sample ID.:		W53-1	W53-2	R176-1	R176-2	R176-3	R176-4
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		0.2	0.2	0.2	0.2	0.2	0.2
			Bottom Depth (m):		0.2	0.2	0.2	0.2	0.2	0.2
			Date Sampled:		22-Aug-2022	22-Aug-2022	22-Aug-2022	22-Aug-2022	22-Aug-2022	22-Aug-2022
			Asbestos Lab:		NEW-ASB			NEW-ASB		NEW-ASB
Determinand	**Accred.**	**SOP**	**Units**	**LOD**						
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	150	120	81	110	160	< 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	150	120	81	330	280	< 10
Benzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	M	2800	mg/kg	0.10	1.7	2.8	3.7	3.2	2.7	3.2
Acenaphthylene	N	2800	mg/kg	0.10	0.82	0.83	0.60	1.1	0.47	0.76
Acenaphthene	M	2800	mg/kg	0.10	0.18	0.29	0.55	0.34	0.30	0.45
Fluorene	M	2800	mg/kg	0.10	0.41	0.38	0.80	0.70	0.31	0.74
Phenanthrene	M	2800	mg/kg	0.10	3.1	3.3	7.1	6.7	2.9	6.2
Anthracene	M	2800	mg/kg	0.10	0.95	1.1	1.9	2.7	0.83	1.6
Fluoranthene	M	2800	mg/kg	0.10	7.0	6.7	11	15	6.3	11
Pyrene	M	2800	mg/kg	0.10	6.7	6.0	7.8	11	4.7	7.5
Benzo[a]anthracene	M	2800	mg/kg	0.10	4.9	5.0	4.8	7.6	2.8	4.6
Chrysene	M	2800	mg/kg	0.10	5.4	4.9	4.5	6.0	2.8	4.3
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	7.9	8.1	6.5	11	4.5	6.7
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	2.8	2.9	2.0	3.7	1.5	1.9
Benzo[a]pyrene	M	2800	mg/kg	0.10	5.8	6.4	5.0	8.3	3.1	5.2
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	3.9	5.6	4.5	6.5	2.8	4.2
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	0.73	0.90	0.88	1.2	0.43	0.78
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	4.0	4.8	3.4	5.5	2.1	3.4
Total Of 16 PAH's	N	2800	mg/kg	2.0	56	60	65	91	39	63
Resorcinol	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Phenol	M	2920	mg/kg	0.020	< 0.020	< 0.020	0.071	< 0.020	0.066	< 0.020
Cresols	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Xylenols	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
1-Naphthol	N	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Trimethylphenols	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Total Phenols	M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2425	Extractable Ammonium in soils	Ammonium	Extraction with potassium chloride solution / analysis by 'Aquakem 600' Discrete Analyser using sodium salicylate and sodium dichloroisocyanurate.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

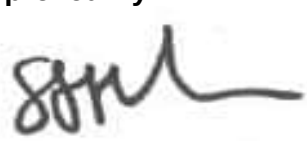
If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Amended Report

Report No.:	22-32672-2		
Initial Date of Issue:	05-Sep-2022	**Date of Re-Issue:**	12-Sep-2022
Client	Rodgers Leask Environmental		
Client Address:	Office 225 2430/2440 Aztec West Almoundsbury Bristol BS32 4AQ		
Contact(s):	Caitlin Davies Chris Wilson David McCarroll		
Project	P18-669		
Quotation No.:	Q22-28243	**Date Received:**	26-Aug-2022
Order No.:	PO115623	**Date Instructed:**	26-Aug-2022
No. of Samples:	17		
Turnaround (Wkdays):	11	**Results Due:**	12-Sep-2022
Date Approved:	12-Sep-2022		

Approved By:



Details: Stuart Henderson, Technical Manager

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental		**Chemtest Job No.:**			22-32672	22-32672	22-32672	22-32672	22-32672	22-32672	22-32672	22-32672	22-32672
Quotation No.: Q22-28243		**Chemtest Sample ID.:**			1494904	1494905	1494906	1494907	1494908	1494909	1494910	1494911	1494912
Order No.: PO115623		Client Sample Ref.:			A034-1	AN34-1	R16-1	S16-1	S18-1	R17-1	R17-2	S17-1	S17-2
		Sample Type:			SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			1.50	1.00	1.20	0.50	1.00	0.50	2.50	0.60	1.30
		Date Sampled:			24-Aug-2022	24-Aug-2022	24-Aug-2022	24-Aug-2022	24-Aug-2022	24-Aug-2022	24-Aug-2022	24-Aug-2022	24-Aug-2022
		Asbestos Lab:			DURHAM		DURHAM	DURHAM	DURHAM		DURHAM		DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
ACM Type	U	2192		N/A	-		-	-	-		-		-
Asbestos Identification	U	2192		N/A	No Asbestos Detected		No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		No Asbestos Detected		No Asbestos Detected
Asbestos by Gravimetry	U	2192	%	0.001									
Total Asbestos	U	2192	%	0.001									
Moisture	N	2030	%	0.020	8.1	5.1	6.6	9.7	7.7	15	46	6.9	9.0
Soil Colour	N	2040		N/A	Grey	Grey	Black	Brown	Brown	Brown	Grey	Brown	Brown
Other Material	N	2040		N/A	Stones	Stones	Stones	Stones and unknown	Stones and Roots	Stones	Stones	Stones and Roots	Stones and Roots
Soil Texture	N	2040		N/A	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand
pH	M	2010		4.0	10.1	10.3	11.4	10.5	9.3	10.4	10.4	9.5	9.7
Cyanide (Total)	M	2300	mg/kg	0.50	1.2	3.6	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Ammoniacal Nitrogen	M	2425	mg/kg	0.50	< 0.50	1.3	< 0.50	0.78	44	1.6	1.5	3.0	2.2
Iron (Total)	N	2430	mg/kg	100	5700	5400	43000	55000	16000	16000	11000	28000	32000
Arsenic	M	2455	mg/kg	0.5	2.4	3.2	2.4	14	6.4	6.3	4.8	8.4	4.6
Cadmium	M	2455	mg/kg	0.10	< 0.10	0.10	0.14	0.31	0.17	< 0.10	< 0.10	0.32	0.25
Chromium	M	2455	mg/kg	0.5	8.6	8.9	140	21	17	17	17	20	30
Manganese	M	2455	mg/kg	1.0	3400	1000	6100	1600	790	820	600	1200	2100
Copper	M	2455	mg/kg	0.50	4.6	8.6	11	43	16	16	9.0	23	13
Mercury	M	2455	mg/kg	0.05	< 0.05	< 0.05	0.08	0.07	0.05	0.11	< 0.05	0.11	0.09
Nickel	M	2455	mg/kg	0.50	2.6	4.8	6.4	39	9.9	9.4	8.2	15	10
Lead	M	2455	mg/kg	0.50	5.6	19	22	40	24	37	12	50	36
Selenium	M	2455	mg/kg	0.25	3.2	1.5	0.52	0.45	0.53	0.48	0.40	0.76	0.59
Vanadium	U	2455	mg/kg	0.5	30	17	120	19	21	23	17	30	42
Zinc	M	2455	mg/kg	0.50	16	37	65	68	62	38	24	120	91
Organic Matter	M	2625	%	0.40	3.0	9.8	11	58	15	13	20	25	28
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental		**Chemtest Job No.:**			22-32672	22-32672	22-32672	22-32672	22-32672	22-32672	22-32672	22-32672	22-32672
Quotation No.: Q22-28243		**Chemtest Sample ID.:**			1494904	1494905	1494906	1494907	1494908	1494909	1494910	1494911	1494912
Order No.: PO115623		Client Sample Ref.:			A034-1	AN34-1	R16-1	S16-1	S18-1	R17-1	R17-2	S17-1	S17-2
		Sample Type:			SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			1.50	1.00	1.20	0.50	1.00	0.50	2.50	0.60	1.30
		Date Sampled:			24-Aug-2022	24-Aug-2022	24-Aug-2022	24-Aug-2022	24-Aug-2022	24-Aug-2022	24-Aug-2022	24-Aug-2022	24-Aug-2022
		Asbestos Lab:			DURHAM		DURHAM	DURHAM	DURHAM		DURHAM		DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	9.0	4.3	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	27	26	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	< 5.0	36	30	< 5.0	< 5.0	< 5.0	< 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	< 10	< 10	< 10	36	30	< 10	< 10	< 10	< 10
Benzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	14	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	M	2760	µg/kg	1.0	< 1.0	< 1.0	9.9	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	4.9	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	M	2800	mg/kg	0.10	< 0.10	< 0.10	2.7	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10	< 0.10	0.25	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.30	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.55	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	3.5	2.3	2.0	0.58	< 0.10	1.2	0.70
Anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.56	0.45	0.47	0.13	< 0.10	0.23	0.20
Fluoranthene	M	2800	mg/kg	0.10	0.30	0.20	3.4	2.6	2.3	0.54	0.27	1.4	0.84
Pyrene	M	2800	mg/kg	0.10	0.19	0.24	2.6	1.9	1.5	0.44	0.21	1.0	0.68
Benzo[a]anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	1.8	1.3	1.1	0.36	< 0.10	0.78	< 0.10
Chrysene	M	2800	mg/kg	0.10	< 0.10	< 0.10	2.1	1.3	0.88	0.33	< 0.10	0.70	< 0.10
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	2.5	1.8	1.4	< 0.10	< 0.10	1.0	< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.79	0.45	0.43	< 0.10	< 0.10	0.26	< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	1.9	1.4	1.2	< 0.10	< 0.10	0.75	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	1.1	< 0.10	0.87	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	< 0.10	0.34	< 0.10	0.17	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	< 0.10	< 0.10	1.1	< 0.10	0.78	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	< 2.0	< 2.0	26	14	13	2.4	< 2.0	7.3	2.4
Resorcinol	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Phenol	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Cresols	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Xylenols	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
1-Naphthol	N	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Trimethylphenols	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Total Phenols	M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental		**Chemtest Job No.:**			22-32672	22-32672	22-32672	22-32672	22-32672	22-32672	22-32672	22-32672
Quotation No.: Q22-28243		**Chemtest Sample ID.:**			1494913	1494914	1494915	1494916	1494917	1494918	1494919	1494920
Order No.: PO115623		Client Sample Ref.:			T17-1	T17-2	S13-1	R13-1	R13-2	S12-1	R140-1	R140-2
		Sample Type:			SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			0.20	2.00	1.10	0.70	2.20	1.00		
		Date Sampled:			24-Aug-2022	24-Aug-2022	24-Aug-2022	24-Aug-2022	24-Aug-2022	24-Aug-2022	24-Aug-2022	24-Aug-2022
		Asbestos Lab:				DURHAM	DURHAM	DURHAM		DURHAM	COVENTRY	
Determinand	**Accred.**	**SOP**	**Units**	**LOD**								
ACM Type	U	2192		N/A		-	-	-		-	Fibres/Clumps	
Asbestos Identification	U	2192		N/A		No Asbestos Detected	No Asbestos Detected	No Asbestos Detected		No Asbestos Detected	Chrysotile	
Asbestos by Gravimetry	U	2192	%	0.001							0.002	
Total Asbestos	U	2192	%	0.001							0.002	
Moisture	N	2030	%	0.020	10	11	12	9.1	9.1	5.8	7.0	6.1
Soil Colour	N	2040		N/A	Black	Brown	Black	Brown	Brown	Black	Brown	Brown
Other Material	N	2040		N/A	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones
Soil Texture	N	2040		N/A	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand
pH	M	2010		4.0	10.6	10.3	9.2	11.4	11.4	11.2	8.3	8.7
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50	< 0.50	0.50	0.60	2.6	0.80	< 0.50	< 0.50
Ammoniacal Nitrogen	M	2425	mg/kg	0.50	< 0.50	1.3	4.7	< 0.50	< 0.50	1.6	< 0.50	1.5
Iron (Total)	N	2430	mg/kg	100	30000	16000	15000	72000	84000	25000	61000	41000
Arsenic	M	2455	mg/kg	0.5	2.0	3.0	2.6	2.9	4.3	4.7	9.0	11
Cadmium	M	2455	mg/kg	0.10	0.10	< 0.10	0.10	0.13	0.29	0.27	1.4	0.69
Chromium	M	2455	mg/kg	0.5	79	32	29	290	210	69	62	88
Manganese	M	2455	mg/kg	1.0	5100	2300	1700	17000	14000	4900	4900	4400
Copper	M	2455	mg/kg	0.50	11	11	9.8	14	17	13	34	37
Mercury	M	2455	mg/kg	0.05	0.05	0.05	< 0.05	< 0.05	0.06	0.07	0.51	0.27
Nickel	M	2455	mg/kg	0.50	5.1	7.8	6.5	6.8	11	7.9	16	28
Lead	M	2455	mg/kg	0.50	23	14	72	26	56	45	180	150
Selenium	M	2455	mg/kg	0.25	0.99	0.61	1.0	0.31	0.60	0.98	1.6	1.8
Vanadium	U	2455	mg/kg	0.5	78	38	32	280	220	120	100	95
Zinc	M	2455	mg/kg	0.50	56	38	160	67	150	110	390	260
Organic Matter	M	2625	%	0.40	42	4.6	100	31	12	24	19	11
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	23	< 1.0	< 1.0	< 1.0	29	< 1.0
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	320	< 1.0
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	89	< 1.0	69	4400	< 1.0
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	23	89	< 5.0	69	4800	< 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental			**Chemtest Job No.:**		22-32672	22-32672	22-32672	22-32672	22-32672	22-32672	22-32672	22-32672
Quotation No.: Q22-28243			**Chemtest Sample ID.:**		1494913	1494914	1494915	1494916	1494917	1494918	1494919	1494920
Order No.: PO115623			Client Sample Ref.:		T17-1	T17-2	S13-1	R13-1	R13-2	S12-1	R140-1	R140-2
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		0.20	2.00	1.10	0.70	2.20	1.00		
			Date Sampled:		24-Aug-2022	24-Aug-2022	24-Aug-2022	24-Aug-2022	24-Aug-2022	24-Aug-2022	24-Aug-2022	24-Aug-2022
			Asbestos Lab:			DURHAM	DURHAM	DURHAM		DURHAM	COVENTRY	
Determinand	**Accred.**	**SOP**	**Units**	**LOD**								
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	5.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	5.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	< 1.0	< 1.0	5.2	< 1.0	< 1.0	< 1.0	95	< 1.0
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	< 1.0	< 1.0	9.7	19	< 1.0	23	890	< 1.0
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	26	19	< 5.0	23	990	< 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	< 10	< 10	48	110	< 10	92	5700	< 10
Benzene	M	2760	µg/kg	1.0	11	< 1.0	< 1.0	4.4	< 1.0	8.2	< 1.0	< 1.0
Toluene	M	2760	µg/kg	1.0	13	< 1.0	< 1.0	4.5	< 1.0	8.3	< 1.0	< 1.0
Ethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene	M	2760	µg/kg	1.0	13	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	M	2760	µg/kg	1.0	2.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	4.3	8.2	< 0.10	< 0.10	< 0.10
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.70	1.3	< 0.10	< 0.10	< 0.10
Acenaphthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.23	0.32	< 0.10	< 0.10	< 0.10
Fluorene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.48	0.77	< 0.10	< 0.10	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	2.8	0.89	5.8	3.9	8.2	8.0	1.1	3.6
Anthracene	M	2800	mg/kg	0.10	0.77	0.28	1.4	1.1	2.2	2.0	0.30	1.1
Fluoranthene	M	2800	mg/kg	0.10	3.4	1.2	5.7	5.3	12	9.9	2.2	4.1
Pyrene	M	2800	mg/kg	0.10	2.5	0.92	4.1	3.8	8.6	7.0	2.8	3.1
Benzo[a]anthracene	M	2800	mg/kg	0.10	1.8	0.53	2.4	2.4	5.3	4.0	1.5	2.6
Chrysene	M	2800	mg/kg	0.10	1.7	0.55	3.3	2.2	6.0	4.7	1.4	2.9
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	2.8	< 0.10	3.5	3.9	6.8	5.2	3.3	4.0
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	0.93	< 0.10	1.1	1.1	2.2	1.8	1.1	1.3
Benzo[a]pyrene	M	2800	mg/kg	0.10	1.9	< 0.10	2.1	2.6	4.6	3.6	1.8	2.5
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	1.4	< 0.10	1.6	2.0	3.2	2.5	< 0.10	< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	0.63	< 0.10	0.70	0.64	0.57	0.52	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	1.4	< 0.10	1.5	2.0	3.0	2.7	< 0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	22	4.4	33	37	73	52	16	25
Resorcinol	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Phenol	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Cresols	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Xylenols	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	0.054	< 0.020
1-Naphthol	N	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Trimethylphenols	M	2920	mg/kg	0.020	0.23	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	0.10	< 0.020
Total Phenols	M	2920	mg/kg	0.10	0.23	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.16	< 0.10

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2425	Extractable Ammonium in soils	Ammonium	Extraction with potassium chloride solution / analysis by 'Aquakem 600' Discrete Analyser using sodium salicylate and sodium dichloroisocyanurate.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	22-33719-1
Initial Date of Issue:	16-Sep-2022
Client	Rodgers Leask Environmental
Client Address:	Office 225 2430/2440 Aztec West Almoundsbury Bristol BS32 4AQ
Contact(s):	Caitlin Davies Chris Wilson David McCarroll
Project	P18-669
Quotation No.:	Q22-28243
Order No.:	115623
No. of Samples:	24
Turnaround (Wkdays):	9
Date Approved:	16-Sep-2022
Approved By:	
Details:	Stuart Henderson, Technical Manager

Date Received:	05-Sep-2022
Date Instructed:	05-Sep-2022
Results Due:	15-Sep-2022

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental		Chemtest Job No.:			22-33719	22-33719	22-33719	22-33719	22-33719	22-33719	22-33719	22-33719	22-33719
Quotation No.: Q22-28243		Chemtest Sample ID.:			1499801	1499802	1499803	1499804	1499805	1499806	1499807	1499808	1499809
		Client Sample ID.:			Q12-1	Q12-2	P12-1	P12-2	O12-1	O12-2	O10-1	O10-2	O11-1
		Sample Type:			SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			1.8	2.8	1.6	2.3	1.1	2.5	0.1	1.8	0.2
		Date Sampled:			01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022
		Asbestos Lab:			DURHAM		DURHAM		DURHAM			DURHAM	
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
ACM Type	U	2192		N/A	-		-		-			-	
Asbestos Identification	U	2192		N/A	No Asbestos Detected		No Asbestos Detected		No Asbestos Detected			No Asbestos Detected	
Moisture	N	2030	%	0.020	9.8	1.1	10	10	11	28	8.6	10	5.6
Soil Colour	N	2040		N/A	Black	Brown	Brown	Black	Brown	Grey	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones
Soil Texture	N	2040		N/A	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand
pH	M	2010		4.0	10.3	10.5	11.3	11.6	10.8	9.2	9.7	10.3	11.4
Cyanide (Total)	M	2300	mg/kg	0.50	1.0	< 0.50	0.70	< 0.50	< 0.50	0.70	< 0.50	< 0.50	0.80
Ammoniacal Nitrogen	M	2425	mg/kg	0.50	0.58	10	0.93	< 0.50	0.86	5.9	< 0.50	4.7	2.2
Iron (Total)	N	2430	mg/kg	100	42000	31000	35000	28000	42000	15000	47000	33000	76000
Arsenic	M	2455	mg/kg	0.5	5.9	6.8	3.3	4.8	9.4	15	2.6	5.3	5.7
Cadmium	M	2455	mg/kg	0.10	0.17	0.42	0.59	0.19	0.16	0.31	0.28	0.11	0.78
Chromium	M	2455	mg/kg	0.5	110	75	79	90	150	14	79	54	130
Manganese	M	2455	mg/kg	1.0	5800	4500	4200	4300	6900	340	3400	3600	7800
Copper	M	2455	mg/kg	0.50	18	15	16	15	37	23	8.7	13	13
Mercury	M	2455	mg/kg	0.05	0.08	0.08	0.05	0.06	0.07	0.08	< 0.05	0.10	0.10
Nickel	M	2455	mg/kg	0.50	13	19	9.0	6.5	21	17	6.1	9.5	11
Lead	M	2455	mg/kg	0.50	42	52	81	31	29	14	31	14	92
Selenium	M	2455	mg/kg	0.25	0.89	1.7	0.84	1.2	1.3	1.6	0.54	0.67	0.77
Vanadium	U	2455	mg/kg	0.5	100	81	83	75	130	24	69	200	150
Zinc	M	2455	mg/kg	0.50	69	100	340	110	79	27	100	31	230
Organic Matter	M	2625	%	0.40	88	9.0	84	99	29	27	44	12	23
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	280	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	280	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	93	29	< 1.0	< 1.0	< 1.0	< 1.0	9.4
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	56	18	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	< 1.0	< 1.0	160	160	< 1.0	< 1.0	< 1.0	< 1.0	25

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental			**Chemtest Job No.:**		22-33719	22-33719	22-33719	22-33719	22-33719	22-33719	22-33719	22-33719	22-33719
Quotation No.: Q22-28243			**Chemtest Sample ID.:**		1499801	1499802	1499803	1499804	1499805	1499806	1499807	1499808	1499809
			Client Sample ID.:		Q12-1	Q12-2	P12-1	P12-2	O12-1	O12-2	O10-1	O10-2	O11-1
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		1.8	2.8	1.6	2.3	1.1	2.5	0.1	1.8	0.2
			Date Sampled:		01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022
			Asbestos Lab:		DURHAM		DURHAM		DURHAM			DURHAM	
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	140	< 1.0	250	250	< 1.0	< 1.0	< 1.0	< 1.0	110
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	140	< 5.0	560	460	< 5.0	< 5.0	< 5.0	< 5.0	140
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	420	< 10	560	460	< 10	< 10	< 10	< 10	140
Benzene	M	2760	µg/kg	1.0	150	17	12	27	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	M	2760	µg/kg	1.0	130	18	10	31	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	M	2760	µg/kg	1.0	5.2	< 1.0	1.1	1.9	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene	M	2760	µg/kg	1.0	57	11	10	22	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	M	2760	µg/kg	1.0	16	3.4	8.3	7.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	M	2800	mg/kg	0.10	< 0.10	< 0.10	160	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10	< 0.10	39	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.62	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	M	2800	mg/kg	0.10	< 0.10	< 0.10	2.2	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	9.6	2.7	86	56	6.4	< 0.10	8.1	2.8	13
Anthracene	M	2800	mg/kg	0.10	1.4	0.64	13	7.7	1.6	< 0.10	1.8	0.40	4.3
Fluoranthene	M	2800	mg/kg	0.10	7.5	3.2	79	35	8.5	1.1	9.1	3.3	15
Pyrene	M	2800	mg/kg	0.10	6.1	2.6	53	23	7.7	0.77	6.9	3.1	11
Benzo[a]anthracene	M	2800	mg/kg	0.10	3.7	< 0.10	27	11	5.5	< 0.10	4.4	2.3	6.4
Chrysene	M	2800	mg/kg	0.10	3.8	< 0.10	29	9.9	5.7	< 0.10	3.7	2.1	5.2
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	34	13	6.5	< 0.10	6.0	2.6	8.1
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	12	5.9	2.9	< 0.10	2.3	0.61	3.3
Benzo[a]pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	20	8.6	5.6	< 0.10	4.6	2.4	6.0
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	19	6.6	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	< 0.10	4.2	1.3	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	< 0.10	< 0.10	16	5.7	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	32	9.1	600	180	50	< 2.0	47	20	72
Resorcinol	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Phenol	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Cresols	M	2920	mg/kg	0.020	< 0.020	< 0.020	0.080	0.064	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Xylenols	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
1-Naphthol	N	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Trimethylphenols	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Total Phenols	M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental		**Chemtest Job No.:**			22-33719	22-33719	22-33719	22-33719	22-33719	22-33719	22-33719	22-33719	22-33719
Quotation No.: Q22-28243		**Chemtest Sample ID.:**			1499810	1499811	1499812	1499813	1499814	1499815	1499816	1499817	1499818
		Client Sample ID.:			O11-2	O11-3	Q11-1	Q11-2	P10-1	P10-2	P10-3	O13-1	O13-2
		Sample Type:			SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			1.4	3.0	0.7	1.5	1.0	1.8	2.8	1.8	2.2
		Date Sampled:			01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022
		Asbestos Lab:			DURHAM		DURHAM		DURHAM			DURHAM	
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
ACM Type	U	2192		N/A	-		-		-			-	
Asbestos Identification	U	2192		N/A	No Asbestos Detected		No Asbestos Detected		No Asbestos Detected			No Asbestos Detected	
Moisture	N	2030	%	0.020	9.0	15	9.4	9.4	9.0	10	11	9.1	11
Soil Colour	N	2040		N/A	Grey	Brown	Brown	Black	Brown	Brown	Brown	Black	Brown
Other Material	N	2040		N/A	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones
Soil Texture	N	2040		N/A	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand
pH	M	2010		4.0	11.7	9.7	10.6	> 12.0	12.0	11.8	11.7	11.4	10.3
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.50	< 0.50	< 0.50
Ammoniacal Nitrogen	M	2425	mg/kg	0.50	< 0.50	23	< 0.50	< 0.50	< 0.50	< 0.50	18	< 0.50	9.3
Iron (Total)	N	2430	mg/kg	100	78000	47000	89000	54000	82000	130000	31000	27000	43000
Arsenic	M	2455	mg/kg	0.5	3.5	11	4.4	1.6	1.6	1.5	5.7	1.6	6.7
Cadmium	M	2455	mg/kg	0.10	0.22	0.18	0.29	< 0.10	< 0.10	< 0.10	0.14	< 0.10	0.27
Chromium	M	2455	mg/kg	0.5	110	50	190	200	200	470	160	100	70
Manganese	M	2455	mg/kg	1.0	7600	3100	9900	7500	13000	31000	9600	4200	3900
Copper	M	2455	mg/kg	0.50	19	52	20	7.3	10	13	15	7.2	17
Mercury	M	2455	mg/kg	0.05	< 0.05	0.20	0.05	< 0.05	< 0.05	< 0.05	0.06	< 0.05	0.05
Nickel	M	2455	mg/kg	0.50	13	19	12	6.7	7.3	9.2	15	3.1	17
Lead	M	2455	mg/kg	0.50	25	100	37	5.4	12	7.3	17	6.8	36
Selenium	M	2455	mg/kg	0.25	0.60	1.1	0.74	0.44	0.82	0.78	0.83	0.63	1.0
Vanadium	U	2455	mg/kg	0.5	400	160	240	250	880	2300	700	70	180
Zinc	M	2455	mg/kg	0.50	69	120	96	21	33	21	52	21	110
Organic Matter	M	2625	%	0.40	42	41	23	83	14	15	11	100	27
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	12	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	< 1.0	< 1.0	26	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental			**Chemtest Job No.:**		22-33719	22-33719	22-33719	22-33719	22-33719	22-33719	22-33719	22-33719	22-33719
Quotation No.: Q22-28243			**Chemtest Sample ID.:**		1499810	1499811	1499812	1499813	1499814	1499815	1499816	1499817	1499818
			Client Sample ID.:		O11-2	O11-3	Q11-1	Q11-2	P10-1	P10-2	P10-3	O13-1	O13-2
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		1.4	3.0	0.7	1.5	1.0	1.8	2.8	1.8	2.2
			Date Sampled:		01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022
			Asbestos Lab:		DURHAM		DURHAM		DURHAM			DURHAM	
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	< 1.0	< 1.0	96	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	130	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	< 10	< 10	130	< 10	< 10	< 10	< 10	< 10	< 10
Benzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	21	140	15	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	M	2760	µg/kg	1.0	< 1.0	< 1.0	18	170	21	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	3.7	< 0.10	< 0.10	22	< 0.10
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.30	< 0.10	< 0.10	1.2	< 0.10
Acenaphthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.42	< 0.10	< 0.10	0.33	< 0.10
Fluorene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.50	< 0.10	< 0.10	1.1	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	9.1	2.5	19	3.6	12	9.2	< 0.10	7.0	2.6
Anthracene	M	2800	mg/kg	0.10	1.2	0.55	3.3	0.38	1.2	0.46	< 0.10	1.1	0.57
Fluoranthene	M	2800	mg/kg	0.10	9.4	2.9	21	1.5	9.5	3.7	1.1	4.0	3.1
Pyrene	M	2800	mg/kg	0.10	6.7	2.7	15	1.5	6.6	2.7	0.82	2.9	2.6
Benzo[a]anthracene	M	2800	mg/kg	0.10	4.7	2.1	10	0.69	4.5	1.3	< 0.10	1.5	1.7
Chrysene	M	2800	mg/kg	0.10	5.1	2.4	8.3	1.0	4.8	1.2	< 0.10	1.2	1.3
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	6.5	2.9	14	< 0.10	5.6	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	2.5	0.98	4.5	< 0.10	2.4	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	4.3	2.2	10	< 0.10	5.7	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	7.0	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	< 0.10	1.2	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	< 0.10	< 0.10	5.8	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	50	19	120	8.7	57	19	< 2.0	42	12
Resorcinol	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Phenol	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Cresols	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Xylenols	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
1-Naphthol	N	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Trimethylphenols	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Total Phenols	M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental		**Chemtest Job No.:**			22-33719	22-33719	22-33719	22-33719	22-33719
Quotation No.: Q22-28243		**Chemtest Sample ID.:**			1499819	1499820	1499821	1499822	1499823
		Client Sample ID.:			O14-1	O14-2	O15-1	O15-2	O15-3
		Sample Type:			SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			1.4	2.4	1.4	2.2	3.2
		Date Sampled:			01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022
		Asbestos Lab:			DURHAM			DURHAM	
Determinand	**Accred.**	**SOP**	**Units**	**LOD**					
ACM Type	U	2192		N/A	-			-	
Asbestos Identification	U	2192		N/A	No Asbestos Detected			No Asbestos Detected	
Moisture	N	2030	%	0.020	7.2	17	12	10	9.5
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones	Stones	Stones	Stones	Stones
Soil Texture	N	2040		N/A	Sand	Sand	Sand	Sand	Sand
pH	M	2010		4.0	10.4	10.5	> 12.0	> 12.0	> 12.0
Cyanide (Total)	M	2300	mg/kg	0.50	1.0	0.80	0.90	< 0.50	3.1
Ammoniacal Nitrogen	M	2425	mg/kg	0.50	< 0.50	1.2	< 0.50	< 0.50	< 0.50
Iron (Total)	N	2430	mg/kg	100	56000	37000	88000	120000	99000
Arsenic	M	2455	mg/kg	0.5	5.1	7.5	5.3	6.6	6.0
Cadmium	M	2455	mg/kg	0.10	0.41	0.25	0.23	0.16	0.31
Chromium	M	2455	mg/kg	0.5	96	72	510	640	290
Manganese	M	2455	mg/kg	1.0	7100	5100	21000	39000	15000
Copper	M	2455	mg/kg	0.50	16	20	20	41	26
Mercury	M	2455	mg/kg	0.05	0.11	0.08	0.15	0.13	0.11
Nickel	M	2455	mg/kg	0.50	13	17	15	23	16
Lead	M	2455	mg/kg	0.50	68	47	23	12	44
Selenium	M	2455	mg/kg	0.25	1.3	1.6	1.3	0.88	0.93
Vanadium	U	2455	mg/kg	0.5	250	170	590	1000	400
Zinc	M	2455	mg/kg	0.50	150	78	63	42	110
Organic Matter	M	2625	%	0.40	17	23	5.7	0.95	6.8
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	18	< 1.0	< 1.0
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	< 1.0	< 1.0	100	< 1.0	< 1.0

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental		**Chemtest Job No.:**			22-33719	22-33719	22-33719	22-33719	22-33719
Quotation No.: Q22-28243		**Chemtest Sample ID.:**			1499819	1499820	1499821	1499822	1499823
		Client Sample ID.:			O14-1	O14-2	O15-1	O15-2	O15-3
		Sample Type:			SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			1.4	2.4	1.4	2.2	3.2
		Date Sampled:			01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022	01-Sep-2022
		Asbestos Lab:			DURHAM			DURHAM	
Determinand	**Accred.**	**SOP**	**Units**	**LOD**					
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	< 1.0	< 1.0	140	< 1.0	< 1.0
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	260	< 5.0	< 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	< 10	< 10	260	< 10	< 10
Benzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	M	2800	mg/kg	0.10	11	6.5	2.9	< 0.10	< 0.10
Acenaphthylene	N	2800	mg/kg	0.10	3.5	1.2	0.77	< 0.10	< 0.10
Acenaphthene	M	2800	mg/kg	0.10	0.46	0.27	0.96	< 0.10	< 0.10
Fluorene	M	2800	mg/kg	0.10	2.3	1.3	3.5	< 0.10	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	16	6.4	14	1.3	3.5
Anthracene	M	2800	mg/kg	0.10	5.6	2.3	4.2	0.30	1.0
Fluoranthene	M	2800	mg/kg	0.10	29	11	17	3.4	6.7
Pyrene	M	2800	mg/kg	0.10	20	7.6	12	3.2	5.4
Benzo[a]anthracene	M	2800	mg/kg	0.10	12	5.4	8.3	2.2	3.7
Chrysene	M	2800	mg/kg	0.10	10	6.0	9.0	2.5	3.6
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	15	7.8	13	3.3	5.9
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	5.2	2.7	4.7	1.2	2.2
Benzo[a]pyrene	M	2800	mg/kg	0.10	11	5.4	11	3.3	4.7
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	8.0	3.5	6.5	< 0.10	< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	1.8	1.0	1.5	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	7.6	3.5	6.6	< 0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	160	72	120	21	37
Resorcinol	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Phenol	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Cresols	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Xylenols	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
1-Naphthol	N	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Trimethylphenols	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Total Phenols	M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Results - Water

Project: P18-669

Client: Rodgers Leask Environmental			**Chemtest Job No.:**		22-33719
Quotation No.: Q22-28243			**Chemtest Sample ID.:**		1499824
			Client Sample ID.:		D2-S
			Sample Type:		WATER
Determinand	**Accred.**	**SOP**	**Units**	**LOD**	
pH	U	1010		N/A	[A] 7.5
Electrical Conductivity	U	1020	µS/cm	1.0	[A] 3400
Suspended Solids At 105C	U	1030	mg/l	5.0	[A] 21
Total Dissolved Solids	N	1020	mg/l	1.0	2200
Turbidity	N	1060	NTU	1.0	8.2
Biochemical Oxygen Demand	N	1090	mg O2/l	4.0	[A] 5.0
Chemical Oxygen Demand	U	1100	mg O2/l	10	[A] 22
Dissolved Oxygen	N	1150	mg O2/l	0.50	9.2
Redox Potential	N	1170	mV	N/A	63
Chloride	U	1220	mg/l	1.0	[A] 78
Fluoride	U	1220	mg/l	0.050	[A] 0.53
Ammonia (Free)	N	1220	mg/l	0.050	[A] < 0.050
Ammonia (Free) as N	N	1220	mg/l	0.050	[A] < 0.050
Ammonium	U	1220	mg/l	0.050	[A] 0.32
Ammoniacal Nitrogen	U	1220	mg/l	0.050	[A] 0.26
Phosphorus (Dissolved)	N	1220	mg/l	0.020	[A] 0.033
Phosphate	U	1220	mg/l	0.200	[A] < 0.20
Phosphorus (Dissolved)	U	1220	mg/l	0.020	[A] 0.033
Sulphur	N	1220	mg/l	1.0	[A] 37
Sulphate	U	1220	mg/l	1.0	[A] 110
Cyanide (Total)	U	1300	mg/l	0.050	[A] 0.11
Cyanide (Free)	U	1300	mg/l	0.050	[A] < 0.050
Thiocyanate	U	1300	mg/l	0.50	[A] < 0.50
Cyanide (Complex)	U	1300	mg/l	0.050	[A] 0.11
Sulphide	U	1325	mg/l	0.050	[A] < 0.050
Calcium (Dissolved)	U	1455	mg/l	2.00	[A] 75
Magnesium (Dissolved)	U	1455	mg/l	0.20	[A] 10
Calcium (Total)	N	1455	mg/l	5.0	[A] 77
Magnesium (Total)	N	1455	mg/l	0.50	[A] 10
Total Hardness as CaCO3	U	1270	mg/l	15	[A] 230
Arsenic (Dissolved)	U	1455	µg/l	0.20	[A] 2.8
Boron (Dissolved)	U	1455	µg/l	10.0	[A] 170
Barium (Dissolved)	U	1455	µg/l	5.00	[A] 83
Beryllium (Dissolved)	U	1455	µg/l	1.00	[A] < 1.0
Cadmium (Dissolved)	U	1455	µg/l	0.11	[A] < 0.11
Chromium (Dissolved)	U	1455	µg/l	0.50	[A] < 0.50
Copper (Dissolved)	U	1455	µg/l	0.50	[A] 0.88
Iron (Dissolved)	N	1455	µg/l	5.0	[A] 160
Mercury (Dissolved)	U	1455	µg/l	0.05	[A] < 0.05
Manganese (Dissolved)	U	1455	µg/l	0.50	[A] 4.2
Nickel (Dissolved)	U	1455	µg/l	0.50	[A] 2.6

Results - Water

Project: P18-669

Client: Rodgers Leask Environmental			**Chemtest Job No.:**		22-33719
Quotation No.: Q22-28243			**Chemtest Sample ID.:**		1499824
			Client Sample ID.:		D2-S
			Sample Type:		WATER
Determinand	**Accred.**	**SOP**	**Units**	**LOD**	
Lead (Dissolved)	U	1455	µg/l	0.50	[A] < 0.50
Antimony (Dissolved)	U	1455	µg/l	0.50	[A] 0.97
Selenium (Dissolved)	U	1455	µg/l	0.50	[A] 1.3
Vanadium (Dissolved)	U	1455	µg/l	0.50	[A] 4.2
Zinc (Dissolved)	U	1455	µg/l	2.5	[A] 9.7
Arsenic (Total)	N	1455	µg/l	0.20	[A] 4.6
Boron (Total)	N	1455	µg/l	10.0	[A] 250
Barium (Total)	N	1455	µg/l	5.00	[A] 91
Beryllium (Total)	N	1455	µg/l	1.00	[A] < 1.0
Cadmium (Total)	N	1455	µg/l	0.11	[A] < 0.11
Chromium (Total)	N	1455	µg/l	0.50	[A] 11
Copper (Total)	N	1455	µg/l	0.50	[A] 4.5
Iron (Total)	N	1455	µg/l	5.0	[A] 290
Mercury (Total)	N	1455	µg/l	0.05	[A] < 0.05
Manganese (Total)	N	1455	µg/l	0.50	[A] 52
Nickel (Total)	N	1455	µg/l	0.50	[A] 5.0
Lead (Total)	N	1455	µg/l	0.50	[A] 2.7
Antimony (Total)	N	1455	µg/l	0.50	[A] 1.2
Selenium (Total)	N	1455	µg/l	0.50	[A] 1.1
Vanadium (Total)	N	1455	µg/l	0.50	[A] 6.0
Zinc (Total)	N	1455	µg/l	2.5	[A] 19
Chromium (Hexavalent)	U	1490	µg/l	20	[A] < 20
Dissolved Organic Carbon	U	1610	mg/l	2.0	45
Total Inorganic Carbon	N	1220	mg/l	2.5	[A] 41
Total Organic Carbon	U	1610	mg/l	2.0	46
Aliphatic TPH >C5-C6	N	1675	µg/l	0.10	[A] < 0.10
Aliphatic TPH >C6-C8	N	1675	µg/l	0.10	[A] < 0.10
Aliphatic TPH >C8-C10	N	1675	µg/l	0.10	[A] < 0.10
Aliphatic TPH >C10-C12	N	1675	µg/l	0.10	[A] < 0.10
Aliphatic TPH >C12-C16	N	1675	µg/l	0.10	[A] < 0.10
Aliphatic TPH >C16-C21	N	1675	µg/l	0.10	[A] < 0.10
Aliphatic TPH >C21-C35	N	1675	µg/l	0.10	[A] < 0.10
Aliphatic TPH >C35-C44	N	1675	µg/l	0.10	[A] < 0.10
Total Aliphatic Hydrocarbons	N	1675	µg/l	5.0	[A] < 5.0
Aromatic TPH >C5-C7	N	1675	µg/l	0.10	[A] < 0.10
Aromatic TPH >C7-C8	N	1675	µg/l	0.10	[A] < 0.10
Aromatic TPH >C8-C10	N	1675	µg/l	0.10	[A] < 0.10
Aromatic TPH >C10-C12	N	1675	µg/l	0.10	[A] < 0.10
Aromatic TPH >C12-C16	N	1675	µg/l	0.10	[A] < 0.10
Aromatic TPH >C16-C21	N	1675	µg/l	0.10	[A] < 0.10
Aromatic TPH >C21-C35	N	1675	µg/l	0.10	[A] < 0.10

Results - Water

Project: P18-669

Client: Rodgers Leask Environmental			**Chemtest Job No.:**		22-33719
Quotation No.: Q22-28243			**Chemtest Sample ID.:**		1499824
			Client Sample ID.:		D2-S
			Sample Type:		WATER
Determinand	**Accred.**	**SOP**	**Units**	**LOD**	
Aromatic TPH >C35-C44	N	1675	µg/l	0.10	[A] < 0.10
Total Aromatic Hydrocarbons	N	1675	µg/l	5.0	[A] < 5.0
Total Petroleum Hydrocarbons	N	1675	µg/l	10	[A] < 10
Dichlorodifluoromethane	U	1760	µg/l	1.0	[A] < 1.0
Chloromethane	U	1760	µg/l	1.0	[A] < 1.0
Vinyl Chloride	N	1760	µg/l	1.0	[A] < 1.0
Bromomethane	U	1760	µg/l	5	[A] < 5
Chloroethane	U	1760	µg/l	2.0	[A] < 2.0
Trichlorofluoromethane	U	1760	µg/l	1.0	[A] < 1.0
1,1-Dichloroethene	U	1760	µg/l	1.0	[A] < 1.0
Trans 1,2-Dichloroethene	U	1760	µg/l	1.0	[A] < 1.0
1,1-Dichloroethane	U	1760	µg/l	1.0	[A] < 1.0
cis 1,2-Dichloroethene	U	1760	µg/l	1.0	[A] < 1.0
Bromochloromethane	U	1760	µg/l	5	[A] < 5
Trichloromethane	U	1760	µg/l	1.0	[A] < 1.0
1,1,1-Trichloroethane	U	1760	µg/l	1.0	[A] < 1.0
Tetrachloromethane	U	1760	µg/l	1.0	[A] < 1.0
1,1-Dichloropropene	U	1760	µg/l	1.0	[A] < 1.0
Benzene	U	1760	µg/l	1.0	[A] < 1.0
1,2-Dichloroethane	U	1760	µg/l	2.0	[A] < 2.0
Trichloroethene	N	1760	µg/l	1.0	[A] < 1.0
1,2-Dichloropropane	U	1760	µg/l	1.0	[A] < 1.0
Dibromomethane	U	1760	µg/l	10	[A] < 10
Bromodichloromethane	U	1760	µg/l	5	[A] < 5
cis-1,3-Dichloropropene	N	1760	µg/l	10	[A] < 10
Toluene	U	1760	µg/l	1.0	[A] < 1.0
Trans-1,3-Dichloropropene	N	1760	µg/l	10	[A] < 10
1,1,2-Trichloroethane	U	1760	µg/l	10	[A] < 10
Tetrachloroethene	U	1760	µg/l	1.0	[A] < 1.0
1,3-Dichloropropane	U	1760	µg/l	2.0	[A] < 2.0
Dibromochloromethane	U	1760	µg/l	10	[A] < 10
1,2-Dibromoethane	U	1760	µg/l	5	[A] < 5
Chlorobenzene	N	1760	µg/l	1.0	[A] < 1.0
1,1,1,2-Tetrachloroethane	U	1760	µg/l	2.0	[A] < 2.0
Ethylbenzene	U	1760	µg/l	1.0	[A] < 1.0
m & p-Xylene	U	1760	µg/l	1.0	[A] < 1.0
o-Xylene	U	1760	µg/l	1.0	[A] < 1.0
Styrene	U	1760	µg/l	1.0	[A] < 1.0
Tribromomethane	U	1760	µg/l	1.0	[A] < 1.0
Isopropylbenzene	U	1760	µg/l	1.0	[A] < 1.0
Bromobenzene	U	1760	µg/l	1.0	[A] < 1.0

Results - Water

Project: P18-669

Client: Rodgers Leask Environmental			**Chemtest Job No.:**		22-33719
Quotation No.: Q22-28243			**Chemtest Sample ID.:**		1499824
			Client Sample ID.:		D2-S
			Sample Type:		WATER
Determinand	**Accred.**	**SOP**	**Units**	**LOD**	
1,2,3-Trichloropropane	N	1760	µg/l	50	[A] < 50
N-Propylbenzene	U	1760	µg/l	1.0	[A] < 1.0
2-Chlorotoluene	U	1760	µg/l	1.0	[A] < 1.0
1,3,5-Trimethylbenzene	U	1760	µg/l	1.0	[A] < 1.0
4-Chlorotoluene	U	1760	µg/l	1.0	[A] < 1.0
Tert-Butylbenzene	U	1760	µg/l	1.0	[A] < 1.0
1,2,4-Trimethylbenzene	U	1760	µg/l	1.0	[A] < 1.0
Sec-Butylbenzene	U	1760	µg/l	1.0	[A] < 1.0
1,3-Dichlorobenzene	N	1760	µg/l	1.0	[A] < 1.0
4-Isopropyltoluene	U	1760	µg/l	1.0	[A] < 1.0
1,4-Dichlorobenzene	U	1760	µg/l	1.0	[A] < 1.0
N-Butylbenzene	U	1760	µg/l	1.0	[A] < 1.0
1,2-Dichlorobenzene	U	1760	µg/l	1.0	[A] < 1.0
1,2-Dibromo-3-Chloropropane	U	1760	µg/l	50	[A] < 50
1,2,4-Trichlorobenzene	U	1760	µg/l	1.0	[A] < 1.0
Hexachlorobutadiene	U	1760	µg/l	1.0	[A] < 1.0
1,2,3-Trichlorobenzene	U	1760	µg/l	2.0	[A] < 2.0
Methyl Tert-Butyl Ether	N	1760	µg/l	1.0	[A] < 1.0
N-Nitrosodimethylamine	N	1790	µg/l	0.50	< 0.50
Phenol	N	1790	µg/l	0.50	< 0.50
2-Chlorophenol	N	1790	µg/l	0.50	< 0.50
Bis-(2-Chloroethyl)Ether	N	1790	µg/l	0.50	< 0.50
1,3-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50
1,4-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50
1,2-Dichlorobenzene	N	1790	µg/l	0.50	< 0.50
2-Methylphenol (o-Cresol)	N	1790	µg/l	0.50	< 0.50
Bis(2-Chloroisopropyl)Ether	N	1790	µg/l	0.50	< 0.50
Hexachloroethane	N	1790	µg/l	0.50	< 0.50
N-Nitrosodi-n-propylamine	N	1790	µg/l	0.50	< 0.50
4-Methylphenol	N	1790	µg/l	0.50	< 0.50
Nitrobenzene	N	1790	µg/l	0.50	< 0.50
Isophorone	N	1790	µg/l	0.50	< 0.50
2-Nitrophenol	N	1790	µg/l	0.50	< 0.50
2,4-Dimethylphenol	N	1790	µg/l	0.50	< 0.50
Bis(2-Chloroethoxy)Methane	N	1790	µg/l	0.50	< 0.50
2,4-Dichlorophenol	N	1790	µg/l	0.50	< 0.50
1,2,4-Trichlorobenzene	N	1790	µg/l	0.50	< 0.50
Naphthalene	N	1790	µg/l	0.50	< 0.50
4-Chloroaniline	N	1790	µg/l	0.50	< 0.50
Hexachlorobutadiene	N	1790	µg/l	0.50	< 0.50
4-Chloro-3-Methylphenol	N	1790	µg/l	0.50	< 0.50

Results - Water

Project: P18-669

Client: Rodgers Leask Environmental			**Chemtest Job No.:**		22-33719
Quotation No.: Q22-28243			**Chemtest Sample ID.:**		1499824
			Client Sample ID.:		D2-S
			Sample Type:		WATER
Determinand	**Accred.**	**SOP**	**Units**	**LOD**	
2-Methylnaphthalene	N	1790	µg/l	0.50	< 0.50
Hexachlorocyclopentadiene	N	1790	µg/l	0.50	< 0.50
2,4,6-Trichlorophenol	N	1790	µg/l	0.50	< 0.50
2,4,5-Trichlorophenol	N	1790	µg/l	0.50	< 0.50
2-Chloronaphthalene	N	1790	µg/l	0.50	< 0.50
2-Nitroaniline	N	1790	µg/l	0.50	< 0.50
Acenaphthylene	N	1790	µg/l	0.50	< 0.50
Dimethylphthalate	N	1790	µg/l	0.50	< 0.50
2,6-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50
Acenaphthene	N	1790	µg/l	0.50	< 0.50
3-Nitroaniline	N	1790	µg/l	0.50	< 0.50
Dibenzofuran	N	1790	µg/l	0.50	< 0.50
4-Chlorophenylphenylether	N	1790	µg/l	0.50	< 0.50
2,4-Dinitrotoluene	N	1790	µg/l	0.50	< 0.50
Fluorene	N	1790	µg/l	0.50	< 0.50
Diethyl Phthalate	N	1790	µg/l	0.50	< 0.50
4-Nitroaniline	N	1790	µg/l	0.50	< 0.50
2-Methyl-4,6-Dinitrophenol	N	1790	µg/l	0.50	< 0.50
Azobenzene	N	1790	µg/l	0.50	< 0.50
4-Bromophenylphenyl Ether	N	1790	µg/l	0.50	< 0.50
Hexachlorobenzene	N	1790	µg/l	0.50	< 0.50
Pentachlorophenol	N	1790	µg/l	0.50	< 0.50
Phenanthrene	N	1790	µg/l	0.50	< 0.50
Anthracene	N	1790	µg/l	0.50	< 0.50
Carbazole	N	1790	µg/l	0.50	< 0.50
Di-N-Butyl Phthalate	N	1790	µg/l	0.50	< 0.50
Fluoranthene	N	1790	µg/l	0.50	< 0.50
Pyrene	N	1790	µg/l	0.50	< 0.50
Butylbenzyl Phthalate	N	1790	µg/l	0.50	< 0.50
Benzo[a]anthracene	N	1790	µg/l	0.50	< 0.50
Chrysene	N	1790	µg/l	0.50	< 0.50
Bis(2-Ethylhexyl)Phthalate	N	1790	µg/l	0.50	< 0.50
Di-N-Octyl Phthalate	N	1790	µg/l	0.50	< 0.50
Benzo[b]fluoranthene	N	1790	µg/l	0.50	< 0.50
Benzo[k]fluoranthene	N	1790	µg/l	0.50	< 0.50
Benzo[a]pyrene	N	1790	µg/l	0.50	< 0.50
Indeno(1,2,3-c,d)Pyrene	N	1790	µg/l	0.50	< 0.50
Dibenz(a,h)Anthracene	N	1790	µg/l	0.50	< 0.50
Benzo[g,h,i]perylene	N	1790	µg/l	0.50	< 0.50
4-Nitrophenol	N	1790	µg/l	0.50	< 0.50
Naphthalene	U	1800	µg/l	0.10	[A] 0.40

Results - Water

Project: P18-669

Client: Rodgers Leask Environmental			**Chemtest Job No.:**		22-33719
Quotation No.: Q22-28243			**Chemtest Sample ID.:**		1499824
			Client Sample ID.:		D2-S
			Sample Type:		WATER
Determinand	**Accred.**	**SOP**	**Units**	**LOD**	
Acenaphthylene	U	1800	µg/l	0.10	[A] < 0.10
Acenaphthene	U	1800	µg/l	0.10	[A] < 0.10
Fluorene	U	1800	µg/l	0.10	[A] < 0.10
Phenanthrene	U	1800	µg/l	0.10	[A] < 0.10
Anthracene	U	1800	µg/l	0.10	[A] < 0.10
Fluoranthene	U	1800	µg/l	0.10	[A] < 0.10
Pyrene	U	1800	µg/l	0.10	[A] < 0.10
Benzo[a]anthracene	U	1800	µg/l	0.10	[A] < 0.10
Chrysene	U	1800	µg/l	0.10	[A] < 0.10
Benzo[b]fluoranthene	U	1800	µg/l	0.10	[A] < 0.10
Benzo[k]fluoranthene	U	1800	µg/l	0.10	[A] < 0.10
Benzo[a]pyrene	U	1800	µg/l	0.10	[A] < 0.10
Indeno(1,2,3-c,d)Pyrene	U	1800	µg/l	0.10	[A] < 0.10
Dibenz(a,h)Anthracene	U	1800	µg/l	0.10	[A] < 0.10
Benzo[g,h,i]perylene	U	1800	µg/l	0.10	[A] < 0.10
Total Of 16 PAH's	U	1800	µg/l	2.0	[A] < 2.0
Total Phenols	U	1920	mg/l	0.030	[A] < 0.030

Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request.The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1499824		D2-S			A	Coloured Winchester 1000ml
1499824		D2-S			A	EPA Vial 40ml
1499824		D2-S			A	Plastic Bottle 1000ml

Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1030	Total Suspended Solids	Total suspended solids	Filtration of a mixed sample through a standard glass fibre filter and determination of the mass of residue retained dried at 105°C.
1060	Turbidity	Turbidity	Spetctrophotometry
1090	Biochemical Oxygen Demand	Biochemical Oxygen demand (BOD)	Colorimetric determination of dissolved oxygen in seeded sample after 5 days incubation at 20°C.
1100	Chemical Oxygen Demand	Chemical Oxygen demand (COD)	Dichromate oxidation of organic matter in sample followed by colorimetric determination of residual Cr[VI].
1150	Dissolved Oxygen	Dissolved Oxygen (DO)	Electrometric determination (on site preferred), using oxygen sensitive membrane electrode.
1170	Redox Potential	Redox Potential	Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1270	Total Hardness of Waters	Total hardness	Calculation applied to calcium and magnesium results, expressed as mg l-1 CaCO3 equivalent.
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1325	Sulphide in Waters	Sulphides	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using N,N–dimethyl-pphenylenediamine.
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1490	Hexavalent Chromium in Waters	Chromium [VI]	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1675	TPH Aliphatic/Aromatic split in Waters by GC-FID(cf. Texas Method 1006 / TPH CWG)	Aliphatics: >C5–C6, >C6–C8, >C8– C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Pentane extraction / GCxGC FID detection
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.
1790	Semi-Volatile Organic Compounds (SVOCs) in Waters by GC-MS	Semi-volatile organic compounds	Solvent extraction / GCMS detection
1800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Pentane extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2425	Extractable Ammonium in soils	Ammonium	Extraction with potassium chloride solution / analysis by 'Aquakem 600' Discrete Analyser using sodium salicylate and sodium dichloroisocyanurate.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

eurofins | Chemtest
Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	22-36113-1
Initial Date of Issue:	29-Sep-2022
Client	Rodgers Leask Environmental
Client Address:	Office 225 2430/2440 Aztec West Almoundsbury Bristol BS32 4AQ
Contact(s):	Caitlin Davies Chris Wilson David McCarroll
Project	P18-669
Quotation No.:	Q22-28243
Order No.:	PO115623
No. of Samples:	6
Turnaround (Wkdays):	5
Date Approved:	29-Sep-2022
Approved By:	
Details:	Stuart Henderson, Technical Manager

Date Received:	22-Sep-2022
Date Instructed:	22-Sep-2022
Results Due:	28-Sep-2022

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental		**Chemtest Job No.:**			22-36113	22-36113	22-36113	22-36113	22-36113	22-36113
Quotation No.: Q22-28243		**Chemtest Sample ID.:**			1510445	1510446	1510447	1510448	1510449	1510450
				Sample Location:	T11-1	T11-2	R12-1	R12-2	S11-1	R11-1
				Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):	0.8	1.4	0.3	1.6	1	0.6
				Date Sampled:	20-Sep-2022	20-Sep-2022	20-Sep-2022	20-Sep-2022	20-Sep-2022	20-Sep-2022
				Asbestos Lab:	DURHAM		DURHAM		DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**						
ACM Type	U	2192		N/A	-		Fibres/Clumps		-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected		Chrysotile		No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	6.8	13	8.8	8.2	16	9.5
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown	Black	Brown
Other Material	N	2040		N/A	Stones	Stones	Stones	Stones	Stones	Stones
Soil Texture	N	2040		N/A	Sand	Sand	Sand	Sand	Sand	Sand
pH	M	2010		4.0	9.1	9.2	10.0	9.6	10.8	9.7
Cyanide (Total)	M	2300	mg/kg	0.50	1.2	< 0.50	6.2	0.70	< 0.50	3.5
Ammoniacal Nitrogen	M	2425	mg/kg	0.50	< 0.50	1.0	< 0.50	< 0.50	< 0.50	< 0.50
Iron (Total)	N	2430	mg/kg	100	40000	26000	62000	34000	30000	16000
Arsenic	M	2455	mg/kg	0.5	9.3	12	8.2	8.6	9.7	4.0
Cadmium	M	2455	mg/kg	0.10	0.70	0.10	1.2	0.39	0.85	0.25
Chromium	M	2455	mg/kg	0.5	100	17	280	190	140	60
Manganese	M	2455	mg/kg	1.0	6500	520	14000	8000	6000	2400
Copper	M	2455	mg/kg	0.50	20	19	22	25	27	11
Mercury	M	2455	mg/kg	0.05	0.08	0.08	0.28	0.08	0.11	0.05
Nickel	M	2455	mg/kg	0.50	15	28	18	22	14	7.2
Lead	M	2455	mg/kg	0.50	110	18	130	45	190	82
Selenium	M	2455	mg/kg	0.25	1.8	1.8	1.6	1.2	1.4	0.36
Vanadium	U	2455	mg/kg	0.5	110	28	310	180	130	45
Zinc	M	2455	mg/kg	0.50	310	60	280	87	270	82
Organic Matter	M	2625	%	0.40	25	15	27	70	69	50
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	23	< 1.0
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	41	< 1.0	< 1.0	< 1.0	37	< 1.0
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	130	< 1.0	< 1.0	< 1.0	50	< 1.0
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	72	< 1.0	< 1.0	< 1.0	73	< 1.0
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	240	< 5.0	< 5.0	< 5.0	180	< 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	7.8	28	< 1.0
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	7.0	< 1.0	< 1.0	5.2	43	< 1.0
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	8.3	< 1.0	< 1.0	18	64	10

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental		**Chemtest Job No.:**			22-36113	22-36113	22-36113	22-36113	22-36113	22-36113
Quotation No.: Q22-28243		**Chemtest Sample ID.:**			1510445	1510446	1510447	1510448	1510449	1510450
			Sample Location:		T11-1	T11-2	R12-1	R12-2	S11-1	R11-1
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		0.8	1.4	0.3	1.6	1	0.6
			Date Sampled:		20-Sep-2022	20-Sep-2022	20-Sep-2022	20-Sep-2022	20-Sep-2022	20-Sep-2022
			Asbestos Lab:		DURHAM		DURHAM		DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**						
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	88	< 1.0	< 1.0	28	110	< 1.0
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	100	< 5.0	< 5.0	59	240	10
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	340	< 10	< 10	59	430	10
Benzene	M	2760	µg/kg	1.0	6.8	< 1.0	5.8	8.3	15	13
Toluene	M	2760	µg/kg	1.0	9.4	1.8	8.9	8.2	14	12
Ethylbenzene	M	2760	µg/kg	1.0	1.6	< 1.0	< 1.0	< 1.0	1.3	< 1.0
m & p-Xylene	M	2760	µg/kg	1.0	8.2	< 1.0	7.7	5.7	10	5.7
o-Xylene	M	2760	µg/kg	1.0	3.2	1.2	2.4	2.2	5.4	2.1
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	M	2800	mg/kg	0.10	< 0.10	< 0.10	73	< 0.10	< 0.10	15
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10	< 0.10	2.6	< 0.10	< 0.10	1.3
Acenaphthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.44	< 0.10	< 0.10	0.18
Fluorene	M	2800	mg/kg	0.10	< 0.10	< 0.10	2.0	< 0.10	< 0.10	1.4
Phenanthrene	M	2800	mg/kg	0.10	2.3	< 0.10	16	2.8	11	12
Anthracene	M	2800	mg/kg	0.10	0.60	< 0.10	4.3	0.89	2.5	2.8
Fluoranthene	M	2800	mg/kg	0.10	3.2	< 0.10	23	3.2	8.4	15
Pyrene	M	2800	mg/kg	0.10	2.8	< 0.10	19	2.5	6.0	10
Benzo[a]anthracene	M	2800	mg/kg	0.10	1.8	< 0.10	11	1.7	3.2	6.4
Chrysene	M	2800	mg/kg	0.10	1.8	< 0.10	12	2.7	3.8	6.8
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	3.0	< 0.10	16	2.4	4.3	8.3
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	1.2	< 0.10	5.2	0.90	1.3	2.8
Benzo[a]pyrene	M	2800	mg/kg	0.10	2.2	< 0.10	11	1.7	2.9	5.9
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	7.8	< 0.10	2.1	3.3
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	< 0.10	0.94	< 0.10	0.41	0.65
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	< 0.10	< 0.10	7.4	< 0.10	1.8	3.8
Total Of 16 PAH's	N	2800	mg/kg	2.0	19	< 2.0	210	19	48	96
Resorcinol	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Phenol	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	1.2
Cresols	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	0.12
Xylenols	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
1-Naphthol	N	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Trimethylphenols	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Total Phenols	M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	1.3

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2425	Extractable Ammonium in soils	Ammonium	Extraction with potassium chloride solution / analysis by 'Aquakem 600' Discrete Analyser using sodium salicylate and sodium dichloroisocyanurate.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

eurofins | Chemtest
Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Amended Report

Report No.:	23-17731-2		
Initial Date of Issue:	06-Jun-2023	**Date of Re-Issue:**	08-Jun-2023
Re-Issue Details:	This report has been revised and directly supersedes 23-17731-1 in its entirety		
Client	Rodgers Leask Environmental		
Client Address:	Office 225 2430/2440 Aztec West Almoundsbury Bristol BS32 4AQ		
Contact(s):	Chris Wilson David McCarroll Rebecca Marsden		
Project	P18-669		
Quotation No.:	Q23-30306	**Date Received:**	26-May-2023
Order No.:	132306	**Date Instructed:**	26-May-2023
No. of Samples:	20		
Turnaround (Wkdays):	12	**Results Due:**	13-Jun-2023
Date Approved:	08-Jun-2023		
Approved By:			
Details:	Stuart Henderson, Technical Manager		

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental		**Chemtest Job No.:**			23-17731	23-17731	23-17731	23-17731	23-17731	23-17731	23-17731	23-17731
Quotation No.: Q23-30306		**Chemtest Sample ID.:**			1646287	1646288	1646289	1646290	1646291	1646292	1646293	1646294
		Client Sample ID.:			5d/4b-SV1	5d/4b-SV1 C	5d/4b-SV2	5d/4b-SV3	5d/4b-SV4	5d/4b-SV5	5d/4b-SV6	5d/4b-SV7
		Sample Type:			SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
		Bottom Depth (m):			0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
		Date Sampled:			24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023
		Asbestos Lab:			DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**								
ACM Type	U	2192		N/A	-	-	-	-	Fibres/Clumps	-	-	Fibres/Clumps
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	Chrysotile	No Asbestos Detected	No Asbestos Detected	Amosite
Asbestos by Gravimetry	U	2192	%	0.001					0.003			<0.001
Total Asbestos	U	2192	%	0.001					0.003			<0.001
Moisture	N	2030	%	0.020	4.8	3.5	6.0	3.7	0.70	5.9	6.2	4.0
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones
Soil Texture	N	2040		N/A	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand
pH	M	2010		4.0	8.9	9.0	10.2	9.5	8.7	9.3	9.6	9.2
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010								
Calorific Value	N	2140	MJ/kg	0.10		4.7						
Total Sulphur	U	2175	%	0.010								
Chloride (Water Soluble)	M	2220	g/l	0.010								
Nitrate (Water Soluble)	N	2220	g/l	0.010								
Cyanide (Total)	M	2300	mg/kg	0.50	0.50	< 0.50	0.80	5.8	0.70	0.60	< 0.50	< 0.50
Ammoniacal Nitrogen	M	2425	mg/kg	0.50	2.0	1.4	3.9	1.9	4.3	5.1	5.2	1.4
Iron (Total)	N	2430	mg/kg	100	36000	40000	52000	48000	50000	39000	42000	39000
Arsenic	M	2455	mg/kg	0.5	7.1	8.5	7.9	7.6	10	7.9	8.2	7.7
Cadmium	M	2455	mg/kg	0.10	0.45	0.46	0.46	0.76	0.97	0.41	0.58	0.55
Chromium	M	2455	mg/kg	0.5	70	82	140	150	75	110	120	69
Manganese	M	2455	mg/kg	1.0	3700	5000	6800	7100	4100	5600	5400	3400
Copper	M	2455	mg/kg	0.50	20	24	30	29	26	45	24	25
Mercury	M	2455	mg/kg	0.05	0.11	0.10	0.08	0.14	0.32	0.20	0.11	0.10
Nickel	M	2455	mg/kg	0.50	16	19	22	21	25	24	21	18
Lead	M	2455	mg/kg	0.50	54	60	61	99	160	120	81	74
Selenium	M	2455	mg/kg	0.25	1.5	1.9	1.4	1.2	1.7	1.3	1.5	1.5
Vanadium	U	2455	mg/kg	0.5	110	130	290	190	130	150	180	82
Zinc	M	2455	mg/kg	0.50	170	150	160	240	380	200	210	170
Aliphatic VPH >C5-C6	U	2780	mg/kg	0.05	< 0.05	[C] < 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C7	U	2780	mg/kg	0.05	< 0.05	[C] < 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C7-C8	U	2780	mg/kg	0.05	< 0.05	[C] < 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C8 (Sum)	N	2780	mg/kg	0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Aliphatic VPH >C5-C10	U	2780	mg/kg	0.25	< 0.25	[C] < 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Aliphatic EPH >C10-C12	M	2690	mg/kg	2.00	5.0	[C] 4.1	4.8	3.4	2.7	4.3	4.8	4.0
Aliphatic VPH >C8-C10	U	2780	mg/kg	0.05	< 0.05	[C] < 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental					Chemtest Job No.:	23-17731	23-17731	23-17731	23-17731	23-17731	23-17731	23-17731	23-17731
Quotation No.: Q23-30306					Chemtest Sample ID.:	1646287	1646288	1646289	1646290	1646291	1646292	1646293	1646294
					Client Sample ID.:	5d/4b-SV1	5d/4b-SV1 C	5d/4b-SV2	5d/4b-SV3	5d/4b-SV4	5d/4b-SV5	5d/4b-SV6	5d/4b-SV7
					Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
					Top Depth (m):	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
					Bottom Depth (m):	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
					Date Sampled:	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023
					Asbestos Lab:	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
Aliphatic EPH >C12-C16	M	2690	mg/kg	1.00		5.2	[C] 5.8	12	4.6	2.4	5.8	8.5	1.5
Aliphatic EPH >C16-C21	M	2690	mg/kg	2.00		14	[C] 12	22	17	12	16	20	< 2.0
Aliphatic EPH >C21-C35	M	2690	mg/kg	3.00		49	[C] 41	77	43	18	50	60	4.6
Aliphatic EPH >C35-C40	N	2690	mg/kg	10.00		18	[C] 14	24	15	10	15	18	< 10
Total Aliphatic EPH >C10-C35	M	2690	mg/kg	5.00		73	[C] 63	120	68	35	76	94	11
Total Aliphatic EPH >C10-C40	N	2690	mg/kg	10.00		91	[C] 76	140	82	45	91	110	11
Aromatic VPH >C5-C7	U	2780	mg/kg	0.05		< 0.05	[C] < 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C7-C8	U	2780	mg/kg	0.05		< 0.05	[C] < 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C8-C10	U	2780	mg/kg	0.05		< 0.05	[C] < 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Aromatic VPH >C5-C10	U	2780	mg/kg	0.25		< 0.25	[C] < 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Aromatic EPH >C10-C12	U	2690	mg/kg	1.00		1.5	[C] 1.4	120	2.6	1.8	2.2	5.1	1.5
Aromatic EPH >C12-C16	U	2690	mg/kg	1.00		< 1.0	[C] < 1.0	14	< 1.0	1.2	5.1	5.3	< 1.0
Aromatic EPH >C16-C21	U	2690	mg/kg	2.00		13	[C] 11	28	18	20	39	31	3.6
Aromatic EPH >C21-C35	U	2690	mg/kg	2.00		35	[C] 38	53	49	54	71	59	3.1
Aromatic EPH >C35-C40	N	2690	mg/kg	1.00		7.8	[C] 8.3	8.3	9.2	8.3	8.6	8.9	2.7
Total Aromatic EPH >C10-C35	U	2690	mg/kg	5.00		50	[C] 51	220	71	76	120	100	8.3
Total Aromatic EPH >C10-C40	N	2690	mg/kg	10.00		58	[C] 59	220	80	85	130	110	11
Total VPH >C5-C10	U	2780	mg/kg	0.50		< 0.50	[C] < 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Total EPH >C10-C35	U	2690	mg/kg	10.00		120	[C] 110	330	140	110	190	190	19
Total EPH >C10-C40	N	2690	mg/kg	10.00		150	[C] 140	360	160	130	220	220	22
Organic Matter	M	2625	%	0.40		29	30	33	26	16	30	30	28
Benzene	M	2760	µg/kg	1.0		< 1.0	[C] < 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	M	2760	µg/kg	1.0		< 1.0	[C] < 1.0	< 1.0	3.1	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	M	2760	µg/kg	1.0		< 1.0	[C] < 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene	M	2760	µg/kg	1.0		< 1.0	[C] < 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	M	2760	µg/kg	1.0		< 1.0	[C] < 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0		< 1.0	[C] < 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	M	2800	mg/kg	0.10		5.7	4.7	11	17	10	12	18	1.4
Acenaphthylene	N	2800	mg/kg	0.10		0.59	0.54	1.0	1.7	3.2	1.2	2.0	0.24
Acenaphthene	M	2800	mg/kg	0.10		< 0.10	0.21	0.43	< 0.10	0.56	0.35	< 0.10	0.15
Fluorene	M	2800	mg/kg	0.10		0.66	0.61	0.92	1.1	3.5	1.1	< 0.10	0.30
Phenanthrene	M	2800	mg/kg	0.10		4.7	4.3	6.8	11	23	8.4	15	1.2
Anthracene	M	2800	mg/kg	0.10		1.1	0.91	1.3	2.9	8.6	1.9	3.1	0.40
Fluoranthene	M	2800	mg/kg	0.10		4.6	4.7	6.6	15	32	9.2	13	1.4
Pyrene	M	2800	mg/kg	0.10		3.1	3.2	4.8	11	22	6.5	8.9	1.1
Benzo[a]anthracene	M	2800	mg/kg	0.10		2.0	2.1	3.1	7.3	14	4.2	4.7	0.79

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental					**Chemtest Job No.:**	23-17731	23-17731	23-17731	23-17731	23-17731	23-17731	23-17731	23-17731
Quotation No.: Q23-30306					**Chemtest Sample ID.:**	1646287	1646288	1646289	1646290	1646291	1646292	1646293	1646294
					Client Sample ID.:	5d/4b-SV1	5d/4b-SV1 C	5d/4b-SV2	5d/4b-SV3	5d/4b-SV4	5d/4b-SV5	5d/4b-SV6	5d/4b-SV7
					Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
					Top Depth (m):	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
					Bottom Depth (m):	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
					Date Sampled:	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023
					Asbestos Lab:	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
Chrysene	M	2800	mg/kg	0.10		2.2	2.3	3.3	8.5	15	4.6	5.0	0.80
Benzo[b]fluoranthene	M	2800	mg/kg	0.10		3.4	2.9	4.3	10	18	5.6	6.3	1.0
Benzo[k]fluoranthene	M	2800	mg/kg	0.10		1.1	0.91	1.4	3.3	6.2	1.6	2.1	0.49
Benzo[a]pyrene	M	2800	mg/kg	0.10		2.3	1.9	3.1	6.4	12	3.7	3.8	0.74
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10		1.9	1.7	2.5	5.7	11	3.0	3.2	0.69
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10		< 0.10	0.36	0.50	1.2	2.0	0.63	< 0.10	0.31
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10		2.0	1.4	2.2	5.1	8.2	2.5	3.0	0.62
Total Of 16 PAH's	N	2800	mg/kg	2.0		35	33	53	110	190	67	88	12
Resorcinol	M	2920	mg/kg	0.020		< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Phenol	M	2920	mg/kg	0.020		< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	0.14	< 0.020	< 0.020
Cresols	M	2920	mg/kg	0.020		< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Xylenols	M	2920	mg/kg	0.020		< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
1-Naphthol	N	2920	mg/kg	0.020		< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Trimethylphenols	M	2920	mg/kg	0.020		< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Total Phenols	M	2920	mg/kg	0.10		< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.14	< 0.10	< 0.10

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental		**Chemtest Job No.:**			23-17731	23-17731	23-17731	23-17731	23-17731	23-17731	23-17731	23-17731
Quotation No.: Q23-30306		**Chemtest Sample ID.:**			1646295	1646296	1646297	1646298	1646299	1646300	1646301	1646302
		Client Sample ID.:			5d/4b-SV7 S	5d/4b-SV8	5d/4b-SV9	5d/4b-SV10	5d/4b-SV11	5d/4b-SV11 C S	5d/4b-SV12	5d/4b-SV13
		Sample Type:			SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
		Bottom Depth (m):			0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
		Date Sampled:			24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023
		Asbestos Lab:			DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**								
ACM Type	U	2192		N/A	-	-	-	-	-	-	-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Asbestos by Gravimetry	U	2192	%	0.001								
Total Asbestos	U	2192	%	0.001								
Moisture	N	2030	%	0.020	2.6	4.5	3.1	5.9	3.9	4.0	4.1	5.0
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones	Stones	Stones	Stones	50% Stones	50% Stones	Stones	Stones
Soil Texture	N	2040		N/A	Sand	Sand	Sand	Sand	Sand	Sand	Sand	Sand
pH	M	2010		4.0	9.3	9.2	10.2	9.3	9.2	9.4	9.2	8.6
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	0.20					0.74		
Calorific Value	N	2140	MJ/kg	0.10						4.4		
Total Sulphur	U	2175	%	0.010	0.47					0.60		
Chloride (Water Soluble)	M	2220	g/l	0.010	0.029					0.025		
Nitrate (Water Soluble)	N	2220	g/l	0.010	0.012					< 0.010		
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50	1.0	1.1	1.6	0.70	1.2	0.80	110
Ammoniacal Nitrogen	M	2425	mg/kg	0.50	2.2	3.7	1.2	10	4.0	4.5	5.6	6.4
Iron (Total)	N	2430	mg/kg	100	22000	58000	58000	49000	35000	37000	54000	34000
Arsenic	M	2455	mg/kg	0.5	2.1	8.3	6.7	5.9	4.2	4.2	9.1	11
Cadmium	M	2455	mg/kg	0.10	0.11	1.2	0.29	0.35	0.20	0.18	1.1	0.26
Chromium	M	2455	mg/kg	0.5	20	110	240	160	95	92	110	53
Manganese	M	2455	mg/kg	1.0	1100	6200	11000	7100	4200	4200	4300	2600
Copper	M	2455	mg/kg	0.50	6.1	28	22	18	14	16	25	33
Mercury	M	2455	mg/kg	0.05	< 0.05	0.19	0.19	0.83	0.09	0.09	0.15	0.35
Nickel	M	2455	mg/kg	0.50	5.3	25	25	13	9.1	10	20	30
Lead	M	2455	mg/kg	0.50	21	180	54	58	32	34	140	42
Selenium	M	2455	mg/kg	0.25	0.26	1.2	1.0	1.0	0.75	0.70	1.3	1.6
Vanadium	U	2455	mg/kg	0.5	27	180	390	250	120	110	160	110
Zinc	M	2455	mg/kg	0.50	57	470	100	190	78	85	460	110
Aliphatic VPH >C5-C6	U	2780	mg/kg	0.05	[C] < 0.05	< 0.05	< 0.05	< 0.05	< 0.05	[C] < 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C7	U	2780	mg/kg	0.05	[C] < 0.05	< 0.05	< 0.05	< 0.05	< 0.05	[C] < 0.05	< 0.05	< 0.05
Aliphatic VPH >C7-C8	U	2780	mg/kg	0.05	[C] < 0.05	< 0.05	< 0.05	< 0.05	< 0.05	[C] < 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C8 (Sum)	N	2780	mg/kg	0.10	[C] < 0.10	< 0.10	< 0.10	< 0.10	< 0.10	[C] < 0.10	< 0.10	< 0.10
Total Aliphatic VPH >C5-C10	U	2780	mg/kg	0.25	[C] < 0.25	< 0.25	< 0.25	< 0.25	< 0.25	[C] < 0.25	< 0.25	< 0.25
Aliphatic EPH >C10-C12	M	2690	mg/kg	2.00	[C] 5.4	4.7	5.2	4.2	7.5	[C] 8.2	5.0	6.2
Aliphatic VPH >C8-C10	U	2780	mg/kg	0.05	[C] < 0.05	< 0.05	< 0.05	< 0.05	< 0.05	[C] < 0.05	< 0.05	< 0.05

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental					Chemtest Job No.:	23-17731	23-17731	23-17731	23-17731	23-17731	23-17731	23-17731	23-17731
Quotation No.: Q23-30306					Chemtest Sample ID.:	1646295	1646296	1646297	1646298	1646299	1646300	1646301	1646302
					Client Sample ID.:	5d/4b-SV7 S	5d/4b-SV8	5d/4b-SV9	5d/4b-SV10	5d/4b-SV11	5d/4b-SV11 C S	5d/4b-SV12	5d/4b-SV13
					Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
					Top Depth (m):	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
					Bottom Depth (m):	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
					Date Sampled:	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023
					Asbestos Lab:	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
Aliphatic EPH >C12-C16	M	2690	mg/kg	1.00	[C] 11	9.1	14	8.7	7.3	[C] 8.1	4.3	5.0	
Aliphatic EPH >C16-C21	M	2690	mg/kg	2.00	[C] 25	35	61	18	18	[C] 20	15	32	
Aliphatic EPH >C21-C35	M	2690	mg/kg	3.00	[C] 69	74	78	46	67	[C] 62	48	16	
Aliphatic EPH >C35-C40	N	2690	mg/kg	10.00	[C] 17	22	24	17	18	[C] 18	14	14	
Total Aliphatic EPH >C10-C35	M	2690	mg/kg	5.00	[C] 110	120	160	77	100	[C] 99	72	58	
Total Aliphatic EPH >C10-C40	N	2690	mg/kg	10.00	[C] 130	150	180	94	120	[C] 120	86	72	
Aromatic VPH >C5-C7	U	2780	mg/kg	0.05	[C] < 0.05	< 0.05	< 0.05	< 0.05	< 0.05	[C] < 0.05	< 0.05	< 0.05	
Aromatic VPH >C7-C8	U	2780	mg/kg	0.05	[C] < 0.05	< 0.05	< 0.05	< 0.05	< 0.05	[C] < 0.05	< 0.05	< 0.05	
Aromatic VPH >C8-C10	U	2780	mg/kg	0.05	[C] < 0.05	< 0.05	< 0.05	< 0.05	< 0.05	[C] < 0.05	< 0.05	< 0.05	
Total Aromatic VPH >C5-C10	U	2780	mg/kg	0.25	[C] < 0.25	< 0.25	< 0.25	< 0.25	< 0.25	[C] < 0.25	< 0.25	< 0.25	
Aromatic EPH >C10-C12	U	2690	mg/kg	1.00	[C] 2.5	5.2	3.9	3.5	6.4	[C] 6.6	18	1.9	
Aromatic EPH >C12-C16	U	2690	mg/kg	1.00	[C] 5.7	6.7	7.2	< 1.0	4.5	[C] 4.5	11	< 1.0	
Aromatic EPH >C16-C21	U	2690	mg/kg	2.00	[C] 30	52	50	16	35	[C] 29	66	25	
Aromatic EPH >C21-C35	U	2690	mg/kg	2.00	[C] 77	150	160	63	69	[C] 65	120	27	
Aromatic EPH >C35-C40	N	2690	mg/kg	1.00	[C] 10	20	28	9.5	6.0	[C] 4.7	5.8	3.5	
Total Aromatic EPH >C10-C35	U	2690	mg/kg	5.00	[C] 120	210	220	83	120	[C] 110	220	54	
Total Aromatic EPH >C10-C40	N	2690	mg/kg	10.00	[C] 130	230	250	92	120	[C] 110	220	58	
Total VPH >C5-C10	U	2780	mg/kg	0.50	[C] < 0.50	< 0.50	< 0.50	< 0.50	< 0.50	[C] < 0.50	< 0.50	< 0.50	
Total EPH >C10-C35	U	2690	mg/kg	10.00	[C] 230	340	380	160	210	[C] 200	290	110	
Total EPH >C10-C40	N	2690	mg/kg	10.00	[C] 250	380	430	190	240	[C] 230	310	130	
Organic Matter	M	2625	%	0.40	34	38	30	34	64	44	26	18	
Benzene	M	2760	µg/kg	1.0	[C] < 1.0	< 1.0	< 1.0	< 1.0	< 1.0	[C] 4.4	< 1.0	< 1.0	
Toluene	M	2760	µg/kg	1.0	[C] < 1.0	< 1.0	< 1.0	< 1.0	< 1.0	[C] 5.1	< 1.0	< 1.0	
Ethylbenzene	M	2760	µg/kg	1.0	[C] < 1.0	< 1.0	< 1.0	< 1.0	< 1.0	[C] < 1.0	< 1.0	< 1.0	
m & p-Xylene	M	2760	µg/kg	1.0	[C] < 1.0	< 1.0	< 1.0	< 1.0	< 1.0	[C] < 1.0	< 1.0	< 1.0	
o-Xylene	M	2760	µg/kg	1.0	[C] < 1.0	< 1.0	< 1.0	< 1.0	< 1.0	[C] < 1.0	< 1.0	< 1.0	
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	[C] < 1.0	< 1.0	< 1.0	< 1.0	< 1.0	[C] < 1.0	< 1.0	< 1.0	
Naphthalene	M	2800	mg/kg	0.10	1.7	16	11	12	15	18	31	6.4	
Acenaphthylene	N	2800	mg/kg	0.10	0.17	2.1	1.1	1.1	1.1	2.0	7.3	1.1	
Acenaphthene	M	2800	mg/kg	0.10	< 0.10	0.42	0.36	< 0.10	0.47	0.48	0.76	< 0.10	
Fluorene	M	2800	mg/kg	0.10	0.20	1.6	1.7	1.6	1.7	3.2	9.8	< 0.10	
Phenanthrene	M	2800	mg/kg	0.10	1.3	10	11	9.9	9.4	26	39	4.5	
Anthracene	M	2800	mg/kg	0.10	0.36	3.4	4.4	2.2	1.9	5.1	13	1.6	
Fluoranthene	M	2800	mg/kg	0.10	1.4	15	11	11	9.3	26	45	6.8	
Pyrene	M	2800	mg/kg	0.10	1.0	12	7.7	7.6	6.7	18	30	4.7	
Benzo[a]anthracene	M	2800	mg/kg	0.10	0.61	8.7	4.8	4.6	4.0	8.7	20	3.6	

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental		**Chemtest Job No.:**			23-17731	23-17731	23-17731	23-17731	23-17731	23-17731	23-17731	23-17731
Quotation No.: Q23-30306		**Chemtest Sample ID.:**			1646295	1646296	1646297	1646298	1646299	1646300	1646301	1646302
		Client Sample ID.:			5d/4b-SV7 S	5d/4b-SV8	5d/4b-SV9	5d/4b-SV10	5d/4b-SV11	5d/4b-SV11 C S	5d/4b-SV12	5d/4b-SV13
		Sample Type:			SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
		Bottom Depth (m):			0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
		Date Sampled:			24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023
		Asbestos Lab:			DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**								
Chrysene	M	2800	mg/kg	0.10	0.75	9.2	4.9	4.4	4.2	10	19	4.1
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	0.85	12	6.2	6.6	5.3	11	24	5.3
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	0.31	3.8	2.4	2.4	1.7	4.0	7.7	1.9
Benzo[a]pyrene	M	2800	mg/kg	0.10	0.54	7.9	4.4	4.7	3.7	7.9	16	3.6
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	0.48	6.3	3.5	3.4	2.9	5.8	13	3.5
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	0.17	1.4	0.28	< 0.10	0.61	1.2	2.4	0.70
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	0.46	5.2	3.3	3.3	2.4	5.4	9.8	3.0
Total Of 16 PAH's	N	2800	mg/kg	2.0	10	120	78	75	70	150	290	51
Resorcinol	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Phenol	M	2920	mg/kg	0.020	< 0.020	< 0.020	0.056	0.081	0.073	0.086	< 0.020	< 0.020
Cresols	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Xylenols	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
1-Naphthol	N	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Trimethylphenols	M	2920	mg/kg	0.020	< 0.020	< 0.020	0.058	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Total Phenols	M	2920	mg/kg	0.10	< 0.10	< 0.10	0.11	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental		**Chemtest Job No.:**			23-17731	23-17731	23-17731	23-17731
Quotation No.: Q23-30306		**Chemtest Sample ID.:**			1646303	1646304	1646305	1646306
		Client Sample ID.:			5d/4b-SV14	5d/4b-SV15	5d/4b-SV16	5d/4b-SV16 S
		Sample Type:			SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			0.2	0.2	0.2	0.2
		Bottom Depth (m):			0.2	0.2	0.2	0.2
		Date Sampled:			24-May-2023	24-May-2023	24-May-2023	24-May-2023
		Asbestos Lab:			DURHAM	DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**				
ACM Type	U	2192		N/A	-	-	Fibres/Clumps	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	Chrysotile	No Asbestos Detected
Asbestos by Gravimetry	U	2192	%	0.001			0.003	
Total Asbestos	U	2192	%	0.001			0.003	
Moisture	N	2030	%	0.020	5.1	8.5	3.0	6.4
Soil Colour	N	2040		N/A	Brown	Black	Brown	Brown
Other Material	N	2040		N/A	Stones	Stones	50% Stones	Stones
Soil Texture	N	2040		N/A	Sand	Sand	Sand	Sand
pH	M	2010		4.0	9.9	10.1	10.3	8.9
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010			0.81	
Calorific Value	N	2140	MJ/kg	0.10				
Total Sulphur	U	2175	%	0.010			0.63	
Chloride (Water Soluble)	M	2220	g/l	0.010			0.092	
Nitrate (Water Soluble)	N	2220	g/l	0.010			< 0.010	
Cyanide (Total)	M	2300	mg/kg	0.50	1.6	1.1	2.8	5.0
Ammoniacal Nitrogen	M	2425	mg/kg	0.50	3.8	5.6	7.3	5.4
Iron (Total)	N	2430	mg/kg	100	49000	52000	35000	25000
Arsenic	M	2455	mg/kg	0.5	9.1	6.9	7.1	4.2
Cadmium	M	2455	mg/kg	0.10	0.37	0.42	0.43	0.18
Chromium	M	2455	mg/kg	0.5	160	150	69	35
Manganese	M	2455	mg/kg	1.0	6800	6400	3500	1900
Copper	M	2455	mg/kg	0.50	80	22	20	13
Mercury	M	2455	mg/kg	0.05	0.33	0.18	0.18	0.11
Nickel	M	2455	mg/kg	0.50	18	17	17	10
Lead	M	2455	mg/kg	0.50	62	62	62	32
Selenium	M	2455	mg/kg	0.25	1.3	1.0	1.8	0.84
Vanadium	U	2455	mg/kg	0.5	210	180	99	44
Zinc	M	2455	mg/kg	0.50	140	170	170	92
Aliphatic VPH >C5-C6	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	[C] < 0.05
Aliphatic VPH >C6-C7	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	[C] < 0.05
Aliphatic VPH >C7-C8	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	[C] < 0.05
Aliphatic VPH >C6-C8 (Sum)	N	2780	mg/kg	0.10	< 0.10	< 0.10	< 0.10	[C] < 0.10
Total Aliphatic VPH >C5-C10	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25	[C] < 0.25
Aliphatic EPH >C10-C12	M	2690	mg/kg	2.00	7.2	6.0	5.4	[C] 6.2
Aliphatic VPH >C8-C10	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	[C] < 0.05

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental		**Chemtest Job No.:**			23-17731	23-17731	23-17731	23-17731
Quotation No.: Q23-30306		**Chemtest Sample ID.:**			1646303	1646304	1646305	1646306
		Client Sample ID.:			5d/4b-SV14	5d/4b-SV15	5d/4b-SV16	5d/4b-SV16 S
		Sample Type:			SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			0.2	0.2	0.2	0.2
		Bottom Depth (m):			0.2	0.2	0.2	0.2
		Date Sampled:			24-May-2023	24-May-2023	24-May-2023	24-May-2023
		Asbestos Lab:			DURHAM	DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**				
Aliphatic EPH >C12-C16	M	2690	mg/kg	1.00	9.9	9.9	4.8	[C] 8.0
Aliphatic EPH >C16-C21	M	2690	mg/kg	2.00	27	38	21	[C] 36
Aliphatic EPH >C21-C35	M	2690	mg/kg	3.00	67	91	44	[C] 82
Aliphatic EPH >C35-C40	N	2690	mg/kg	10.00	19	28	14	[C] 19
Total Aliphatic EPH >C10-C35	M	2690	mg/kg	5.00	110	140	75	[C] 130
Total Aliphatic EPH >C10-C40	N	2690	mg/kg	10.00	130	170	88	[C] 150
Aromatic VPH >C5-C7	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	[C] < 0.05
Aromatic VPH >C7-C8	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	[C] < 0.05
Aromatic VPH >C8-C10	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	[C] < 0.05
Total Aromatic VPH >C5-C10	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25	[C] < 0.25
Aromatic EPH >C10-C12	U	2690	mg/kg	1.00	5.0	21	6.0	[C] 10
Aromatic EPH >C12-C16	U	2690	mg/kg	1.00	1.7	8.0	8.6	[C] 23
Aromatic EPH >C16-C21	U	2690	mg/kg	2.00	51	57	53	[C] 110
Aromatic EPH >C21-C35	U	2690	mg/kg	2.00	66	120	67	[C] 200
Aromatic EPH >C35-C40	N	2690	mg/kg	1.00	5.1	19	4.2	[C] 9.1
Total Aromatic EPH >C10-C35	U	2690	mg/kg	5.00	120	210	130	[C] 350
Total Aromatic EPH >C10-C40	N	2690	mg/kg	10.00	130	230	140	[C] 360
Total VPH >C5-C10	U	2780	mg/kg	0.50	< 0.50	< 0.50	< 0.50	[C] < 0.50
Total EPH >C10-C35	U	2690	mg/kg	10.00	230	350	210	[C] 480
Total EPH >C10-C40	N	2690	mg/kg	10.00	260	400	230	[C] 510
Organic Matter	M	2625	%	0.40	34	44	33	39
Benzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	[C] < 1.0
Toluene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	[C] < 1.0
Ethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	[C] < 1.0
m & p-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	[C] < 1.0
o-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	[C] < 1.0
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	[C] < 1.0
Naphthalene	M	2800	mg/kg	0.10	2.0	31	18	23
Acenaphthylene	N	2800	mg/kg	0.10	0.19	2.2	4.3	5.3
Acenaphthene	M	2800	mg/kg	0.10	< 0.10	0.48	0.77	< 0.10
Fluorene	M	2800	mg/kg	0.10	0.25	2.0	5.9	7.6
Phenanthrene	M	2800	mg/kg	0.10	1.3	15	25	29
Anthracene	M	2800	mg/kg	0.10	0.34	3.2	7.6	9.8
Fluoranthene	M	2800	mg/kg	0.10	1.5	16	32	34
Pyrene	M	2800	mg/kg	0.10	1.1	11	21	23
Benzo[a]anthracene	M	2800	mg/kg	0.10	0.63	6.8	12	14

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental			**Chemtest Job No.:**		23-17731	23-17731	23-17731	23-17731
Quotation No.: Q23-30306			**Chemtest Sample ID.:**		1646303	1646304	1646305	1646306
			Client Sample ID.:		5d/4b-SV14	5d/4b-SV15	5d/4b-SV16	5d/4b-SV16 S
			Sample Type:		SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		0.2	0.2	0.2	0.2
			Bottom Depth (m):		0.2	0.2	0.2	0.2
			Date Sampled:		24-May-2023	24-May-2023	24-May-2023	24-May-2023
			Asbestos Lab:		DURHAM	DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**				
Chrysene	M	2800	mg/kg	0.10	0.80	7.3	12	15
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	0.87	9.8	15	18
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	0.34	3.2	5.1	6.8
Benzo[a]pyrene	M	2800	mg/kg	0.10	0.60	6.4	10	12
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	0.47	4.9	7.4	8.5
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	1.2	1.6	1.8
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	0.44	4.5	6.6	7.2
Total Of 16 PAH's	N	2800	mg/kg	2.0	11	130	180	220
Resorcinol	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020
Phenol	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020
Cresols	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020
Xylenols	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020
1-Naphthol	N	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020
Trimethylphenols	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020
Total Phenols	M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10

Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request.The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1646288		5d/4b-SV1 C		24-May-2023	C	Plastic Tub 500g
1646295		5d/4b-SV7 S		24-May-2023	C	Plastic Tub 500g
1646300		5d/4b-SV11 C S		24-May-2023	C	Plastic Tub 500g
1646306		5d/4b-SV16 S		24-May-2023	C	Plastic Tub 500g

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2140	Calorific Value	Calorific Value	Bomb Calorimeter
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2220	Water soluble Chloride in Soils	Chloride	Aqueous extraction and measuremernt by 'Aquakem 600' Discrete Analyser using ferric nitrate / mercuric thiocyanate.
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2425	Extractable Ammonium in soils	Ammonium	Extraction with potassium chloride solution / analysis by 'Aquakem 600' Discrete Analyser using sodium salicylate and sodium dichloroisocyanurate.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35–C40	Acetone/Heptane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8-C10 Aromatics: >C5–C7,>C7-C8,>C8–C10	Water extraction / Headspace GCxGC FID detection
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

eurofins | Chemtest
Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	23-07800-1
Initial Date of Issue:	20-Mar-2023
Client	Rodgers Leask Environmental
Client Address:	Office 225 2430/2440 Aztec West Almoundsbury Bristol BS32 4AQ
Contact(s):	Chris Wilson David McCarroll Rebecca Marsden
Project	P18-669
Quotation No.:	Q22-28243
Order No.:	132306
No. of Samples:	3
Turnaround (Wkdays):	7
Date Approved:	20-Mar-2023
Approved By:	
Details:	Stuart Henderson, Technical Manager

Date Received:	08-Mar-2023
Date Instructed:	08-Mar-2023
Results Due:	16-Mar-2023

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental		**Chemtest Job No.:**			23-07800	23-07800	23-07800
Quotation No.: Q22-28243		**Chemtest Sample ID.:**			1603347	1603348	1603349
		Client Sample ID.:			R14-C	U16-C	U12-C
		Sample Type:			SOIL	SOIL	SOIL
		Top Depth (m):			0.2	0.2	0.2
		Bottom Depth (m):			0.2	0.2	0.2
		Date Sampled:			07-Mar-2023	07-Mar-2023	07-Mar-2023
		Asbestos Lab:					DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**			
ACM Type	U	2192		N/A			-
Asbestos Identification	U	2192		N/A			No Asbestos Detected
Moisture	N	2030	%	0.020	25	23	21
Soil Colour	N	2040		N/A	Brown	Grey	Brown
Other Material	N	2040		N/A	Stones	Stones	Stones
Soil Texture	N	2040		N/A	Sand	Clay	Clay
pH	M	2010		4.0	8.7	8.4	8.4
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Ammoniacal Nitrogen	M	2425	mg/kg	0.50	1.2	0.77	93
Iron (Total)	N	2430	mg/kg	100	5900	7200	33000
Arsenic	M	2455	mg/kg	0.5	1.9	1.9	11
Cadmium	M	2455	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Chromium	M	2455	mg/kg	0.5	6.7	8.9	49
Manganese	M	2455	mg/kg	1.0	98	75	520
Copper	M	2455	mg/kg	0.50	2.0	2.5	13
Mercury	M	2455	mg/kg	0.05	< 0.05	< 0.05	< 0.05
Nickel	M	2455	mg/kg	0.50	5.6	6.3	42
Lead	M	2455	mg/kg	0.50	4.1	5.3	30
Selenium	M	2455	mg/kg	0.25	< 0.25	< 0.25	1.1
Vanadium	U	2455	mg/kg	0.5	7.8	11	58
Zinc	M	2455	mg/kg	0.50	14	18	110
Aliphatic VPH >C5-C6	M	2780	mg/kg	0.05	[C] < 0.05	[C] < 0.05	[C] < 0.05
Aliphatic VPH >C6-C7	M	2780	mg/kg	0.05	[C] < 0.05	[C] < 0.05	[C] < 0.05
Aliphatic VPH >C7-C8	M	2780	mg/kg	0.05	[C] < 0.05	[C] < 0.05	[C] < 0.05
Aliphatic VPH >C8-C10	M	2780	mg/kg	0.05	[C] < 0.05	[C] < 0.05	[C] < 0.05
Total Aliphatic VPH >C5-C10	M	2780	mg/kg	0.25	[C] < 0.25	[C] < 0.25	[C] < 0.25
Aliphatic EPH >C10-C12	M	2690	mg/kg	2.00	[C] < 2.0	[C] < 2.0	[C] < 2.0
Aliphatic EPH >C12-C16	M	2690	mg/kg	1.00	[C] 2.0	[C] 1.9	[C] 1.8
Aliphatic EPH >C16-C21	M	2690	mg/kg	2.00	[C] 2.0	[C] < 2.0	[C] < 2.0
Aliphatic EPH >C21-C35	M	2690	mg/kg	3.00	[C] 5.8	[C] 5.0	[C] 5.3
Aliphatic EPH >C35-C40	N	2690	mg/kg	10.00	[C] < 10	[C] < 10	[C] < 10
Total Aliphatic EPH >C10-C35	M	2690	mg/kg	5.00	[C] 12	[C] 10	[C] 10
Total Aliphatic EPH >C10-C40	N	2690	mg/kg	10.00	[C] 12	[C] 10	[C] 10
Aromatic VPH >C5-C7	M	2780	mg/kg	0.05	[C] < 0.05	[C] < 0.05	[C] < 0.05
Aromatic VPH >C7-C8	M	2780	mg/kg	0.05	[C] < 0.05	[C] < 0.05	[C] < 0.05
Aromatic VPH >C8-C10	M	2780	mg/kg	0.05	[C] < 0.05	[C] < 0.05	[C] < 0.05

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental		**Chemtest Job No.:**			23-07800	23-07800	23-07800
Quotation No.: Q22-28243		**Chemtest Sample ID.:**			1603347	1603348	1603349
		Client Sample ID.:			R14-C	U16-C	U12-C
		Sample Type:			SOIL	SOIL	SOIL
		Top Depth (m):			0.2	0.2	0.2
		Bottom Depth (m):			0.2	0.2	0.2
		Date Sampled:			07-Mar-2023	07-Mar-2023	07-Mar-2023
		Asbestos Lab:					DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**			
Total Aromatic VPH >C5-C10	M	2780	mg/kg	0.25	[C] < 0.25	[C] < 0.25	[C] < 0.25
Aromatic EPH >C10-C12	M	2690	mg/kg	1.00	[C] 2.7	[C] 2.8	[C] 1.3
Aromatic EPH >C12-C16	M	2690	mg/kg	1.00	[C] 4.5	[C] 3.3	[C] 3.3
Aromatic EPH >C16-C21	N	2690	mg/kg	2.00	[C] 10	[C] 9.2	[C] 8.1
Aromatic EPH >C21-C35	M	2690	mg/kg	2.00	[C] 10	[C] 12	[C] 11
Aromatic EPH >C35-C40	N	2690	mg/kg	1.00	[C] 3.7	[C] 3.1	[C] 2.8
Total Aromatic EPH >C10-C35	M	2690	mg/kg	5.00	[C] 28	[C] 27	[C] 24
Total Aromatic EPH >C10-C40	N	2690	mg/kg	10.00	[C] 31	[C] 31	[C] 27
Total VPH >C5-C10	M	2780	mg/kg	0.50	[C] < 0.50	[C] < 0.50	[C] < 0.50
Total EPH >C10-C35	M	2690	mg/kg	10.00	[C] 39	[C] 37	[C] 34
Total EPH >C10-C40	N	2690	mg/kg	10.00	[C] 43	[C] 41	[C] 37
Organic Matter	M	2625	%	0.40	2.0	2.3	1.3
Benzene	M	2760	µg/kg	1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
Toluene	M	2760	µg/kg	1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
Ethylbenzene	M	2760	µg/kg	1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
m & p-Xylene	M	2760	µg/kg	1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
o-Xylene	M	2760	µg/kg	1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
Naphthalene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Fluorene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	< 0.10	0.17	< 0.10
Anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Chrysene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	< 2.0	< 2.0	< 2.0
Resorcinol	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020
Phenol	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental					**Chemtest Job No.:**	23-07800	23-07800	23-07800
Quotation No.: Q22-28243					**Chemtest Sample ID.:**	1603347	1603348	1603349
					Client Sample ID.:	R14-C	U16-C	U12-C
					Sample Type:	SOIL	SOIL	SOIL
					Top Depth (m):	0.2	0.2	0.2
					Bottom Depth (m):	0.2	0.2	0.2
					Date Sampled:	07-Mar-2023	07-Mar-2023	07-Mar-2023
					Asbestos Lab:			DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**				
Cresols	M	2920	mg/kg	0.020		< 0.020	< 0.020	0.086
Xylenols	M	2920	mg/kg	0.020		< 0.020	< 0.020	< 0.020
1-Naphthol	N	2920	mg/kg	0.020		< 0.020	< 0.020	< 0.020
Trimethylphenols	M	2920	mg/kg	0.020		< 0.020	< 0.020	< 0.020
Total Phenols	M	2920	mg/kg	0.10		< 0.10	< 0.10	< 0.10

Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request.The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1603347		R14-C		07-Mar-2023	C	Plastic Tub 1000g
1603348		U16-C		07-Mar-2023	C	Plastic Tub 1000g
1603349		U12-C		07-Mar-2023	C	Plastic Tub 1000g

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2425	Extractable Ammonium in soils	Ammonium	Extraction with potassium chloride solution / analysis by 'Aquakem 600' Discrete Analyser using sodium salicylate and sodium dichloroisocyanurate.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C40	Acetone/Heptane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8-C10 Aromatics: >C5–C7,>C7-C8,>C8–C10	Water extraction / Headspace GCxGC FID detection
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

eurofins | Chemtest
Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	23-20982-1
Initial Date of Issue:	27-Jun-2023
Re-Issue Details:	
Client	Rodgers Leask Environmental
Client Address:	Office 225 2430/2440 Aztec West Almoundsbury Bristol BS32 4AQ
Contact(s):	Chris Wilson David McCarroll Rebecca Marsden
Project	P18-669
Quotation No.:	Q23-30306
Order No.:	136787
No. of Samples:	1
Turnaround (Wkdays):	5
Date Approved:	27-Jun-2023
Approved By:	
Details:	Stuart Henderson, Technical Manager

Date Received:	21-Jun-2023
Date Instructed:	21-Jun-2023
Results Due:	27-Jun-2023

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental			**Chemtest Job No.:**		23-20982
Quotation No.: Q23-30306			**Chemtest Sample ID.:**		1661283
			Client Sample ID.:		V19-C
			Sample Type:		SOIL
			Top Depth (m):		0.2
			Bottom Depth (m):		0.2
			Date Sampled:		19-Jun-2023
			Asbestos Lab:		COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**	
ACM Type	U	2192		N/A	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected
Moisture	N	2030	%	0.020	22
Soil Colour	N	2040		N/A	Grey
Other Material	N	2040		N/A	None
Soil Texture	N	2040		N/A	Clay
pH	M	2010		4.0	8.4
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50
Ammoniacal Nitrogen	M	2425	mg/kg	0.50	100
Iron (Total)	N	2430	mg/kg	100	21000
Arsenic	M	2455	mg/kg	0.5	13
Cadmium	M	2455	mg/kg	0.10	< 0.10
Chromium	M	2455	mg/kg	0.5	43
Manganese	M	2455	mg/kg	1.0	790
Copper	M	2455	mg/kg	0.50	15
Mercury	M	2455	mg/kg	0.05	< 0.05
Nickel	M	2455	mg/kg	0.50	37
Lead	M	2455	mg/kg	0.50	31
Selenium	M	2455	mg/kg	0.25	0.84
Vanadium	U	2455	mg/kg	0.5	47
Zinc	M	2455	mg/kg	0.50	100
Aliphatic VPH >C5-C6	U	2780	mg/kg	0.05	< 0.05
Aliphatic VPH >C6-C7	U	2780	mg/kg	0.05	< 0.05
Aliphatic VPH >C7-C8	U	2780	mg/kg	0.05	< 0.05
Aliphatic VPH >C6-C8 (Sum)	N	2780	mg/kg	0.10	< 0.10
Total Aliphatic VPH >C5-C10	U	2780	mg/kg	0.25	< 0.25
Aliphatic EPH >C10-C12	M	2690	mg/kg	2.00	< 2.0
Aliphatic VPH >C8-C10	U	2780	mg/kg	0.05	< 0.05
Aliphatic EPH >C12-C16	M	2690	mg/kg	1.00	< 1.0
Aliphatic EPH >C16-C21	M	2690	mg/kg	2.00	< 2.0
Aliphatic EPH >C21-C35	M	2690	mg/kg	3.00	< 3.0
Aliphatic EPH >C35-C40	N	2690	mg/kg	10.00	< 10
Total Aliphatic EPH >C10-C35	M	2690	mg/kg	5.00	< 5.0
Total Aliphatic EPH >C10-C40	N	2690	mg/kg	10.00	< 10
Aromatic VPH >C5-C7	U	2780	mg/kg	0.05	< 0.05
Aromatic VPH >C7-C8	U	2780	mg/kg	0.05	< 0.05

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental			**Chemtest Job No.:**		23-20982
Quotation No.: Q23-30306			**Chemtest Sample ID.:**		1661283
			Client Sample ID.:		V19-C
			Sample Type:		SOIL
			Top Depth (m):		0.2
			Bottom Depth (m):		0.2
			Date Sampled:		19-Jun-2023
			Asbestos Lab:		COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**	
Aromatic VPH >C8-C10	U	2780	mg/kg	0.05	< 0.05
Total Aromatic VPH >C5-C10	U	2780	mg/kg	0.25	< 0.25
Aromatic EPH >C10-C12	U	2690	mg/kg	1.00	< 1.0
Aromatic EPH >C12-C16	U	2690	mg/kg	1.00	< 1.0
Aromatic EPH >C16-C21	U	2690	mg/kg	2.00	2.9
Aromatic EPH >C21-C35	U	2690	mg/kg	2.00	8.3
Aromatic EPH >C35-C40	N	2690	mg/kg	1.00	1.6
Total Aromatic EPH >C10-C35	U	2690	mg/kg	5.00	11
Total Aromatic EPH >C10-C40	N	2690	mg/kg	10.00	13
Total VPH >C5-C10	U	2780	mg/kg	0.50	< 0.50
Total EPH >C10-C35	U	2690	mg/kg	10.00	13
Total EPH >C10-C40	N	2690	mg/kg	10.00	14
Organic Matter	M	2625	%	0.40	1.0
Benzene	M	2760	µg/kg	1.0	< 1.0
Toluene	M	2760	µg/kg	1.0	< 1.0
Ethylbenzene	M	2760	µg/kg	1.0	< 1.0
m & p-Xylene	M	2760	µg/kg	1.0	< 1.0
o-Xylene	M	2760	µg/kg	1.0	< 1.0
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	< 1.0
Naphthalene	M	2800	mg/kg	0.10	0.17
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10
Acenaphthene	M	2800	mg/kg	0.10	< 0.10
Fluorene	M	2800	mg/kg	0.10	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	0.19
Anthracene	M	2800	mg/kg	0.10	< 0.10
Fluoranthene	M	2800	mg/kg	0.10	0.16
Pyrene	M	2800	mg/kg	0.10	0.22
Benzo[a]anthracene	M	2800	mg/kg	0.10	< 0.10
Chrysene	M	2800	mg/kg	0.10	< 0.10
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	< 2.0
Resorcinol	M	2920	mg/kg	0.020	< 0.020

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental			**Chemtest Job No.:**		23-20982
Quotation No.: Q23-30306			**Chemtest Sample ID.:**		1661283
			Client Sample ID.:		V19-C
			Sample Type:		SOIL
			Top Depth (m):		0.2
			Bottom Depth (m):		0.2
			Date Sampled:		19-Jun-2023
			Asbestos Lab:		COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**	
Phenol	M	2920	mg/kg	0.020	< 0.020
Cresols	M	2920	mg/kg	0.020	< 0.020
Xylenols	M	2920	mg/kg	0.020	< 0.020
1-Naphthol	N	2920	mg/kg	0.020	< 0.020
Trimethylphenols	M	2920	mg/kg	0.020	< 0.020
Total Phenols	M	2920	mg/kg	0.10	< 0.10

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2425	Extractable Ammonium in soils	Ammonium	Extraction with potassium chloride solution / analysis by 'Aquakem 600' Discrete Analyser using sodium salicylate and sodium dichloroisocyanurate.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C40	Acetone/Heptane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8-C10 Aromatics: >C5–C7,>C7-C8,>C8–C10	Water extraction / Headspace GCxGC FID detection
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

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U	UKAS accredited
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I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

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Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
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Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

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A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	22-47986-1
Initial Date of Issue:	19-Jan-2023
Client	Rodgers Leask Environmental
Client Address:	Office 225 2430/2440 Aztec West Almoundsbury Bristol BS32 4AQ
Contact(s):	Chris Wilson David McCarroll Rebecca Marsden
Project	P18-669
Quotation No.:	Q22-28243
Order No.:	115623
No. of Samples:	2
Turnaround (Wkdays):	10
Date Approved:	19-Jan-2023
Approved By:	
Details:	Stuart Henderson, Technical Manager

Date Received:	15-Dec-2022
Date Instructed:	28-Dec-2022
Results Due:	12-Jan-2023

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental		**Chemtest Job No.:**			22-47986	22-47986
Quotation No.: Q22-28243		**Chemtest Sample ID.:**			1564831	1564832
		Client Sample ID.:			P10-C	P11-C
		Sample Type:			SOIL	SOIL
		Date Sampled:			14-Dec-2022	14-Dec-2022
		Asbestos Lab:				NEW-ASB
Determinand	**Accred.**	**SOP**	**Units**	**LOD**		
ACM Type	U	2192		N/A		-
Asbestos Identification	U	2192		N/A		No Asbestos Detected
Moisture	N	2030	%	0.020	23	23
Soil Colour	N	2040		N/A	grey	Grey
Other Material	N	2040		N/A	Stones	Stones
Soil Texture	N	2040		N/A	Loam	Loam
pH	M	2010		4.0	7.8	8.0
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50	< 0.50
Ammoniacal Nitrogen	M	2425	mg/kg	0.50	150	110
Iron (Total)	N	2430	mg/kg	100	44000	44000
Arsenic	M	2455	mg/kg	0.5	12	14
Cadmium	M	2455	mg/kg	0.10	0.18	< 0.10
Chromium	M	2455	mg/kg	0.5	55	57
Manganese	M	2455	mg/kg	1.0	1500	1400
Copper	M	2455	mg/kg	0.50	18	18
Mercury	M	2455	mg/kg	0.05	< 0.05	< 0.05
Nickel	M	2455	mg/kg	0.50	51	49
Lead	M	2455	mg/kg	0.50	34	38
Selenium	M	2455	mg/kg	0.25	1.3	1.3
Vanadium	U	2455	mg/kg	0.5	79	65
Zinc	M	2455	mg/kg	0.50	130	130
Aliphatic VPH >C5-C6	N	2780	mg/kg	0.05	[C] < 0.05	[C] < 0.05
Aliphatic VPH >C6-C7	N	2780	mg/kg	0.05	[C] < 0.05	[C] < 0.05
Aliphatic VPH >C7-C8	N	2780	mg/kg	0.05	[C] < 0.05	[C] < 0.05
Aliphatic VPH >C8-C10	N	2780	mg/kg	0.05	[C] < 0.05	[C] < 0.05
Total Aliphatic VPH >C5-C10	N	2780	mg/kg	0.25	[C] < 0.25	[C] < 0.25
Aliphatic EPH >C10-C12	N	2690	mg/kg	2.00	[C] < 2.0	[C] < 2.0
Aliphatic EPH >C12-C16	N	2690	mg/kg	1.00	[C] < 1.0	[C] < 1.0
Aliphatic EPH >C16-C21	N	2690	mg/kg	2.00	[C] < 2.0	[C] < 2.0
Aliphatic EPH >C21-C35	N	2690	mg/kg	3.00	[C] 5.3	[C] 5.6
Aliphatic EPH >C35-C40	N	2690	mg/kg	1.00	[C] 3.3	[C] 2.3
Total Aliphatic EPH >C10-C35	N	2690	mg/kg	5.00	[C] 8.4	[C] 8.2
Total Aliphatic EPH >C10-C40	N	2690	mg/kg	10.00	[C] < 10	[C] < 10
Aromatic VPH >C5-C7	N	2780	mg/kg	0.05	[C] < 0.05	[C] < 0.05
Aromatic VPH >C7-C8	N	2780	mg/kg	0.05	[C] < 0.05	[C] < 0.05
Aromatic VPH >C8-C10	N	2780	mg/kg	0.05	[C] < 0.05	[C] < 0.05
Total Aromatic VPH >C5-C10	N	2780	mg/kg	0.25	[C] < 0.25	[C] < 0.25
Aromatic EPH >C10-C12	N	2690	mg/kg	1.00	[C] < 1.0	[C] < 1.0

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental				**Chemtest Job No.:**	22-47986	22-47986
Quotation No.: Q22-28243				**Chemtest Sample ID.:**	1564831	1564832
				Client Sample ID.:	P10-C	P11-C
				Sample Type:	SOIL	SOIL
				Date Sampled:	14-Dec-2022	14-Dec-2022
				Asbestos Lab:		NEW-ASB
Determinand	**Accred.**	**SOP**	**Units**	**LOD**		
Aromatic EPH >C12-C16	N	2690	mg/kg	1.00	[C] < 1.0	[C] < 1.0
Aromatic EPH >C16-C21	N	2690	mg/kg	2.00	[C] 5.7	[C] 5.0
Aromatic EPH >C21-C35	N	2690	mg/kg	2.00	[C] 7.3	[C] 2.2
Aromatic EPH >C35-C40	N	2690	mg/kg	1.00	[C] 11	[C] 9.5
Total Aromatic EPH >C10-C35	N	2690	mg/kg	5.00	[C] 13	[C] 7.5
Total Aromatic EPH >C10-C40	N	2690	mg/kg	10.00	[C] 24	[C] 17
Total VPH >C5-C10	N	2780	mg/kg	0.50	[C] < 0.50	[C] < 0.50
Total EPH >C10-C35	N	2690	mg/kg	10.00	[C] 22	[C] 16
Total EPH >C10-C40	N	2690	mg/kg	10.00	[C] 20	[C] 15
Organic Matter	M	2625	%	0.40	2.3	2.5
Benzene	M	2760	µg/kg	1.0	[C] < 1.0	[C] < 1.0
Toluene	M	2760	µg/kg	1.0	[C] < 1.0	[C] < 1.0
Ethylbenzene	M	2760	µg/kg	1.0	[C] < 1.0	[C] < 1.0
m & p-Xylene	M	2760	µg/kg	1.0	[C] < 1.0	[C] < 1.0
o-Xylene	M	2760	µg/kg	1.0	[C] < 1.0	[C] < 1.0
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	[C] < 1.0	[C] < 1.0
Naphthalene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10	< 0.10
Acenaphthene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Fluorene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[a]anthracene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Chrysene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	< 2.0	< 2.0
Resorcinol	M	2920	mg/kg	0.020	< 0.020	< 0.020
Phenol	M	2920	mg/kg	0.020	< 0.020	< 0.020
Cresols	M	2920	mg/kg	0.020	< 0.020	< 0.020
Xylenols	M	2920	mg/kg	0.020	< 0.020	< 0.020
1-Naphthol	N	2920	mg/kg	0.020	< 0.020	< 0.020
Trimethylphenols	M	2920	mg/kg	0.020	< 0.020	< 0.020

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental		**Chemtest Job No.:**			22-47986	22-47986
Quotation No.: Q22-28243		**Chemtest Sample ID.:**			1564831	1564832
		Client Sample ID.:			P10-C	P11-C
		Sample Type:			SOIL	SOIL
		Date Sampled:			14-Dec-2022	14-Dec-2022
		Asbestos Lab:				NEW-ASB
Determinand	**Accred.**	**SOP**	**Units**	**LOD**		
Total Phenols	M	2920	mg/kg	0.10	< 0.10	< 0.10

Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request.The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1564831		P10-C		14-Dec-2022	C	Plastic Tub 500g
1564832		P11-C		14-Dec-2022	C	Plastic Tub 500g

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2425	Extractable Ammonium in soils	Ammonium	Extraction with potassium chloride solution / analysis by 'Aquakem 600' Discrete Analyser using sodium salicylate and sodium dichloroisocyanurate.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C40	Acetone/Heptane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8-C10 Aromatics: >C5–C7,>C7-C8,>C8–C10	Water extraction / Headspace GCxGC FID detection
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

eurofins | Chemtest
Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	23-05642-1
Initial Date of Issue:	06-Mar-2023
Client	Rodgers Leask Environmental
Client Address:	Office 225 2430/2440 Aztec West Almoundsbury Bristol BS32 4AQ
Contact(s):	Chris Wilson David McCarroll Rebecca Marsden
Project	P18-669
Quotation No.:	Q23-30306
Order No.:	132306
No. of Samples:	2
Turnaround (Wkdays):	7
Date Approved:	06-Mar-2023
Approved By:	
Details:	Stuart Henderson, Technical Manager

Date Received:	20-Feb-2023
Date Instructed:	20-Feb-2023
Results Due:	28-Feb-2023

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental		**Chemtest Job No.:**			23-05642	23-05642
Quotation No.: Q23-30306		**Chemtest Sample ID.:**			1592914	1592915
		Client Sample ID.:			P12-C	O13-C
		Sample Type:			SOIL	SOIL
		Date Sampled:			17-Feb-2023	17-Feb-2023
		Asbestos Lab:			DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**		
ACM Type	U	2192		N/A		-
Asbestos Identification	U	2192		N/A		No Asbestos Detected
Moisture	N	2030	%	0.020	12	6.6
Soil Colour	N	2040		N/A	Brown	Brown
Other Material	N	2040		N/A	NONE	NONE
Soil Texture	N	2040		N/A	Sand	Sand
pH	M	2010		4.0	6.9	7.2
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50	< 0.50
Ammoniacal Nitrogen	M	2425	mg/kg	0.50	250	190
Iron (Total)	N	2430	mg/kg	100	27000	< 100
Arsenic	M	2455	mg/kg	0.5	16	9.0
Cadmium	M	2455	mg/kg	0.10	0.40	0.10
Chromium	M	2455	mg/kg	0.5	38	36
Manganese	M	2455	mg/kg	1.0	390	270
Copper	M	2455	mg/kg	0.50	22	12
Mercury	M	2455	mg/kg	0.05	0.07	< 0.05
Nickel	M	2455	mg/kg	0.50	28	33
Lead	M	2455	mg/kg	0.50	38	26
Selenium	M	2455	mg/kg	0.25	1.6	0.95
Vanadium	U	2455	mg/kg	0.5	50	43
Zinc	M	2455	mg/kg	0.50	130	97
Aliphatic VPH >C5-C6	M	2780	mg/kg	0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C7	M	2780	mg/kg	0.05	< 0.05	< 0.05
Aliphatic VPH >C7-C8	M	2780	mg/kg	0.05	< 0.05	< 0.05
Aliphatic VPH >C8-C10	M	2780	mg/kg	0.05	< 0.05	< 0.05
Total Aliphatic VPH >C5-C10	M	2780	mg/kg	0.25	< 0.25	< 0.25
Aliphatic EPH >C10-C12	M	2690	mg/kg	2.00	< 2.0	< 2.0
Aliphatic EPH >C12-C16	M	2690	mg/kg	1.00	3.6	1.9
Aliphatic EPH >C16-C21	M	2690	mg/kg	2.00	3.4	< 2.0
Aliphatic EPH >C21-C35	M	2690	mg/kg	3.00	28	8.2
Aliphatic EPH >C35-C40	N	2690	mg/kg	10.00	< 10	< 10
Total Aliphatic EPH >C10-C35	M	2690	mg/kg	5.00	37	12
Total Aliphatic EPH >C10-C40	N	2690	mg/kg	10.00	37	12
Aromatic VPH >C5-C7	M	2780	mg/kg	0.05	< 0.05	< 0.05
Aromatic VPH >C7-C8	M	2780	mg/kg	0.05	< 0.05	< 0.05
Aromatic VPH >C8-C10	M	2780	mg/kg	0.05	< 0.05	< 0.05
Total Aromatic VPH >C5-C10	M	2780	mg/kg	0.25	< 0.25	< 0.25
Aromatic EPH >C10-C12	M	2690	mg/kg	1.00	190	9.8

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental		**Chemtest Job No.:**			23-05642	23-05642
Quotation No.: Q23-30306		**Chemtest Sample ID.:**			1592914	1592915
		Client Sample ID.:			P12-C	O13-C
		Sample Type:			SOIL	SOIL
		Date Sampled:			17-Feb-2023	17-Feb-2023
		Asbestos Lab:			DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**		
Aromatic EPH >C12-C16	M	2690	mg/kg	1.00	11	6.3
Aromatic EPH >C16-C21	N	2690	mg/kg	2.00	15	13
Aromatic EPH >C21-C35	M	2690	mg/kg	2.00	40	12
Aromatic EPH >C35-C40	N	2690	mg/kg	1.00	7.1	4.8
Total Aromatic EPH >C10-C35	M	2690	mg/kg	5.00	250	41
Total Aromatic EPH >C10-C40	N	2690	mg/kg	10.00	260	46
Total VPH >C5-C10	M	2780	mg/kg	0.50	< 0.50	< 0.50
Total EPH >C10-C35	M	2690	mg/kg	10.00	290	54
Total EPH >C10-C40	N	2690	mg/kg	10.00	300	59
Organic Matter	M	2625	%	0.40	8.6	1.1
Benzene	M	2760	µg/kg	1.0	1.6	< 1.0
Toluene	M	2760	µg/kg	1.0	8.6	4.3
Ethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0
m & p-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0
o-Xylene	M	2760	µg/kg	1.0	8.2	3.7
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	< 1.0	< 1.0
Naphthalene	M	2800	mg/kg	0.10	0.55	0.23
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10	< 0.10
Acenaphthene	M	2800	mg/kg	0.10	< 0.10	< 0.10
Fluorene	M	2800	mg/kg	0.10	0.37	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	2.8	< 0.10
Anthracene	M	2800	mg/kg	0.10	2.7	< 0.10
Fluoranthene	M	2800	mg/kg	0.10	6.6	< 0.10
Pyrene	M	2800	mg/kg	0.10	7.4	< 0.10
Benzo[a]anthracene	M	2800	mg/kg	0.10	7.7	< 0.10
Chrysene	M	2800	mg/kg	0.10	8.0	< 0.10
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	9.2	< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	8.5	< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	7.7	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	9.1	< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	8.5	< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	8.7	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	88	< 2.0
Resorcinol	M	2920	mg/kg	0.020	< 0.020	< 0.020
Phenol	M	2920	mg/kg	0.020	< 0.020	< 0.020
Cresols	M	2920	mg/kg	0.020	< 0.020	< 0.020
Xylenols	M	2920	mg/kg	0.020	< 0.020	< 0.020
1-Naphthol	N	2920	mg/kg	0.020	< 0.020	< 0.020
Trimethylphenols	M	2920	mg/kg	0.020	< 0.020	< 0.020

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental			**Chemtest Job No.:**		23-05642	23-05642
Quotation No.: Q23-30306			**Chemtest Sample ID.:**		1592914	1592915
			Client Sample ID.:		P12-C	O13-C
			Sample Type:		SOIL	SOIL
			Date Sampled:		17-Feb-2023	17-Feb-2023
			Asbestos Lab:		DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**		
Total Phenols	M	2920	mg/kg	0.10	< 0.10	< 0.10

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2425	Extractable Ammonium in soils	Ammonium	Extraction with potassium chloride solution / analysis by 'Aquakem 600' Discrete Analyser using sodium salicylate and sodium dichloroisocyanurate.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C40	Acetone/Heptane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8-C10 Aromatics: >C5–C7,>C7-C8,>C8–C10	Water extraction / Headspace GCxGC FID detection
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

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A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
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D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

eurofins | Chemtest
Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	23-07122-1
Initial Date of Issue:	14-Mar-2023
Client	Rodgers Leask Environmental
Client Address:	Office 225 2430/2440 Aztec West Almoundsbury Bristol BS32 4AQ
Contact(s):	Chris Wilson David McCarroll Rebecca Marsden
Project	P18-669
Quotation No.:	Q23-30306
Order No.:	132306
No. of Samples:	4
Turnaround (Wkdays):	7
Date Approved:	14-Mar-2023
Approved By:	
Details:	Stuart Henderson, Technical Manager

Date Received:	02-Mar-2023
Date Instructed:	02-Mar-2023
Results Due:	10-Mar-2023

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental		**Chemtest Job No.:**			23-07122	23-07122	23-07122	23-07122
Quotation No.: Q23-30306		**Chemtest Sample ID.:**			1599937	1599938	1599939	1599940
		Client Sample ID.:			SP2d-7	P13-C	S29-C	Q26-C
		Sample Type:			SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			0.2			
		Bottom Depth (m):			0.2			
		Date Sampled:			01-Mar-2023	01-Mar-2023	01-Mar-2023	01-Mar-2023
		Asbestos Lab:			NEW-ASB	NEW-ASB		NEW-ASB
Determinand	**Accred.**	**SOP**	**Units**	**LOD**				
ACM Type	U	2192		N/A	-	-		-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected		No Asbestos Detected
Moisture	N	2030	%	0.020	5.0	26	23	21
Soil Colour	N	2040		N/A	Brown	Grey	Grey	Grey
Other Material	N	2040		N/A	Stones	None	Stones and Roots	Stones and Roots
Soil Texture	N	2040		N/A	Sand	Clay	Clay	Clay
pH	M	2010		4.0	9.9	8.1	8.2	8.1
Cyanide (Total)	M	2300	mg/kg	0.50	2.1	< 0.50	< 0.50	< 0.50
Ammoniacal Nitrogen	M	2425	mg/kg	0.50	1.4	200	170	150
Iron (Total)	N	2430	mg/kg	100	53000	29000	33000	25000
Arsenic	M	2455	mg/kg	0.5	14	12	16	11
Cadmium	M	2455	mg/kg	0.10	0.68	0.11	0.17	0.11
Chromium	M	2455	mg/kg	0.5	110	36	45	32
Manganese	M	2455	mg/kg	1.0	6500	440	810	500
Copper	M	2455	mg/kg	0.50	38	11	15	9.5
Mercury	M	2455	mg/kg	0.05	0.32	< 0.05	< 0.05	< 0.05
Nickel	M	2455	mg/kg	0.50	22	32	39	28
Lead	M	2455	mg/kg	0.50	100	24	30	21
Selenium	M	2455	mg/kg	0.25	2.5	0.96	1.3	0.89
Vanadium	U	2455	mg/kg	0.5	140	42	50	37
Zinc	M	2455	mg/kg	0.50	380	93	110	75
Aliphatic VPH >C5-C6	M	2780	mg/kg	0.05	[C] < 0.05	[C] < 0.05	[C] < 0.05	[C] < 0.05
Aliphatic VPH >C6-C7	M	2780	mg/kg	0.05	[C] < 0.05	[C] < 0.05	[C] < 0.05	[C] < 0.05
Aliphatic VPH >C7-C8	M	2780	mg/kg	0.05	[C] < 0.05	[C] < 0.05	[C] < 0.05	[C] < 0.05
Aliphatic VPH >C8-C10	M	2780	mg/kg	0.05	[C] 0.37	[C] < 0.05	[C] < 0.05	[C] < 0.05
Total Aliphatic VPH >C5-C10	M	2780	mg/kg	0.25	[C] 0.37	[C] < 0.25	[C] < 0.25	[C] < 0.25
Aliphatic EPH >C10-C12	M	2690	mg/kg	2.00	[C] 2.5	[C] 3.1	[C] 2.9	[C] 7.2
Aliphatic EPH >C12-C16	M	2690	mg/kg	1.00	[C] 3.7	[C] 2.9	[C] 2.9	[C] 7.1
Aliphatic EPH >C16-C21	M	2690	mg/kg	2.00	[C] 5.8	[C] < 2.0	[C] < 2.0	[C] 8.1
Aliphatic EPH >C21-C35	M	2690	mg/kg	3.00	[C] 16	[C] 3.7	[C] 5.3	[C] 17
Aliphatic EPH >C35-C40	N	2690	mg/kg	10.00	[C] < 10	[C] < 10	[C] < 10	[C] < 10
Total Aliphatic EPH >C10-C35	M	2690	mg/kg	5.00	[C] 28	[C] 11	[C] 12	[C] 39
Total Aliphatic EPH >C10-C40	N	2690	mg/kg	10.00	[C] 28	[C] 11	[C] 12	[C] 39
Aromatic VPH >C5-C7	M	2780	mg/kg	0.05	[C] < 0.05	[C] < 0.05	[C] < 0.05	[C] < 0.05
Aromatic VPH >C7-C8	M	2780	mg/kg	0.05	[C] < 0.05	[C] < 0.05	[C] < 0.05	[C] < 0.05

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental		**Chemtest Job No.:**			23-07122	23-07122	23-07122	23-07122
Quotation No.: Q23-30306		**Chemtest Sample ID.:**			1599937	1599938	1599939	1599940
		Client Sample ID.:			SP2d-7	P13-C	S29-C	Q26-C
		Sample Type:			SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			0.2			
		Bottom Depth (m):			0.2			
		Date Sampled:			01-Mar-2023	01-Mar-2023	01-Mar-2023	01-Mar-2023
		Asbestos Lab:			NEW-ASB	NEW-ASB		NEW-ASB
Determinand	**Accred.**	**SOP**	**Units**	**LOD**				
Aromatic VPH >C8-C10	M	2780	mg/kg	0.05	[C] < 0.05	[C] < 0.05	[C] < 0.05	[C] < 0.05
Total Aromatic VPH >C5-C10	M	2780	mg/kg	0.25	[C] < 0.25	[C] < 0.25	[C] < 0.25	[C] < 0.25
Aromatic EPH >C10-C12	M	2690	mg/kg	1.00	[C] 1.5	[C] 2.2	[C] 2.7	[C] 8.7
Aromatic EPH >C12-C16	M	2690	mg/kg	1.00	[C] 5.7	[C] 3.8	[C] 3.3	[C] 13
Aromatic EPH >C16-C21	N	2690	mg/kg	2.00	[C] 45	[C] 11	[C] 10	[C] 19
Aromatic EPH >C21-C35	M	2690	mg/kg	2.00	[C] 63	[C] 14	[C] 7.8	[C] 46
Aromatic EPH >C35-C40	N	2690	mg/kg	1.00	[C] 5.6	[C] 3.1	[C] 2.5	[C] 12
Total Aromatic EPH >C10-C35	M	2690	mg/kg	5.00	[C] 110	[C] 30	[C] 24	[C] 86
Total Aromatic EPH >C10-C40	N	2690	mg/kg	10.00	[C] 120	[C] 34	[C] 26	[C] 98
Total VPH >C5-C10	M	2780	mg/kg	0.50	[C] < 0.50	[C] < 0.50	[C] < 0.50	[C] < 0.50
Total EPH >C10-C35	M	2690	mg/kg	10.00	[C] 140	[C] 42	[C] 36	[C] 130
Total EPH >C10-C40	N	2690	mg/kg	10.00	[C] 150	[C] 45	[C] 38	[C] 140
Organic Matter	M	2625	%	0.40	12	1.1	0.55	0.72
Benzene	M	2760	µg/kg	1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
Toluene	M	2760	µg/kg	1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0	[C] 1.3
Ethylbenzene	M	2760	µg/kg	1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
m & p-Xylene	M	2760	µg/kg	1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
o-Xylene	M	2760	µg/kg	1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0	[C] < 1.0
Naphthalene	M	2800	mg/kg	0.10	7.2	0.10	0.13	0.10
Acenaphthylene	N	2800	mg/kg	0.10	1.7	< 0.10	< 0.10	< 0.10
Acenaphthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	M	2800	mg/kg	0.10	0.86	< 0.10	< 0.10	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	10	< 0.10	< 0.10	< 0.10
Anthracene	M	2800	mg/kg	0.10	2.3	< 0.10	< 0.10	< 0.10
Fluoranthene	M	2800	mg/kg	0.10	19	< 0.10	< 0.10	< 0.10
Pyrene	M	2800	mg/kg	0.10	14	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene	M	2800	mg/kg	0.10	7.9	< 0.10	< 0.10	< 0.10
Chrysene	M	2800	mg/kg	0.10	6.5	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	12	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	3.8	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	8.3	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	8.0	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	1.2	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	6.2	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	110	< 2.0	< 2.0	< 2.0
Resorcinol	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental					**Chemtest Job No.:**	23-07122	23-07122	23-07122	23-07122
Quotation No.: Q23-30306					**Chemtest Sample ID.:**	1599937	1599938	1599939	1599940
					Client Sample ID.:	SP2d-7	P13-C	S29-C	Q26-C
					Sample Type:	SOIL	SOIL	SOIL	SOIL
					Top Depth (m):	0.2			
					Bottom Depth (m):	0.2			
					Date Sampled:	01-Mar-2023	01-Mar-2023	01-Mar-2023	01-Mar-2023
					Asbestos Lab:	NEW-ASB	NEW-ASB		NEW-ASB
Determinand	**Accred.**	**SOP**	**Units**	**LOD**					
Phenol	M	2920	mg/kg	0.020		< 0.020	< 0.020	< 0.020	< 0.020
Cresols	M	2920	mg/kg	0.020		< 0.020	< 0.020	< 0.020	< 0.020
Xylenols	M	2920	mg/kg	0.020		< 0.020	< 0.020	< 0.020	< 0.020
1-Naphthol	N	2920	mg/kg	0.020		< 0.020	< 0.020	< 0.020	< 0.020
Trimethylphenols	M	2920	mg/kg	0.020		< 0.020	< 0.020	< 0.020	< 0.020
Total Phenols	M	2920	mg/kg	0.10		< 0.10	< 0.10	< 0.10	< 0.10

Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request.The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1599937		SP2d-7		01-Mar-2023	C	Plastic Tub 1000g
1599938		P13-C		01-Mar-2023	C	Plastic Tub 1000g
1599939		S29-C		01-Mar-2023	C	Plastic Tub 1000g
1599940		Q26-C		01-Mar-2023	C	Plastic Tub 1000g

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2425	Extractable Ammonium in soils	Ammonium	Extraction with potassium chloride solution / analysis by 'Aquakem 600' Discrete Analyser using sodium salicylate and sodium dichloroisocyanurate.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C40	Acetone/Heptane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8-C10 Aromatics: >C5–C7,>C7-C8,>C8–C10	Water extraction / Headspace GCxGC FID detection
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

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If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528700
Fax: (01244) 528701
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

Rodgers Leask
Office 225
2430/2440
Aztec West
Almondsbury
Bristol
BS32 4QA

Attention: Elliot Thomas

CERTIFICATE OF ANALYSIS

Date of report Generation:	27 January 2021
Customer:	Rodgers Leask
Sample Delivery Group (SDG):	210114-156
Your Reference:	P18-669
Location:	Llanwern
Report No:	584521

This report has been revised and directly supersedes 584114 in its entirety.

We received 26 samples on Thursday January 14, 2021 and 26 of these samples were scheduled for analysis which was completed on Wednesday January 27, 2021. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23544315	AR29-1		1.20 - 1.20	13/01/2021
23544309	AS29-1		1.00 - 1.00	13/01/2021
23544291	AT29-1		0.50 - 0.50	13/01/2021
23544302	AT29-2		1.10 - 1.10	13/01/2021
23544336	AU23-1		0.50 - 0.50	12/01/2021
23544341	AU23-2		1.40 - 1.40	12/01/2021
23544284	AU28-1		0.50 - 0.50	13/01/2021
23544150	AV22-1		0.50 - 0.50	12/01/2021
23544263	AV22-2		1.50 - 1.50	12/01/2021
23544346	AV23-1		0.50 - 0.50	12/01/2021
23544351	AV23-2		1.60 - 1.60	12/01/2021
23544251	AV28-1		0.30 - 0.30	13/01/2021
23544270	AV28-2		1.20 - 1.20	13/01/2021
23544277	AV28-3		2.20 - 2.20	13/01/2021
23544237	AV29-1		0.80 - 0.80	13/01/2021
23544246	AV29-2		1.70 - 1.70	13/01/2021
23544320	AW22-1		0.50 - 0.50	12/01/2021
23544325	AW22-2		1.30 - 1.30	12/01/2021
23544330	AW22-3		2.40 - 2.40	12/01/2021
23544170	AW23-1		0.60 - 0.60	12/01/2021
23544178	AW23-2		1.70 - 1.70	12/01/2021
23544190	AW26-1		0.50 - 0.50	12/01/2021
23544196	AW28-1		0.40 - 0.40	13/01/2021
23544202	AW28-2		1.40 - 1.40	13/01/2021
23544215	AW29-1		0.60 - 0.60	13/01/2021
23544221	AW29-2		1.30 - 1.30	13/01/2021

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

Results Legend

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23544315		23544309		23544291		23544302		23544336		23544341		23544284		23544150		23544263		23544346
Customer Sample Reference			AR29-1		AS29-1		AT29-1		AT29-2		AU23-1		AU23-2		AU28-1		AV22-1		AV22-2		AV23-1
AGS Reference																					
Depth (m)			1.20 - 1.20		1.00 - 1.00		0.50 - 0.50		1.10 - 1.10		0.50 - 0.50		1.40 - 1.40		0.50 - 0.50		0.50 - 0.50		1.50 - 1.50		0.50 - 0.50
Container			250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Ammonium Soil by Titration	All	NDPs: 0 Tests: 26	X		X		X		X		X		X		X		X		X		X
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 13			X		X						X				X				
Asbestos Quantification - Full	All	NDPs: 0 Tests: 2											X								
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 26	X		X		X		X		X		X		X		X		X		X
EPH CWG GC (S)	All	NDPs: 0 Tests: 26	X		X		X		X		X		X		X		X		X		X
GRO by GC-FID (S)	All	NDPs: 0 Tests: 26		X		X		X		X		X		X		X		X		X	
Metals in solid samples by OES	All	NDPs: 0 Tests: 26	X		X		X		X		X		X		X		X		X		X
PAH by GCMS	All	NDPs: 0 Tests: 26	X		X		X		X		X		X		X		X		X		X
pH	All	NDPs: 0 Tests: 26	X		X		X		X		X		X		X		X		X		X
Phenols by HPLC (S)	All	NDPs: 0 Tests: 26	X		X		X		X		X		X		X		X		X		X
Sample description	All	NDPs: 0 Tests: 26	X		X		X		X		X		X		X		X		X		X
Total Organic Carbon	All	NDPs: 0 Tests: 26	X		X		X		X		X		X		X		X		X		X
TPH CWG GC (S)	All	NDPs: 0 Tests: 26	X		X		X		X		X		X		X		X		X		X
VOC MS (S)	All	NDPs: 0 Tests: 26		X		X		X		X		X		X		X		X		X	

23544178	AW23-2		1.70 - 1.70	250g Amber Jar (ALE210)	S	X	X		X	X		X	X	X	X	X	X	X	X				
23544170	AW23-1		0.60 - 0.60	60g VOC (ALE215)	S						X									X				
				250g Amber Jar (ALE210)	S	X			X	X		X	X	X	X	X	X	X	X					
23544330	AW22-3		2.40 - 2.40	60g VOC (ALE215)	S						X									X				
				250g Amber Jar (ALE210)	S	X	X		X	X		X	X	X	X	X	X	X	X					
23544325	AW22-2		1.30 - 1.30	60g VOC (ALE215)	S						X									X				
				250g Amber Jar (ALE210)	S	X			X	X		X	X	X	X	X	X	X	X					
23544320	AW22-1		0.50 - 0.50	250g Amber Jar (ALE210)	S	X	X		X	X	X	X	X	X	X	X	X	X	X	X				
23544246	AV29-2		1.70 - 1.70	60g VOC (ALE215)	S						X									X				
				250g Amber Jar (ALE210)	S	X			X	X		X	X	X	X	X	X	X	X					
23544237	AV29-1		0.80 - 0.80	60g VOC (ALE215)	S						X									X				
				250g Amber Jar (ALE210)	S	X	X		X	X		X	X	X	X	X	X	X	X					
23544277	AV28-3		2.20 - 2.20	60g VOC (ALE215)	S						X									X				
				250g Amber Jar (ALE210)	S	X	X		X	X		X	X	X	X	X	X	X	X					
23544270	AV28-2		1.20 - 1.20	60g VOC (ALE215)	S						X									X				
				250g Amber Jar (ALE210)	S	X			X	X		X	X	X	X	X	X	X	X					
23544251	AV28-1		0.30 - 0.30	60g VOC (ALE215)	S						X									X				
				250g Amber Jar (ALE210)	S	X	X		X	X		X	X	X	X	X	X	X	X					
23544351	AV23-2		1.60 - 1.60	60g VOC (ALE215)	S						X									X				
				250g Amber Jar (ALE210)	S	X	X		X	X		X	X	X	X	X	X	X	X					
23544346	AV23-1		0.50 - 0.50	60g VOC (ALE215)	S						X									X				

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23544178	23544190		23544196		23544202		23544215	23544221
Customer Sample Reference			AW23-2	AW26-1		AW28-1		AW28-2		AW29-1	AW29-2
AGS Reference											
Depth (m)			1.70 - 1.70	0.50 - 0.50		0.40 - 0.40		1.40 - 1.40		0.60 - 0.60	1.30 - 1.30
Container			60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)
Sample Type			S	S	S	S	S	S	S	S	S	S	S
Ammonium Soil by Titration	All	NDPs: 0 Tests: 26		X		X		X		X		X	
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 13				X				X			
Asbestos Quantification - Full	All	NDPs: 0 Tests: 2								X			
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 26		X		X		X		X		X	
EPH CWG GC (S)	All	NDPs: 0 Tests: 26		X		X		X		X		X	
GRO by GC-FID (S)	All	NDPs: 0 Tests: 26	X		X		X		X		X		X
Metals in solid samples by OES	All	NDPs: 0 Tests: 26		X		X		X		X		X	
PAH by GCMS	All	NDPs: 0 Tests: 26		X		X		X		X		X	
pH	All	NDPs: 0 Tests: 26		X		X		X		X		X	
Phenols by HPLC (S)	All	NDPs: 0 Tests: 26		X		X		X		X		X	
Sample description	All	NDPs: 0 Tests: 26		X		X		X		X		X	
Total Organic Carbon	All	NDPs: 0 Tests: 26		X		X		X		X		X	
TPH CWG GC (S)	All	NDPs: 0 Tests: 26		X		X		X		X		X	
VOC MS (S)	All	NDPs: 0 Tests: 26	X		X		X		X		X		X

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

Sample Descriptions

Grain Sizes

very fine	<0.063mm	**fine**	0.063mm - 0.1mm	**medium**	0.1mm - 2mm	**coarse**	2mm - 10mm	**very coarse**	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
23544315	AR29-1	1.20 - 1.20	Black	Sand	Stones	None
23544309	AS29-1	1.00 - 1.00	Black	Sand	Stones	None
23544291	AT29-1	0.50 - 0.50	Dark Brown	Loamy Sand	Stones	None
23544302	AT29-2	1.10 - 1.10	Black	Loamy Sand	Stones	None
23544336	AU23-1	0.50 - 0.50	Dark Brown	Sandy Clay Loam	Stones	None
23544341	AU23-2	1.40 - 1.40	Dark Brown	Sandy Loam	Stones	N/A
23544284	AU28-1	0.50 - 0.50	Dark Brown	Sandy Loam	Stones	Vegetation
23544150	AV22-1	0.50 - 0.50	Black	Loamy Sand	Stones	None
23544263	AV22-2	1.50 - 1.50	Dark Brown	Sandy Loam	Stones	Concrete/Aggregate
23544346	AV23-1	0.50 - 0.50	Dark Brown	Sand	Stones	None
23544351	AV23-2	1.60 - 1.60	Light Brown	Sand	Stones	None
23544251	AV28-1	0.30 - 0.30	Dark Brown	Silty Sand	Stones	None
23544270	AV28-2	1.20 - 1.20	Black	Loamy Sand	Stones	None
23544277	AV28-3	2.20 - 2.20	Black	Loamy Sand	Stones	None
23544237	AV29-1	0.80 - 0.80	Dark Brown	Loamy Sand	Stones	None
23544246	AV29-2	1.70 - 1.70	Black	Stone/Soil	None	None
23544320	AW22-1	0.50 - 0.50	Black	Sandy Loam	Stones	None
23544325	AW22-2	1.30 - 1.30	Black	Loamy Sand	Stones	None
23544330	AW22-3	2.40 - 2.40	Grey	Rubble/Soil	Stones	None
23544170	AW23-1	0.60 - 0.60	Dark Brown	Sand	Stones	None
23544178	AW23-2	1.70 - 1.70	Dark Brown	Sand	Stones	N/A
23544190	AW26-1	0.50 - 0.50	Dark Brown	Sand	Stones	None
23544196	AW28-1	0.40 - 0.40	Black	Loamy Sand	Stones	None
23544202	AW28-2	1.40 - 1.40	Black	Loamy Sand	Stones	None
23544215	AW29-1	0.60 - 0.60	Black	Loamy Sand	Stones	None
23544221	AW29-2	1.30 - 1.30	Black	Loamy Sand	Stones	None

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AR29-1	AS29-1	AT29-1	AT29-2	AU23-1	AU23-2
			Depth (m)	1.20 - 1.20	1.00 - 1.00	0.50 - 0.50	1.10 - 1.10	0.50 - 0.50	1.40 - 1.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	13/01/2021	13/01/2021	13/01/2021	13/01/2021	12/01/2021	12/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021
			SDG Ref	210114-156	210114-156	210114-156	210114-156	210114-156	210114-156
			Lab Sample No.(s)	23544315	23544309	23544291	23544302	23544336	23544341
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		15	11	12	24	20	14
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M	<12 M	<12 M	<12 M	28.7 M
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M
Soil Organic Matter (SOM)	<0.35 %	TM132		61.9 #	12.8 #	22.1 #	98.8 #	4.98 #	4.47 #
pH	1 pH Units	TM133		11.7 M	11.5 M	10.8 M	10.4 M	9.06 M	10.8 M
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Arsenic	<0.6 mg/kg	TM181		5.37 M	6.29 M	4.22 M	5.02 M	13.6 M	6.17 M
Cadmium	<0.02 mg/kg	TM181		<0.02 M	1.22 M	0.147 M	<0.02 M	0.839 M	0.309 M
Chromium	<0.9 mg/kg	TM181		307 M	222 M	25.6 M	8.05 M	226 M	77.9 M
Copper	<1.4 mg/kg	TM181		19.3 M	<14 M	6.17 M	17.8 M	24.1 M	<14 M
Iron	<1000 mg/kg	TM181		64500 #	102000 #	32600 #	23900 #	87800 #	55000 #
Lead	<0.7 mg/kg	TM181		9.84 M	13.1 M	22.5 M	16.2 M	100 M	109 M
Manganese	<0.13 mg/kg	TM181		19000 M	19600 M	5800 M	1800 M	12600 M	6930 M
Mercury	<0.14 mg/kg	TM181		<0.14 M	<1.4 M	<0.14 M	<0.14 M	<1.4 M	<1.4 M
Nickel	<0.2 mg/kg	TM181		7.08 M	10.1 M	4.84 M	8.34 M	28.4 M	12.3 M
Selenium	<1 mg/kg	TM181		10.1 #	11.5 #	4.19 #	1.3 #	10.7 #	<10 #
Vanadium	<0.2 mg/kg	TM181		895 #	480 #	51.5 #	26.9 #	236 #	140 #
Zinc	<1.9 mg/kg	TM181		35.5 M	522 M	49.7 M	46.3 M	476 M	265 M
Asbestos Quantification - Gravimetric - %	<0.001 %	TM304							<0.001 #
Asbestos Quantification - PCOM Evaluation - %	<0.001 %	TM304							<0.001 #
Additional Asbestos Components (Using TM048)		TM304							None #
Analysts Comments		TM304							0
Asbestos Quantification - Total - %	<0.001 %	TM304							<0.001 #

Validated

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AU28-1	AV22-1	AV22-2	AV23-1	AV23-2	AV28-1
			Depth (m)	0.50 - 0.50	0.50 - 0.50	1.50 - 1.50	0.50 - 0.50	1.60 - 1.60	0.30 - 0.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	13/01/2021	12/01/2021	12/01/2021	12/01/2021	12/01/2021	13/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021
			SDG Ref	210114-156	210114-156	210114-156	210114-156	210114-156	210114-156
			Lab Sample No.(s)	23544284	23544150	23544263	23544346	23544351	23544251
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		13	9	17	11	6.8	9.8
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M	30.1 M	<12 M	<12 M	<12 M
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	0.0121 M	<0.01 M	<0.01 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M
Soil Organic Matter (SOM)	<0.35 %	TM132		3.28 #	17.4 #	7.52 #	1.01 #	0.441 #	26 #
pH	1 pH Units	TM133		9.07 M	10.4 M	11.8 M	9.67 M	10.9 M	9.4 M
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	1.54 M	<1 M	<1 M	<1 M
Arsenic	<0.6 mg/kg	TM181		7.86 M	9.2 M	12.4 M	6.51 M	2.8 M	7.62 M
Cadmium	<0.02 mg/kg	TM181		<0.02 M	<0.2 M	<0.2 M	0.873 M	0.24 M	0.802 M
Chromium	<0.9 mg/kg	TM181		26.5 M	<9 M	<9 M	23.7 M	57.2 M	219 M
Copper	<1.4 mg/kg	TM181		15.2 M	<14 M	15 M	10.2 M	3.15 M	19.1 M
Iron	<1000 mg/kg	TM181		53200 #	238000 #	118000 #	22000 #	6400 #	208000 #
Lead	<0.7 mg/kg	TM181		37.6 M	44.6 M	33.5 M	19.5 M	<0.7 M	29.1 M
Manganese	<0.13 mg/kg	TM181		4440 M	3470 M	3140 M	2090 M	6650 M	8970 M
Mercury	<0.14 mg/kg	TM181		<0.14 M	<1.4 M	<1.4 M	<0.14 M	<0.14 M	<1.4 M
Nickel	<0.2 mg/kg	TM181		14.6 M	53.7 M	30.9 M	13 M	1.37 M	29.5 M
Selenium	<1 mg/kg	TM181		1.61 #	<10 #	<10 #	1.15 #	3.97 #	<10 #
Vanadium	<0.2 mg/kg	TM181		60.3 #	56.6 #	54.5 #	38 #	110 #	146 #
Zinc	<1.9 mg/kg	TM181		136 M	164 M	110 M	90.6 M	27.6 M	180 M

Validated

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AV28-2	AV28-3	AV29-1	AV29-2	AW22-1	AW22-2
			Depth (m)	1.20 - 1.20	2.20 - 2.20	0.80 - 0.80	1.70 - 1.70	0.50 - 0.50	1.30 - 1.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	13/01/2021	13/01/2021	13/01/2021	13/01/2021	12/01/2021	12/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021
			SDG Ref	210114-156	210114-156	210114-156	210114-156	210114-156	210114-156
			Lab Sample No.(s)	23544270	23544277	23544237	23544246	23544320	23544325
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		19	21	15	12	11	11
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M	<12 M	127 #	<12 M	<12 M
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 #	0.0113 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 #	<0.01 M	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 #	<0.015 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M	<0.035 #	<0.035 M	<0.035 M
Soil Organic Matter (SOM)	<0.35 %	TM132		49.1 #	44 #	11.5 #	1.45 #	23.4 #	10.9 #
pH	1 pH Units	TM133		11.5 M	11.3 M	11.3 M	8.31 #	10.2 M	10.4 M
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	<1 M	<1 #	<1 M	<1 M
Arsenic	<0.6 mg/kg	TM181		9.8 M	11.7 M	17.2 M	4.66 #	8.42 M	19 M
Cadmium	<0.02 mg/kg	TM181		<0.2 M	<0.2 M	4.82 M	0.297 #	0.132 M	<0.2 M
Chromium	<0.9 mg/kg	TM181		<9 M	<9 M	<9 M	<9 #	138 M	<9 M
Copper	<1.4 mg/kg	TM181		19.6 M	17.8 M	43.9 M	14.3 #	15.3 M	41.3 M
Iron	<1000 mg/kg	TM181		143000 #	146000 #	321000 #	14800 #	94200 #	264000 #
Lead	<0.7 mg/kg	TM181		51.4 M	74 M	1400 M	31.7 #	147 M	41.5 M
Manganese	<0.13 mg/kg	TM181		4270 M	4290 M	10900 M	2880 #	10400 M	4700 M
Mercury	<0.14 mg/kg	TM181		<1.4 M	<1.4 M	<1.4 M	<0.14 #	0.239 M	<1.4 M
Nickel	<0.2 mg/kg	TM181		20.7 M	21.3 M	41.6 M	7.14 #	18.5 M	41.5 M
Selenium	<1 mg/kg	TM181		<10 #	<10 #	<10 #	6.48 #	3.64 #	<10 #
Vanadium	<0.2 mg/kg	TM181		64.6 #	69 #	156 #	22.1 #	311 #	83.2 #
Zinc	<1.9 mg/kg	TM181		128 M	170 M	2780 M	83 #	449 M	116 M

Validated

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AW22-3	AW23-1	AW23-2	AW26-1	AW28-1	AW28-2
			Depth (m)	2.40 - 2.40	0.60 - 0.60	1.70 - 1.70	0.50 - 0.50	0.40 - 0.40	1.40 - 1.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	12/01/2021	12/01/2021	12/01/2021	12/01/2021	13/01/2021	13/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021
			SDG Ref	210114-156	210114-156	210114-156	210114-156	210114-156	210114-156
			Lab Sample No.(s)	23544330	23544170	23544178	23544190	23544196	23544202
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		5.8	10	8.2	13	9.9	11
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 #	<12 M	39.6 M	<12 M	<12 M	<12 M
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 #	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 #	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)		0.0424 #	<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		0.0424 #	<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M
Soil Organic Matter (SOM)	<0.35 %	TM132		2.67 #	1.01 #	1.91 #	4.34 #	14.1 #	7.12 #
pH	1 pH Units	TM133		10.6 #	11.3 M	10.3 M	9.52 M	9.57 M	11.1 M
Cyanide, Total	<1 mg/kg	TM153		<1 #	<1 M	<1 M	<1 M	<1 M	<1 M
Arsenic	<0.6 mg/kg	TM181		<6 #	1.9 M	6.69 M	11 M	7.89 M	6.03 M
Cadmium	<0.02 mg/kg	TM181		<0.2 #	<0.02 M	0.742 M	<0.2 M	0.249 M	<0.2 M
Chromium	<0.9 mg/kg	TM181		101 #	3.79 M	97.2 M	399 M	294 M	399 M
Copper	<1.4 mg/kg	TM181		<14 #	<1.4 M	17.6 M	40.3 M	<14 M	<14 M
Iron	<1000 mg/kg	TM181		42100 #	10800 #	36600 #	64300 #	175000 #	168000 #
Lead	<0.7 mg/kg	TM181		21.3 #	<0.7 M	16.1 M	49.9 M	166 M	56.1 M
Manganese	<0.13 mg/kg	TM181		4710 #	3970 M	2020 M	18900 M	19100 M	30700 M
Mercury	<0.14 mg/kg	TM181		<1.4 #	<1.4 M	0.297 M	<1.4 M	<1.4 M	<1.4 M
Nickel	<0.2 mg/kg	TM181		13.5 #	1.21 M	16.7 M	26.4 M	14 M	11.2 M
Selenium	<1 mg/kg	TM181		<10 #	2.23 #	2.32 #	16.7 #	12.6 #	23.6 #
Vanadium	<0.2 mg/kg	TM181		202 #	14.8 #	102 #	622 #	227 #	506 #
Zinc	<1.9 mg/kg	TM181		43.6 #	21.1 M	95.1 M	205 M	427 M	182 M

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AW29-1	AW29-2
			Depth (m)	0.60 - 0.60	1.30 - 1.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	13/01/2021	13/01/2021
			Sample Time	.	.
			Date Received	14/01/2021	14/01/2021
			SDG Ref	210114-156	210114-156
			Lab Sample No.(s)	23544215	23544221
			AGS Reference		
Moisture Content Ratio (% of as received sample)	%	PM024		12	18
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M
Soil Organic Matter (SOM)	<0.35 %	TM132		24.7 #	19.7 #
pH	1 pH Units	TM133		9.1 M	11.2 M
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M
Arsenic	<0.6 mg/kg	TM181		15.6 M	17.3 M
Cadmium	<0.02 mg/kg	TM181		1.18 M	3.89 M
Chromium	<0.9 mg/kg	TM181		<9 M	65.1 M
Copper	<1.4 mg/kg	TM181		25.7 M	34.1 M
Iron	<1000 mg/kg	TM181		222000 #	291000 #
Lead	<0.7 mg/kg	TM181		242 M	1100 M
Manganese	<0.13 mg/kg	TM181		6090 M	12000 M
Mercury	<0.14 mg/kg	TM181		<1.4 M	<1.4 M
Nickel	<0.2 mg/kg	TM181		29.7 M	32.9 M
Selenium	<1 mg/kg	TM181		<10 #	<10 #
Vanadium	<0.2 mg/kg	TM181		78.6 #	168 #
Zinc	<1.9 mg/kg	TM181		718 M	2990 M
Asbestos Quantification - Gravimetric - %	<0.001 %	TM304		<0.001 #	
Asbestos Quantification - PCOM Evaluation - %	<0.001 %	TM304		<0.001 #	
Additional Asbestos Components (Using TM048)		TM304		None #	
Analysts Comments		TM304		N/A	
Asbestos Quantification - Total - %	<0.001 %	TM304		<0.001 #	

Validated

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

PAH by GCMS

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AR29-1	AS29-1	AT29-1	AT29-2	AU23-1	AU23-2
			Depth (m)	1.20 - 1.20	1.00 - 1.00	0.50 - 0.50	1.10 - 1.10	0.50 - 0.50	1.40 - 1.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	13/01/2021	13/01/2021	13/01/2021	13/01/2021	12/01/2021	12/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021
			SDG Ref	210114-156	210114-156	210114-156	210114-156	210114-156	210114-156
			Lab Sample No.(s)	23544315	23544309	23544291	23544302	23544336	23544341
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		89.7	86.7	82.6	88.9	80.1	89.5
Acenaphthene-d10 % recovery**	%	TM218		86.2	87.6	81.7	87.6	82	88.1
Phenanthrene-d10 % recovery**	%	TM218		78	88.1	79.4	86.1	87.3	87.6
Chrysene-d12 % recovery**	%	TM218		57	79.7	74	69.9	85.9	90.4
Perylene-d12 % recovery**	%	TM218		47.7	79.9	72.4	59.5	74.2	86.3
Naphthalene	<9 µg/kg	TM218		73.9 M	39 M	<45 M	76.7 M	84.1 M	205 M
Acenaphthylene	<12 µg/kg	TM218		<12 M	<12 M	<60 M	<12 M	51.3 M	<12 M
Acenaphthene	<8 µg/kg	TM218		12.3 M	<8 M	<40 M	<8 M	13 M	17.3 M
Fluorene	<10 µg/kg	TM218		22.1 M	12.2 M	<50 M	32.2 M	36.4 M	21.8 M
Phenanthrene	<15 µg/kg	TM218		238 M	107 M	<75 M	256 M	270 M	117 M
Anthracene	<16 µg/kg	TM218		53.3 M	23.1 M	<80 M	39.1 M	83 M	19.6 M
Fluoranthene	<17 µg/kg	TM218		310 M	165 M	164 M	170 M	542 M	157 M
Pyrene	<15 µg/kg	TM218		261 M	149 M	258 M	322 M	424 M	126 M
Benz(a)anthracene	<14 µg/kg	TM218		299 M	119 M	106 M	128 M	262 M	106 M
Chrysene	<10 µg/kg	TM218		321 M	126 M	153 M	194 M	274 M	126 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		357 M	220 M	209 M	187 M	366 M	183 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		134 M	66.9 M	<70 M	47.6 M	110 M	66.1 M
Benzo(a)pyrene	<15 µg/kg	TM218		292 M	135 M	98.4 M	94.7 M	217 M	99.9 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		189 M	109 M	<90 M	71.6 M	175 M	94.7 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		73.4 M	<23 M	<115 M	<23 M	34.4 M	<23 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		201 M	98.9 M	<120 M	91.8 M	146 M	85.9 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		2840	1370	989	1710	3090	1420

Validated

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AU28-1	AV22-1	AV22-2	AV23-1	AV23-2	AV28-1
			Depth (m)	0.50 - 0.50	0.50 - 0.50	1.50 - 1.50	0.50 - 0.50	1.60 - 1.60	0.30 - 0.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	13/01/2021	12/01/2021	12/01/2021	12/01/2021	12/01/2021	13/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021
			SDG Ref	210114-156	210114-156	210114-156	210114-156	210114-156	210114-156
			Lab Sample No.(s)	23544284	23544150	23544263	23544346	23544351	23544251
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		91.4	86.1	86.4	91.2	0	88.7
Acenaphthene-d10 % recovery**	%	TM218		87	87.1	86	88.3	86.4	87.1
Phenanthrene-d10 % recovery**	%	TM218		88.8	86.6	83.7	84.8	85.1	83.7
Chrysene-d12 % recovery**	%	TM218		79	85.4	78.9	79.1	79.2	72.9
Perylene-d12 % recovery**	%	TM218		77.3	78.5	73.3	77.1	77.1	63.8
Naphthalene	<9 µg/kg	TM218		<90 M	62.9 M	56.1 M	20.5 M	95 M	48.8 M
Acenaphthylene	<12 µg/kg	TM218		<120 M	20.3 M	<12 M	15.9 M	<12 M	25.8 M
Acenaphthene	<8 µg/kg	TM218		<80 M	<8 M	18.4 M	<8 M	<8 M	9.57 M
Fluorene	<10 µg/kg	TM218		<100 M	12.6 M	52.9 M	<10 M	21.2 M	20.8 M
Phenanthrene	<15 µg/kg	TM218		<150 M	129 M	147 M	89.4 M	129 M	293 M
Anthracene	<16 µg/kg	TM218		<160 M	30.9 M	<16 M	31 M	<16 M	73.3 M
Fluoranthene	<17 µg/kg	TM218		<170 M	170 M	92.7 M	206 M	257 M	417 M
Pyrene	<15 µg/kg	TM218		<150 M	147 M	85.8 M	162 M	215 M	324 M
Benz(a)anthracene	<14 µg/kg	TM218		<140 M	104 M	59.5 M	95.2 M	202 M	228 M
Chrysene	<10 µg/kg	TM218		<100 M	115 M	57.2 M	94.5 M	172 M	245 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		<150 M	201 M	98.2 M	92.1 M	242 M	226 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		<140 M	57.2 M	33.2 M	39.3 M	<14 M	92.2 M
Benzo(a)pyrene	<15 µg/kg	TM218		<150 M	108 M	53.9 M	76.7 M	143 M	182 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		<180 M	102 M	52.8 M	56.3 M	105 M	134 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		<230 M	<23 M	<23 M	<23 M	<23 M	38.5 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		<240 M	92.7 M	50.9 M	53.1 M	93.2 M	139 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		<1180	1350	859	1030	1670	2500

Validated

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AV28-2	AV28-3	AV29-1	AV29-2	AW22-1	AW22-2
			Depth (m)	1.20 - 1.20	2.20 - 2.20	0.80 - 0.80	1.70 - 1.70	0.50 - 0.50	1.30 - 1.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	13/01/2021	13/01/2021	13/01/2021	13/01/2021	12/01/2021	12/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021
			SDG Ref	210114-156	210114-156	210114-156	210114-156	210114-156	210114-156
			Lab Sample No.(s)	23544270	23544277	23544237	23544246	23544320	23544325
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		87.2	89	86.1	92.2	87.9	91.3
Acenaphthene-d10 % recovery**	%	TM218		87.3	85.1	83.2	88.4	85.9	87.5
Phenanthrene-d10 % recovery**	%	TM218		85.1	83.7	74.9	85	86.7	84.1
Chrysene-d12 % recovery**	%	TM218		67.5	72.9	42.5	76.2	83.7	79.1
Perylene-d12 % recovery**	%	TM218		63.7	69	27.1	77	82	78.3
Naphthalene	<9 µg/kg	TM218		102 M	54.9 M	38.3 M	11.2 #	1440 M	67.6 M
Acenaphthylene	<12 µg/kg	TM218		17.2 M	<12 M	<12 M	<12 #	341 M	19.4 M
Acenaphthene	<8 µg/kg	TM218		56.4 M	11.2 M	<8 M	<8 #	65.1 M	<8 M
Fluorene	<10 µg/kg	TM218		211 M	27.4 M	12 M	<10 #	279 M	37.4 M
Phenanthrene	<15 µg/kg	TM218		442 M	183 M	113 M	28.7 #	1940 M	137 M
Anthracene	<16 µg/kg	TM218		79.2 M	37.9 M	<16 M	<16 #	530 M	28.3 M
Fluoranthene	<17 µg/kg	TM218		347 M	268 M	82.9 M	28.5 #	2930 M	99.1 M
Pyrene	<15 µg/kg	TM218		312 M	232 M	72.8 M	24.6 #	2190 M	77.6 M
Benz(a)anthracene	<14 µg/kg	TM218		260 M	200 M	22.1 M	16.5 #	1340 M	52 M
Chrysene	<10 µg/kg	TM218		258 M	219 M	25.1 M	16 #	1330 M	56.7 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		383 M	316 M	19.1 M	28 #	1930 M	90.5 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		140 M	102 M	<14 M	<14 #	613 M	27.1 M
Benzo(a)pyrene	<15 µg/kg	TM218		311 M	215 M	<15 M	<15 #	1210 M	41.3 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		203 M	137 M	<18 M	<18 #	946 M	35.3 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		57.5 M	42.6 M	<23 M	<23 #	197 M	<23 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		209 M	145 M	<24 M	<24 #	806 M	35.4 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		3390	2190	385	153	18100	805

Validated

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AW22-3	AW23-1	AW23-2	AW26-1	AW28-1	AW28-2
			Depth (m)	2.40 - 2.40	0.60 - 0.60	1.70 - 1.70	0.50 - 0.50	0.40 - 0.40	1.40 - 1.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	12/01/2021	12/01/2021	12/01/2021	12/01/2021	13/01/2021	13/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021
			SDG Ref	210114-156	210114-156	210114-156	210114-156	210114-156	210114-156
			Lab Sample No.(s)	23544330	23544170	23544178	23544190	23544196	23544202
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		89.9	87.5	91.8	87.5	89	85.5
Acenaphthene-d10 % recovery**	%	TM218		87.8	92.5	88.3	90.4	86.7	87.6
Phenanthrene-d10 % recovery**	%	TM218		84.4	96	86.8	94.8	86.4	87.8
Chrysene-d12 % recovery**	%	TM218		80.4	91.5	88.7	90	79.8	76.5
Perylene-d12 % recovery**	%	TM218		79.9	86.5	89.6	80.1	76.6	70.5
Naphthalene	<9 µg/kg	TM218		71.6 #	<450 M	72.6 M	25.1 M	47.3 M	64 M
Acenaphthylene	<12 µg/kg	TM218		<12 #	<600 M	<60 M	<12 M	14.7 M	18 M
Acenaphthene	<8 µg/kg	TM218		<8 #	<400 M	<40 M	<8 M	<8 M	<8 M
Fluorene	<10 µg/kg	TM218		<10 #	<500 M	<50 M	<10 M	<10 M	14.2 M
Phenanthrene	<15 µg/kg	TM218		63 #	962 M	<75 M	72.2 M	106 M	115 M
Anthracene	<16 µg/kg	TM218		18.8 #	<800 M	<80 M	<16 M	22.7 M	32.8 M
Fluoranthene	<17 µg/kg	TM218		91.6 #	995 M	<85 M	122 M	149 M	158 M
Pyrene	<15 µg/kg	TM218		67.8 #	913 M	<75 M	117 M	122 M	120 M
Benz(a)anthracene	<14 µg/kg	TM218		36.2 #	<700 M	<70 M	72.3 M	69.7 M	82.2 M
Chrysene	<10 µg/kg	TM218		28.2 #	<500 M	60.8 M	77.8 M	72.3 M	89.4 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		41.1 #	<750 M	89.8 M	119 M	115 M	150 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		<14 #	<700 M	<70 M	35.7 M	32.6 M	47.1 M
Benzo(a)pyrene	<15 µg/kg	TM218		22.8 #	<750 M	<75 M	63.9 M	65.5 M	74.6 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		<18 #	<900 M	<90 M	54.9 M	59.3 M	75.5 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		<23 #	<1150 M	<115 M	<23 M	<23 M	<23 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		<24 #	<1200 M	<120 M	57.5 M	57.3 M	65.2 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		441	<5900	<590	818	933	1110

Validated

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AW29-1	AW29-2				
			Depth (m)	0.60 - 0.60	1.30 - 1.30				
			Sample Type	Soil/Solid (S)	Soil/Solid (S)				
			Date Sampled	13/01/2021	13/01/2021				
			Sample Time	.	.				
			Date Received	14/01/2021	14/01/2021				
			SDG Ref	210114-156	210114-156				
			Lab Sample No.(s)	23544215	23544221				
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		90.4	87.8				
Acenaphthene-d10 % recovery**	%	TM218		87	86.1				
Phenanthrene-d10 % recovery**	%	TM218		79.7	83.5				
Chrysene-d12 % recovery**	%	TM218		61	79				
Perylene-d12 % recovery**	%	TM218		50.4	69.6				
Naphthalene	<9 µg/kg	TM218		13.5 M	47.7 M				
Acenaphthylene	<12 µg/kg	TM218		<12 M	<12 M				
Acenaphthene	<8 µg/kg	TM218		<8 M	17.9 M				
Fluorene	<10 µg/kg	TM218		<10 M	29.2 M				
Phenanthrene	<15 µg/kg	TM218		46 M	182 M				
Anthracene	<16 µg/kg	TM218		<16 M	49 M				
Fluoranthene	<17 µg/kg	TM218		41.4 M	294 M				
Pyrene	<15 µg/kg	TM218		37.1 M	293 M				
Benz(a)anthracene	<14 µg/kg	TM218		26 M	125 M				
Chrysene	<10 µg/kg	TM218		34.6 M	136 M				
Benzo(b)fluoranthene	<15 µg/kg	TM218		58.2 M	196 M				
Benzo(k)fluoranthene	<14 µg/kg	TM218		17.1 M	50.9 M				
Benzo(a)pyrene	<15 µg/kg	TM218		25.9 M	106 M				
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		22 M	93.5 M				
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		<23 M	<23 M				
Benzo(g,h,i)perylene	<24 µg/kg	TM218		<24 M	79.3 M				
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		322	1700				

Validated

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AR29-1	AS29-1	AT29-1	AT29-2	AU23-1	AU23-2
			Depth (m)	1.20 - 1.20	1.00 - 1.00	0.50 - 0.50	1.10 - 1.10	0.50 - 0.50	1.40 - 1.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	13/01/2021	13/01/2021	13/01/2021	13/01/2021	12/01/2021	12/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021
			SDG Ref	210114-156	210114-156	210114-156	210114-156	210114-156	210114-156
			Lab Sample No.(s)	23544315	23544309	23544291	23544302	23544336	23544341
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		80.1	79.3	79.7	35.1 4	86.2	117
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	<10	<10	<10 4	<10	10.5
Aliphatics >C6-C8	<10 µg/kg	TM089		<10	<10	<10	<10 4	<10	21.1
Aliphatics >C8-C10	<10 µg/kg	TM089		<10	<10	<10	<10 4	<10	24.6
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Aliphatics >C12-C16	<1000 µg/kg	TM414		2780	<1000	2450	7050	<1000	<1000
Aliphatics >C16-C21	<1000 µg/kg	TM414		10100	3780	15000	23700	1920	3580
Aliphatics >C21-C35	<1000 µg/kg	TM414		29900	20700	98800	35500	17200	10700
Aliphatics >C35-C44	<1000 µg/kg	TM414		4240	12100	67500	7370	4160	1170
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		47200	37700	184000	73900	23400	16300
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		58800	49400	225000	116000	42400	20300
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	<10	<10 4	<10	19.9
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10	<10	<10 4	<10	<10
Aromatics >EC8-EC10	<10 µg/kg	TM089		<10	<10	<10	<10 4	<10	16.4
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Aromatics > EC12-EC16	<1000 µg/kg	TM414		<1000	<1000	<1000	4090	<1000	<1000
Aromatics > EC16-EC21	<1000 µg/kg	TM414		2020	<1000	1170	6640	2840	<1000
Aromatics > EC21-EC35	<1000 µg/kg	TM414		8050	9560	34400	27900	14600	2440
Aromatics >EC35-EC44	<1000 µg/kg	TM414		<1000	1270	4610	3050	1300	<1000
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	<1000	<1000	1190	<1000	<1000
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		11600	11600	40700	41800	19000	<5000
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		58800	49400	225000	116000	42400	16400
Total Aliphatics >C5-C10	<50 µg/kg	TM089		<50	<50	<50	<50 4	<50	56.2
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50	<50	<50	<50 4	<50	<50
GRO >C5-C10	<20 µg/kg	TM089		<20	<20	<20	<20 4	<20	56.2

Validated

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AU28-1	AV22-1	AV22-2	AV23-1	AV23-2	AV28-1
			Depth (m)	0.50 - 0.50	0.50 - 0.50	1.50 - 1.50	0.50 - 0.50	1.60 - 1.60	0.30 - 0.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	13/01/2021	12/01/2021	12/01/2021	12/01/2021	12/01/2021	13/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021
			SDG Ref	210114-156	210114-156	210114-156	210114-156	210114-156	210114-156
			Lab Sample No.(s)	23544284	23544150	23544263	23544346	23544351	23544251
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		113	86.7	86.5	90.2	97.7	67 4
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	<10	<10	<10	<10	<10 4
Aliphatics >C6-C8	<10 µg/kg	TM089		<10	<10	47.2	<10	16.1	<10 4
Aliphatics >C8-C10	<10 µg/kg	TM089		<10	<10	388	<10	47.2	<10 4
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	3000	<1000	<1000	<1000
Aliphatics >C12-C16	<1000 µg/kg	TM414		<1000	<1000	33100	<1000	<1000	<1000
Aliphatics >C16-C21	<1000 µg/kg	TM414		1190	4470	50600	<1000	<1000	1790
Aliphatics >C21-C35	<1000 µg/kg	TM414		9020	19900	67000	<1000	5790	8620
Aliphatics >C35-C44	<1000 µg/kg	TM414		1370	6240	14300	<1000	1390	<1000
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		11700	31200	168000	<5000	7180	11300
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		32700	50400	198000	<10000	12500	31100
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	<10	<10	<10	<10 4
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10	<10	<10	<10	<10 4
Aromatics >EC8-EC10	<10 µg/kg	TM089		<10	<10	259	<10	31.1	<10 4
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Aromatics > EC12-EC16	<1000 µg/kg	TM414		<1000	<1000	9290	<1000	<1000	<1000
Aromatics > EC16-EC21	<1000 µg/kg	TM414		2340	<1000	9860	<1000	<1000	1890
Aromatics > EC21-EC35	<1000 µg/kg	TM414		17400	17500	9820	1180	3980	15200
Aromatics >EC35-EC44	<1000 µg/kg	TM414		1340	<1000	<1000	<1000	<1000	2530
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		21000	19300	30100	<5000	5320	19800
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		32700	50400	199000	<10000	12600	31100
Total Aliphatics >C5-C10	<50 µg/kg	TM089		<50	<50	436	<50	63.3	<50 4
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50	<50	259	<50	<50	<50 4
GRO >C5-C10	<20 µg/kg	TM089		<20	<20	695	<20	63.3	<20 4

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AV28-2	AV28-3	AV29-1	AV29-2	AW22-1	AW22-2
			Depth (m)	1.20 - 1.20	2.20 - 2.20	0.80 - 0.80	1.70 - 1.70	0.50 - 0.50	1.30 - 1.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	13/01/2021	13/01/2021	13/01/2021	13/01/2021	12/01/2021	12/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021
			SDG Ref	210114-156	210114-156	210114-156	210114-156	210114-156	210114-156
			Lab Sample No.(s)	23544270	23544277	23544237	23544246	23544320	23544325
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		97.4	69.3 4	92.6	109	80.5 2	88.1
Aliphatics >C5-C6	<10 µg/kg	TM089		13.6	<10 4	<10	18.2	38.4 2	42.9
Aliphatics >C6-C8	<10 µg/kg	TM089		36	<10 4	<10	41	64.4 2	98.3
Aliphatics >C8-C10	<10 µg/kg	TM089		37.2	<10 4	<10	85.5	50.9 2	525
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	13700
Aliphatics >C12-C16	<1000 µg/kg	TM414		2050	1170	<1000	4070	4050	9440
Aliphatics >C16-C21	<1000 µg/kg	TM414		6720	6340	20500	6360	11600	4010
Aliphatics >C21-C35	<1000 µg/kg	TM414		12400	10800	38000	17000	32300	39700
Aliphatics >C35-C44	<1000 µg/kg	TM414		2220	1300	1090	6100	31300	18900
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		23400	19600	60400	33500	79800	85700
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		42100	34700	69200	39500	150000	99000
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10 4	<10	<10	<10 2	<10
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10 4	<10	<10	<10 2	<10
Aromatics >EC8-EC10	<10 µg/kg	TM089		24.8	<10 4	<10	57	33.9 2	350
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	1950	<1000
Aromatics > EC12-EC16	<1000 µg/kg	TM414		1640	<1000	<1000	<1000	2950	1170
Aromatics > EC16-EC21	<1000 µg/kg	TM414		3730	2720	2140	<1000	13500	<1000
Aromatics > EC21-EC35	<1000 µg/kg	TM414		12300	10500	5160	4640	48100	9210
Aromatics >EC35-EC44	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	3990	1350
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		18700	15100	8800	6040	70500	13300
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		42200	34700	69200	39700	150000	100000
Total Aliphatics >C5-C10	<50 µg/kg	TM089		86.8	<50 4	<50	145	154 2	667
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50	<50 4	<50	57	<50 2	350
GRO >C5-C10	<20 µg/kg	TM089		86.8	<20 4	<20	202	154 2	1020

Validated

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AW22-3	AW23-1	AW23-2	AW26-1	AW28-1	AW28-2
			Depth (m)	2.40 - 2.40	0.60 - 0.60	1.70 - 1.70	0.50 - 0.50	0.40 - 0.40	1.40 - 1.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	12/01/2021	12/01/2021	12/01/2021	12/01/2021	13/01/2021	13/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021
			SDG Ref	210114-156	210114-156	210114-156	210114-156	210114-156	210114-156
			Lab Sample No.(s)	23544330	23544170	23544178	23544190	23544196	23544202
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		90.1	72.6	104	122	70.4	124
Aliphatics >C5-C6	<10 µg/kg	TM089		18	27.8	20.7	<10	<10	<10
Aliphatics >C6-C8	<10 µg/kg	TM089		30.8	43.3	33.8	<10	<10	<10
Aliphatics >C8-C10	<10 µg/kg	TM089		40.3	65.5	38.1	<10	<10	<10
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<10000	2050	<1000	<1000	<1000
Aliphatics >C12-C16	<1000 µg/kg	TM414		<1000	<10000	7070	<1000	5000	<1000
Aliphatics >C16-C21	<1000 µg/kg	TM414		1100	25000	4650	5280	14800	1260
Aliphatics >C21-C35	<1000 µg/kg	TM414		2790	343000	34400	18900	34300	4850
Aliphatics >C35-C44	<1000 µg/kg	TM414		<1000	375000	48300	4980	3520	<1000
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		<5000	747000	96400	30100	57600	6190
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		<10000	1160000	142000	55800	67400	<10000
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/kg	TM089		27.6	43.3	26.1	<10	<10	<10
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	<10000	<1000	<1000	<1000	<1000
Aromatics > EC12-EC16	<1000 µg/kg	TM414		<1000	<10000	<1000	<1000	<1000	<1000
Aromatics > EC16-EC21	<1000 µg/kg	TM414		<1000	<10000	<1000	<1000	<1000	<1000
Aromatics > EC21-EC35	<1000 µg/kg	TM414		1400	381000	39300	22600	7590	2440
Aromatics >EC35-EC44	<1000 µg/kg	TM414		<1000	32500	4470	2600	<1000	<1000
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	15000	1230	<1000	<1000	<1000
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		<5000	415000	45300	25700	9730	<5000
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		<10000	1160000	142000	55800	67400	<10000
Total Aliphatics >C5-C10	<50 µg/kg	TM089		89.1	137	92.6	<50	<50	<50
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50	<50	<50	<50	<50	<50
GRO >C5-C10	<20 µg/kg	TM089		89.1	137	92.6	<20	<20	<20

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AW29-1	AW29-2				
			Depth (m)	0.60 - 0.60	1.30 - 1.30				
			Sample Type	Soil/Solid (S)	Soil/Solid (S)				
			Date Sampled	13/01/2021	13/01/2021				
			Sample Time	.	.				
			Date Received	14/01/2021	14/01/2021				
			SDG Ref	210114-156	210114-156				
			Lab Sample No.(s)	23544215	23544221				
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		94.3	126				
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	<10				
Aliphatics >C6-C8	<10 µg/kg	TM089		<10	<10				
Aliphatics >C8-C10	<10 µg/kg	TM089		<10	<10				
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000				
Aliphatics >C12-C16	<1000 µg/kg	TM414		<1000	<1000				
Aliphatics >C16-C21	<1000 µg/kg	TM414		6380	10000				
Aliphatics >C21-C35	<1000 µg/kg	TM414		10800	33000				
Aliphatics >C35-C44	<1000 µg/kg	TM414		<1000	1510				
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		18500	44800				
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		47500	56300				
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10				
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10				
Aromatics >EC8-EC10	<10 µg/kg	TM089		<10	<10				
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	<1000				
Aromatics > EC12-EC16	<1000 µg/kg	TM414		<1000	<1000				
Aromatics > EC16-EC21	<1000 µg/kg	TM414		<1000	1720				
Aromatics > EC21-EC35	<1000 µg/kg	TM414		25900	8780				
Aromatics >EC35-EC44	<1000 µg/kg	TM414		2710	<1000				
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	<1000				
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		29000	11600				
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		47500	56300				
Total Aliphatics >C5-C10	<50 µg/kg	TM089		<50	<50				
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50	<50				
GRO >C5-C10	<20 µg/kg	TM089		<20	<20				

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AR29-1	AS29-1	AT29-1	AT29-2	AU23-1	AU23-2
			Depth (m)	1.20 - 1.20	1.00 - 1.00	0.50 - 0.50	1.10 - 1.10	0.50 - 0.50	1.40 - 1.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	13/01/2021	13/01/2021	13/01/2021	13/01/2021	12/01/2021	12/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021
			SDG Ref	210114-156	210114-156	210114-156	210114-156	210114-156	210114-156
			Lab Sample No.(s)	23544315	23544309	23544291	23544302	23544336	23544341
			AGS Reference						
Dibromofluoromethane**	%	TM116		108	105	111	105	107	108
Toluene-d8**	%	TM116		94.5	98.2	95.8	96	96.7	96.7
4-Bromofluorobenzene**	%	TM116		87.2	97.1	89.8	90.4	93.6	95.3
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Benzene	<9 µg/kg	TM116		<180 M	<180 M	<180 M	<180 M	<180 M	<180 M
Toluene	<7 µg/kg	TM116		<140 M	<140 M	<140 M	<140 M	<140 M	<140 M
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<80 M	<80 M	<80 M	<80 M
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #	<200 #	<200 #	<200 #
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Naphthalene	<13 µg/kg	TM116		<260 M	<260 M	<260 M	<260 M	<260 M	<260 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800	<800	<800	<800

Validated

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AU28-1	AV22-1	AV22-2	AV23-1	AV23-2	AV28-1
			Depth (m)	0.50 - 0.50	0.50 - 0.50	1.50 - 1.50	0.50 - 0.50	1.60 - 1.60	0.30 - 0.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	13/01/2021	12/01/2021	12/01/2021	12/01/2021	12/01/2021	13/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021
			SDG Ref	210114-156	210114-156	210114-156	210114-156	210114-156	210114-156
			Lab Sample No.(s)	23544284	23544150	23544263	23544346	23544351	23544251
			AGS Reference						
Dibromofluoromethane**	%	TM116		108	105	104	109	106	103
Toluene-d8**	%	TM116		95.8	97.9	97.6	96.8	97.3	95.5
4-Bromofluorobenzene**	%	TM116		92.3	93.9	93.1	94.1	95.3	88.2
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Benzene	<9 µg/kg	TM116		<180 M	<180 M	<180 M	<180 M	<180 M	<180 M
Toluene	<7 µg/kg	TM116		<140 M	<140 M	<140 M	<140 M	<140 M	<140 M
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<80 M	<80 M	<80 M	<80 M
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #	<200 #	<200 #	<200 #
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Naphthalene	<13 µg/kg	TM116		<260 M	<260 M	<260 M	<260 M	<260 M	<260 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800	<800	<800	<800

Validated

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AV28-2	AV28-3	AV29-1	AV29-2	AW22-1	AW22-2
			Depth (m)	1.20 - 1.20	2.20 - 2.20	0.80 - 0.80	1.70 - 1.70	0.50 - 0.50	1.30 - 1.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	13/01/2021	13/01/2021	13/01/2021	13/01/2021	12/01/2021	12/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021
			SDG Ref	210114-156	210114-156	210114-156	210114-156	210114-156	210114-156
			Lab Sample No.(s)	23544270	23544277	23544237	23544246	23544320	23544325
			AGS Reference						
Dibromofluoromethane**	%	TM116		105	104	105	110	105 2	106
Toluene-d8**	%	TM116		94.6	97.8	98	98.2	94.3 2	96.9
4-Bromofluorobenzene**	%	TM116		88.1	95.9	96.9	92.2	87.8 2	92.1
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 #	<200 2 M	<200 M
Benzene	<9 µg/kg	TM116		<180 M	<180 M	<180 M	<180 #	<180 2 M	<180 M
Toluene	<7 µg/kg	TM116		<140 M	<140 M	<140 M	<140 #	<140 2 M	<140 M
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<80 M	<80 #	<80 2 M	<80 M
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #	<200 #	<200 2 #	<200 #
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 #	<200 2 M	<200 M
Naphthalene	<13 µg/kg	TM116		<260 M	<260 M	<260 M	<260 #	536 M	<260 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4	<0.4	<0.4 2	<0.4
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800	<800	<800 2	<800

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AW22-3	AW23-1	AW23-2	AW26-1	AW28-1	AW28-2
			Depth (m)	2.40 - 2.40	0.60 - 0.60	1.70 - 1.70	0.50 - 0.50	0.40 - 0.40	1.40 - 1.40
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	12/01/2021	12/01/2021	12/01/2021	12/01/2021	13/01/2021	13/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021
			SDG Ref	210114-156	210114-156	210114-156	210114-156	210114-156	210114-156
			Lab Sample No.(s)	23544330	23544170	23544178	23544190	23544196	23544202
			AGS Reference						
Dibromofluoromethane**	%	TM116		106	112	107	112	104	107
Toluene-d8**	%	TM116		98.5	94.5	97.3	95.9	97.9	96.8
4-Bromofluorobenzene**	%	TM116		97.8	93.9	95.7	93.5	98.1	97.3
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 #	<200 M	<200 M	<200 M	<200 M	<200 M
Benzene	<9 µg/kg	TM116		<180 #	<180 M	<180 M	<180 M	<180 M	<180 M
Toluene	<7 µg/kg	TM116		<140 #	<140 M	<140 M	<140 M	<140 M	<140 M
Ethylbenzene	<4 µg/kg	TM116		<80 #	<80 M	<80 M	<80 M	<80 M	<80 M
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #	<200 #	<200 #	<200 #
o-Xylene	<10 µg/kg	TM116		<200 #	<200 M	<200 M	<200 M	<200 M	<200 M
Naphthalene	<13 µg/kg	TM116		<260 #	<260 M	<260 M	<260 M	<260 M	<260 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800	<800	<800	<800

Validated

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AW29-1	AW29-2				
			Depth (m)	0.60 - 0.60	1.30 - 1.30				
			Sample Type	Soil/Solid (S)	Soil/Solid (S)				
			Date Sampled	13/01/2021	13/01/2021				
			Sample Time	.	.				
			Date Received	14/01/2021	14/01/2021				
			SDG Ref	210114-156	210114-156				
			Lab Sample No.(s)	23544215	23544221				
			AGS Reference						
Dibromofluoromethane**	%	TM116		110	105				
Toluene-d8**	%	TM116		97.9	98.8				
4-Bromofluorobenzene**	%	TM116		98.5	97.3				
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M				
Benzene	<9 µg/kg	TM116		<180 M	<180 M				
Toluene	<7 µg/kg	TM116		<140 M	<140 M				
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M				
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #				
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M				
Naphthalene	<13 µg/kg	TM116		<260 M	<260 M				
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4				
Sum of BTEX	<40 µg/kg	TM116		<800	<800				

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

Asbestos Identification - Solid Samples

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&+$@	Sample deviation (see appendix)

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	AS29-1 1.00 - 1.00 SOLID 13/01/2021 00:00:00 14/01/2021 05:00:00 210114-156 23544309 TM048	20/01/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	AT29-1 0.50 - 0.50 SOLID 13/01/2021 00:00:00 14/01/2021 05:00:00 210114-156 23544291 TM048	20/01/2021	James Richards	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	AU23-2 1.40 - 1.40 SOLID 12/01/2021 00:00:00 14/01/2021 05:00:00 210114-156 23544341 TM048	19/01/2021	Paul Poynton	Loose fibres in soil	Not Detected (#)	Trace (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	AV22-1 0.50 - 0.50 SOLID 12/01/2021 00:00:00 14/01/2021 05:00:00 210114-156 23544150 TM048	21/01/21	Andrzej Ferfecki	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	AV23-2 1.60 - 1.60 SOLID 12/01/2021 00:00:00 14/01/2021 05:00:00 210114-156 23544351 TM048	20/01/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	AV28-1 0.30 - 0.30 SOLID 13/01/2021 00:00:00 14/01/2021 05:00:00 210114-156 23544251 TM048	21/01/21	Andrzej Ferfecki	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	AV28-3 2.20 - 2.20 SOLID 13/01/2021 00:00:00 14/01/2021 05:00:00 210114-156 23544277 TM048	20/01/21	Andrzej Ferfecki	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	AV29-1 0.80 - 0.80 SOLID 13/01/2021 00:00:00 14/01/2021 05:00:00 210114-156 23544237 TM048	20/01/2021	Agnieszka Chelmowska	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

Validated

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	AW22-1 0.50 - 0.50 SOLID 12/01/2021 00:00:00 14/01/2021 05:00:00 210114-156 23544320 TM048	21/01/2021	James Richards	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	AW22-3 2.40 - 2.40 SOLID 12/01/2021 00:00:00 14/01/2021 05:00:00 210114-156 23544330 TM048	20/01/21	Andrzej Ferfecki	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	AW23-2 1.70 - 1.70 SOLID 12/01/2021 00:00:00 14/01/2021 05:00:00 210114-156 23544178 TM048	19/01/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	AW28-1 0.40 - 0.40 SOLID 13/01/2021 00:00:00 14/01/2021 05:00:00 210114-156 23544196 TM048	20/01/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	AW29-1 0.60 - 0.60 SOLID 13/01/2021 00:00:00 14/01/2021 05:00:00 210114-156 23544215 TM048	20/01/2021	Paul Poynton	Loose fibres in soil	Not Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

Asbestos Quantification - Full

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

		Additional Asbestos Components	Analysts Comments	Asbestos Quantification - Gravimetric - %	Asbestos Quantification - PCOM	Asbestos Quantification - Total - %
Cust. Sample Ref.	AU23-2	None (#)	-	<0.001 (#)	<0.001 (#)	<0.001 (#)
Depth (m)	1.40 - 1.40					
Sample Type	SOLID					
Date Sampled	12/01/2021 00:00:00					
Date Received	14/01/2021 05:00:00					
SDG	210114-156					
Original Sample	23544341					
Method Number	TM304					
Cust. Sample Ref.	AW29-1	None (#)	N/A	<0.001 (#)	<0.001 (#)	<0.001 (#)
Depth (m)	0.60 - 0.60					
Sample Type	SOLID					
Date Sampled	13/01/2021 00:00:00					
Date Received	14/01/2021 05:00:00					
SDG	210114-156					
Original Sample	23544215					
Method Number	TM304					

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM024	Method 4500A & B, AWWA/APHA, 20th Ed., 1999	Determination of Exchangeable Ammonium and Ammoniacal Nitrogen as N by titration on solids
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM132	In - house Method	ELTRA CS800 Operators Guide
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS
TM304	HSE Contract research Report no 83/1996	Asbestos Quantification in Soil: Fibres identified by morphology only
TM414	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	210114-156	**Client Reference:**	P18-669	**Report Number:**	584521
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	584114

Test Completion Dates

Lab Sample No(s)	23544315	23544309	23544291	23544302	23544336	23544341	23544284	23544150	23544263	23544346
Customer Sample Ref.	AR29-1	AS29-1	AT29-1	AT29-2	AU23-1	AU23-2	AU28-1	AV22-1	AV22-2	AV23-1
AGS Ref.										
Depth	1.20 - 1.20	1.00 - 1.00	0.50 - 0.50	1.10 - 1.10	0.50 - 0.50	1.40 - 1.40	0.50 - 0.50	0.50 - 0.50	1.50 - 1.50	0.50 - 0.50
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Ammonium Soil by Titration	21-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	22-Jan-2021
Asbestos ID in Solid Samples		20-Jan-2021	20-Jan-2021			19-Jan-2021		21-Jan-2021		
Asbestos Quantification - Full						25-Jan-2021				
Cyanide Comp/Free/Total/Thiocyanate	20-Jan-2021	20-Jan-2021	20-Jan-2021	20-Jan-2021	20-Jan-2021	20-Jan-2021	20-Jan-2021	20-Jan-2021	20-Jan-2021	19-Jan-2021
EPH CWG GC (S)	18-Jan-2021	18-Jan-2021	20-Jan-2021	19-Jan-2021	18-Jan-2021	18-Jan-2021	19-Jan-2021	19-Jan-2021	18-Jan-2021	18-Jan-2021
GRO by GC-FID (S)	21-Jan-2021	20-Jan-2021	19-Jan-2021	21-Jan-2021	20-Jan-2021	20-Jan-2021	20-Jan-2021	21-Jan-2021	20-Jan-2021	21-Jan-2021
Metals in solid samples by OES	21-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	20-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021
PAH by GCMS	21-Jan-2021	20-Jan-2021	20-Jan-2021	21-Jan-2021	18-Jan-2021	19-Jan-2021	19-Jan-2021	20-Jan-2021	19-Jan-2021	21-Jan-2021
pH	15-Jan-2021	18-Jan-2021	18-Jan-2021	15-Jan-2021	15-Jan-2021	15-Jan-2021	15-Jan-2021	18-Jan-2021	15-Jan-2021	15-Jan-2021
Phenols by HPLC (S)	21-Jan-2021	21-Jan-2021	19-Jan-2021	19-Jan-2021	19-Jan-2021	20-Jan-2021	21-Jan-2021	21-Jan-2021	19-Jan-2021	20-Jan-2021
Sample description	15-Jan-2021	15-Jan-2021	15-Jan-2021	15-Jan-2021	15-Jan-2021	15-Jan-2021	15-Jan-2021	15-Jan-2021	15-Jan-2021	15-Jan-2021
Total Organic Carbon	20-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	20-Jan-2021	21-Jan-2021	21-Jan-2021	20-Jan-2021	21-Jan-2021
TPH CWG GC (S)	21-Jan-2021	20-Jan-2021	20-Jan-2021	21-Jan-2021	20-Jan-2021	20-Jan-2021	20-Jan-2021	21-Jan-2021	20-Jan-2021	21-Jan-2021
VOC MS (S)	19-Jan-2021	21-Jan-2021	19-Jan-2021	21-Jan-2021	19-Jan-2021	21-Jan-2021	19-Jan-2021	21-Jan-2021	19-Jan-2021	21-Jan-2021

Lab Sample No(s)	23544351	23544251	23544270	23544277	23544237	23544246	23544320	23544325	23544330	23544170
Customer Sample Ref.	AV23-2	AV28-1	AV28-2	AV28-3	AV29-1	AV29-2	AW22-1	AW22-2	AW22-3	AW23-1
AGS Ref.										
Depth	1.60 - 1.60	0.30 - 0.30	1.20 - 1.20	2.20 - 2.20	0.80 - 0.80	1.70 - 1.70	0.50 - 0.50	1.30 - 1.30	2.40 - 2.40	0.60 - 0.60
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Ammonium Soil by Titration	21-Jan-2021	22-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	22-Jan-2021
Asbestos ID in Solid Samples	20-Jan-2021	21-Jan-2021		20-Jan-2021	20-Jan-2021		21-Jan-2021		20-Jan-2021	
Cyanide Comp/Free/Total/Thiocyanate	20-Jan-2021	20-Jan-2021	20-Jan-2021	20-Jan-2021	20-Jan-2021	20-Jan-2021	20-Jan-2021	20-Jan-2021	20-Jan-2021	20-Jan-2021
EPH CWG GC (S)	18-Jan-2021	18-Jan-2021	18-Jan-2021	19-Jan-2021	19-Jan-2021	19-Jan-2021	20-Jan-2021	19-Jan-2021	19-Jan-2021	18-Jan-2021
GRO by GC-FID (S)	20-Jan-2021	21-Jan-2021	20-Jan-2021	21-Jan-2021	20-Jan-2021	19-Jan-2021	21-Jan-2021	20-Jan-2021	20-Jan-2021	21-Jan-2021
Metals in solid samples by OES	22-Jan-2021	22-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	20-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021
PAH by GCMS	21-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	19-Jan-2021	19-Jan-2021	19-Jan-2021	19-Jan-2021	20-Jan-2021
pH	15-Jan-2021	15-Jan-2021	15-Jan-2021	18-Jan-2021	18-Jan-2021	15-Jan-2021	18-Jan-2021	18-Jan-2021	18-Jan-2021	15-Jan-2021
Phenols by HPLC (S)	20-Jan-2021	20-Jan-2021	21-Jan-2021	21-Jan-2021	20-Jan-2021	21-Jan-2021	19-Jan-2021	21-Jan-2021	19-Jan-2021	21-Jan-2021
Sample description	15-Jan-2021	15-Jan-2021	15-Jan-2021	15-Jan-2021	15-Jan-2021	15-Jan-2021	15-Jan-2021	15-Jan-2021	15-Jan-2021	15-Jan-2021
Total Organic Carbon	21-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	20-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021
TPH CWG GC (S)	20-Jan-2021	21-Jan-2021	20-Jan-2021	21-Jan-2021	20-Jan-2021	20-Jan-2021	21-Jan-2021	20-Jan-2021	20-Jan-2021	21-Jan-2021
VOC MS (S)	19-Jan-2021	19-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	19-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021

Lab Sample No(s)	23544178	23544190	23544196	23544202	23544215	23544221
Customer Sample Ref.	AW23-2	AW26-1	AW28-1	AW28-2	AW29-1	AW29-2
AGS Ref.						
Depth	1.70 - 1.70	0.50 - 0.50	0.40 - 0.40	1.40 - 1.40	0.60 - 0.60	1.30 - 1.30
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Ammonium Soil by Titration	22-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021
Asbestos ID in Solid Samples	19-Jan-2021		20-Jan-2021		20-Jan-2021	
Asbestos Quantification - Full					27-Jan-2021	
Cyanide Comp/Free/Total/Thiocyanate	20-Jan-2021	19-Jan-2021	20-Jan-2021	20-Jan-2021	20-Jan-2021	20-Jan-2021
EPH CWG GC (S)	20-Jan-2021	20-Jan-2021	20-Jan-2021	19-Jan-2021	19-Jan-2021	19-Jan-2021
GRO by GC-FID (S)	20-Jan-2021	20-Jan-2021	21-Jan-2021	20-Jan-2021	20-Jan-2021	20-Jan-2021
Metals in solid samples by OES	21-Jan-2021	21-Jan-2021	21-Jan-2021	20-Jan-2021	21-Jan-2021	21-Jan-2021
PAH by GCMS	20-Jan-2021	20-Jan-2021	19-Jan-2021	20-Jan-2021	21-Jan-2021	20-Jan-2021
pH	15-Jan-2021	15-Jan-2021	18-Jan-2021	20-Jan-2021	18-Jan-2021	15-Jan-2021
Phenols by HPLC (S)	20-Jan-2021	21-Jan-2021	21-Jan-2021	19-Jan-2021	21-Jan-2021	21-Jan-2021
Sample description	15-Jan-2021	15-Jan-2021	15-Jan-2021	15-Jan-2021	15-Jan-2021	15-Jan-2021
Total Organic Carbon	21-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	20-Jan-2021	20-Jan-2021
TPH CWG GC (S)	20-Jan-2021	20-Jan-2021	21-Jan-2021	20-Jan-2021	20-Jan-2021	20-Jan-2021
VOC MS (S)	21-Jan-2021	19-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021	21-Jan-2021

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Unit 7-8 Hawarden Business Park
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Deeside
CH5 3US
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Website: www.alsenvironmental.co.uk

Rodgers Leask
Office 225
2430/2440
Aztec West
Almondsbury
Bristol
BS32 4QA

Attention: Elliot Thomas

CERTIFICATE OF ANALYSIS

Date of report Generation:	09 February 2021
Customer:	Rodgers Leask
Sample Delivery Group (SDG):	210127-42
Your Reference:	P18-669
Location:	Llanwern
Report No:	586164

This report has been revised and directly supersedes 585603 in its entirety.

We received 18 samples on Wednesday January 27, 2021 and 18 of these samples were scheduled for analysis which was completed on Tuesday February 09, 2021. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:



Sonia McWhan

Operations Manager

ALS Life Sciences Limited. Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No. 4057291.

CERTIFICATE OF ANALYSIS

SDG:	210127-42	**Client Reference:**	P18-669	**Report Number:**	586164
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	585603

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23613950	P16-1		0.30 - 0.30	26/01/2021
23613957	P16-2		1.30 - 1.30	26/01/2021
23613928	P17-1		0.30 - 0.30	26/01/2021
23613934	P17-2		1.50 - 1.50	26/01/2021
23613939	Q17-1		0.30 - 0.30	26/01/2021
23613943	Q17-2		1.50 - 1.50	26/01/2021
23613920	Q18-1		0.30 - 0.30	26/01/2021
23613924	Q18-2		1.50 - 1.50	26/01/2021
23614011	R18-1		0.60 - 0.60	26/01/2021
23613914	R18-2		1.80 - 1.80	26/01/2021
23613985	R19-1		0.40 - 0.40	26/01/2021
23613991	R19-2		1.20 - 1.20	26/01/2021
23614001	R19-3		2.50 - 2.50	26/01/2021
23613973	R20-1		0.50 - 0.50	26/01/2021
23613979	R20-2		1.60 - 1.60	26/01/2021
23613902	V4-1		1.15 - 1.15	25/01/2021
23613963	V5-1		0.50 - 0.50	25/01/2021
23613968	V5-2		1.50 - 1.50	25/01/2021

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	210127-42	**Client Reference:**	P18-669	**Report Number:**	586164
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	585603

Results Legend

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23613950		23613957		23613928		23613934		23613939		23613943		23613920		23613924	
Customer Sample Reference			P16-1		P16-2		P17-1		P17-2		Q17-1		Q17-2		Q18-1		Q18-2	
AGS Reference																		
Depth (m)			0.30 - 0.30		1.30 - 1.30		0.30 - 0.30		1.50 - 1.50		0.30 - 0.30		1.50 - 1.50		0.30 - 0.30		1.50 - 1.50	
Container			1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Ammonium Soil by Titration	All	NDPs: 0 Tests: 18		X		X			X		X			X		X			X		X
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 9	X					X					X					X			
Asbestos Quantification - Full	All	NDPs: 0 Tests: 2																X			
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 18		X		X			X		X			X		X			X		X
EPH CWG GC (S)	All	NDPs: 0 Tests: 18		X		X			X		X			X		X			X		X
GRO by GC-FID (S)	All	NDPs: 0 Tests: 18			X		X			X		X			X		X			X	
Metals in solid samples by OES	All	NDPs: 0 Tests: 18		X		X			X		X			X		X			X		X
PAH by GCMS	All	NDPs: 0 Tests: 18		X		X			X		X			X		X			X		X
pH	All	NDPs: 0 Tests: 18		X		X			X		X			X		X			X		X
Phenols by HPLC (S)	All	NDPs: 0 Tests: 18		X		X			X		X			X		X			X		X
Sample description	All	NDPs: 0 Tests: 14		X							X			X							X
Total Organic Carbon	All	NDPs: 0 Tests: 18		X		X			X		X			X		X			X		X
TPH CWG GC (S)	All	NDPs: 0 Tests: 18		X		X			X		X			X		X			X		X
VOC MS (S)	All	NDPs: 0 Tests: 18			X		X			X		X			X		X			X	

23613902	V4-1		1.15 - 1.15	60g VOC (ALE215)	S								x										x
				250g Amber Jar (ALE210)	S	x				x	x		x	x	x	x	x	x	x				
				1kg TUB with Handle (ALE260)	S		x	x															
23613979	R20-2		1.60 - 1.60	60g VOC (ALE215)	S								x										x
				250g Amber Jar (ALE210)	S	x				x	x		x	x	x	x	x	x	x				
				1kg TUB with Handle (ALE260)	S		x																
23613973	R20-1		0.50 - 0.50	60g VOC (ALE215)	S								x										x
				250g Amber Jar (ALE210)	S	x				x	x		x	x	x	x			x	x			
23614001	R19-3		2.50 - 2.50	60g VOC (ALE215)	S								x										x
				250g Amber Jar (ALE210)	S	x				x	x		x	x	x	x	x	x	x				
23613991	R19-2		1.20 - 1.20	60g VOC (ALE215)	S								x										x
				250g Amber Jar (ALE210)	S	x				x	x		x	x	x	x	x	x	x				
				1kg TUB with Handle (ALE260)	S		x																
23613985	R19-1		0.40 - 0.40	60g VOC (ALE215)	S								x										x
				250g Amber Jar (ALE210)	S	x				x	x		x	x	x	x	x	x	x				
23613914	R18-2		1.80 - 1.80	60g VOC (ALE215)	S								x										x
				250g Amber Jar (ALE210)	S	x				x	x		x	x	x	x	x	x	x				
23614011	R18-1		0.60 - 0.60	60g VOC (ALE215)	S								x										x
				250g Amber Jar (ALE210)	S	x				x	x		x	x	x	x	x	x	x				
				1kg TUB with Handle (ALE260)	S		x																
23613924	Q18-2		1.50 - 1.50	60g VOC (ALE215)	S								x										x

Validated

CERTIFICATE OF ANALYSIS

SDG:	210127-42	**Client Reference:**	P18-669	**Report Number:**	586164
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	585603

Results Legend

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)				23613963				23613968
			Customer Sample Reference				V5-1				V5-2
			AGS Reference								
			Depth (m)				0.50 - 0.50				1.50 - 1.50
			Container				250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)
			Sample Type				S	S	S	S	S
Ammonium Soil by Titration	All	NDPs: 0 Tests: 18					X			X	
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 9							X		
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 18					X			X	
EPH CWG GC (S)	All	NDPs: 0 Tests: 18					X			X	
GRO by GC-FID (S)	All	NDPs: 0 Tests: 18						X			X
Metals in solid samples by OES	All	NDPs: 0 Tests: 18					X			X	
PAH by GCMS	All	NDPs: 0 Tests: 18					X			X	
pH	All	NDPs: 0 Tests: 18					X			X	
Phenols by HPLC (S)	All	NDPs: 0 Tests: 18					X			X	
Sample description	All	NDPs: 0 Tests: 14					X			X	
Total Organic Carbon	All	NDPs: 0 Tests: 18					X			X	
TPH CWG GC (S)	All	NDPs: 0 Tests: 18					X			X	
VOC MS (S)	All	NDPs: 0 Tests: 18						X			X

CERTIFICATE OF ANALYSIS

SDG:	210127-42	**Client Reference:**	P18-669	**Report Number:**	586164
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	585603

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
23613950	P16-1	0.30 - 0.30	Grey	Sand	Stones	None
23613957	P16-2	1.30 - 1.30	Grey	Sand	Stones	N/A
23613928	P17-1	0.30 - 0.30	Black	Sandy Loam	Stones	N/A
23613934	P17-2	1.50 - 1.50	Black	Loamy Sand	Stones	None
23613939	Q17-1	0.30 - 0.30	Dark Brown	Sand	None	Stones
23613943	Q17-2	1.50 - 1.50	Grey	Sand	Stones	N/A
23613920	Q18-1	0.30 - 0.30	Dark Brown	Sandy Loam	Vegetation	Brick
23613924	Q18-2	1.50 - 1.50	Dark Brown	Loamy Sand	Stones	None
23614011	R18-1	0.60 - 0.60	Dark Brown	Loamy Sand	Stones	Brick
23613914	R18-2	1.80 - 1.80	Dark Brown	Sand	None	Stones
23613985	R19-1	0.40 - 0.40	Dark Brown	Sand	Stones	None
23613991	R19-2	1.20 - 1.20	Dark Brown	Sand	Stones	Brick
23614001	R19-3	2.50 - 2.50	Dark Brown	Sand	None	Stones
23613973	R20-1	0.50 - 0.50	Dark Brown	Loamy Sand	Vegetation	Brick
23613979	R20-2	1.60 - 1.60	Dark Brown	Loamy Sand	Stones	Vegetation
23613902	V4-1	1.15 - 1.15	Grey	Sand	Stones	Concrete/Aggregate
23613963	V5-1	0.50 - 0.50	Dark Brown	Sand	Stones	None
23613968	V5-2	1.50 - 1.50	Grey	Sand	Stones	N/A

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

CERTIFICATE OF ANALYSIS

SDG:	210127-42	**Client Reference:**	P18-669	**Report Number:**	586164
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	585603

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	P16-1	P16-2	P17-1	P17-2	Q17-1	Q17-2
			Depth (m)	0.30 - 0.30	1.30 - 1.30	0.30 - 0.30	1.50 - 1.50	0.30 - 0.30	1.50 - 1.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	26/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021
			SDG Ref	210127-42	210127-42	210127-42	210127-42	210127-42	210127-42
			Lab Sample No.(s)	23613950	23613957	23613928	23613934	23613939	23613943
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		8.6	10	8.9	15	9.8	14
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M	<12 M	<12 M	<12 M	<12 M
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	0.0111 M	0.0116 M
Cresols	<0.01 mg/kg	TM062 (S)		0.0109 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	0.0232 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M
Soil Organic Matter (SOM)	<0.35 %	TM132		18.8 #	2.16 #	>100 #	20.3 #	22.8 #	21.9 #
pH	1 pH Units	TM133		12.4 M	12.6 M	11.1 M	11.9 M	12.5 M	12.1 M
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	6.63 M	1.59 M	2.35 M	<1 M
Arsenic	<0.6 mg/kg	TM181		78.6 M	<6 M	<6 M	<6 M	<6 M	<6 M
Cadmium	<0.02 mg/kg	TM181		<0.2 M	0.628 M	0.619 M	0.568 M	<0.2 M	0.685 M
Chromium	<0.9 mg/kg	TM181		378 M	546 M	123 M	506 M	522 M	426 M
Copper	<1.4 mg/kg	TM181		54.4 M	22.5 M	15.7 M	<14 M	16.3 M	28.9 M
Iron	<1000 mg/kg	TM181		144000 #	127000 #	39700 #	104000 #	139000 #	114000 #
Lead	<0.7 mg/kg	TM181		55.2 M	10.1 M	37.2 M	<7 M	26.4 M	25 M
Manganese	<0.13 mg/kg	TM181		93900 M	27400 M	8480 M	21400 M	24900 M	28600 M
Mercury	<0.1 mg/kg	TM181		<1.4 M	<1.4 M	<1.4 M	<1.4 M	<1.4 M	<1.4 M
Nickel	<0.2 mg/kg	TM181		50.8 M	8.48 M	8.82 M	<2 M	12.6 M	14.9 M
Selenium	<1 mg/kg	TM181		71.3 #	12.7 #	<10 #	<10 #	19 #	14.7 #
Vanadium	<0.2 mg/kg	TM181		416 #	473 #	118 #	451 #	416 #	475 #
Zinc	<1.9 mg/kg	TM181		95.3 M	51.7 M	161 M	39.1 M	54.8 M	106 M

Validated

CERTIFICATE OF ANALYSIS

SDG:	210127-42	**Client Reference:**	P18-669	**Report Number:**	586164
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	585603

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	Q18-1	Q18-2	R18-1	R18-2	R19-1	R19-2
			Depth (m)	0.30 - 0.30	1.50 - 1.50	0.60 - 0.60	1.80 - 1.80	0.40 - 0.40	1.20 - 1.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	26/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021
			SDG Ref	210127-42	210127-42	210127-42	210127-42	210127-42	210127-42
			Lab Sample No.(s)	23613920	23613924	23614011	23613914	23613985	23613991
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		7.1	14	7.7	17	17	7.4
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M	<12 M	15.6 M	<12 M	<12 M
Phenol	<0.01 mg/kg	TM062 (S)		0.0108 M	0.0117 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M
Soil Organic Matter (SOM)	<0.35 %	TM132		5.65 #	49.3 #	7.29 #	8.69 #	4.53 #	5.74 #
pH	1 pH Units	TM133		10.5 M	11.4 M	11.1 M	10.9 M	9.86 M	10.9 M
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Arsenic	<0.6 mg/kg	TM181		13.8 M	6.15 M	9.32 M	12.1 M	14.7 M	7.6 M
Cadmium	<0.02 mg/kg	TM181		0.687 M	0.882 M	0.432 M	0.221 M	1.27 M	0.261 M
Chromium	<0.9 mg/kg	TM181		103 M	61.5 M	58.1 M	45.8 M	21 M	32 M
Copper	<1.4 mg/kg	TM181		21.4 M	14.3 M	22.1 M	32.4 M	22.9 M	14.3 M
Iron	<1000 mg/kg	TM181		77200 #	104000 #	66600 #	33700 #	160000 #	25700 #
Lead	<0.7 mg/kg	TM181		73.3 M	55.3 M	52.2 M	29.8 M	182 M	18.2 M
Manganese	<0.13 mg/kg	TM181		10600 M	5430 M	4170 M	2950 M	5620 M	2130 M
Mercury	<0.1 mg/kg	TM181		<1.4 M	<1.4 M	<1.4 M	<1.4 M	<1.4 M	<1.4 M
Nickel	<0.2 mg/kg	TM181		21.7 M	12.7 M	20.2 M	24.4 M	12.5 M	14.2 M
Selenium	<1 mg/kg	TM181		10.1 #	<10 #	<10 #	<10 #	<10 #	<10 #
Vanadium	<0.2 mg/kg	TM181		243 #	113 #	95.3 #	61.3 #	82.8 #	72.5 #
Zinc	<1.9 mg/kg	TM181		254 M	137 M	137 M	48.6 M	461 M	55.5 M
Asbestos Quantification - Gravimetric - %	<0.001 %	TM304		<0.001 #					
Asbestos Quantification - PCOM Evaluation - %	<0.001 %	TM304		<0.001 #					
Additional Asbestos Components (Using TM048)		TM304		None #					
Analysts Comments		TM304		N/A					
Asbestos Quantification - Total - %	<0.001 %	TM304		<0.001 #					

Validated

CERTIFICATE OF ANALYSIS

SDG:	210127-42	**Client Reference:**	P18-669	**Report Number:**	586164
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	585603

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	R19-3	R20-1	R20-2	V4-1	V5-1	V5-2
			Depth (m)	2.50 - 2.50	0.50 - 0.50	1.60 - 1.60	1.15 - 1.15	0.50 - 0.50	1.50 - 1.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	26/01/2021	26/01/2021	26/01/2021	25/01/2021	25/01/2021	25/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021
			SDG Ref	210127-42	210127-42	210127-42	210127-42	210127-42	210127-42
			Lab Sample No.(s)	23614001	23613973	23613979	23613902	23613963	23613968
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		20	7.3	16	9.5	10	12
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M	<12 M	<12 M	<12 M	<12 M
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	0.0108 M	<0.01 M	0.0111 M	<0.01 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M
Soil Organic Matter (SOM)	<0.35 %	TM132		22.6 #	2.17 #	51.9 #	18.3 #	76.2 #	70.9 #
pH	1 pH Units	TM133		11.3 M	10.9 M	11.1 M	12.4 M	11.2 M	12 M
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	<1 M	7.83 M	<1 M	4.43 M
Arsenic	<0.6 mg/kg	TM181		10.8 M	21.4 M	10 M	18.1 M	<6 M	8.39 M
Cadmium	<0.02 mg/kg	TM181		0.244 M	0.956 M	0.372 M	0.425 M	0.544 M	<0.2 M
Chromium	<0.9 mg/kg	TM181		30 M	101 M	211 M	411 M	151 M	443 M
Copper	<1.4 mg/kg	TM181		16.4 M	38.4 M	22.6 M	63.8 M	22.6 M	27.2 M
Iron	<1000 mg/kg	TM181		35900 #	103000 #	121000 #	288000 #	59900 #	93500 #
Lead	<0.7 mg/kg	TM181		26.8 M	107 M	80.6 M	93.9 M	26.2 M	29.7 M
Manganese	<0.13 mg/kg	TM181		2790 M	7530 M	9260 M	25800 M	11900 M	26700 M
Mercury	<0.1 mg/kg	TM181		<1.4 M	<1.4 M	<1.4 M	<1.4 M	<1.4 M	<1.4 M
Nickel	<0.2 mg/kg	TM181		16.7 M	22.9 M	21.7 M	54.2 M	8.64 M	16 M
Selenium	<1 mg/kg	TM181		<10 #	<10 #	<10 #	18.2 #	<10 #	22.3 #
Vanadium	<0.2 mg/kg	TM181		68.5 #	130 #	370 #	651 #	210 #	1020 #
Zinc	<1.9 mg/kg	TM181		108 M	366 M	188 M	378 M	125 M	226 M
Asbestos Quantification - Gravimetric - %	<0.001 %	TM304					<0.001 #		
Asbestos Quantification - PCOM Evaluation - %	<0.001 %	TM304					<0.001 #		
Additional Asbestos Components (Using TM048)		TM304					None #		
Analysts Comments		TM304					N/A		
Asbestos Quantification - Total - %	<0.001 %	TM304					<0.001 #		

Validated

CERTIFICATE OF ANALYSIS

SDG:	210127-42	**Client Reference:**	P18-669	**Report Number:**	586164
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	585603

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	P16-1	P16-2	P17-1	P17-2	Q17-1	Q17-2
			Depth (m)	0.30 - 0.30	1.30 - 1.30	0.30 - 0.30	1.50 - 1.50	0.30 - 0.30	1.50 - 1.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	26/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021
			SDG Ref	210127-42	210127-42	210127-42	210127-42	210127-42	210127-42
			Lab Sample No.(s)	23613950	23613957	23613928	23613934	23613939	23613943
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		85.4	82.5	84.3	85.1	84.7	79.4
Acenaphthene-d10 % recovery**	%	TM218		87.4	83.1	87.1	84.9	85.7	82
Phenanthrene-d10 % recovery**	%	TM218		86.6	82.1	81.6	83.4	90	79.1
Chrysene-d12 % recovery**	%	TM218		78.3	75.4	66.6	71.1	89.4	79.3
Perylene-d12 % recovery**	%	TM218		76.9	75	52.6	62.5	87.5	80.8
Naphthalene	<9 µg/kg	TM218		776 M	386 M	3080 M	2440 M	2760 M	24100 M
Acenaphthylene	<12 µg/kg	TM218		367 M	262 M	<12 M	468 M	607 M	14100 M
Acenaphthene	<8 µg/kg	TM218		14.5 M	19.7 M	127 M	85.1 M	76.1 M	880 M
Fluorene	<10 µg/kg	TM218		83.7 M	153 M	941 M	644 M	313 M	16500 M
Phenanthrene	<15 µg/kg	TM218		2430 M	3040 M	6200 M	3590 M	3390 M	60800 M
Anthracene	<16 µg/kg	TM218		432 M	1220 M	1560 M	677 M	747 M	20900 M
Fluoranthene	<17 µg/kg	TM218		1780 M	3660 M	8910 M	3030 M	5540 M	58300 M
Pyrene	<15 µg/kg	TM218		1130 M	2400 M	6700 M	2020 M	4030 M	39100 M
Benz(a)anthracene	<14 µg/kg	TM218		563 M	1560 M	<14 M	1010 M	2690 M	20300 M
Chrysene	<10 µg/kg	TM218		460 M	1320 M	3090 M	974 M	2470 M	16900 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		386 M	1530 M	4240 M	1160 M	2560 M	20400 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		189 M	562 M	<14 M	339 M	1240 M	7620 M
Benzo(a)pyrene	<15 µg/kg	TM218		349 M	1060 M	<15 M	670 M	2310 M	15300 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		285 M	859 M	1750 M	527 M	1940 M	12200 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		56.2 M	157 M	391 M	102 M	427 M	2120 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		225 M	653 M	<24 M	366 M	1880 M	10000 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		9530	18800	37000	18100	33000	340000

Validated

CERTIFICATE OF ANALYSIS

SDG:	210127-42	**Client Reference:**	P18-669	**Report Number:**	586164
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	585603

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	Q18-1	Q18-2	R18-1	R18-2	R19-1	R19-2
			Depth (m)	0.30 - 0.30	1.50 - 1.50	0.60 - 0.60	1.80 - 1.80	0.40 - 0.40	1.20 - 1.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	26/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021
			SDG Ref	210127-42	210127-42	210127-42	210127-42	210127-42	210127-42
			Lab Sample No.(s)	23613920	23613924	23614011	23613914	23613985	23613991
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		90	84.3	78.3	85.7	83.4	86.2
Acenaphthene-d10 % recovery**	%	TM218		90.8	84.6	78.9	87.4	83.8	87.4
Phenanthrene-d10 % recovery**	%	TM218		90.1	84.8	77.5	78.5	85.7	86.1
Chrysene-d12 % recovery**	%	TM218		80.5	75.6	72	40.3	78.3	76.6
Perylene-d12 % recovery**	%	TM218		80.8	68.3	70.4	20.6	74.9	76.8
Naphthalene	<9 µg/kg	TM218		286 M	4560 M	269 M	126 M	178 M	19.5 M
Acenaphthylene	<12 µg/kg	TM218		77.7 M	1980 M	<60 M	23 M	35.8 M	<12 M
Acenaphthene	<8 µg/kg	TM218		23.6 M	405 M	102 M	27.9 M	15.9 M	<8 M
Fluorene	<10 µg/kg	TM218		93.3 M	4350 M	176 M	38.6 M	37.2 M	<10 M
Phenanthrene	<15 µg/kg	TM218		498 M	14800 M	974 M	209 M	282 M	46.7 M
Anthracene	<16 µg/kg	TM218		120 M	3960 M	241 M	52 M	60.2 M	<16 M
Fluoranthene	<17 µg/kg	TM218		685 M	15300 M	1340 M	244 M	332 M	41.2 M
Pyrene	<15 µg/kg	TM218		499 M	12900 M	1140 M	195 M	270 M	31.8 M
Benz(a)anthracene	<14 µg/kg	TM218		307 M	8840 M	922 M	100 M	182 M	24.2 M
Chrysene	<10 µg/kg	TM218		257 M	7310 M	789 M	88.7 M	174 M	24.8 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		245 M	9840 M	676 M	98.2 M	281 M	22.5 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		140 M	3590 M	315 M	37.7 M	83.3 M	<14 M
Benzo(a)pyrene	<15 µg/kg	TM218		256 M	6160 M	635 M	53 M	160 M	20.2 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		231 M	5420 M	410 M	39.2 M	158 M	<18 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		40.2 M	1130 M	<115 M	<23 M	29.9 M	<23 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		185 M	3920 M	360 M	29.4 M	123 M	<24 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		3950	104000	8350	1360	2400	231

Validated

CERTIFICATE OF ANALYSIS

SDG:	210127-42	**Client Reference:**	P18-669	**Report Number:**	586164
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	585603

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	R19-3	R20-1	R20-2	V4-1	V5-1	V5-2
			Depth (m)	2.50 - 2.50	0.50 - 0.50	1.60 - 1.60	1.15 - 1.15	0.50 - 0.50	1.50 - 1.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	26/01/2021	26/01/2021	26/01/2021	25/01/2021	25/01/2021	25/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021
			SDG Ref	210127-42	210127-42	210127-42	210127-42	210127-42	210127-42
			Lab Sample No.(s)	23614001	23613973	23613979	23613902	23613963	23613968
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		85.1	84.7	79.2	87.1	82.6	87.3
Acenaphthene-d10 % recovery**	%	TM218		84.2	87.1	80.6	89.2	84.4	86.4
Phenanthrene-d10 % recovery**	%	TM218		86.1	86.9	78.9	86.1	83.3	82.8
Chrysene-d12 % recovery**	%	TM218		83.7	78.9	73	76.6	69.9	68.4
Perylene-d12 % recovery**	%	TM218		82	81.4	71.4	76.2	58.9	60.5
Naphthalene	<9 µg/kg	TM218		67.4 M	1790 M	800 M	409 M	817 M	573 M
Acenaphthylene	<12 µg/kg	TM218		18.3 M	330 M	183 M	150 M	183 M	48.3 M
Acenaphthene	<8 µg/kg	TM218		<8 M	84.5 M	64.2 M	46.3 M	32.2 M	28.6 M
Fluorene	<10 µg/kg	TM218		21.6 M	361 M	192 M	195 M	170 M	94.8 M
Phenanthrene	<15 µg/kg	TM218		156 M	2500 M	1350 M	1440 M	1500 M	559 M
Anthracene	<16 µg/kg	TM218		35.2 M	599 M	289 M	292 M	355 M	92.3 M
Fluoranthene	<17 µg/kg	TM218		221 M	3120 M	1980 M	2260 M	2120 M	576 M
Pyrene	<15 µg/kg	TM218		161 M	2190 M	1380 M	1740 M	1580 M	494 M
Benz(a)anthracene	<14 µg/kg	TM218		104 M	1240 M	939 M	1250 M	1010 M	303 M
Chrysene	<10 µg/kg	TM218		102 M	1160 M	818 M	1280 M	929 M	321 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		78.3 M	859 M	1150 M	1640 M	1580 M	566 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		34.8 M	540 M	367 M	733 M	455 M	169 M
Benzo(a)pyrene	<15 µg/kg	TM218		86.7 M	992 M	734 M	1310 M	789 M	278 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		73.3 M	901 M	563 M	1200 M	778 M	277 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		<23 M	149 M	<115 M	237 M	163 M	60.1 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		78.1 M	706 M	479 M	1010 M	603 M	228 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		1240	17500	11300	15200	13100	4670

Validated

CERTIFICATE OF ANALYSIS

SDG:	210127-42	**Client Reference:**	P18-669	**Report Number:**	586164
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	585603

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	P16-1	P16-2	P17-1	P17-2	Q17-1	Q17-2
			Depth (m)	0.30 - 0.30	1.30 - 1.30	0.30 - 0.30	1.50 - 1.50	0.30 - 0.30	1.50 - 1.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	26/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021
			SDG Ref	210127-42	210127-42	210127-42	210127-42	210127-42	210127-42
			Lab Sample No.(s)	23613950	23613957	23613928	23613934	23613939	23613943
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		102	61.5 4	2.8 4	15.5 4	9.6 4	77.2
Aliphatics >C5-C6	<10 µg/kg	TM089		35	32.2 4	<10 4	23.4 4	13.3 4	26.7
Aliphatics >C6-C8	<10 µg/kg	TM089		42.7	72.2 4	19.8 4	53.8 4	30 4	45.2
Aliphatics >C8-C10	<10 µg/kg	TM089		93	54.4 4	<10 4	38.6 4	15.5 4	49.9
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	6160	7940	<1000	<1000
Aliphatics >C12-C16	<1000 µg/kg	TM414		1640	<1000	9650	9850	2100	2800
Aliphatics >C16-C21	<1000 µg/kg	TM414		5250	3980	9640	7450	11800	6860
Aliphatics >C21-C35	<1000 µg/kg	TM414		38900	31300	23500	36500	118000	78500
Aliphatics >C35-C44	<1000 µg/kg	TM414		9520	6170	4550	8510	24400	56300
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		56000	42600	53500	70300	157000	145000
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		89800	62700	140000	150000	223000	391000
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10 4	<10 4	<10 4	<10 4	<10
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	16.7 4	<10 4	<10 4	<10 4	<10
Aromatics >EC8-EC10	<10 µg/kg	TM089		61.3	35.5 4	<10 4	25.7 4	<10 4	33.6
Aromatics > EC10-EC12	<1000 µg/kg	TM414		1400	<1000	1750	4050	1760	9430
Aromatics > EC12-EC16	<1000 µg/kg	TM414		3020	<1000	13600	12900	2250	21000
Aromatics > EC16-EC21	<1000 µg/kg	TM414		13700	6530	23900	26700	16000	76100
Aromatics > EC21-EC35	<1000 µg/kg	TM414		14700	11700	44500	34500	41900	126000
Aromatics >EC35-EC44	<1000 µg/kg	TM414		<1000	<1000	2690	1350	4040	13100
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	1710
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		33800	20100	86400	79500	65900	246000
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		90000	62900	140000	150000	223000	391000
Total Aliphatics >C5-C10	<50 µg/kg	TM089		171	159 4	<50 4	116 4	58.8 4	122
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		61.3	52.2 4	<50 4	<50 4	<50 4	<50
GRO >C5-C10	<20 µg/kg	TM089		232	211 4	<20 4	116 4	58.8 4	122

Validated

CERTIFICATE OF ANALYSIS

SDG:	210127-42	**Client Reference:**	P18-669	**Report Number:**	586164
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	585603

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	Q18-1	Q18-2	R18-1	R18-2	R19-1	R19-2
			Depth (m)	0.30 - 0.30	1.50 - 1.50	0.60 - 0.60	1.80 - 1.80	0.40 - 0.40	1.20 - 1.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	26/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021
			SDG Ref	210127-42	210127-42	210127-42	210127-42	210127-42	210127-42
			Lab Sample No.(s)	23613920	23613924	23614011	23613914	23613985	23613991
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		106	5.4 4	11.7 4	80.9	74.3	81.5
Aliphatics >C5-C6	<10 µg/kg	TM089		26.9	19.9 4	<10 4	10.9	<10	<10
Aliphatics >C6-C8	<10 µg/kg	TM089		37.7	53.8 4	10.8 4	52	<10	16.2
Aliphatics >C8-C10	<10 µg/kg	TM089		40.9	35.1 4	<10 4	252	<10	32.4
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	5100	<1000	4650	<1000	<1000
Aliphatics >C12-C16	<1000 µg/kg	TM414		<1000	11200	3770	19700	<1000	<1000
Aliphatics >C16-C21	<1000 µg/kg	TM414		3810	29800	9540	81100	6890	<1000
Aliphatics >C21-C35	<1000 µg/kg	TM414		16100	112000	31000	241000	25800	<1000
Aliphatics >C35-C44	<1000 µg/kg	TM414		5060	35000	7110	34800	4970	<1000
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		26300	193000	52200	381000	38800	<5000
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		44800	382000	92700	429000	52700	<10000
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10 4	<10 4	10.9	<10	<10
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10 4	<10 4	10.9	<10	<10
Aromatics >EC8-EC10	<10 µg/kg	TM089		28	23.4 4	<10 4	168	<10	21.6
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	5240	<1000	<1000	<1000	<1000
Aromatics > EC12-EC16	<1000 µg/kg	TM414		<1000	17800	3550	1070	<1000	<1000
Aromatics > EC16-EC21	<1000 µg/kg	TM414		3110	54100	8580	2380	<1000	<1000
Aromatics > EC21-EC35	<1000 µg/kg	TM414		13700	105000	26100	41900	11900	<1000
Aromatics >EC35-EC44	<1000 µg/kg	TM414		1060	5760	1950	2170	<1000	<1000
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		18500	188000	40500	47700	13900	<5000
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		44900	382000	92700	429000	52700	<10000
Total Aliphatics >C5-C10	<50 µg/kg	TM089		106	109 4	<50 4	315	<50	<50
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50	<50 4	<50 4	190	<50	<50
GRO >C5-C10	<20 µg/kg	TM089		106	109 4	<20 4	505	<20	<20

Validated

CERTIFICATE OF ANALYSIS

SDG:	210127-42	**Client Reference:**	P18-669	**Report Number:**	586164
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	585603

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	R19-3	R20-1	R20-2	V4-1	V5-1	V5-2
			Depth (m)	2.50 - 2.50	0.50 - 0.50	1.60 - 1.60	1.15 - 1.15	0.50 - 0.50	1.50 - 1.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	26/01/2021	26/01/2021	26/01/2021	25/01/2021	25/01/2021	25/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021
			SDG Ref	210127-42	210127-42	210127-42	210127-42	210127-42	210127-42
			Lab Sample No.(s)	23614001	23613973	23613979	23613902	23613963	23613968
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		83.2	82.9	26.1 4	57.1 4	29.3 4	13.3 4
Aliphatics >C5-C6	<10 µg/kg	TM089		20.2	17.2	72 4	21.1 4	24.4 4	57.6 4
Aliphatics >C6-C8	<10 µg/kg	TM089		25.2	20.5	223 4	37.7 4	51.1 4	177 4
Aliphatics >C8-C10	<10 µg/kg	TM089		60.5	18.3	96 4	21.1 4	30 4	73.5 4
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	1590	<1000	<1000	<1000
Aliphatics >C12-C16	<1000 µg/kg	TM414		<1000	3340	9340	6470	2480	9220
Aliphatics >C16-C21	<1000 µg/kg	TM414		5610	12700	22000	33700	31700	73500
Aliphatics >C21-C35	<1000 µg/kg	TM414		21500	47700	100000	345000	38100	58300
Aliphatics >C35-C44	<1000 µg/kg	TM414		3090	17300	31200	140000	8420	21200
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		31100	81200	164000	525000	81200	163000
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		40300	129000	215000	613000	144000	283000
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	30 4	<10 4	<10 4	56.5 4
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10	58.8 4	<10 4	12.2 4	52 4
Aromatics >EC8-EC10	<10 µg/kg	TM089		40.3	11.9	63.6 4	14.4 4	20 4	49.7 4
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	1830	<1000	<1000	<1000	8770
Aromatics > EC12-EC16	<1000 µg/kg	TM414		<1000	1940	7130	3980	3650	13300
Aromatics > EC16-EC21	<1000 µg/kg	TM414		<1000	8290	10100	9830	12500	35200
Aromatics > EC21-EC35	<1000 µg/kg	TM414		7870	31400	30800	70100	44000	60600
Aromatics >EC35-EC44	<1000 µg/kg	TM414		<1000	4020	1330	3270	1660	2360
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	1090	<1000	<1000	<1000	<1000
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		9200	47500	50200	87600	62500	120000
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		40500	129000	215000	613000	144000	284000
Total Aliphatics >C5-C10	<50 µg/kg	TM089		106	56.1	391 4	79.9 4	105 4	308 4
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50	<50	152 4	<50 4	<50 4	158 4
GRO >C5-C10	<20 µg/kg	TM089		106	56.1	544 4	79.9 4	105 4	467 4

CERTIFICATE OF ANALYSIS

SDG:	210127-42	**Client Reference:**	P18-669	**Report Number:**	586164
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	585603

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	P16-1	P16-2	P17-1	P17-2	Q17-1	Q17-2
			Depth (m)	0.30 - 0.30	1.30 - 1.30	0.30 - 0.30	1.50 - 1.50	0.30 - 0.30	1.50 - 1.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	26/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021
			SDG Ref	210127-42	210127-42	210127-42	210127-42	210127-42	210127-42
			Lab Sample No.(s)	23613950	23613957	23613928	23613934	23613939	23613943
			AGS Reference						
Dibromofluoromethane**	%	TM116		104	108	106	105	94.9	106
Toluene-d8**	%	TM116		96.4	97.4	94.6	97.7	87.8	97.1
4-Bromofluorobenzene**	%	TM116		93.3	99.8	83.8	92.2	73.6	96.1
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<2000 M	<2000 M	<200 M	<200 M
Benzene	<9 µg/kg	TM116		<180 M	<180 M	<1800 M	<1800 M	<180 M	<180 M
Toluene	<7 µg/kg	TM116		<140 M	<140 M	<1400 M	<1400 M	<140 M	<140 M
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<800 M	<800 M	<80 M	<80 M
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<2000 #	<2000 #	<200 #	<200 #
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<2000 M	<2000 M	<200 M	<200 M
Naphthalene	<13 µg/kg	TM116		<260 M	<260 M	<2600 M	<2600 M	443 M	547 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<4	<4	<0.4	<0.4
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<8000	<8000	<800	<800

CERTIFICATE OF ANALYSIS

SDG:	210127-42	**Client Reference:**	P18-669	**Report Number:**	586164
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	585603

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	Q18-1	Q18-2	R18-1	R18-2	R19-1	R19-2
			Depth (m)	0.30 - 0.30	1.50 - 1.50	0.60 - 0.60	1.80 - 1.80	0.40 - 0.40	1.20 - 1.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	26/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021
			SDG Ref	210127-42	210127-42	210127-42	210127-42	210127-42	210127-42
			Lab Sample No.(s)	23613920	23613924	23614011	23613914	23613985	23613991
			AGS Reference						
Dibromofluoromethane**	%	TM116		112	106	105	119	104	119
Toluene-d8**	%	TM116		98.1	97.4	94.9	96.8	97.8	97.1
4-Bromofluorobenzene**	%	TM116		93.5	92.3	86.7	83.9	96.3	93.9
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<2000 M	<200 M	<200 M	<200 M	<200 M
Benzene	<9 µg/kg	TM116		<180 M	<1800 M	<180 M	<180 M	<180 M	<180 M
Toluene	<7 µg/kg	TM116		<140 M	<1400 M	<140 M	<140 M	<140 M	<140 M
Ethylbenzene	<4 µg/kg	TM116		<80 M	<800 M	<80 M	<80 M	<80 M	<80 M
p/m-Xylene	<10 µg/kg	TM116		<200 #	<2000 #	<200 #	<200 #	<200 #	<200 #
o-Xylene	<10 µg/kg	TM116		<200 M	<2000 M	<200 M	<200 M	<200 M	<200 M
Naphthalene	<13 µg/kg	TM116		<260 M	<2600 M	<260 M	<260 M	<260 M	<260 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<4	<0.4	<0.4	<0.4	<0.4
Sum of BTEX	<40 µg/kg	TM116		<800	<8000	<800	<800	<800	<800

CERTIFICATE OF ANALYSIS

SDG:	210127-42	**Client Reference:**	P18-669	**Report Number:**	586164
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	585603

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	R19-3	R20-1	R20-2	V4-1	V5-1	V5-2
			Depth (m)	2.50 - 2.50	0.50 - 0.50	1.60 - 1.60	1.15 - 1.15	0.50 - 0.50	1.50 - 1.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	26/01/2021	26/01/2021	26/01/2021	25/01/2021	25/01/2021	25/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021
			SDG Ref	210127-42	210127-42	210127-42	210127-42	210127-42	210127-42
			Lab Sample No.(s)	23614001	23613973	23613979	23613902	23613963	23613968
			AGS Reference						
Dibromofluoromethane**	%	TM116		110	108	94.5	106	101	102
Toluene-d8**	%	TM116		96.6	97.4	91.5	99.3	95.1	94.8
4-Bromofluorobenzene**	%	TM116		97.4	99	76.8	89.9	76.5	79.1
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Benzene	<9 µg/kg	TM116		<180 M	<180 M	<180 M	<180 M	<180 M	<180 M
Toluene	<7 µg/kg	TM116		<140 M	<140 M	<140 M	<140 M	<140 M	168 M
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<80 M	<80 M	<80 M	<80 M
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #	<200 #	<200 #	<200 #
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Naphthalene	<13 µg/kg	TM116		<260 M	550 M	363 M	<260 M	<260 M	<260 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800	<800	<800	<800

CERTIFICATE OF ANALYSIS

SDG:	210127-42	**Client Reference:**	P18-669	**Report Number:**	586164
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	585603

Asbestos Identification - Solid Samples

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&+$@	Sample deviation (see appendix)

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	P16-1 0.30 - 0.30 SOLID 26/01/2021 00:00:00 27/01/2021 05:00:00 210127-42 23613950 TM048	03/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	P17-1 0.30 - 0.30 SOLID 26/01/2021 00:00:00 27/01/2021 05:00:00 210127-42 23613928 TM048	03/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	Q17-1 0.30 - 0.30 SOLID 26/01/2021 00:00:00 27/01/2021 05:00:00 210127-42 23613939 TM048	03/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	Q18-1 0.30 - 0.30 SOLID 26/01/2021 00:00:00 27/01/2021 05:00:00 210127-42 23613920 TM048	03/02/2021	James Richards	Fibre bundle in soil	Not Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	R18-1 0.60 - 0.60 SOLID 26/01/2021 00:00:00 27/01/2021 05:00:00 210127-42 23614011 TM048	03/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	R19-2 1.20 - 1.20 SOLID 26/01/2021 00:00:00 27/01/2021 05:00:00 210127-42 23613991 TM048	03/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	R20-2 1.60 - 1.60 SOLID 26/01/2021 00:00:00 27/01/2021 05:00:00 210127-42 23613979 TM048	03/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	V4-1 1.15 - 1.15 SOLID 25/01/2021 00:00:00 27/01/2021 05:00:00 210127-42 23613902 TM048	03/02/2021	James Richards	Fibre bundle in soil	Not Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

Validated

CERTIFICATE OF ANALYSIS

SDG:	210127-42	**Client Reference:**	P18-669	**Report Number:**	586164
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	585603

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	V5-2 1.50 - 1.50 SOLID 25/01/2021 00:00:00 27/01/2021 05:00:00 210127-42 23613968 TM048	03/02/2021	James Richards	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	210127-42	**Client Reference:**	P18-669	**Report Number:**	586164
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	585603

Asbestos Quantification - Full

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

		Additional Asbestos Components	Analysts Comments	Asbestos Quantification - Gravimetric - %	Asbestos Quantification - PCOM	Asbestos Quantification - Total - %
Cust. Sample Ref.	Q18-1	None (#)	N/A	<0.001 (#)	<0.001 (#)	<0.001 (#)
Depth (m)	0.30 - 0.30					
Sample Type	SOLID					
Date Sampled	26/01/2021 00:00:00					
Date Received	27/01/2021 05:00:00					
SDG	210127-42					
Original Sample	23613920					
Method Number	TM304					
Cust. Sample Ref.	V4-1	None (#)	N/A	<0.001 (#)	<0.001 (#)	<0.001 (#)
Depth (m)	1.15 - 1.15					
Sample Type	SOLID					
Date Sampled	25/01/2021 00:00:00					
Date Received	27/01/2021 05:00:00					
SDG	210127-42					
Original Sample	23613902					
Method Number	TM304					

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM024	Method 4500A & B, AWWA/APHA, 20th Ed., 1999	Determination of Exchangeable Ammonium and Ammoniacal Nitrogen as N by titration on solids
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM132	In - house Method	ELTRA CS800 Operators Guide
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS
TM304	HSE Contract research Report no 83/1996	Asbestos Quantification in Soil: Fibres identified by morphology only
TM414	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	210127-42	**Client Reference:**	P18-669	**Report Number:**	586164
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	585603

Test Completion Dates

Lab Sample No(s)	23613950	23613957	23613928	23613934	23613939	23613943	23613920	23613924	23614011	23613914
Customer Sample Ref.	P16-1	P16-2	P17-1	P17-2	Q17-1	Q17-2	Q18-1	Q18-2	R18-1	R18-2
AGS Ref.										
Depth	0.30 - 0.30	1.30 - 1.30	0.30 - 0.30	1.50 - 1.50	0.30 - 0.30	1.50 - 1.50	0.30 - 0.30	1.50 - 1.50	0.60 - 0.60	1.80 - 1.80
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Ammonium Soil by Titration	01-Feb-2021	01-Feb-2021	01-Feb-2021	01-Feb-2021	01-Feb-2021	01-Feb-2021	01-Feb-2021	01-Feb-2021	01-Feb-2021	01-Feb-2021
Asbestos ID in Solid Samples	03-Feb-2021		03-Feb-2021		03-Feb-2021		03-Feb-2021		03-Feb-2021	
Asbestos Quantification - Full							09-Feb-2021			
Cyanide Comp/Free/Total/Thiocyanate	02-Feb-2021	01-Feb-2021	02-Feb-2021	02-Feb-2021	01-Feb-2021	01-Feb-2021	01-Feb-2021	01-Feb-2021	01-Feb-2021	01-Feb-2021
EPH CWG GC (S)	02-Feb-2021	02-Feb-2021	02-Feb-2021	02-Feb-2021	02-Feb-2021	02-Feb-2021	02-Feb-2021	02-Feb-2021	02-Feb-2021	02-Feb-2021
GRO by GC-FID (S)	03-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	03-Feb-2021
Metals in solid samples by OES	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021
PAH by GCMS	29-Jan-2021	29-Jan-2021	02-Feb-2021	02-Feb-2021	29-Jan-2021	29-Jan-2021	29-Jan-2021	02-Feb-2021	29-Jan-2021	02-Feb-2021
pH	29-Jan-2021	28-Jan-2021	29-Jan-2021	28-Jan-2021	29-Jan-2021	28-Jan-2021	29-Jan-2021	28-Jan-2021	29-Jan-2021	28-Jan-2021
Phenols by HPLC (S)	29-Jan-2021	29-Jan-2021	29-Jan-2021	29-Jan-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021
Sample description	27-Jan-2021	27-Jan-2021	27-Jan-2021	27-Jan-2021	27-Jan-2021	27-Jan-2021	27-Jan-2021	27-Jan-2021	27-Jan-2021	27-Jan-2021
Total Organic Carbon	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	02-Feb-2021	03-Feb-2021	02-Feb-2021	03-Feb-2021	03-Feb-2021
TPH CWG GC (S)	03-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	03-Feb-2021
VOC MS (S)	03-Feb-2021	02-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	02-Feb-2021	02-Feb-2021	03-Feb-2021	02-Feb-2021	02-Feb-2021

Lab Sample No(s)	23613985	23613991	23614001	23613973	23613979	23613902	23613963	23613968
Customer Sample Ref.	R19-1	R19-2	R19-3	R20-1	R20-2	V4-1	V5-1	V5-2
AGS Ref.								
Depth	0.40 - 0.40	1.20 - 1.20	2.50 - 2.50	0.50 - 0.50	1.60 - 1.60	1.15 - 1.15	0.50 - 0.50	1.50 - 1.50
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Ammonium Soil by Titration	01-Feb-2021	01-Feb-2021	01-Feb-2021	01-Feb-2021	01-Feb-2021	01-Feb-2021	01-Feb-2021	01-Feb-2021
Asbestos ID in Solid Samples		03-Feb-2021			03-Feb-2021	03-Feb-2021		03-Feb-2021
Asbestos Quantification - Full						09-Feb-2021		
Cyanide Comp/Free/Total/Thiocyanate	01-Feb-2021	01-Feb-2021	02-Feb-2021	01-Feb-2021	01-Feb-2021	02-Feb-2021	01-Feb-2021	01-Feb-2021
EPH CWG GC (S)	02-Feb-2021	02-Feb-2021	02-Feb-2021	02-Feb-2021	02-Feb-2021	02-Feb-2021	02-Feb-2021	02-Feb-2021
GRO by GC-FID (S)	03-Feb-2021	03-Feb-2021	03-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021
Metals in solid samples by OES	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021
PAH by GCMS	02-Feb-2021	29-Jan-2021	29-Jan-2021	29-Jan-2021	29-Jan-2021	29-Jan-2021	02-Feb-2021	02-Feb-2021
pH	28-Jan-2021	29-Jan-2021	28-Jan-2021	29-Jan-2021	29-Jan-2021	29-Jan-2021	28-Jan-2021	29-Jan-2021
Phenols by HPLC (S)	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	29-Jan-2021	03-Feb-2021	03-Feb-2021
Sample description	27-Jan-2021	27-Jan-2021	27-Jan-2021	27-Jan-2021	27-Jan-2021	27-Jan-2021	27-Jan-2021	27-Jan-2021
Total Organic Carbon	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021
TPH CWG GC (S)	03-Feb-2021	03-Feb-2021	03-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021
VOC MS (S)	03-Feb-2021	02-Feb-2021	03-Feb-2021	02-Feb-2021	03-Feb-2021	02-Feb-2021	02-Feb-2021	03-Feb-2021

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

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Hawarden
Deeside
CH5 3US
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Rodgers Leask
Office 225
2430/2440
Aztec West
Almondsbury
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BS32 4QA

Attention: Elliot Thomas

CERTIFICATE OF ANALYSIS

Date of report Generation:	12 February 2021
Customer:	Rodgers Leask
Sample Delivery Group (SDG):	210128-35
Your Reference:	P18-669
Location:	Llanwern
Report No:	586606

This report has been revised and directly supersedes 586255 in its entirety.

We received 25 samples on Thursday January 28, 2021 and 25 of these samples were scheduled for analysis which was completed on Friday February 12, 2021. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23621301	P1-1		0.50 - 0.50	27/01/2021
23621309	P1-2		1.40 - 1.40	27/01/2021
23621438	P14-1		0.30 - 0.30	26/01/2021
23621447	P14-2		1.80 - 1.80	26/01/2021
23621452	P15-1		0.30 - 0.30	26/01/2021
23621293	P15-2		2.20 - 2.20	26/01/2021
23621316	Q1-1		0.40 - 0.40	27/01/2021
23621321	Q1-2		1.20 - 1.20	27/01/2021
23621418	Q14-1		0.50 - 0.50	26/01/2021
23621429	Q14-2		1.60 - 1.60	26/01/2021
23621397	R14-1		0.10 - 0.10	26/01/2021
23621406	R14-2		1.70 - 1.70	26/01/2021
23621287	R15-1		0.50 - 0.50	26/01/2021
23621351	R15-2		1.20 - 1.20	26/01/2021
23621325	S1-1		0.70 - 0.70	27/01/2021
23621331	T1-1		0.40 - 0.40	27/01/2021
23621335	T1-2		1.60 - 1.60	27/01/2021
23621355	T2-1		0.50 - 0.50	27/01/2021
23621359	T2-2		1.80 - 1.80	27/01/2021
23621341	T3-1		0.20 - 0.20	27/01/2021
23621346	T3-2		1.80 - 1.80	27/01/2021
23621363	T4-1		0.40 - 0.40	27/01/2021
23621371	T4-2		1.20 - 1.20	27/01/2021
23621379	T5-1		0.70 - 0.70	27/01/2021
23621388	T5-2		1.30 - 1.30	27/01/2021

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

Results Legend

X **Test**

N **No Determination Possible**

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23621301		23621309		23621438		23621447		23621452		23621293		23621316		23621321	
Customer Sample Reference			P1-1		P1-2		P14-1		P14-2		P15-1		P15-2		Q1-1		Q1-2	
AGS Reference																		
Depth (m)			0.50 - 0.50		1.40 - 1.40		0.30 - 0.30		1.80 - 1.80		0.30 - 0.30		2.20 - 2.20		0.40 - 0.40		1.20 - 1.20	
Container			1kg TUB with Handle (ALE260)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Ammonium Soil by Titration	All	NDPs: 0 Tests: 25	X		X			X		X			X		X			X		X	
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 13	X				X					X					X				
Asbestos Quantification - Full	All	NDPs: 0 Tests: 3										X					X				
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 25	X		X			X		X			X		X			X		X	
EPH CWG GC (S)	All	NDPs: 0 Tests: 25	X		X			X		X			X		X			X		X	
GRO by GC-FID (S)	All	NDPs: 0 Tests: 25		X		X			X		X			X		X			X		X
Metals in solid samples by OES	All	NDPs: 0 Tests: 25	X		X			X		X			X		X			X		X	
PAH by GCMS	All	NDPs: 0 Tests: 25	X		X			X		X			X		X			X		X	
pH	All	NDPs: 0 Tests: 25	X		X			X		X			X		X			X		X	
Phenols by HPLC (S)	All	NDPs: 0 Tests: 25	X		X			X		X			X		X			X		X	
Sample description	All	NDPs: 0 Tests: 23	X		X			X		X			X					X		X	
Total Organic Carbon	All	NDPs: 2 Tests: 23	X		X			X		X			X		X			X		X	
TPH CWG GC (S)	All	NDPs: 0 Tests: 25	X		X			X		X			X		X			X		X	
VOC MS (S)	All	NDPs: 0 Tests: 25		X		X			X		X			X		X			X		X

23621335	T1-2		1.60 - 1.60	1kg TUB with Handle (ALE260)	S			X														
23621331	T1-1		0.40 - 0.40	60g VOC (ALE215)	S							X										X
				250g Amber Jar (ALE210)	S	X				X	X		X	X	X	X	X	X	X			
23621325	S1-1		0.70 - 0.70	60g VOC (ALE215)	S							X										X
				250g Amber Jar (ALE210)	S	X				X	X		X	X	X	X	X	X	X			
				1kg TUB with Handle (ALE260)	S			X														
23621351	R15-2		1.20 - 1.20	60g VOC (ALE215)	S							X										X
				250g Amber Jar (ALE210)	S	X				X	X		X	X	X	X	X	X	X			
23621287	R15-1		0.50 - 0.50	60g VOC (ALE215)	S							X										X
				250g Amber Jar (ALE210)	S	X				X	X		X	X	X	X	X	X	X			
				1kg TUB with Handle (ALE260)	S			X														
23621406	R14-2		1.70 - 1.70	60g VOC (ALE215)	S							X										X
				250g Amber Jar (ALE210)	S	X				X	X		X	X	X	X	X	X	X			
23621397	R14-1		0.10 - 0.10	60g VOC (ALE215)	S							X										X
				250g Amber Jar (ALE210)	S	X				X	X		X	X	X	X	X	X	X			
				1kg TUB with Handle (ALE260)	S			X	X													
23621429	Q14-2		1.60 - 1.60	60g VOC (ALE215)	S							X										X
				250g Amber Jar (ALE210)	S	X				X	X		X	X	X	X	X	N		X		
23621418	Q14-1		0.50 - 0.50	60g VOC (ALE215)	S							X										X
				250g Amber Jar (ALE210)	S	X				X	X		X	X	X	X	X	N		X		
				1kg TUB with Handle (ALE260)	S			X														

CERTIFICATE OF ANALYSIS

SDG:	210128-35	Client Reference:	P18-669	Report Number:	586606
Location:	Llanwern	Order Number:	108282	Superseded Report:	586255

Results Legend

- X Test
- N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23621335		23621355		23621359			23621341		23621346			23621363		23621371			23621379	
Customer Sample Reference			T1-2		T2-1		T2-2			T3-1		T3-2			T4-1		T4-2			T5-1	
AGS Reference																					
Depth (m)			1.60 - 1.60		0.50 - 0.50		1.80 - 1.80			0.20 - 0.20		1.80 - 1.80			0.40 - 0.40		1.20 - 1.20			0.70 - 0.70	
Container			250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Ammonium Soil by Titration	All	NDPs: 0 Tests: 25	X		X			X		X			X		X			X		X	
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 13					X					X					X				
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 25	X		X			X		X			X		X			X		X	
EPH CWG GC (S)	All	NDPs: 0 Tests: 25	X		X			X		X			X		X			X		X	
GRO by GC-FID (S)	All	NDPs: 0 Tests: 25		X		X			X		X			X		X			X		X
Metals in solid samples by OES	All	NDPs: 0 Tests: 25	X		X			X		X			X		X			X		X	
PAH by GCMS	All	NDPs: 0 Tests: 25	X		X			X		X			X		X			X		X	
pH	All	NDPs: 0 Tests: 25	X		X			X		X			X		X			X		X	
Phenols by HPLC (S)	All	NDPs: 0 Tests: 25	X		X			X		X			X		X			X		X	
Sample description	All	NDPs: 0 Tests: 23			X			X		X			X		X			X		X	
Total Organic Carbon	All	NDPs: 2 Tests: 23	X		X			X		X			X		X			X		X	
TPH CWG GC (S)	All	NDPs: 0 Tests: 25	X		X			X		X			X		X			X		X	
VOC MS (S)	All	NDPs: 0 Tests: 25		X		X			X		X			X		X			X		X

23621388	T5-2		1.30 - 1.30	60g VOC (ALE215)	250g Amber Jar (ALE210)	1kg TUB with Handle (ALE260)
				S	S	S
					X	
						X
					X	
					X	
				X		
					X	
					X	
					X	
					X	
					X	
					X	
					X	
					X	
					X	
					X	
					X	

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
23621301	P1-1	0.50 - 0.50	Dark Brown	Sandy Loam	Crushed Brick	Concrete/Aggregate
23621309	P1-2	1.40 - 1.40	Dark Brown	Loamy Sand	Brick	Stones
23621438	P14-1	0.30 - 0.30	Dark Brown	Loamy Sand	Stones	None
23621447	P14-2	1.80 - 1.80	Dark Brown	Loamy Sand	Stones	None
23621452	P15-1	0.30 - 0.30	Dark Brown	Loamy Sand	Stones	None
23621293	P15-2	2.20 - 2.20	Black	Sand	Stones	None
23621316	Q1-1	0.40 - 0.40	Dark Brown	Sandy Loam	Stones	Vegetation
23621321	Q1-2	1.20 - 1.20	Dark Brown	Sandy Loam	Stones	Vegetation
23621418	Q14-1	0.50 - 0.50	Black	Sand	None	Stones
23621429	Q14-2	1.60 - 1.60	Black	Sand	None	Stones
23621397	R14-1	0.10 - 0.10	Dark Brown	Sandy Loam	Stones	Vegetation
23621406	R14-2	1.70 - 1.70	Dark Brown	Loamy Sand	Stones	None
23621287	R15-1	0.50 - 0.50	Dark Brown	Loamy Sand	Stones	Vegetation
23621351	R15-2	1.20 - 1.20	Black	Sand	None	Stones
23621325	S1-1	0.70 - 0.70	Grey	Loamy Sand	Stones	None
23621331	T1-1	0.40 - 0.40	Dark Brown	Sandy Loam	Stones	Concrete/Aggregate
23621335	T1-2	1.60 - 1.60	Dark Brown	Sand	Stones	N/A
23621355	T2-1	0.50 - 0.50	Black	Sandy Loam	Stones	Vegetation
23621359	T2-2	1.80 - 1.80	Black	Sand	Vegetation	Stones
23621341	T3-1	0.20 - 0.20	Dark Brown	Loamy Sand	Stones	None
23621346	T3-2	1.80 - 1.80	Dark Brown	Loamy Sand	Stones	Vegetation
23621363	T4-1	0.40 - 0.40	Grey	Sandy Loam	Stones	Concrete/Aggregate
23621371	T4-2	1.20 - 1.20	Dark Brown	Loamy Sand	Stones	Brick
23621379	T5-1	0.70 - 0.70	Dark Brown	Loamy Sand	Stones	None
23621388	T5-2	1.30 - 1.30	Grey	Sand	Stones	None

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	P1-1	P1-2	P14-1	P14-2	P15-1	P15-2
			Depth (m)	0.50 - 0.50	1.40 - 1.40	0.30 - 0.30	1.80 - 1.80	0.30 - 0.30	2.20 - 2.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	27/01/2021	27/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021
			SDG Ref	210128-35	210128-35	210128-35	210128-35	210128-35	210128-35
			Lab Sample No.(s)	23621301	23621309	23621438	23621447	23621452	23621293
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		6.9	7.5	16	11	11	8.5
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M	<12 M	<12 M	<12 M	<12 M
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	0.0437 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	0.0109 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M	0.0547 M
Soil Organic Matter (SOM)	<0.35 %	TM132		1.6 #	3.83 #	49.5 #	6.36 #	3.19 #	1.59 #
pH	1 pH Units	TM133		8.02 M	7.96 M	11.4 M	11.9 M	12.8 M	12.7 M
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	1.06 M	6.23 M	<1 M	<1 M
Arsenic	<0.6 mg/kg	TM181		<6 M	8.1 M	<6 M	<6 M	6.85 M	<6 M
Cadmium	<0.02 mg/kg	TM181		0.313 M	0.489 M	0.906 M	1.56 M	1.71 M	1.75 M
Chromium	<0.9 mg/kg	TM181		<9 M	19.1 M	234 M	421 M	741 M	783 M
Copper	<1.4 mg/kg	TM181		<14 M	21 M	18.1 M	<14 M	36.5 M	22.6 M
Iron	<1000 mg/kg	TM181		16800 #	23300 #	103000 #	144000 #	141000 #	162000 #
Lead	<0.7 mg/kg	TM181		<7 M	15.2 M	23.1 M	26 M	16.3 M	<7 M
Manganese	<0.13 mg/kg	TM181		1200 M	564 M	18000 M	21400 M	32300 M	34400 M
Mercury	<0.1 mg/kg	TM181		<1.4 M	<1.4 M	<1.4 M	<1.4 M	<1.4 M	<1.4 M
Nickel	<0.2 mg/kg	TM181		9.97 M	31.9 M	11.1 M	5.46 M	21.3 M	14.3 M
Selenium	<1 mg/kg	TM181		<10 #	<10 #	13.2 #	<10 #	15 #	19.8 #
Vanadium	<0.2 mg/kg	TM181		19.6 #	26.3 #	270 #	413 #	680 #	655 #
Zinc	<1.9 mg/kg	TM181		26.1 M	54.3 M	63 M	66.7 M	76.9 M	40.8 M
Asbestos Quantification - Gravimetric - %	<0.001 %	TM304						<0.001 #	
Asbestos Quantification - PCOM Evaluation - %	<0.001 %	TM304						<0.001 #	
Additional Asbestos Components (Using TM048)		TM304						None #	
Analysts Comments		TM304						N/A	
Asbestos Quantification - Total - %	<0.001 %	TM304						<0.001 #	

Validated

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	Q1-1	Q1-2	Q14-1	Q14-2	R14-1	R14-2
			Depth (m)	0.40 - 0.40	1.20 - 1.20	0.50 - 0.50	1.60 - 1.60	0.10 - 0.10	1.70 - 1.70
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	27/01/2021	27/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021
			SDG Ref	210128-35	210128-35	210128-35	210128-35	210128-35	210128-35
			Lab Sample No.(s)	23621316	23621321	23621418	23621429	23621397	23621406
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		7.1	7.9	9.1	13	13	14
Exchangeable Ammonia as N	<12 mg/kg	TM024		13.6 M	<12 M	<12 M	<12 M	<12 M	<12 M
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	0.0116 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M
Soil Organic Matter (SOM)	<0.35 %	TM132		26 #	0.881 #			5.97 #	22.6 #
pH	1 pH Units	TM133		8.84 M	8.82 M	8.98 M	8.94 M	8.97 M	11.1 M
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	6.24 M	<1 M	<1 M	<1 M
Arsenic	<0.6 mg/kg	TM181		6.11 M	<6 M	<6 M	8.89 M	13.4 M	<6 M
Cadmium	<0.02 mg/kg	TM181		1.67 M	1.01 M	0.539 M	0.641 M	2.19 M	1 M
Chromium	<0.9 mg/kg	TM181		121 M	16.4 M	62.3 M	17.5 M	106 M	235 M
Copper	<1.4 mg/kg	TM181		<14 M	<14 M	<14 M	46.4 M	31.3 M	25.6 M
Iron	<1000 mg/kg	TM181		130000 #	26200 #	23500 #	19500 #	129000 #	73100 #
Lead	<0.7 mg/kg	TM181		10.1 M	36.3 M	35.3 M	38.8 M	143 M	11.5 M
Manganese	<0.13 mg/kg	TM181		7740 M	953 M	17500 M	522 M	8710 M	14100 M
Mercury	<0.1 mg/kg	TM181		<1.4 M	<1.4 M	2.13 M	<1.4 M	<1.4 M	<1.4 M
Nickel	<0.2 mg/kg	TM181		7.98 M	19.6 M	5.35 M	18.4 M	30.1 M	20.2 M
Selenium	<1 mg/kg	TM181		<10 #	<10 #	14.3 #	<10 #	<10 #	<10 #
Vanadium	<0.2 mg/kg	TM181		620 #	30.9 #	62.8 #	21.4 #	174 #	373 #
Zinc	<1.9 mg/kg	TM181		79.7 M	53.5 M	77.7 M	90.4 M	482 M	113 M
Asbestos Quantification - Gravimetric - %	<0.001 %	TM304		<0.001 #				<0.001 #	
Asbestos Quantification - PCOM Evaluation - %	<0.001 %	TM304		<0.001 #				<0.001 #	
Additional Asbestos Components (Using TM048)		TM304		None #				None #	
Analysts Comments		TM304		N/A				N/A	
Asbestos Quantification - Total - %	<0.001 %	TM304		<0.001 #				<0.001 #	

Validated

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	R15-1	R15-2	S1-1	T1-1	T1-2	T2-1
			Depth (m)	0.50 - 0.50	1.20 - 1.20	0.70 - 0.70	0.40 - 0.40	1.60 - 1.60	0.50 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	26/01/2021	26/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021
			SDG Ref	210128-35	210128-35	210128-35	210128-35	210128-35	210128-35
			Lab Sample No.(s)	23621287	23621351	23621325	23621331	23621335	23621355
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		6.3	11	7.5	6.3	5.4	15
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M	<12 M	<12 M	<12 M	<12 M
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	0.0117 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M
Soil Organic Matter (SOM)	<0.35 %	TM132		12.4 #	20.5 #	0.914 #	18.8 #	2.43 #	50.3 #
pH	1 pH Units	TM133		10.8 M	11.3 M	11 M	11.4 M	9.83 M	11.7 M
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Arsenic	<0.6 mg/kg	TM181		10.6 M	<6 M	<6 M	9.02 M	<6 M	<6 M
Cadmium	<0.02 mg/kg	TM181		2.14 M	1.11 M	0.493 M	1.68 M	0.545 M	0.252 M
Chromium	<0.9 mg/kg	TM181		184 M	300 M	22.1 M	265 M	90.9 M	22.2 M
Copper	<1.4 mg/kg	TM181		33.6 M	14.5 M	<14 M	17.2 M	16.3 M	27.6 M
Iron	<1000 mg/kg	TM181		93400 #	94800 #	40700 #	127000 #	36500 #	<10000 #
Lead	<0.7 mg/kg	TM181		146 M	9.9 M	<7 M	34.9 M	8.01 M	22.9 M
Manganese	<0.13 mg/kg	TM181		10400 M	16600 M	3440 M	13000 M	8610 M	1100 M
Mercury	<0.1 mg/kg	TM181		<1.4 M	<1.4 M	<1.4 M	<1.4 M	<1.4 M	<1.4 M
Nickel	<0.2 mg/kg	TM181		34 M	9.65 M	3.23 M	16.6 M	10.5 M	7.52 M
Selenium	<1 mg/kg	TM181		<10 #	<10 #	<10 #	<10 #	<10 #	<10 #
Vanadium	<0.2 mg/kg	TM181		228 #	249 #	26.7 #	233 #	81.4 #	45.6 #
Zinc	<1.9 mg/kg	TM181		420 M	82.5 M	27.4 M	105 M	29.5 M	25.6 M

Validated

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	T2-2	T3-1	T3-2	T4-1	T4-2	T5-1
			Depth (m)	1.80 - 1.80	0.20 - 0.20	1.80 - 1.80	0.40 - 0.40	1.20 - 1.20	0.70 - 0.70
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021
			SDG Ref	210128-35	210128-35	210128-35	210128-35	210128-35	210128-35
			Lab Sample No.(s)	23621359	23621341	23621346	23621363	23621371	23621379
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		6.3	5.4	6.3	8	5	9.8
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M	<12 M	<12 M	<12 M	<12 M
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	0.0107 M	<0.1 M	0.0421 M	0.0333 M
Cresols	<0.01 mg/kg	TM062 (S)		0.0107 M	<0.01 M	<0.01 M	0.152 M	0.105 M	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.15 M	0.0316 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M	<0.35 M	0.179 M	<0.035 M
Soil Organic Matter (SOM)	<0.35 %	TM132		23.6 #	1.47 #	14.3 #	26.4 #	19.1 #	42.9 #
pH	1 pH Units	TM133		11.1 M	12.6 M	12.7 M	12 M	12.3 M	12.5 M
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Arsenic	<0.6 mg/kg	TM181		<6 M	<6 M	<6 M	<6 M	<6 M	<6 M
Cadmium	<0.02 mg/kg	TM181		0.809 M	1.59 M	1.92 M	1.31 M	1.59 M	1.31 M
Chromium	<0.9 mg/kg	TM181		296 M	833 M	642 M	415 M	537 M	477 M
Copper	<1.4 mg/kg	TM181		117 M	15.3 M	23 M	21.5 M	26 M	21.4 M
Iron	<1000 mg/kg	TM181		86800 #	167000 #	163000 #	106000 #	126000 #	115000 #
Lead	<0.7 mg/kg	TM181		31.7 M	<7 M	24.5 M	23.3 M	23.9 M	<7 M
Manganese	<0.13 mg/kg	TM181		16400 M	31500 M	33200 M	20000 M	23400 M	26000 M
Mercury	<0.1 mg/kg	TM181		<1.4 M	<1.4 M	<1.4 M	<1.4 M	<1.4 M	<1.4 M
Nickel	<0.2 mg/kg	TM181		10.9 M	5.41 M	13.5 M	11 M	11.3 M	13.7 M
Selenium	<1 mg/kg	TM181		10.9 #	15 #	15.6 #	12.2 #	<10 #	14.2 #
Vanadium	<0.2 mg/kg	TM181		224 #	552 #	1060 #	297 #	338 #	497 #
Zinc	<1.9 mg/kg	TM181		96.6 M	41.3 M	119 M	103 M	92.5 M	42.1 M

Validated

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Customer Sample Ref.	T5-2
Depth (m)	1.30 - 1.30
Sample Type	Soil/Solid (S)
Date Sampled	27/01/2021
Sample Time	.
Date Received	28/01/2021
SDG Ref	210128-35
Lab Sample No.(s)	23621388
AGS Reference	

Component	LOD/Units	Method	
Moisture Content Ratio (% of as received sample)	%	PM024	5.5
Exchangeable Ammonia as N	<12 mg/kg	TM024	<12 M
Phenol	<0.01 mg/kg	TM062 (S)	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)	<0.035 M
Soil Organic Matter (SOM)	<0.35 %	TM132	12.4 #
pH	1 pH Units	TM133	12.2 M
Cyanide, Total	<1 mg/kg	TM153	1.06 M
Arsenic	<0.6 mg/kg	TM181	<6 M
Cadmium	<0.02 mg/kg	TM181	2.04 M
Chromium	<0.9 mg/kg	TM181	710 M
Copper	<1.4 mg/kg	TM181	23.3 M
Iron	<1000 mg/kg	TM181	182000 #
Lead	<0.7 mg/kg	TM181	<7 M
Manganese	<0.13 mg/kg	TM181	40900 M
Mercury	<0.1 mg/kg	TM181	<1.4 M
Nickel	<0.2 mg/kg	TM181	15.9 M
Selenium	<1 mg/kg	TM181	18.3 #
Vanadium	<0.2 mg/kg	TM181	953 #
Zinc	<1.9 mg/kg	TM181	55.6 M

Validated

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	P1-1	P1-2	P14-1	P14-2	P15-1	P15-2
			Depth (m)	0.50 - 0.50	1.40 - 1.40	0.30 - 0.30	1.80 - 1.80	0.30 - 0.30	2.20 - 2.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	27/01/2021	27/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021
			SDG Ref	210128-35	210128-35	210128-35	210128-35	210128-35	210128-35
			Lab Sample No.(s)	23621301	23621309	23621438	23621447	23621452	23621293
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		83.4	83.5	85.3	86	85.2	84.3
Acenaphthene-d10 % recovery**	%	TM218		80.1	88.1	86.7	85.2	86.2	84.8
Phenanthrene-d10 % recovery**	%	TM218		79	90.3	89.1	84.1	88.1	86.8
Chrysene-d12 % recovery**	%	TM218		77.7	77.3	75.6	81.8	81.6	82.7
Perylene-d12 % recovery**	%	TM218		73.8	70.2	70.3	80.7	77.6	79.3
Naphthalene	<9 µg/kg	TM218		26.1 M	14.2 M	1290 M	724 M	231 M	198 M
Acenaphthylene	<12 µg/kg	TM218		<12 M	<12 M	328 M	41.9 M	49.4 M	244 M
Acenaphthene	<8 µg/kg	TM218		16.7 M	<8 M	39.9 M	34 M	49.1 M	95.7 M
Fluorene	<10 µg/kg	TM218		29.9 M	<10 M	151 M	47.5 M	94.5 M	610 M
Phenanthrene	<15 µg/kg	TM218		426 M	68.3 M	1910 M	423 M	917 M	9330 M
Anthracene	<16 µg/kg	TM218		131 M	<16 M	441 M	<16 M	151 M	2740 M
Fluoranthene	<17 µg/kg	TM218		1150 M	45.5 M	2450 M	418 M	1500 M	12300 M
Pyrene	<15 µg/kg	TM218		954 M	31.4 M	1830 M	347 M	1340 M	8950 M
Benz(a)anthracene	<14 µg/kg	TM218		894 M	20.1 M	1080 M	213 M	950 M	4150 M
Chrysene	<10 µg/kg	TM218		759 M	21.4 M	1020 M	220 M	952 M	4310 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		784 M	24.7 M	1360 M	312 M	1610 M	5020 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		339 M	<14 M	512 M	121 M	551 M	1710 M
Benzo(a)pyrene	<15 µg/kg	TM218		594 M	<15 M	868 M	224 M	1160 M	3290 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		350 M	<18 M	806 M	190 M	1040 M	2700 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		77.1 M	<23 M	117 M	29.2 M	152 M	373 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		288 M	<24 M	606 M	151 M	829 M	2230 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		6810	226	14800	3500	11600	58200

Validated

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	Q1-1	Q1-2	Q14-1	Q14-2	R14-1	R14-2
			Depth (m)	0.40 - 0.40	1.20 - 1.20	0.50 - 0.50	1.60 - 1.60	0.10 - 0.10	1.70 - 1.70
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	27/01/2021	27/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021
			SDG Ref	210128-35	210128-35	210128-35	210128-35	210128-35	210128-35
			Lab Sample No.(s)	23621316	23621321	23621418	23621429	23621397	23621406
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		86.5	85.4	82	83.4	87.3	75.8
Acenaphthene-d10 % recovery**	%	TM218		85.1	83.4	82.6	82.8	87	74.6
Phenanthrene-d10 % recovery**	%	TM218		84.8	83.1	82.8	83.1	88.2	74
Chrysene-d12 % recovery**	%	TM218		83.3	81.8	73.8	76.8	80.6	70.7
Perylene-d12 % recovery**	%	TM218		79.5	80.4	71.9	75.4	78.4	77.5
Naphthalene	<9 µg/kg	TM218		295 M	21.8 M	20500 M	442 M	91.5 M	265 M
Acenaphthylene	<12 µg/kg	TM218		30.1 M	<12 M	4250 M	70 M	29.1 M	<60 M
Acenaphthene	<8 µg/kg	TM218		9.84 M	<8 M	235 M	108 M	<8 M	<40 M
Fluorene	<10 µg/kg	TM218		32.3 M	<10 M	1820 M	182 M	19.6 M	65.9 M
Phenanthrene	<15 µg/kg	TM218		285 M	85.6 M	19200 M	940 M	162 M	427 M
Anthracene	<16 µg/kg	TM218		61.1 M	<16 M	4730 M	144 M	39 M	<80 M
Fluoranthene	<17 µg/kg	TM218		345 M	126 M	33300 M	768 M	264 M	435 M
Pyrene	<15 µg/kg	TM218		256 M	96.9 M	23500 M	562 M	202 M	371 M
Benz(a)anthracene	<14 µg/kg	TM218		178 M	53.9 M	14900 M	280 M	140 M	242 M
Chrysene	<10 µg/kg	TM218		181 M	54.9 M	12900 M	265 M	144 M	262 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		250 M	68.6 M	20800 M	248 M	201 M	295 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		78.5 M	25.2 M	6690 M	97.5 M	69.6 M	83 M
Benzo(a)pyrene	<15 µg/kg	TM218		137 M	36 M	11800 M	221 M	119 M	227 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		131 M	31.2 M	11900 M	117 M	118 M	165 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		<23 M	<23 M	1900 M	36.3 M	<23 M	<115 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		93.2 M	<24 M	8970 M	150 M	90.4 M	179 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		2360	600	197000	4630	1690	3020

Validated

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	R15-1	R15-2	S1-1	T1-1	T1-2	T2-1
			Depth (m)	0.50 - 0.50	1.20 - 1.20	0.70 - 0.70	0.40 - 0.40	1.60 - 1.60	0.50 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	26/01/2021	26/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021
			SDG Ref	210128-35	210128-35	210128-35	210128-35	210128-35	210128-35
			Lab Sample No.(s)	23621287	23621351	23621325	23621331	23621335	23621355
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		83.4	82.3	85.6	77	77.8	87
Acenaphthene-d10 % recovery**	%	TM218		85	82.6	83.9	77.4	80.8	83.6
Phenanthrene-d10 % recovery**	%	TM218		88.3	84.5	84	78.9	84.3	81
Chrysene-d12 % recovery**	%	TM218		81.3	76.2	83.5	78.2	75.2	78.8
Perylene-d12 % recovery**	%	TM218		76.9	70.5	82.3	80.4	70.8	74.1
Naphthalene	<9 µg/kg	TM218		187 M	2040 M	156 M	887 M	112 M	1430 M
Acenaphthylene	<12 µg/kg	TM218		43.2 M	1240 M	33.9 M	360 M	44.6 M	305 M
Acenaphthene	<8 µg/kg	TM218		29.7 M	94.4 M	<8 M	65 M	<8 M	47.1 M
Fluorene	<10 µg/kg	TM218		49.6 M	1330 M	28.5 M	320 M	26.7 M	258 M
Phenanthrene	<15 µg/kg	TM218		370 M	11400 M	236 M	3170 M	219 M	1780 M
Anthracene	<16 µg/kg	TM218		97.3 M	2090 M	59.7 M	800 M	80.1 M	651 M
Fluoranthene	<17 µg/kg	TM218		573 M	12000 M	330 M	5110 M	503 M	2360 M
Pyrene	<15 µg/kg	TM218		480 M	8030 M	241 M	3520 M	394 M	1730 M
Benz(a)anthracene	<14 µg/kg	TM218		271 M	4100 M	148 M	2550 M	301 M	919 M
Chrysene	<10 µg/kg	TM218		230 M	3300 M	135 M	2100 M	284 M	904 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		383 M	4550 M	203 M	3240 M	438 M	1160 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		125 M	1540 M	65 M	1120 M	141 M	436 M
Benzo(a)pyrene	<15 µg/kg	TM218		220 M	2750 M	125 M	2230 M	258 M	721 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		201 M	2610 M	118 M	1920 M	237 M	622 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		32.8 M	415 M	<23 M	390 M	42.4 M	126 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		170 M	1900 M	92.2 M	1390 M	181 M	518 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		3460	59400	1970	29200	3260	14000

Validated

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	T2-2	T3-1	T3-2	T4-1	T4-2	T5-1
			Depth (m)	1.80 - 1.80	0.20 - 0.20	1.80 - 1.80	0.40 - 0.40	1.20 - 1.20	0.70 - 0.70
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021
			SDG Ref	210128-35	210128-35	210128-35	210128-35	210128-35	210128-35
			Lab Sample No.(s)	23621359	23621341	23621346	23621363	23621371	23621379
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		77.3	86.1	85.2	81.4	81.3	85.4
Acenaphthene-d10 % recovery**	%	TM218		82.6	87.4	89.7	84.5	83.4	87
Phenanthrene-d10 % recovery**	%	TM218		87.4	89.2	90.4	88.5	83.4	91.8
Chrysene-d12 % recovery**	%	TM218		91.3	79.7	80.8	94	75.7	85.4
Perylene-d12 % recovery**	%	TM218		82.3	76.9	76.3	99.1	73.2	78.5
Naphthalene	<9 µg/kg	TM218		3060 M	149 M	2080 M	1560 M	6730 M	1300 M
Acenaphthylene	<12 µg/kg	TM218		588 M	<12 M	61.5 M	4330 M	9970 M	262 M
Acenaphthene	<8 µg/kg	TM218		53.5 M	12.5 M	14.7 M	455 M	1030 M	156 M
Fluorene	<10 µg/kg	TM218		224 M	11.7 M	15 M	3910 M	8430 M	245 M
Phenanthrene	<15 µg/kg	TM218		3030 M	355 M	943 M	37500 M	125000 M	2300 M
Anthracene	<16 µg/kg	TM218		837 M	41.3 M	68.5 M	7620 M	22200 M	551 M
Fluoranthene	<17 µg/kg	TM218		4460 M	318 M	652 M	34700 M	131000 M	3260 M
Pyrene	<15 µg/kg	TM218		3640 M	310 M	520 M	25200 M	81500 M	3090 M
Benz(a)anthracene	<14 µg/kg	TM218		2370 M	149 M	221 M	13400 M	42800 M	2160 M
Chrysene	<10 µg/kg	TM218		2340 M	257 M	288 M	11300 M	36900 M	2450 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		3190 M	174 M	392 M	13000 M	45900 M	3540 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		1010 M	57.4 M	119 M	5310 M	17200 M	998 M
Benzo(a)pyrene	<15 µg/kg	TM218		1790 M	95.3 M	158 M	8020 M	22300 M	2110 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		1380 M	71.6 M	208 M	8050 M	23800 M	2020 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		312 M	<23 M	35.4 M	1770 M	4870 M	347 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		1220 M	69.2 M	164 M	6060 M	16700 M	1490 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		29500	2070	5940	182000	596000	26300

Validated

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Customer Sample Ref.	T5-2
Depth (m)	1.30 - 1.30
Sample Type	Soil/Solid (S)
Date Sampled	27/01/2021
Sample Time	.
Date Received	28/01/2021
SDG Ref	210128-35
Lab Sample No.(s)	23621388
AGS Reference	

Component	LOD/Units	Method	
Naphthalene-d8 % recovery**	%	TM218	76.2
Acenaphthene-d10 % recovery**	%	TM218	81.7
Phenanthrene-d10 % recovery**	%	TM218	86.3
Chrysene-d12 % recovery**	%	TM218	76.7
Perylene-d12 % recovery**	%	TM218	72.4
Naphthalene	<9 µg/kg	TM218	378 M
Acenaphthylene	<12 µg/kg	TM218	67.1 M
Acenaphthene	<8 µg/kg	TM218	63.2 M
Fluorene	<10 µg/kg	TM218	72.2 M
Phenanthrene	<15 µg/kg	TM218	719 M
Anthracene	<16 µg/kg	TM218	164 M
Fluoranthene	<17 µg/kg	TM218	1360 M
Pyrene	<15 µg/kg	TM218	1240 M
Benz(a)anthracene	<14 µg/kg	TM218	950 M
Chrysene	<10 µg/kg	TM218	970 M
Benzo(b)fluoranthene	<15 µg/kg	TM218	1520 M
Benzo(k)fluoranthene	<14 µg/kg	TM218	555 M
Benzo(a)pyrene	<15 µg/kg	TM218	1110 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218	971 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218	146 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218	708 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218	11000

Validated

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	P1-1	P1-2	P14-1	P14-2	P15-1	P15-2
			Depth (m)	0.50 - 0.50	1.40 - 1.40	0.30 - 0.30	1.80 - 1.80	0.30 - 0.30	2.20 - 2.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	27/01/2021	27/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021
			SDG Ref	210128-35	210128-35	210128-35	210128-35	210128-35	210128-35
			Lab Sample No.(s)	23621301	23621309	23621438	23621447	23621452	23621293
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		80.4	83.1	92.8 4	73.6	90.8	77.1
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	<10	<10 4	<10	<10	<10
Aliphatics >C6-C8	<10 µg/kg	TM089		<10	<10	34.5 4	<10	<10	<10
Aliphatics >C8-C10	<10 µg/kg	TM089		<10	<10	33.3 4	<10	<10	<10
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	1740	<1000	<1000	<1000
Aliphatics >C12-C16	<1000 µg/kg	TM414		<1000	<1000	23300	<1000	1320	<1000
Aliphatics >C16-C21	<1000 µg/kg	TM414		1070	<1000	64200	1220	5290	2230
Aliphatics >C21-C35	<1000 µg/kg	TM414		6890	<1000	125000	5810	39300	15300
Aliphatics >C35-C44	<1000 µg/kg	TM414		<1000	<1000	25400	1760	12000	3860
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		8450	<5000	239000	9190	57900	22000
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		22300	<10000	301000	13200	97200	53000
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	<10 4	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10	<10 4	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/kg	TM089		<10	<10	21.4 4	<10	<10	<10
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	<1000	1310	<1000	<1000	<1000
Aromatics > EC12-EC16	<1000 µg/kg	TM414		<1000	<1000	6340	<1000	<1000	<1000
Aromatics > EC16-EC21	<1000 µg/kg	TM414		1440	<1000	14700	1110	5680	7270
Aromatics > EC21-EC35	<1000 µg/kg	TM414		11200	<1000	35800	1510	29900	21500
Aromatics >EC35-EC44	<1000 µg/kg	TM414		<1000	<1000	3490	<1000	3470	1510
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		13800	<5000	61700	<5000	39300	31000
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		22300	<10000	301000	<10000	97200	53000
Total Aliphatics >C5-C10	<50 µg/kg	TM089		<50	<50	67.8 4	<50	<50	<50
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50	<50	<50 4	<50	<50	<50
GRO >C5-C10	<20 µg/kg	TM089		<20	<20	67.8 4	<20	<20	<20

Validated

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	Q1-1	Q1-2	Q14-1	Q14-2	R14-1	R14-2
			Depth (m)	0.40 - 0.40	1.20 - 1.20	0.50 - 0.50	1.60 - 1.60	0.10 - 0.10	1.70 - 1.70
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	27/01/2021	27/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021
			SDG Ref	210128-35	210128-35	210128-35	210128-35	210128-35	210128-35
			Lab Sample No.(s)	23621316	23621321	23621418	23621429	23621397	23621406
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		62.7 4	88.3	11.1 4	31.5 4	71.5	24.3 4
Aliphatics >C5-C6	<10 µg/kg	TM089		15.1 4	<10	<10 4	48.3 4	<10	31.3 4
Aliphatics >C6-C8	<10 µg/kg	TM089		47.4 4	<10	<10 4	230 4	<10	150 4
Aliphatics >C8-C10	<10 µg/kg	TM089		36.6 4	<10	<10 4	106 4	<10	77.7 4
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	4080	1420	<1000	<1000
Aliphatics >C12-C16	<1000 µg/kg	TM414		<1000	<1000	7920	6300	<1000	4200
Aliphatics >C16-C21	<1000 µg/kg	TM414		<1000	<1000	54000	6450	<1000	10500
Aliphatics >C21-C35	<1000 µg/kg	TM414		2170	3430	35200	10700	<1000	49300
Aliphatics >C35-C44	<1000 µg/kg	TM414		<1000	<1000	3870	<1000	<1000	44200
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		<5000	<5000	105000	25800	<5000	109000
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		10800	<10000	485000	57100	<10000	145000
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10 4	<10	<10 4	<10 4	<10	36 4
Aromatics >EC7-EC8	<10 µg/kg	TM089		18.3 4	<10	<10 4	11.5 4	<10	59.2 4
Aromatics >EC8-EC10	<10 µg/kg	TM089		23.7 4	<10	<10 4	70.2 4	<10	52.2 4
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	<1000	19000	<1000	<1000	<1000
Aromatics > EC12-EC16	<1000 µg/kg	TM414		<1000	<1000	22500	6860	<1000	4100
Aromatics > EC16-EC21	<1000 µg/kg	TM414		1690	<1000	98800	8550	1270	7960
Aromatics > EC21-EC35	<1000 µg/kg	TM414		4840	<1000	218000	14400	2940	20100
Aromatics >EC35-EC44	<1000 µg/kg	TM414		<1000	<1000	21300	<1000	<1000	2950
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	<1000	1560	<1000	<1000	<1000
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		8150	<5000	380000	31300	5710	35600
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		<10000	<10000	485000	57500	<10000	145000
Total Aliphatics >C5-C10	<50 µg/kg	TM089		99.1 4	<50	<50 4	384 4	<50	259 4
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50 4	<50	<50 4	81.7 4	<50	147 4
GRO >C5-C10	<20 µg/kg	TM089		99.1 4	<20	<20 4	466 4	<20	406 4

Validated

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	R15-1	R15-2	S1-1	T1-1	T1-2	T2-1
			Depth (m)	0.50 - 0.50	1.20 - 1.20	0.70 - 0.70	0.40 - 0.40	1.60 - 1.60	0.50 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	26/01/2021	26/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021
			SDG Ref	210128-35	210128-35	210128-35	210128-35	210128-35	210128-35
			Lab Sample No.(s)	23621287	23621351	23621325	23621331	23621335	23621355
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		78.1	29.8 4	92.1	22.4 4	70.3	65.1 4
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	<10 4	<10	<10 4	<10	29.3 4
Aliphatics >C6-C8	<10 µg/kg	TM089		24.6	42.6 4	<10	<10 4	<10	117 4
Aliphatics >C8-C10	<10 µg/kg	TM089		28.8	23.5 4	<10	<10 4	<10	103 4
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Aliphatics >C12-C16	<1000 µg/kg	TM414		<1000	<1000	<1000	1670	<1000	2100
Aliphatics >C16-C21	<1000 µg/kg	TM414		4270	2740	1050	11600	<1000	6210
Aliphatics >C21-C35	<1000 µg/kg	TM414		26700	12100	11700	23800	1210	20100
Aliphatics >C35-C44	<1000 µg/kg	TM414		5850	1340	<1000	5530	<1000	2710
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		37200	17300	13700	42600	<5000	31500
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		59200	34000	21200	123000	11300	356000
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10 4	<10	<10 4	<10	15.2 4
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	15.7 4	<10	<10 4	<10	28.1 4
Aromatics >EC8-EC10	<10 µg/kg	TM089		19.2	15.7 4	<10	<10 4	<10	69 4
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	9770
Aromatics > EC12-EC16	<1000 µg/kg	TM414		<1000	1060	<1000	2170	<1000	24500
Aromatics > EC16-EC21	<1000 µg/kg	TM414		2170	4630	1410	19400	2410	113000
Aromatics > EC21-EC35	<1000 µg/kg	TM414		18100	9320	4740	55300	6200	160000
Aromatics >EC35-EC44	<1000 µg/kg	TM414		1460	<1000	<1000	2870	<1000	16600
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	1720
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		22000	16600	7450	80500	9690	325000
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		59200	34100	21200	123000	<10000	356000
Total Aliphatics >C5-C10	<50 µg/kg	TM089		53.4	66.1 4	<50	<50 4	<50	249 4
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50	<50 4	<50	<50 4	<50	112 4
GRO >C5-C10	<20 µg/kg	TM089		53.4	66.1 4	<20	<20 4	<20	362 4

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	T2-2	T3-1	T3-2	T4-1	T4-2	T5-1
			Depth (m)	1.80 - 1.80	0.20 - 0.20	1.80 - 1.80	0.40 - 0.40	1.20 - 1.20	0.70 - 0.70
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021
			SDG Ref	210128-35	210128-35	210128-35	210128-35	210128-35	210128-35
			Lab Sample No.(s)	23621359	23621341	23621346	23621363	23621371	23621379
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		53.5 4	60.2 4	78	40.7 4	80.3	50 4
Aliphatics >C5-C6	<10 µg/kg	TM089		18.1 4	15.9 4	<10	<10 4	27.4	<10 4
Aliphatics >C6-C8	<10 µg/kg	TM089		73.6 4	58.1 4	23.5	53.3 4	159	<10 4
Aliphatics >C8-C10	<10 µg/kg	TM089		64 4	70.8 4	25.6	44.6 4	177	<10 4
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	<1000	<5000	<1000	<1000
Aliphatics >C12-C16	<1000 µg/kg	TM414		3030	1980	34600	18000	43500	5900
Aliphatics >C16-C21	<1000 µg/kg	TM414		9080	11800	395000	239000	361000	106000
Aliphatics >C21-C35	<1000 µg/kg	TM414		27900	41800	48300	101000	76500	72700
Aliphatics >C35-C44	<1000 µg/kg	TM414		7080	6210	5260	15200	16000	23200
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		47500	61800	483000	374000	497000	208000
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		156000	85000	605000	2150000	2090000	351000
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10 4	<10 4	<10	<10 4	103	<10 4
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10 4	26.4 4	<10	12 4	85.2	<10 4
Aromatics >EC8-EC10	<10 µg/kg	TM089		42.7 4	47.6 4	17.1	29.4 4	118	<10 4
Aromatics > EC10-EC12	<1000 µg/kg	TM414		6380	<1000	<1000	6210	4880	1310
Aromatics > EC12-EC16	<1000 µg/kg	TM414		6370	<1000	9300	100000	64700	5530
Aromatics > EC16-EC21	<1000 µg/kg	TM414		28800	5840	63800	749000	679000	25000
Aromatics > EC21-EC35	<1000 µg/kg	TM414		62900	15300	46400	834000	731000	104000
Aromatics >EC35-EC44	<1000 µg/kg	TM414		4480	<1000	<1000	88700	109000	7440
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	<1000	<1000	8900	11000	<1000
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		109000	23200	121000	1780000	1590000	143000
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		157000	85200	605000	2150000	2090000	351000
Total Aliphatics >C5-C10	<50 µg/kg	TM089		156 4	145 4	<50	97.9 4	363	<50 4
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50 4	74 4	<50	<50 4	306	<50 4
GRO >C5-C10	<20 µg/kg	TM089		156 4	219 4	<20	97.9 4	669	<20 4

Validated

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Customer Sample Ref.	T5-2
Depth (m)	1.30 - 1.30
Sample Type	Soil/Solid (S)
Date Sampled	27/01/2021
Sample Time	.
Date Received	28/01/2021
SDG Ref	210128-35
Lab Sample No.(s)	23621388
AGS Reference	

Component	LOD/Units	Method	
GRO Surrogate % recovery**	%	TM089	68.9 4
Aliphatics >C5-C6	<10 µg/kg	TM089	<10 4
Aliphatics >C6-C8	<10 µg/kg	TM089	14.8 4
Aliphatics >C8-C10	<10 µg/kg	TM089	15.9 4
Aliphatics >C10-C12	<1000 µg/kg	TM414	<1000
Aliphatics >C12-C16	<1000 µg/kg	TM414	1160
Aliphatics >C16-C21	<1000 µg/kg	TM414	8220
Aliphatics >C21-C35	<1000 µg/kg	TM414	11000
Aliphatics >C35-C44	<1000 µg/kg	TM414	1710
Total Aliphatics >C10-C44	<5000 µg/kg	TM414	22200
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414	79100
Aromatics >EC5-EC7	<10 µg/kg	TM089	<10 4
Aromatics >EC7-EC8	<10 µg/kg	TM089	<10 4
Aromatics >EC8-EC10	<10 µg/kg	TM089	10.6 4
Aromatics > EC10-EC12	<1000 µg/kg	TM414	<1000
Aromatics > EC12-EC16	<1000 µg/kg	TM414	<1000
Aromatics > EC16-EC21	<1000 µg/kg	TM414	8180
Aromatics > EC21-EC35	<1000 µg/kg	TM414	42600
Aromatics >EC35-EC44	<1000 µg/kg	TM414	4740
Aromatics > EC40-EC44	<1000 µg/kg	TM414	<1000
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414	56900
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414	79100
Total Aliphatics >C5-C10	<50 µg/kg	TM089	<50 4
Total Aromatics >EC5-EC10	<50 µg/kg	TM089	<50 4
GRO >C5-C10	<20 µg/kg	TM089	<20 4

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	P1-1	P1-2	P14-1	P14-2	P15-1	P15-2
			Depth (m)	0.50 - 0.50	1.40 - 1.40	0.30 - 0.30	1.80 - 1.80	0.30 - 0.30	2.20 - 2.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	27/01/2021	27/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021
			SDG Ref	210128-35	210128-35	210128-35	210128-35	210128-35	210128-35
			Lab Sample No.(s)	23621301	23621309	23621438	23621447	23621452	23621293
			AGS Reference						
Dibromofluoromethane**	%	TM116		114	123	91.2	99.6	94.4	96
Toluene-d8**	%	TM116		99.7	99	94.4	96.1	99.7	97.7
4-Bromofluorobenzene**	%	TM116		90.2	91.7	74.8	93.7	93.3	95.1
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Benzene	<9 µg/kg	TM116		<180 M	<180 M	<180 M	<180 M	<180 M	<180 M
Toluene	<7 µg/kg	TM116		<140 M	<140 M	<140 M	<140 M	<140 M	<140 M
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<80 M	<80 M	<80 M	<80 M
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #	<200 #	<200 #	<200 #
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Naphthalene	<13 µg/kg	TM116		<260 M	<260 M	<260 M	385 M	<260 M	<260 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800	<800	<800	<800

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	Q1-1	Q1-2	Q14-1	Q14-2	R14-1	R14-2
			Depth (m)	0.40 - 0.40	1.20 - 1.20	0.50 - 0.50	1.60 - 1.60	0.10 - 0.10	1.70 - 1.70
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	27/01/2021	27/01/2021	26/01/2021	26/01/2021	26/01/2021	26/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021
			SDG Ref	210128-35	210128-35	210128-35	210128-35	210128-35	210128-35
			Lab Sample No.(s)	23621316	23621321	23621418	23621429	23621397	23621406
			AGS Reference						
Dibromofluoromethane**	%	TM116		106	107	80.5 3	98.4	108	92.4
Toluene-d8**	%	TM116		96.4	96.9	88.8 3	92.9	99.6	92.4
4-Bromofluorobenzene**	%	TM116		78	95.9	67.5 3	73	88.9	72.9
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<200 3 M	<200 M	<200 M	<200 M
Benzene	<9 µg/kg	TM116		<180 M	<180 M	<180 3 M	<180 M	<180 M	<180 M
Toluene	<7 µg/kg	TM116		<140 M	<140 M	<140 3 M	<140 M	<140 M	282 M
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<80 3 M	<80 M	<80 M	<80 M
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 3 #	<200 #	<200 #	<200 #
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<200 3 M	<200 M	<200 M	<200 M
Naphthalene	<13 µg/kg	TM116		<260 M	<260 M	956 3 M	<260 M	<260 M	<260 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4 3	<0.4	<0.4	<0.4
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800 3	<800	<800	<800

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	R15-1	R15-2	S1-1	T1-1	T1-2	T2-1
			Depth (m)	0.50 - 0.50	1.20 - 1.20	0.70 - 0.70	0.40 - 0.40	1.60 - 1.60	0.50 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	26/01/2021	26/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021
			SDG Ref	210128-35	210128-35	210128-35	210128-35	210128-35	210128-35
			Lab Sample No.(s)	23621287	23621351	23621325	23621331	23621335	23621355
			AGS Reference						
Dibromofluoromethane**	%	TM116		105	91.5	106	92.2	112	105
Toluene-d8**	%	TM116		99.8	91.6	98.9	92.8	101	96.9
4-Bromofluorobenzene**	%	TM116		91.4	77.3	91.7	82	95.9	84
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Benzene	<9 µg/kg	TM116		<180 M	<180 M	<180 M	<180 M	<180 M	<180 M
Toluene	<7 µg/kg	TM116		<140 M	196 M	<140 M	<140 M	<140 M	<140 M
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<80 M	<80 M	<80 M	<80 M
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #	<200 #	<200 #	<200 #
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Naphthalene	<13 µg/kg	TM116		<260 M	<260 M	<260 M	336 M	<260 M	591 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800	<800	<800	<800

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	T2-2	T3-1	T3-2	T4-1	T4-2	T5-1
			Depth (m)	1.80 - 1.80	0.20 - 0.20	1.80 - 1.80	0.40 - 0.40	1.20 - 1.20	0.70 - 0.70
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021	27/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021
			SDG Ref	210128-35	210128-35	210128-35	210128-35	210128-35	210128-35
			Lab Sample No.(s)	23621359	23621341	23621346	23621363	23621371	23621379
			AGS Reference						
Dibromofluoromethane**	%	TM116		99.6	98.6	111	95.1	95.5	94.8
Toluene-d8**	%	TM116		96.1	96	99	94.7	90.6	94.5
4-Bromofluorobenzene**	%	TM116		80.8	92.5	96.2	78.8	76.3	84.7
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Benzene	<9 µg/kg	TM116		<180 M	<180 M	<180 M	<180 M	<180 M	<180 M
Toluene	<7 µg/kg	TM116		<140 M	<140 M	<140 M	<140 M	<140 M	<140 M
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<80 M	<80 M	<80 M	<80 M
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #	<200 #	<200 #	<200 #
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Naphthalene	<13 µg/kg	TM116		695 M	<260 M	<260 M	732 M	1120 M	<260 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800	<800	<800	<800

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Customer Sample Ref.	T5-2
Depth (m)	1.30 - 1.30
Sample Type	Soil/Solid (S)
Date Sampled	27/01/2021
Sample Time	.
Date Received	28/01/2021
SDG Ref	210128-35
Lab Sample No.(s)	23621388
AGS Reference	

Component	LOD/Units	Method	
Dibromofluoromethane**	%	TM116	108
Toluene-d8**	%	TM116	98.1
4-Bromofluorobenzene**	%	TM116	90.8
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116	<200 M
Benzene	<9 µg/kg	TM116	<180 M
Toluene	<7 µg/kg	TM116	<140 M
Ethylbenzene	<4 µg/kg	TM116	<80 M
p/m-Xylene	<10 µg/kg	TM116	<200 #
o-Xylene	<10 µg/kg	TM116	<200 M
Naphthalene	<13 µg/kg	TM116	<260 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116	<0.4
Sum of BTEX	<40 µg/kg	TM116	<800

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

Asbestos Identification - Solid Samples

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	P1-1 0.50 - 0.50 SOLID 27/01/2021 00:00:00 28/01/2021 05:00:00 210128-35 23621301 TM048	05/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	P14-1 0.30 - 0.30 SOLID 26/01/2021 00:00:00 28/01/2021 05:00:00 210128-35 23621438 TM048	08/02/2021	Marcin Magdziarek	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	P15-1 0.30 - 0.30 SOLID 26/01/2021 00:00:00 28/01/2021 05:00:00 210128-35 23621452 TM048	05/02/2021	Paul Poynton	ACM fragment in soil	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	Q1-1 0.40 - 0.40 SOLID 27/01/2021 00:00:00 28/01/2021 05:00:00 210128-35 23621316 TM048	05/02/2021	James Richards	Fibre bundles in soil	Not Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	Q14-1 0.50 - 0.50 SOLID 26/01/2021 00:00:00 28/01/2021 05:00:00 210128-35 23621418 TM048	08/02/2021	Marcin Magdziarek	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	R14-1 0.10 - 0.10 SOLID 26/01/2021 00:00:00 28/01/2021 05:00:00 210128-35 23621397 TM048	05/02/2021	James Richards	Fibre bundles in soil	Not Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	R15-1 0.50 - 0.50 SOLID 26/01/2021 00:00:00 28/01/2021 05:00:00 210128-35 23621287 TM048	05/02/2021	James Richards	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	S1-1 0.70 - 0.70 SOLID 27/01/2021 00:00:00 28/01/2021 05:00:00 210128-35 23621325 TM048	05/02/2021	James Richards	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

Validated

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	T1-2 1.60 - 1.60 SOLID 27/01/2021 00:00:00 28/01/2021 05:00:00 210128-35 23621335 TM048	05/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	T2-2 1.80 - 1.80 SOLID 27/01/2021 00:00:00 28/01/2021 05:00:00 210128-35 23621359 TM048	05/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	T3-2 1.80 - 1.80 SOLID 27/01/2021 00:00:00 28/01/2021 05:00:00 210128-35 23621346 TM048	05/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	T4-2 1.20 - 1.20 SOLID 27/01/2021 00:00:00 28/01/2021 05:00:00 210128-35 23621371 TM048	05/02/2021	James Richards	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	T5-2 1.30 - 1.30 SOLID 27/01/2021 00:00:00 28/01/2021 05:00:00 210128-35 23621388 TM048	05/02/2021	James Richards	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

Asbestos Quantification - Full

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

		Additional Asbestos Components	Analysts Comments	Asbestos Quantification - Gravimetric - %	Asbestos Quantification - PCOM	Asbestos Quantification - Total - %
Cust. Sample Ref.	P15-1	None (#)	N/A	<0.001 (#)	<0.001 (#)	<0.001 (#)
Depth (m)	0.30 - 0.30					
Sample Type	SOLID					
Date Sampled	26/01/2021 00:00:00					
Date Received	28/01/2021 05:00:00					
SDG	210128-35					
Original Sample	23621452					
Method Number	TM304					
Cust. Sample Ref.	Q1-1	None (#)	N/A	<0.001 (#)	<0.001 (#)	<0.001 (#)
Depth (m)	0.40 - 0.40					
Sample Type	SOLID					
Date Sampled	27/01/2021 00:00:00					
Date Received	28/01/2021 05:00:00					
SDG	210128-35					
Original Sample	23621316					
Method Number	TM304					
Cust. Sample Ref.	R14-1	None (#)	N/A	<0.001 (#)	<0.001 (#)	<0.001 (#)
Depth (m)	0.10 - 0.10					
Sample Type	SOLID					
Date Sampled	26/01/2021 00:00:00					
Date Received	28/01/2021 05:00:00					
SDG	210128-35					
Original Sample	23621397					
Method Number	TM304					

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

Notification of NDPs (No determination possible)

Date Received : 28/01/2021 07:37:13

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
23621418	Q14-1	0.50 - 0.50	Total Organic Carbon	Sample unsuitable for analysis
23621429	Q14-2	1.60 - 1.60	Total Organic Carbon	Sample unsuitable for analysis

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM024	Method 4500A & B, AWWA/APHA, 20th Ed., 1999	Determination of Exchangeable Ammonium and Ammoniacal Nitrogen as N by titration on solids
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM132	In - house Method	ELTRA CS800 Operators Guide
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS
TM304	HSE Contract research Report no 83/1996	Asbestos Quantification in Soil: Fibres identified by morphology only
TM414	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	210128-35	**Client Reference:**	P18-669	**Report Number:**	586606
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586255

Test Completion Dates

Lab Sample No(s)	23621301	23621309	23621438	23621447	23621452	23621293	23621316	23621321	23621418	23621429
Customer Sample Ref.	P1-1	P1-2	P14-1	P14-2	P15-1	P15-2	Q1-1	Q1-2	Q14-1	Q14-2
AGS Ref.										
Depth	0.50 - 0.50	1.40 - 1.40	0.30 - 0.30	1.80 - 1.80	0.30 - 0.30	2.20 - 2.20	0.40 - 0.40	1.20 - 1.20	0.50 - 0.50	1.60 - 1.60
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Ammonium Soil by Titration	08-Feb-2021	03-Feb-2021	08-Feb-2021	08-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	08-Feb-2021	08-Feb-2021
Asbestos ID in Solid Samples	05-Feb-2021		08-Feb-2021		05-Feb-2021		05-Feb-2021		08-Feb-2021	
Asbestos Quantification - Full					12-Feb-2021		12-Feb-2021			
Cyanide Comp/Free/Total/Thiocyanate	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021
EPH CWG GC (S)	03-Feb-2021	03-Feb-2021	04-Feb-2021	04-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021
GRO by GC-FID (S)	07-Feb-2021	07-Feb-2021	08-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	08-Feb-2021	07-Feb-2021	08-Feb-2021	08-Feb-2021
Metals in solid samples by OES	05-Feb-2021	05-Feb-2021	04-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	04-Feb-2021	04-Feb-2021	05-Feb-2021
PAH by GCMS	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	05-Feb-2021
pH	29-Jan-2021	04-Feb-2021	02-Feb-2021	01-Feb-2021	02-Feb-2021	01-Feb-2021	02-Feb-2021	01-Feb-2021	02-Feb-2021	02-Feb-2021
Phenols by HPLC (S)	09-Feb-2021	10-Feb-2021	09-Feb-2021	10-Feb-2021	09-Feb-2021	10-Feb-2021	09-Feb-2021	09-Feb-2021	10-Feb-2021	10-Feb-2021
Sample description	28-Jan-2021	28-Jan-2021	28-Jan-2021	28-Jan-2021	28-Jan-2021	28-Jan-2021	28-Jan-2021	28-Jan-2021	28-Jan-2021	28-Jan-2021
Total Organic Carbon	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	05-Feb-2021	08-Feb-2021	08-Feb-2021	05-Feb-2021		
TPH CWG GC (S)	07-Feb-2021	07-Feb-2021	08-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	08-Feb-2021	07-Feb-2021	08-Feb-2021	08-Feb-2021
VOC MS (S)	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	08-Feb-2021	07-Feb-2021

Lab Sample No(s)	23621397	23621406	23621287	23621351	23621325	23621331	23621335	23621355	23621359	23621341
Customer Sample Ref.	R14-1	R14-2	R15-1	R15-2	S1-1	T1-1	T1-2	T2-1	T2-2	T3-1
AGS Ref.										
Depth	0.10 - 0.10	1.70 - 1.70	0.50 - 0.50	1.20 - 1.20	0.70 - 0.70	0.40 - 0.40	1.60 - 1.60	0.50 - 0.50	1.80 - 1.80	0.20 - 0.20
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Ammonium Soil by Titration	03-Feb-2021	03-Feb-2021	08-Feb-2021	08-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	08-Feb-2021	03-Feb-2021	03-Feb-2021
Asbestos ID in Solid Samples	05-Feb-2021		05-Feb-2021		05-Feb-2021		05-Feb-2021		05-Feb-2021	
Asbestos Quantification - Full	12-Feb-2021									
Cyanide Comp/Free/Total/Thiocyanate	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021
EPH CWG GC (S)	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	05-Feb-2021	03-Feb-2021	03-Feb-2021	05-Feb-2021	03-Feb-2021
GRO by GC-FID (S)	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	07-Feb-2021	08-Feb-2021	07-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021
Metals in solid samples by OES	04-Feb-2021	08-Feb-2021	04-Feb-2021	08-Feb-2021	05-Feb-2021	08-Feb-2021	08-Feb-2021	05-Feb-2021	04-Feb-2021	08-Feb-2021
PAH by GCMS	03-Feb-2021	05-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	05-Feb-2021	03-Feb-2021	03-Feb-2021	05-Feb-2021	03-Feb-2021
pH	02-Feb-2021	01-Feb-2021	02-Feb-2021	01-Feb-2021	02-Feb-2021	29-Jan-2021	29-Jan-2021	29-Jan-2021	02-Feb-2021	02-Feb-2021
Phenols by HPLC (S)	10-Feb-2021	10-Feb-2021	10-Feb-2021	09-Feb-2021	10-Feb-2021	09-Feb-2021	10-Feb-2021	05-Feb-2021	10-Feb-2021	10-Feb-2021
Sample description	28-Jan-2021	28-Jan-2021	28-Jan-2021	28-Jan-2021	28-Jan-2021	28-Jan-2021	28-Jan-2021	28-Jan-2021	28-Jan-2021	28-Jan-2021
Total Organic Carbon	08-Feb-2021	08-Feb-2021	05-Feb-2021	08-Feb-2021	08-Feb-2021	05-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021
TPH CWG GC (S)	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	07-Feb-2021	08-Feb-2021	07-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021
VOC MS (S)	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021

Lab Sample No(s)	23621346	23621363	23621371	23621379	23621388
Customer Sample Ref.	T3-2	T4-1	T4-2	T5-1	T5-2
AGS Ref.					
Depth	1.80 - 1.80	0.40 - 0.40	1.20 - 1.20	0.70 - 0.70	1.30 - 1.30
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Ammonium Soil by Titration	08-Feb-2021	03-Feb-2021	03-Feb-2021	08-Feb-2021	08-Feb-2021
Asbestos ID in Solid Samples	05-Feb-2021		05-Feb-2021		05-Feb-2021
Cyanide Comp/Free/Total/Thiocyanate	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021
EPH CWG GC (S)	04-Feb-2021	04-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021
GRO by GC-FID (S)	07-Feb-2021	08-Feb-2021	07-Feb-2021	08-Feb-2021	08-Feb-2021
Metals in solid samples by OES	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021
PAH by GCMS	03-Feb-2021	05-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021
pH	02-Feb-2021	02-Feb-2021	02-Feb-2021	01-Feb-2021	29-Jan-2021
Phenols by HPLC (S)	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021
Sample description	28-Jan-2021	28-Jan-2021	28-Jan-2021	28-Jan-2021	28-Jan-2021
Total Organic Carbon	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021
TPH CWG GC (S)	07-Feb-2021	08-Feb-2021	07-Feb-2021	08-Feb-2021	08-Feb-2021
VOC MS (S)	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

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Deeside
CH5 3US
Tel: (01244) 528700
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Website: www.alsenvironmental.co.uk

Rodgers Leask
Office 225
2430/2440
Aztec West
Almondsbury
Bristol
BS32 4QA

Attention: Elliot Thomas

CERTIFICATE OF ANALYSIS

Date of report Generation:	10 February 2021
Customer:	Rodgers Leask
Sample Delivery Group (SDG):	210130-32
Your Reference:	P18-669
Location:	Llanwern
Report No:	586352

We received 24 samples on Saturday January 30, 2021 and 24 of these samples were scheduled for analysis which was completed on Wednesday February 10, 2021. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	210130-32	**Client Reference:**	P18-669	**Report Number:**	586352
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23638988	AJ27-1		0.70 - 0.70	29/01/2021
23638943	AJ29-1		0.70 - 0.70	28/01/2021
23638959	AJ29-2		1.50 - 1.50	28/01/2021
23638993	AJ30-1		0.40 - 0.40	28/01/2021
23638999	AJ30-2		1.50 - 1.50	28/01/2021
23638980	AK27-1		0.80 - 0.80	29/01/2021
23638976	AK28-1		1.00 - 1.00	29/01/2021
23639025	AK30-1		0.20 - 0.20	28/01/2021
23639030	AK30-2		1.00 - 1.00	28/01/2021
23639015	AK31-1		0.10 - 0.10	28/01/2021
23639020	AK31-2		1.10 - 1.10	28/01/2021
23639060	AK32-1		1.00 - 1.00	28/01/2021
23639067	AK33-1		0.20 - 0.20	29/01/2021
23639071	AK34-1		0.80 - 0.80	29/01/2021
23639077	AK34-2		1.60 - 1.60	29/01/2021
23638964	AL28-1		0.50 - 0.50	29/01/2021
23638970	AL28-2		1.20 - 1.20	29/01/2021
23638954	AL29-1		0.80 - 0.80	29/01/2021
23639034	AL30-1		0.50 - 0.50	28/01/2021
23639007	AL30-2		2.00 - 2.00	28/01/2021
23639041	AL31-1		0.50 - 0.50	28/01/2021
23639045	AL31-2		1.50 - 1.50	28/01/2021
23639051	AL32-1		0.50 - 0.50	28/01/2021
23638948	AL33-1		0.80 - 0.80	29/01/2021

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	210130-32	**Client Reference:**	P18-669	**Report Number:**	586352
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

Results Legend

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23638988		23638943		23638959		23638993		23638999		23638980		23638976		23639025			
Customer Sample Reference			AJ27-1		AJ29-1		AJ29-2		AJ30-1		AJ30-2		AK27-1		AK28-1		AK30-1			
AGS Reference																				
Depth (m)			0.70 - 0.70		0.70 - 0.70		1.50 - 1.50		0.40 - 0.40		1.50 - 1.50		0.80 - 0.80		1.00 - 1.00		0.20 - 0.20			
Container			250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Ammonium Soil by Titration	All	NDPs: 0 Tests: 24	X			X		X			X		X			X		X		X
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 12			X					X					X				X	
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 24	X			X		X			X		X			X		X		X
EPH CWG GC (S)	All	NDPs: 0 Tests: 24	X			X		X			X		X			X		X		X
GRO by GC-FID (S)	All	NDPs: 0 Tests: 24		X			X		X			X		X			X		X	
Metals in solid samples by OES	All	NDPs: 0 Tests: 24	X			X		X			X		X			X		X		X
PAH by GCMS	All	NDPs: 0 Tests: 24	X			X		X			X		X			X		X		X
pH	All	NDPs: 0 Tests: 24	X			X		X			X		X			X		X		X
Phenols by HPLC (S)	All	NDPs: 0 Tests: 24	X			X		X			X		X			X		X		X
Sample description	All	NDPs: 0 Tests: 23	X			X					X		X			X		X		X
Total Organic Carbon	All	NDPs: 0 Tests: 23	X			X		X			X		X			X		X		X
TPH CWG GC (S)	All	NDPs: 0 Tests: 24	X			X		X			X		X			X		X		X
VOC MS (S)	All	NDPs: 0 Tests: 24		X			X		X			X		X			X		X	

23638970	AL28-2		1.20 - 1.20	1kg TUB with Handle (ALE260)	S			x											
23638964	AL28-1		0.50 - 0.50	60g VOC (ALE215)	S						x								x
				250g Amber Jar (ALE210)	S	x			x	x		x	x	x	x	x	x	x	
23639077	AK34-2		1.60 - 1.60	60g VOC (ALE215)	S						x								x
				250g Amber Jar (ALE210)	S	x			x	x		x	x	x	x	x	x	x	
				1kg TUB with Handle (ALE260)	S			x											
23639071	AK34-1		0.80 - 0.80	60g VOC (ALE215)	S						x								x
				250g Amber Jar (ALE210)	S	x			x	x		x	x	x	x	x	x	x	
23639067	AK33-1		0.20 - 0.20	60g VOC (ALE215)	S						x								x
				250g Amber Jar (ALE210)	S	x			x	x		x	x	x	x	x	x	x	
				1kg TUB with Handle (ALE260)	S			x											
23639060	AK32-1		1.00 - 1.00	60g VOC (ALE215)	S						x								x
				250g Amber Jar (ALE210)	S	x			x	x		x	x	x	x	x	x	x	
23639020	AK31-2		1.10 - 1.10	60g VOC (ALE215)	S						x								x
				250g Amber Jar (ALE210)	S	x			x	x		x	x	x	x	x		x	
23639015	AK31-1		0.10 - 0.10	60g VOC (ALE215)	S						x								x
				250g Amber Jar (ALE210)	S	x			x	x		x	x	x	x	x	x	x	
				1kg TUB with Handle (ALE260)	S			x											
23639030	AK30-2		1.00 - 1.00	60g VOC (ALE215)	S						x								x
				250g Amber Jar (ALE210)	S	x			x	x		x	x	x	x	x	x	x	
23639025	AK30-1		0.20 - 0.20	60g VOC (ALE215)	S						x								x

Validated

CERTIFICATE OF ANALYSIS

SDG:	210130-32	**Client Reference:**	P18-669	**Report Number:**	586352
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

Results Legend

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)	23638970	23638954	23639034	23639007	23639041	23639045	23639051	23638948
Customer Sample Reference	AL28-2	AL29-1	AL30-1	AL30-2	AL31-1	AL31-2	AL32-1	AL33-1
AGS Reference								
Depth (m)	1.20 - 1.20	0.80 - 0.80	0.50 - 0.50	2.00 - 2.00	0.50 - 0.50	1.50 - 1.50	0.50 - 0.50	0.80 - 0.80
Container	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)
Sample Type	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S

Ammonium Soil by Titration	All	NDPs: 0 Tests: 24	X			X			X		X			X		X			X		X
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 12			X			X					X					X			
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 24	X			X			X		X			X		X			X		X
EPH CWG GC (S)	All	NDPs: 0 Tests: 24	X			X			X		X			X		X			X		X
GRO by GC-FID (S)	All	NDPs: 0 Tests: 24		X			X			X		X			X		X			X	
Metals in solid samples by OES	All	NDPs: 0 Tests: 24	X			X			X		X			X		X			X		X
PAH by GCMS	All	NDPs: 0 Tests: 24	X			X			X		X			X		X			X		X
pH	All	NDPs: 0 Tests: 24	X			X			X		X			X		X			X		X
Phenols by HPLC (S)	All	NDPs: 0 Tests: 24	X			X			X		X			X		X			X		X
Sample description	All	NDPs: 0 Tests: 23	X			X			X		X			X		X			X		X
Total Organic Carbon	All	NDPs: 0 Tests: 23	X			X			X		X			X		X			X		X
TPH CWG GC (S)	All	NDPs: 0 Tests: 24	X			X			X		X			X		X			X		X
VOC MS (S)	All	NDPs: 0 Tests: 24		X			X			X		X			X		X			X	

23638948	AL33-1		0.80 - 0.80	60g VOC (ALE215)	S
					X
					X

CERTIFICATE OF ANALYSIS

SDG:	210130-32	**Client Reference:**	P18-669	**Report Number:**	586352
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

Sample Descriptions

Grain Sizes

very fine	<0.063mm	**fine**	0.063mm - 0.1mm	**medium**	0.1mm - 2mm	**coarse**	2mm - 10mm	**very coarse**	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
23638988	AJ27-1	0.70 - 0.70	Dark Brown	Sand	Stones	None
23638943	AJ29-1	0.70 - 0.70	Dark Brown	Sand	Stones	None
23638959	AJ29-2	1.50 - 1.50	Dark Brown	Sand	Stones	None
23638993	AJ30-1	0.40 - 0.40	Black	Sand	Stones	None
23638999	AJ30-2	1.50 - 1.50	Dark Brown	Sand	Stones	None
23638980	AK27-1	0.80 - 0.80	Dark Brown	Sand	Stones	None
23638976	AK28-1	1.00 - 1.00	Grey	Sand	Stones	Concrete/Aggregate
23639025	AK30-1	0.20 - 0.20	Dark Brown	Sand	Stones	None
23639030	AK30-2	1.00 - 1.00	Grey	Sand	Stones	Concrete/Aggregate
23639015	AK31-1	0.10 - 0.10	Dark Brown	Sandy Loam	Stones	Concrete/Aggregate
23639020	AK31-2	1.10 - 1.10	Black	Sand	None	None
23639060	AK32-1	1.00 - 1.00	Black	Sand	Stones	None
23639067	AK33-1	0.20 - 0.20	Dark Brown	Sand	Vegetation	Stones
23639071	AK34-1	0.80 - 0.80	Dark Brown	Sand	None	Stones
23639077	AK34-2	1.60 - 1.60	Dark Brown	Sand	Vegetation	Stones
23638964	AL28-1	0.50 - 0.50	Dark Brown	Sand	Stones	None
23638970	AL28-2	1.20 - 1.20	Dark Brown	Sand	Stones	None
23638954	AL29-1	0.80 - 0.80	Dark Brown	Sand	Brick	Stones
23639034	AL30-1	0.50 - 0.50	Grey	Sand	Stones	None
23639007	AL30-2	2.00 - 2.00	Grey	Sand	Stones	Concrete/Aggregate
23639041	AL31-1	0.50 - 0.50	Grey	Sand	Stones	None
23639045	AL31-2	1.50 - 1.50	Dark Brown	Sand	Stones	N/A
23639051	AL32-1	0.50 - 0.50	Black	Sand	Stones	Concrete/Aggregate
23638948	AL33-1	0.80 - 0.80	Dark Brown	Stone/Soil	None	Stones

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

CERTIFICATE OF ANALYSIS

SDG:	210130-32	**Client Reference:**	P18-669	**Report Number:**	586352
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AJ27-1	AJ29-1	AJ29-2	AJ30-1	AJ30-2	AK27-1
			Depth (m)	0.70 - 0.70	0.70 - 0.70	1.50 - 1.50	0.40 - 0.40	1.50 - 1.50	0.80 - 0.80
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	29/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	29/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021
			SDG Ref	210130-32	210130-32	210130-32	210130-32	210130-32	210130-32
			Lab Sample No.(s)	23638988	23638943	23638959	23638993	23638999	23638980
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		14	1.4	10	13	20	17
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M	<12 M	<12 M	18.6 M	<12 M
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M
Soil Organic Matter (SOM)	<0.35 %	TM132		1.31 #	3.95 #	4.22 #	>100 #	22.9 #	1.81 #
pH	1 pH Units	TM133		11.9 M	9.91 M	9.58 M	8.83 M	9.57 M	12.1 M
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Arsenic	<0.6 mg/kg	TM181		<6 M	14.2 M	9.37 M	7.95 M	11.5 M	<6 M
Cadmium	<0.02 mg/kg	TM181		1.92 M	2.29 M	1.51 M	0.923 M	0.632 M	0.469 M
Chromium	<0.9 mg/kg	TM181		374 M	<9 M	<9 M	17.8 M	30.6 M	205 M
Copper	<1.4 mg/kg	TM181		27.7 M	23.5 M	14.5 M	34.6 M	31.3 M	<14 M
Iron	<1000 mg/kg	TM181		133000 #	338000 #		49600 #		49900 #
Lead	<0.7 mg/kg	TM181		53.6 M	39.7 M	24.7 M	52.8 M	47.6 M	39.6 M
Manganese	<0.13 mg/kg	TM181		29500 M	4850 M	2970 M	1360 M	1360 M	14900 M
Mercury	<0.1 mg/kg	TM181		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Nickel	<0.2 mg/kg	TM181		15.3 M	36.9 M	21.7 M	17.5 M	33.3 M	4.61 M
Selenium	<1 mg/kg	TM181		14 #	<10 #	<10 #	<10 #	<10 #	13.4 #
Vanadium	<0.2 mg/kg	TM181		968 #	49.6 #	36.4 #	34.8 #	43 #	244 #
Zinc	<1.9 mg/kg	TM181		84.5 M	131 M	80.8 M	70.3 M	86.9 M	42.9 M

Validated

CERTIFICATE OF ANALYSIS

SDG:	210130-32	**Client Reference:**	P18-669	**Report Number:**	586352
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AK28-1	AK30-1	AK30-2	AK31-1	AK31-2	AK32-1
			Depth (m)	1.00 - 1.00	0.20 - 0.20	1.00 - 1.00	0.10 - 0.10	1.10 - 1.10	1.00 - 1.00
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	29/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021
			SDG Ref	210130-32	210130-32	210130-32	210130-32	210130-32	210130-32
			Lab Sample No.(s)	23638976	23639025	23639030	23639015	23639020	23639060
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		7.5	12	13	11	23	16
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M	<12 M	<12 M	<12 M	<12 M
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M
Soil Organic Matter (SOM)	<0.35 %	TM132		2.6 #	12.1 #	38.4 #	17.2 #		31.5 #
pH	1 pH Units	TM133		12 M	9.22 M	11.3 M	10.5 M	10.8 M	11.4 M
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Arsenic	<0.6 mg/kg	TM181		<6 M	7.22 M	11.2 M	10.3 M	6.83 M	6.44 M
Cadmium	<0.02 mg/kg	TM181		1.27 M	0.769 M	1.47 M	2.19 M	0.45 M	0.963 M
Chromium	<0.9 mg/kg	TM181		723 M	21.9 M	222 M	142 M	15.3 M	265 M
Copper	<1.4 mg/kg	TM181		37.9 M	<14 M	40.9 M	36.5 M	21.7 M	16.4 M
Iron	<1000 mg/kg	TM181		152000 #	58900 #	54800 #	230000 #		
Lead	<0.7 mg/kg	TM181		137 M	44.3 M	60.4 M	46.7 M	57.2 M	34.2 M
Manganese	<0.13 mg/kg	TM181		34000 M	1710 M	8170 M	5740 M	1150 M	3190 M
Mercury	<0.1 mg/kg	TM181		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Nickel	<0.2 mg/kg	TM181		13.1 M	24.3 M	26.3 M	37.2 M	11.3 M	14.4 M
Selenium	<1 mg/kg	TM181		23.3 #	<10 #	<10 #	<10 #	<10 #	<10 #
Vanadium	<0.2 mg/kg	TM181		543 #	32.7 #	285 #	97.3 #	26 #	233 #
Zinc	<1.9 mg/kg	TM181		94.1 M	77.6 M	265 M	109 M	75.3 M	68.4 M

Validated

CERTIFICATE OF ANALYSIS

SDG:	210130-32	**Client Reference:**	P18-669	**Report Number:**	586352
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AK33-1	AK34-1	AK34-2	AL28-1	AL28-2	AL29-1
			Depth (m)	0.20 - 0.20	0.80 - 0.80	1.60 - 1.60	0.50 - 0.50	1.20 - 1.20	0.80 - 0.80
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	29/01/2021	29/01/2021	29/01/2021	29/01/2021	29/01/2021	29/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021
			SDG Ref	210130-32	210130-32	210130-32	210130-32	210130-32	210130-32
			Lab Sample No.(s)	23639067	23639071	23639077	23638964	23638970	23638954
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		12	11	13	6.9	6.9	9.3
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M	<12 M	<12 M	<12 M	<12 M
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M
Soil Organic Matter (SOM)	<0.35 %	TM132		9.43 #	10.1 #	4.14 #	<0.35 #	3.31 #	6.14 #
pH	1 pH Units	TM133		10.2 M	9.51 M	10.2 M	12.5 M	12.4 M	11.5 M
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	<1 M	<1 M	<1 M	1.02 M
Arsenic	<0.6 mg/kg	TM181		9.69 M	13.6 M	15.9 M	<6 M	<6 M	<6 M
Cadmium	<0.02 mg/kg	TM181		1.6 M	1.49 M	1.34 M	1.09 M	1.19 M	1.42 M
Chromium	<0.9 mg/kg	TM181		75 M	119 M	33.8 M	1080 M	936 M	836 M
Copper	<1.4 mg/kg	TM181		22.4 M	23.3 M	20.2 M	14.3 M	<14 M	23.3 M
Iron	<1000 mg/kg	TM181		134000 #		101000 #		163000 #	166000 #
Lead	<0.7 mg/kg	TM181		72 M	67.5 M	44.3 M	22.4 M	23.5 M	100 M
Manganese	<0.13 mg/kg	TM181		8420 M	8330 M	6690 M	48700 M	48700 M	43500 M
Mercury	<0.1 mg/kg	TM181		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Nickel	<0.2 mg/kg	TM181		45.9 M	26.5 M	27.2 M	5.25 M	5.37 M	9.39 M
Selenium	<1 mg/kg	TM181		<10 #	<10 #	<10 #	30.6 #	31.2 #	29.5 #
Vanadium	<0.2 mg/kg	TM181		139 #	134 #	53.6 #	840 #	709 #	684 #
Zinc	<1.9 mg/kg	TM181		212 M	196 M	120 M	40.6 M	57.3 M	123 M

Validated

CERTIFICATE OF ANALYSIS

SDG:	210130-32	**Client Reference:**	P18-669	**Report Number:**	586352
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AL30-1	AL30-2	AL31-1	AL31-2	AL32-1	AL33-1
			Depth (m)	0.50 - 0.50	2.00 - 2.00	0.50 - 0.50	1.50 - 1.50	0.50 - 0.50	0.80 - 0.80
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	29/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021
			SDG Ref	210130-32	210130-32	210130-32	210130-32	210130-32	210130-32
			Lab Sample No.(s)	23639034	23639007	23639041	23639045	23639051	23638948
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		12	9.3	21	12	9.4	11
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M	<12 M	<12 M	<12 M	<12 #
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 #
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 #
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 #
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 #
Soil Organic Matter (SOM)	<0.35 %	TM132		20.5 #	21.2 #	54.5 #	3.33 #	18.1 #	1.62 #
pH	1 pH Units	TM133		10.6 M	11.9 M	10.6 M	9.1 M	11.3 M	11.9 #
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	<1 M	<1 M	<1 M	<1 #
Arsenic	<0.6 mg/kg	TM181		8.72 M	<6 M	<6 M	11.4 M	8.28 M	7.73 #
Cadmium	<0.02 mg/kg	TM181		1.22 M	1.45 M	1.11 M	0.662 M	1.87 M	1.01 #
Chromium	<0.9 mg/kg	TM181		235 M	653 M	68.5 M	25.3 M	160 M	1170 #
Copper	<1.4 mg/kg	TM181		19.2 M	15.3 M	<14 M	24 M	20.4 M	53.3 #
Iron	<1000 mg/kg	TM181		90000 #	144000 #	95800 #	32100 #	138000 #	
Lead	<0.7 mg/kg	TM181		90 M	<7 M	23.3 M	19.8 M	37.6 M	26.8 #
Manganese	<0.13 mg/kg	TM181		11800 M	35700 M	11400 M	1690 M	12900 M	16300 #
Mercury	<0.1 mg/kg	TM181		<1 M	<1 M	<1 M	<1 M	<1 M	<1 #
Nickel	<0.2 mg/kg	TM181		23.6 M	5.78 M	22.8 M	26.6 M	34.6 M	496 #
Selenium	<1 mg/kg	TM181		10.2 #	19.7 #	<10 #	<10 #	<10 #	10.4 #
Vanadium	<0.2 mg/kg	TM181		218 #	544 #	94.3 #	40.1 #	157 #	255 #
Zinc	<1.9 mg/kg	TM181		198 M	39.5 M	81.3 M	64.9 M	98.7 M	70.7 #

Validated

CERTIFICATE OF ANALYSIS

SDG:	210130-32	**Client Reference:**	P18-669	**Report Number:**	586352
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AJ27-1	AJ29-1	AJ29-2	AJ30-1	AJ30-2	AK27-1
			Depth (m)	0.70 - 0.70	0.70 - 0.70	1.50 - 1.50	0.40 - 0.40	1.50 - 1.50	0.80 - 0.80
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	29/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	29/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021
			SDG Ref	210130-32	210130-32	210130-32	210130-32	210130-32	210130-32
			Lab Sample No.(s)	23638988	23638943	23638959	23638993	23638999	23638980
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		81.4	86.3	83	77.8	82.9	80.2
Acenaphthene-d10 % recovery**	%	TM218		82.2	82.5	83.4	78	80.7	81.8
Phenanthrene-d10 % recovery**	%	TM218		80.2	80.8	80.1	74.5	80.9	80.5
Chrysene-d12 % recovery**	%	TM218		78.5	77.8	72.1	66.8	76.7	78
Perylene-d12 % recovery**	%	TM218		75.5	74.9	70.2	70.4	73.4	74.6
Naphthalene	<9 µg/kg	TM218		21 M	<9 M	<9 M	112 M	117 M	140 M
Acenaphthylene	<12 µg/kg	TM218		<12 M	<12 M	<12 M	173 M	191 M	62.7 M
Acenaphthene	<8 µg/kg	TM218		42.9 M	<8 M	<8 M	<8 M	<8 M	22.8 M
Fluorene	<10 µg/kg	TM218		19.1 M	<10 M	<10 M	34.4 M	58.1 M	33.1 M
Phenanthrene	<15 µg/kg	TM218		458 M	43.8 M	22.3 M	233 M	350 M	306 M
Anthracene	<16 µg/kg	TM218		112 M	<16 M	<16 M	71.2 M	99.1 M	78.5 M
Fluoranthene	<17 µg/kg	TM218		1250 M	64.2 M	31.2 M	956 M	874 M	597 M
Pyrene	<15 µg/kg	TM218		1190 M	46.4 M	27.1 M	892 M	727 M	462 M
Benz(a)anthracene	<14 µg/kg	TM218		715 M	29.7 M	30.7 M	732 M	484 M	330 M
Chrysene	<10 µg/kg	TM218		828 M	30.4 M	37.1 M	560 M	514 M	391 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		1190 M	40.9 M	64.1 M	1450 M	937 M	587 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		376 M	<14 M	19.2 M	430 M	280 M	181 M
Benzo(a)pyrene	<15 µg/kg	TM218		775 M	24.1 M	35.1 M	1060 M	570 M	332 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		618 M	23.6 M	38 M	972 M	566 M	318 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		103 M	<23 M	<23 M	164 M	108 M	68.9 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		652 M	<24 M	35.9 M	860 M	524 M	298 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		8350	303	341	8700	6400	4210

Validated

CERTIFICATE OF ANALYSIS

SDG:	210130-32	**Client Reference:**	P18-669	**Report Number:**	586352
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AK28-1	AK30-1	AK30-2	AK31-1	AK31-2	AK32-1
			Depth (m)	1.00 - 1.00	0.20 - 0.20	1.00 - 1.00	0.10 - 0.10	1.10 - 1.10	1.00 - 1.00
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	29/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021
			SDG Ref	210130-32	210130-32	210130-32	210130-32	210130-32	210130-32
			Lab Sample No.(s)	23638976	23639025	23639030	23639015	23639020	23639060
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		80.7	81.9	77.2	80.3	77.7	78.8
Acenaphthene-d10 % recovery**	%	TM218		82.4	81	79.1	83.5	78.7	82.5
Phenanthrene-d10 % recovery**	%	TM218		85.2	79.1	80.2	86.6	74.3	86.8
Chrysene-d12 % recovery**	%	TM218		88	75.2	81.2	75.5	63.8	75.9
Perylene-d12 % recovery**	%	TM218		102	72.2	75.3	72.2	62.3	70.5
Naphthalene	<9 µg/kg	TM218		19.5 M	31.9 M	27 M	568 M	134 M	547 M
Acenaphthylene	<12 µg/kg	TM218		<12 M	101 M	26.6 M	665 M	58.5 M	932 M
Acenaphthene	<8 µg/kg	TM218		<8 M	<8 M	<8 M	<80 M	14.4 M	64 M
Fluorene	<10 µg/kg	TM218		<10 M	<10 M	18.7 M	1050 M	89.5 M	562 M
Phenanthrene	<15 µg/kg	TM218		101 M	128 M	151 M	6250 M	835 M	3770 M
Anthracene	<16 µg/kg	TM218		17.8 M	49.4 M	30.8 M	2260 M	268 M	1440 M
Fluoranthene	<17 µg/kg	TM218		339 M	511 M	225 M	7650 M	886 M	11200 M
Pyrene	<15 µg/kg	TM218		316 M	416 M	170 M	5150 M	659 M	9490 M
Benz(a)anthracene	<14 µg/kg	TM218		177 M	317 M	115 M	2720 M	564 M	4800 M
Chrysene	<10 µg/kg	TM218		195 M	316 M	115 M	2220 M	567 M	4920 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		295 M	675 M	184 M	3190 M	771 M	7250 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		114 M	232 M	54.8 M	980 M	238 M	1710 M
Benzo(a)pyrene	<15 µg/kg	TM218		190 M	429 M	106 M	2000 M	537 M	4080 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		204 M	471 M	89.4 M	1850 M	377 M	4210 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		32.5 M	85.4 M	<23 M	324 M	99.1 M	686 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		162 M	407 M	85.1 M	1320 M	361 M	3360 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		2160	4170	1400	38200	6460	59000

Validated

CERTIFICATE OF ANALYSIS

SDG:	210130-32	**Client Reference:**	P18-669	**Report Number:**	586352
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AK33-1	AK34-1	AK34-2	AL28-1	AL28-2	AL29-1
			Depth (m)	0.20 - 0.20	0.80 - 0.80	1.60 - 1.60	0.50 - 0.50	1.20 - 1.20	0.80 - 0.80
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	29/01/2021	29/01/2021	29/01/2021	29/01/2021	29/01/2021	29/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021
			SDG Ref	210130-32	210130-32	210130-32	210130-32	210130-32	210130-32
			Lab Sample No.(s)	23639067	23639071	23639077	23638964	23638970	23638954
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		85.8	79.8	78.1	81	85.2	79.6
Acenaphthene-d10 % recovery**	%	TM218		81.2	83.1	82.3	81.9	80.9	85.4
Phenanthrene-d10 % recovery**	%	TM218		76.9	87	86.5	84.4	78	89.9
Chrysene-d12 % recovery**	%	TM218		76.8	75.7	79.4	79.7	76.7	78.6
Perylene-d12 % recovery**	%	TM218		77.9	70	75.9	83.9	73.5	72.1
Naphthalene	<9 µg/kg	TM218		42.1 M	59.9 M	23 M	<9 M	24.4 M	141 M
Acenaphthylene	<12 µg/kg	TM218		31.5 M	46.1 M	<12 M	<12 M	<12 M	47.2 M
Acenaphthene	<8 µg/kg	TM218		<8 M	<8 M	<8 M	<8 M	<8 M	24.7 M
Fluorene	<10 µg/kg	TM218		<10 M	<10 M	<10 M	<10 M	11.2 M	45.4 M
Phenanthrene	<15 µg/kg	TM218		92.3 M	120 M	42.8 M	17.3 M	107 M	409 M
Anthracene	<16 µg/kg	TM218		27.6 M	33.6 M	<16 M	<16 M	38.9 M	96.7 M
Fluoranthene	<17 µg/kg	TM218		193 M	301 M	89.1 M	48.4 M	184 M	776 M
Pyrene	<15 µg/kg	TM218		143 M	259 M	73.7 M	52.2 M	141 M	580 M
Benz(a)anthracene	<14 µg/kg	TM218		104 M	184 M	55 M	22.7 M	86 M	307 M
Chrysene	<10 µg/kg	TM218		101 M	157 M	60.6 M	32.9 M	97.2 M	309 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		186 M	388 M	104 M	50.2 M	130 M	473 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		61.5 M	104 M	29.5 M	18.5 M	47.9 M	140 M
Benzo(a)pyrene	<15 µg/kg	TM218		111 M	195 M	56.7 M	<15 M	77 M	259 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		128 M	221 M	62.2 M	23.1 M	71.1 M	268 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		<23 M	34.4 M	<23 M	<23 M	<23 M	47.1 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		113 M	169 M	50.2 M	<24 M	67.2 M	208 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		1330	2270	647	265	1080	4130

Validated

CERTIFICATE OF ANALYSIS

SDG:	210130-32	**Client Reference:**	P18-669	**Report Number:**	586352
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AL30-1	AL30-2	AL31-1	AL31-2	AL32-1	AL33-1
			Depth (m)	0.50 - 0.50	2.00 - 2.00	0.50 - 0.50	1.50 - 1.50	0.50 - 0.50	0.80 - 0.80
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	29/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021
			SDG Ref	210130-32	210130-32	210130-32	210130-32	210130-32	210130-32
			Lab Sample No.(s)	23639034	23639007	23639041	23639045	23639051	23638948
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		80.9	81.1	78.5	81	82.1	83.7
Acenaphthene-d10 % recovery**	%	TM218		83.3	82.4	79.8	78	82.6	83.1
Phenanthrene-d10 % recovery**	%	TM218		83.7	79.6	77.5	78.6	83.1	81
Chrysene-d12 % recovery**	%	TM218		78	73.6	69	72.3	80.5	78.6
Perylene-d12 % recovery**	%	TM218		70.3	70	69.1	70.5	86.3	77
Naphthalene	<9 µg/kg	TM218		190 M	52.4 M	143 M	11.5 M	44.7 M	70.5 #
Acenaphthylene	<12 µg/kg	TM218		164 M	59.9 M	63.9 M	<12 M	38.3 M	30.5 #
Acenaphthene	<8 µg/kg	TM218		37 M	<8 M	11.9 M	<8 M	<8 M	<8 #
Fluorene	<10 µg/kg	TM218		136 M	28.1 M	37 M	<10 M	11.6 M	12.4 #
Phenanthrene	<15 µg/kg	TM218		943 M	406 M	390 M	28.8 M	137 M	113 #
Anthracene	<16 µg/kg	TM218		303 M	126 M	101 M	<16 M	43.6 M	30.8 #
Fluoranthene	<17 µg/kg	TM218		1820 M	666 M	704 M	38.5 M	354 M	208 #
Pyrene	<15 µg/kg	TM218		1330 M	496 M	526 M	30.4 M	276 M	163 #
Benz(a)anthracene	<14 µg/kg	TM218		857 M	255 M	409 M	23.2 M	243 M	126 #
Chrysene	<10 µg/kg	TM218		838 M	271 M	391 M	29.2 M	210 M	143 #
Benzo(b)fluoranthene	<15 µg/kg	TM218		1200 M	340 M	525 M	38.3 M	426 M	247 #
Benzo(k)fluoranthene	<14 µg/kg	TM218		380 M	101 M	181 M	<14 M	130 M	74.6 #
Benzo(a)pyrene	<15 µg/kg	TM218		692 M	201 M	382 M	20 M	271 M	149 #
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		589 M	175 M	286 M	<18 M	269 M	175 #
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		132 M	41.1 M	64.2 M	<23 M	47.6 M	31.1 #
Benzo(g,h,i)perylene	<24 µg/kg	TM218		546 M	175 M	261 M	<24 M	231 M	142 #
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		10200	3390	4480	220	2730	1720

Validated

CERTIFICATE OF ANALYSIS

SDG:	210130-32	**Client Reference:**	P18-669	**Report Number:**	586352
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AJ27-1	AJ29-1	AJ29-2	AJ30-1	AJ30-2	AK27-1
			Depth (m)	0.70 - 0.70	0.70 - 0.70	1.50 - 1.50	0.40 - 0.40	1.50 - 1.50	0.80 - 0.80
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	29/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	29/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021
			SDG Ref	210130-32	210130-32	210130-32	210130-32	210130-32	210130-32
			Lab Sample No.(s)	23638988	23638943	23638959	23638993	23638999	23638980
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		130	96.3	122	77.2	122	102
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	<10	<10	<10	15	<10
Aliphatics >C6-C8	<10 µg/kg	TM089		<10	<10	<10	18.4	20	<10
Aliphatics >C8-C10	<10 µg/kg	TM089		<10	<10	20	42.6	22.5	<10
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Aliphatics >C12-C16	<1000 µg/kg	TM414		<1000	<1000	<1000	10400	<1000	7390
Aliphatics >C16-C21	<1000 µg/kg	TM414		<1000	1100	<1000	20900	6190	26300
Aliphatics >C21-C35	<1000 µg/kg	TM414		7440	5090	1410	27100	18600	66600
Aliphatics >C35-C44	<1000 µg/kg	TM414		3070	<1000	<1000	4980	5250	11200
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		11500	6740	<5000	63900	31000	112000
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		45000	<10000	<10000	101000	50800	123000
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/kg	TM089		<10	<10	13.3	28.8	15	<10
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Aromatics > EC12-EC16	<1000 µg/kg	TM414		<1000	<1000	<1000	1020	<1000	<1000
Aromatics > EC16-EC21	<1000 µg/kg	TM414		4410	<1000	<1000	4730	1870	1520
Aromatics > EC21-EC35	<1000 µg/kg	TM414		28000	<1000	<1000	28800	16400	8940
Aromatics >EC35-EC44	<1000 µg/kg	TM414		<1000	<1000	<1000	2340	1030	<1000
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		33500	<5000	<5000	36900	19800	11700
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		45000	<10000	<10000	101000	50900	123000
Total Aliphatics >C5-C10	<50 µg/kg	TM089		<50	<50	<50	61	57.5	<50
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50	<50	<50	<50	<50	<50
GRO >C5-C10	<20 µg/kg	TM089		<20	<20	<20	61	57.5	<20

Validated

CERTIFICATE OF ANALYSIS

SDG:	210130-32	**Client Reference:**	P18-669	**Report Number:**	586352
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AK28-1	AK30-1	AK30-2	AK31-1	AK31-2	AK32-1
			Depth (m)	1.00 - 1.00	0.20 - 0.20	1.00 - 1.00	0.10 - 0.10	1.10 - 1.10	1.00 - 1.00
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	29/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021
			SDG Ref	210130-32	210130-32	210130-32	210130-32	210130-32	210130-32
			Lab Sample No.(s)	23638976	23639025	23639030	23639015	23639020	23639060
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		109	84.7	89.2	55 4	48 4	81.2
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	<10	<10	<10 4	<10 4	<10
Aliphatics >C6-C8	<10 µg/kg	TM089		<10	<10	<10	<10 4	18.1 4	<10
Aliphatics >C8-C10	<10 µg/kg	TM089		<10	<10	10.4	<10 4	28.4 4	<10
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	<1000	<5000	<1000	<1000
Aliphatics >C12-C16	<1000 µg/kg	TM414		2780	<1000	2160	<5000	4910	1960
Aliphatics >C16-C21	<1000 µg/kg	TM414		14800	<1000	4490	10400	15300	18800
Aliphatics >C21-C35	<1000 µg/kg	TM414		54900	2720	1940	16700	22700	12100
Aliphatics >C35-C44	<1000 µg/kg	TM414		13600	1090	<1000	<5000	1930	<1000
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		86200	<5000	8980	32000	45200	33900
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		94200	23800	40800	67600	67000	190000
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	<10	<10 4	<10 4	<10
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10	<10	<10 4	<10 4	<10
Aromatics >EC8-EC10	<10 µg/kg	TM089		<10	<10	<10	<10 4	19.4 4	<10
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	<1000	<1000	<5000	<1000	<1000
Aromatics > EC12-EC16	<1000 µg/kg	TM414		<1000	<1000	<1000	<5000	1030	2320
Aromatics > EC16-EC21	<1000 µg/kg	TM414		<1000	1420	1990	6630	6510	32200
Aromatics > EC21-EC35	<1000 µg/kg	TM414		6370	12300	18500	23400	13200	110000
Aromatics >EC35-EC44	<1000 µg/kg	TM414		<1000	5140	10900	<5000	<1000	11100
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	1320	1820	<5000	<1000	1350
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		7990	18900	31800	35500	21800	156000
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		94200	18900	40800	67600	67000	190000
Total Aliphatics >C5-C10	<50 µg/kg	TM089		<50	<50	<50	<50 4	<50 4	<50
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50	<50	<50	<50 4	<50 4	<50
GRO >C5-C10	<20 µg/kg	TM089		<20	<20	<20	<20 4	<20 4	<20

Validated

CERTIFICATE OF ANALYSIS

SDG:	210130-32	**Client Reference:**	P18-669	**Report Number:**	586352
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AK33-1	AK34-1	AK34-2	AL28-1	AL28-2	AL29-1
			Depth (m)	0.20 - 0.20	0.80 - 0.80	1.60 - 1.60	0.50 - 0.50	1.20 - 1.20	0.80 - 0.80
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	29/01/2021	29/01/2021	29/01/2021	29/01/2021	29/01/2021	29/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021
			SDG Ref	210130-32	210130-32	210130-32	210130-32	210130-32	210130-32
			Lab Sample No.(s)	23639067	23639071	23639077	23638964	23638970	23638954
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		123	132 4	95.1	121	101	102
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	<10 4	<10	<10	<10	<10
Aliphatics >C6-C8	<10 µg/kg	TM089		<10	<10 4	<10	<10	<10	<10
Aliphatics >C8-C10	<10 µg/kg	TM089		<10	<10 4	<10	<10	<10	<10
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Aliphatics >C12-C16	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Aliphatics >C16-C21	<1000 µg/kg	TM414		<1000	1100	<1000	<1000	1390	12600
Aliphatics >C21-C35	<1000 µg/kg	TM414		8240	8100	6570	12300	11800	44500
Aliphatics >C35-C44	<1000 µg/kg	TM414		<1000	<1000	<1000	1680	1510	12200
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		9500	9880	8000	14900	15000	70200
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		21800	21600	16100	16800	18100	84600
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10 4	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10 4	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/kg	TM089		<10	<10 4	<10	<10	<10	<10
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Aromatics > EC12-EC16	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Aromatics > EC16-EC21	<1000 µg/kg	TM414		1350	<1000	<1000	<1000	<1000	1570
Aromatics > EC21-EC35	<1000 µg/kg	TM414		9840	10300	7010	<1000	1960	11400
Aromatics >EC35-EC44	<1000 µg/kg	TM414		<1000	1070	<1000	<1000	<1000	<1000
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		12300	11800	8070	<5000	<5000	14400
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		21800	21600	16100	14900	15000	84600
Total Aliphatics >C5-C10	<50 µg/kg	TM089		<50	<50 4	<50	<50	<50	<50
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50	<50 4	<50	<50	<50	<50
GRO >C5-C10	<20 µg/kg	TM089		<20	<20 4	<20	<20	<20	<20

Validated

CERTIFICATE OF ANALYSIS

SDG:	210130-32	**Client Reference:**	P18-669	**Report Number:**	586352
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AL30-1	AL30-2	AL31-1	AL31-2	AL32-1	AL33-1
			Depth (m)	0.50 - 0.50	2.00 - 2.00	0.50 - 0.50	1.50 - 1.50	0.50 - 0.50	0.80 - 0.80
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	29/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021
			SDG Ref	210130-32	210130-32	210130-32	210130-32	210130-32	210130-32
			Lab Sample No.(s)	23639034	23639007	23639041	23639045	23639051	23638948
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		76.6	101	47 4	122	97.8	98.2
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	<10	<10 4	<10	<10	<10
Aliphatics >C6-C8	<10 µg/kg	TM089		<10	<10	<10 4	11.4	<10	<10
Aliphatics >C8-C10	<10 µg/kg	TM089		<10	<10	<10 4	14.8	<10	<10
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Aliphatics >C12-C16	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Aliphatics >C16-C21	<1000 µg/kg	TM414		3810	3080	2500	1150	4380	<1000
Aliphatics >C21-C35	<1000 µg/kg	TM414		19700	10500	22600	5000	18700	4260
Aliphatics >C35-C44	<1000 µg/kg	TM414		8160	1460	30700	<1000	<1000	<1000
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		32100	15300	56400	6500	24300	5540
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		70500	20100	112000	<10000	69500	10900
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	<10 4	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10	<10 4	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/kg	TM089		<10	<10	<10 4	<10	<10	<10
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Aromatics > EC12-EC16	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Aromatics > EC16-EC21	<1000 µg/kg	TM414		6390	<1000	4870	<1000	<1000	<1000
Aromatics > EC21-EC35	<1000 µg/kg	TM414		29000	3360	45400	1450	43500	3800
Aromatics >EC35-EC44	<1000 µg/kg	TM414		2250	<1000	4000	<1000	1000	<1000
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		38400	<5000	55200	<5000	45200	5320
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		70500	15300	112000	<10000	69500	10900
Total Aliphatics >C5-C10	<50 µg/kg	TM089		<50	<50	<50 4	<50	<50	<50
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50	<50	<50 4	<50	<50	<50
GRO >C5-C10	<20 µg/kg	TM089		<20	<20	<20 4	<20	<20	<20

CERTIFICATE OF ANALYSIS

SDG:	210130-32	**Client Reference:**	P18-669	**Report Number:**	586352
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AJ27-1	AJ29-1	AJ29-2	AJ30-1	AJ30-2	AK27-1
			Depth (m)	0.70 - 0.70	0.70 - 0.70	1.50 - 1.50	0.40 - 0.40	1.50 - 1.50	0.80 - 0.80
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	29/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	29/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021
			SDG Ref	210130-32	210130-32	210130-32	210130-32	210130-32	210130-32
			Lab Sample No.(s)	23638988	23638943	23638959	23638993	23638999	23638980
			AGS Reference						
Dibromofluoromethane**	%	TM116		114	116	115	120	155	114
Toluene-d8**	%	TM116		102	100	100	97.4	99.4	101
4-Bromofluorobenzene**	%	TM116		101	98	97.5	81.3	96.2	101
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Benzene	<9 µg/kg	TM116		<180 M	<180 M	<180 M	<180 M	<180 M	<180 M
Toluene	<7 µg/kg	TM116		<140 M	<140 M	<140 M	<140 M	<140 M	<140 M
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<80 M	<80 M	<80 M	<80 M
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #	<200 #	<200 #	<200 #
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Naphthalene	<13 µg/kg	TM116		<260 M	<260 M	<260 M	<260 M	626 M	<260 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800	<800	<800	<800

CERTIFICATE OF ANALYSIS

SDG:	210130-32	**Client Reference:**	P18-669	**Report Number:**	586352
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AK28-1	AK30-1	AK30-2	AK31-1	AK31-2	AK32-1
			Depth (m)	1.00 - 1.00	0.20 - 0.20	1.00 - 1.00	0.10 - 0.10	1.10 - 1.10	1.00 - 1.00
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	29/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021
			SDG Ref	210130-32	210130-32	210130-32	210130-32	210130-32	210130-32
			Lab Sample No.(s)	23638976	23639025	23639030	23639015	23639020	23639060
			AGS Reference						
Dibromofluoromethane**	%	TM116		116	115	121	112	110	113
Toluene-d8**	%	TM116		101	97.9	99.3	96.1	96.5	102
4-Bromofluorobenzene**	%	TM116		98.9	91.7	96.7	85	81	95.2
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Benzene	<9 µg/kg	TM116		<180 M	<180 M	<180 M	<180 M	<180 M	<180 M
Toluene	<7 µg/kg	TM116		<140 M	<140 M	<140 M	<140 M	<140 M	<140 M
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<80 M	<80 M	<80 M	<80 M
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #	<200 #	<200 #	<200 #
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Naphthalene	<13 µg/kg	TM116		<260 M	<260 M	<260 M	<260 M	<260 M	462 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800	<800	<800	<800

CERTIFICATE OF ANALYSIS

SDG:	210130-32	**Client Reference:**	P18-669	**Report Number:**	586352
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AK33-1	AK34-1	AK34-2	AL28-1	AL28-2	AL29-1
			Depth (m)	0.20 - 0.20	0.80 - 0.80	1.60 - 1.60	0.50 - 0.50	1.20 - 1.20	0.80 - 0.80
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	29/01/2021	29/01/2021	29/01/2021	29/01/2021	29/01/2021	29/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021
			SDG Ref	210130-32	210130-32	210130-32	210130-32	210130-32	210130-32
			Lab Sample No.(s)	23639067	23639071	23639077	23638964	23638970	23638954
			AGS Reference						
Dibromofluoromethane**	%	TM116		119	115	116	114	111	117
Toluene-d8**	%	TM116		101	102	102	102	99.4	101
4-Bromofluorobenzene**	%	TM116		95.3	98.9	101	100	95.8	99.4
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Benzene	<9 µg/kg	TM116		<180 M	<180 M	<180 M	<180 M	<180 M	<180 M
Toluene	<7 µg/kg	TM116		<140 M	<140 M	<140 M	<140 M	<140 M	<140 M
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<80 M	<80 M	<80 M	<80 M
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #	<200 #	<200 #	<200 #
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Naphthalene	<13 µg/kg	TM116		<260 M	<260 M	<260 M	<260 M	<260 M	<260 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800	<800	<800	<800

Validated

CERTIFICATE OF ANALYSIS

SDG:	210130-32	**Client Reference:**	P18-669	**Report Number:**	586352
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	AL30-1	AL30-2	AL31-1	AL31-2	AL32-1	AL33-1
			Depth (m)	0.50 - 0.50	2.00 - 2.00	0.50 - 0.50	1.50 - 1.50	0.50 - 0.50	0.80 - 0.80
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	28/01/2021	28/01/2021	28/01/2021	28/01/2021	28/01/2021	29/01/2021
			Sample Time	.	.	.	.	.	.
			Date Received	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021	30/01/2021
			SDG Ref	210130-32	210130-32	210130-32	210130-32	210130-32	210130-32
			Lab Sample No.(s)	23639034	23639007	23639041	23639045	23639051	23638948
			AGS Reference						
Dibromofluoromethane**	%	TM116		118	112	166	130	119	114
Toluene-d8**	%	TM116		101	99.5	98.4	98.7	99.1	102
4-Bromofluorobenzene**	%	TM116		98	96.8	93.5	99.2	93	101
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 #
Benzene	<9 µg/kg	TM116		<180 M	<180 M	<180 M	<180 M	<180 M	<180 #
Toluene	<7 µg/kg	TM116		<140 M	<140 M	<140 M	<140 M	<140 M	<140 #
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<80 M	<80 M	<80 M	<80 #
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #	<200 #	<200 #	<200 #
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 #
Naphthalene	<13 µg/kg	TM116		<260 M	<260 M	<260 M	<260 M	<260 M	<260 #
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800	<800	<800	<800

CERTIFICATE OF ANALYSIS

SDG:	210130-32	**Client Reference:**	P18-669	**Report Number:**	586352
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

Asbestos Identification - Solid Samples

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&+$@	Sample deviation (see appendix)

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	AJ29-1 0.70 - 0.70 SOLID 28/01/2021 00:00:00 30/01/2021 05:00:00 210130-32 23638943 TM048	05/02/2021	Marcin Magdziarek	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	AJ30-1 0.40 - 0.40 SOLID 28/01/2021 00:00:00 30/01/2021 05:00:00 210130-32 23638993 TM048	05/02/21	Eva Guerra	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	AK27-1 0.80 - 0.80 SOLID 29/01/2021 00:00:00 30/01/2021 05:00:00 210130-32 23638980 TM048	05/02/2021	James Richards	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	AK30-1 0.20 - 0.20 SOLID 28/01/2021 00:00:00 30/01/2021 05:00:00 210130-32 23639025 TM048	05/02/2021	Marcin Magdziarek	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	AK31-1 0.10 - 0.10 SOLID 28/01/2021 00:00:00 30/01/2021 05:00:00 210130-32 23639015 TM048	05/02/2021	Marcin Magdziarek	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	AK33-1 0.20 - 0.20 SOLID 29/01/2021 00:00:00 30/01/2021 05:00:00 210130-32 23639067 TM048	05/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	AK34-2 1.60 - 1.60 SOLID 29/01/2021 00:00:00 30/01/2021 05:00:00 210130-32 23639077 TM048	05/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	AL28-2 1.20 - 1.20 SOLID 29/01/2021 00:00:00 30/01/2021 05:00:00 210130-32 23638970 TM048	05/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

Validated

CERTIFICATE OF ANALYSIS

SDG:	210130-32	**Client Reference:**	P18-669	**Report Number:**	586352
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	AL29-1 0.80 - 0.80 SOLID 29/01/2021 00:00:00 30/01/2021 05:00:00 210130-32 23638954 TM048	08/02/21	Eva Guerra	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	AL30-1 0.50 - 0.50 SOLID 28/01/2021 00:00:00 30/01/2021 05:00:00 210130-32 23639034 TM048	05/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	AL31-1 0.50 - 0.50 SOLID 28/01/2021 00:00:00 30/01/2021 05:00:00 210130-32 23639041 TM048	05/02/2021	Marcin Magdziarek	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	AL32-1 0.50 - 0.50 SOLID 28/01/2021 00:00:00 30/01/2021 05:00:00 210130-32 23639051 TM048	05/02/2021	Marcin Magdziarek	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM024	Method 4500A & B, AWWA/APHA, 20th Ed., 1999	Determination of Exchangeable Ammonium and Ammoniacal Nitrogen as N by titration on solids
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM132	In - house Method	ELTRA CS800 Operators Guide
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS
TM414	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	210130-32	**Client Reference:**	P18-669	**Report Number:**	586352
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	23638988	23638943	23638959	23638993	23638999	23638980	23638976	23639025	23639030	23639015
Customer Sample Ref.	AJ27-1	AJ29-1	AJ29-2	AJ30-1	AJ30-2	AK27-1	AK28-1	AK30-1	AK30-2	AK31-1
AGS Ref.										
Depth	0.70 - 0.70	0.70 - 0.70	1.50 - 1.50	0.40 - 0.40	1.50 - 1.50	0.80 - 0.80	1.00 - 1.00	0.20 - 0.20	1.00 - 1.00	0.10 - 0.10
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Ammonium Soil by Titration	05-Feb-2021	03-Feb-2021	05-Feb-2021	03-Feb-2021	05-Feb-2021	05-Feb-2021	05-Feb-2021	05-Feb-2021	05-Feb-2021	05-Feb-2021
Asbestos ID in Solid Samples		05-Feb-2021		05-Feb-2021		05-Feb-2021		05-Feb-2021		05-Feb-2021
Cyanide Comp/Free/Total/Thiocyanate	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	03-Feb-2021
EPH CWG GC (S)	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021
GRO by GC-FID (S)	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	09-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021
Metals in solid samples by OES	08-Feb-2021	05-Feb-2021	04-Feb-2021	05-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	08-Feb-2021	04-Feb-2021
PAH by GCMS	03-Feb-2021	08-Feb-2021	03-Feb-2021	05-Feb-2021	03-Feb-2021	03-Feb-2021	05-Feb-2021	03-Feb-2021	05-Feb-2021	03-Feb-2021
pH	01-Feb-2021	02-Feb-2021	01-Feb-2021	02-Feb-2021	01-Feb-2021	02-Feb-2021	02-Feb-2021	02-Feb-2021	02-Feb-2021	02-Feb-2021
Phenols by HPLC (S)	09-Feb-2021	09-Feb-2021	10-Feb-2021	09-Feb-2021	09-Feb-2021	10-Feb-2021	05-Feb-2021	09-Feb-2021	05-Feb-2021	05-Feb-2021
Sample description	30-Jan-2021	30-Jan-2021	30-Jan-2021	30-Jan-2021	30-Jan-2021	30-Jan-2021	30-Jan-2021	30-Jan-2021	30-Jan-2021	30-Jan-2021
Total Organic Carbon	03-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021
TPH CWG GC (S)	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	09-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021
VOC MS (S)	05-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	05-Feb-2021	05-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021

Lab Sample No(s)	23639020	23639060	23639067	23639071	23639077	23638964	23638970	23638954	23639034	23639007
Customer Sample Ref.	AK31-2	AK32-1	AK33-1	AK34-1	AK34-2	AL28-1	AL28-2	AL29-1	AL30-1	AL30-2
AGS Ref.										
Depth	1.10 - 1.10	1.00 - 1.00	0.20 - 0.20	0.80 - 0.80	1.60 - 1.60	0.50 - 0.50	1.20 - 1.20	0.80 - 0.80	0.50 - 0.50	2.00 - 2.00
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Ammonium Soil by Titration	05-Feb-2021	05-Feb-2021	05-Feb-2021	08-Feb-2021	05-Feb-2021	05-Feb-2021	05-Feb-2021	05-Feb-2021	05-Feb-2021	05-Feb-2021
Asbestos ID in Solid Samples			05-Feb-2021		05-Feb-2021		05-Feb-2021	08-Feb-2021	05-Feb-2021	
Cyanide Comp/Free/Total/Thiocyanate	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021
EPH CWG GC (S)	04-Feb-2021	05-Feb-2021	05-Feb-2021	05-Feb-2021	05-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021
GRO by GC-FID (S)	08-Feb-2021	08-Feb-2021	08-Feb-2021	09-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	09-Feb-2021	08-Feb-2021
Metals in solid samples by OES	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	04-Feb-2021	08-Feb-2021
PAH by GCMS	05-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021	04-Feb-2021	08-Feb-2021	03-Feb-2021	03-Feb-2021	03-Feb-2021
pH	01-Feb-2021	01-Feb-2021	02-Feb-2021	01-Feb-2021	02-Feb-2021	01-Feb-2021	02-Feb-2021	02-Feb-2021	02-Feb-2021	02-Feb-2021
Phenols by HPLC (S)	09-Feb-2021	08-Feb-2021	09-Feb-2021	10-Feb-2021	10-Feb-2021	09-Feb-2021	10-Feb-2021	10-Feb-2021	09-Feb-2021	09-Feb-2021
Sample description	30-Jan-2021	30-Jan-2021	30-Jan-2021	30-Jan-2021	30-Jan-2021	30-Jan-2021	30-Jan-2021	30-Jan-2021	30-Jan-2021	30-Jan-2021
Total Organic Carbon		08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021
TPH CWG GC (S)	08-Feb-2021	08-Feb-2021	08-Feb-2021	09-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	09-Feb-2021	08-Feb-2021
VOC MS (S)	08-Feb-2021	05-Feb-2021	05-Feb-2021	05-Feb-2021	05-Feb-2021	05-Feb-2021	08-Feb-2021	05-Feb-2021	05-Feb-2021	08-Feb-2021

Lab Sample No(s)	23639041	23639045	23639051	23638948
Customer Sample Ref.	AL31-1	AL31-2	AL32-1	AL33-1
AGS Ref.				
Depth	0.50 - 0.50	1.50 - 1.50	0.50 - 0.50	0.80 - 0.80
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Ammonium Soil by Titration	03-Feb-2021	05-Feb-2021	08-Feb-2021	05-Feb-2021
Asbestos ID in Solid Samples	05-Feb-2021		05-Feb-2021	
Cyanide Comp/Free/Total/Thiocyanate	03-Feb-2021	03-Feb-2021	04-Feb-2021	03-Feb-2021
EPH CWG GC (S)	04-Feb-2021	04-Feb-2021	04-Feb-2021	05-Feb-2021
GRO by GC-FID (S)	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021
Metals in solid samples by OES	04-Feb-2021	05-Feb-2021	08-Feb-2021	04-Feb-2021
PAH by GCMS	05-Feb-2021	03-Feb-2021	05-Feb-2021	03-Feb-2021
pH	02-Feb-2021	01-Feb-2021	02-Feb-2021	01-Feb-2021
Phenols by HPLC (S)	09-Feb-2021	09-Feb-2021	09-Feb-2021	05-Feb-2021
Sample description	30-Jan-2021	30-Jan-2021	30-Jan-2021	30-Jan-2021
Total Organic Carbon	09-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021
TPH CWG GC (S)	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021
VOC MS (S)	08-Feb-2021	08-Feb-2021	08-Feb-2021	05-Feb-2021

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

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Rodgers Leask
Office 225
2430/2440
Aztec West
Almondsbury
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BS32 4QA

Attention: Elliot Thomas

CERTIFICATE OF ANALYSIS

Date of report Generation:	17 February 2021
Customer:	Rodgers Leask
Sample Delivery Group (SDG):	210203-41
Your Reference:	P18-669
Location:	Llanwern
Report No:	587186

This report has been revised and directly supersedes 586571 in its entirety.

We received 16 samples on Wednesday February 03, 2021 and 16 of these samples were scheduled for analysis which was completed on Wednesday February 17, 2021. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:



Sonia McWhan

Operations Manager

ALS Life Sciences Limited. Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No. 4057291.

CERTIFICATE OF ANALYSIS

SDG:	210203-41	**Client Reference:**	P18-669	**Report Number:**	587186
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586571

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23656269	P22-1		0.60 - 0.60	01/02/2021
23656315	P22-2		1.30 - 1.30	01/02/2021
23656320	T19-1		0.30 - 0.30	01/02/2021
23656304	V12-1		1.00 - 1.00	02/02/2021
23656309	V12-2		1.60 - 1.60	02/02/2021
23656299	V13-1		1.00 - 1.00	02/02/2021
23656291	V14-1		0.30 - 0.30	02/02/2021
23656275	V16-1		1.00 - 1.00	02/02/2021
23656279	V16-2		1.80 - 1.80	02/02/2021
23656284	V16-3		2.20 - 2.20	02/02/2021
23656355	V17-1		1.00 - 1.00	02/02/2021
23656342	V18-1		0.50 - 0.50	02/02/2021
23656346	V18-2		1.50 - 1.50	02/02/2021
23656336	V19-1		0.50 - 0.50	01/02/2021
23656330	V20-1		1.30 - 1.30	01/02/2021
23656325	V21-1		0.50 - 0.50	01/02/2021

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	210203-41	**Client Reference:**	P18-669	**Report Number:**	587186
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586571

Results Legend

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23656269		23656315		23656320			23656304		23656309		23656299		23656291		23656275	
Customer Sample Reference			P22-1		P22-2		T19-1			V12-1		V12-2		V13-1		V14-1		V16-1	
AGS Reference																			
Depth (m)			0.60 - 0.60		1.30 - 1.30		0.30 - 0.30			1.00 - 1.00		1.60 - 1.60		1.00 - 1.00		0.30 - 0.30		1.00 - 1.00	
Container			1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Ammonium Soil by Titration	All	NDPs: 0 Tests: 16		X		X			X			X		X		X			X		X
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 8	X					X			X							X			
Asbestos Quantification - Full	All	NDPs: 0 Tests: 2	X					X													
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 16		X		X			X			X		X		X			X		X
EPH CWG GC (S)	All	NDPs: 0 Tests: 16		X		X			X			X		X		X			X		X
GRO by GC-FID (S)	All	NDPs: 0 Tests: 16			X		X			X			X		X		X				X	
Metals in solid samples by OES	All	NDPs: 0 Tests: 16		X		X			X			X		X		X			X		X
PAH by GCMS	All	NDPs: 0 Tests: 16		X		X			X			X		X		X			X		X
pH	All	NDPs: 0 Tests: 16		X		X			X			X		X		X			X		X
Phenols by HPLC (S)	All	NDPs: 0 Tests: 16		X		X			X			X		X		X			X		X
Sample description	All	NDPs: 0 Tests: 16		X		X			X			X		X		X			X		X
Total Organic Carbon	All	NDPs: 1 Tests: 15		X		X			X			X		X		X			X		X
TPH CWG GC (S)	All	NDPs: 0 Tests: 16		X		X			X			X		X		X			X		X
VOC MS (S)	All	NDPs: 0 Tests: 16			X		X			X			X		X		X			X		

23656325	V21-1		0.50 - 0.50	60g VOC (ALE215)	S						X								X
				250g Amber Jar (ALE210)	S	X			X	X		X	X	X	X	X	X	X	
23656330	V20-1		1.30 - 1.30	60g VOC (ALE215)	S						X								X
				250g Amber Jar (ALE210)	S	X			X	X		X	X	X	X	X	X	X	
				1kg TUB with Handle (ALE260)	S		X												
23656336	V19-1		0.50 - 0.50	60g VOC (ALE215)	S						X								X
				250g Amber Jar (ALE210)	S	X			X	X		X	X	X	X	X	X	X	
23656346	V18-2		1.50 - 1.50	60g VOC (ALE215)	S						X								X
				250g Amber Jar (ALE210)	S	X			X	X		X	X	X	X	X	X	X	
23656342	V18-1		0.50 - 0.50	60g VOC (ALE215)	S						X								X
				250g Amber Jar (ALE210)	S	X			X	X		X	X	X	X	X	X	X	
				1kg TUB with Handle (ALE260)	S		X												
23656355	V17-1		1.00 - 1.00	60g VOC (ALE215)	S						X								X
				250g Amber Jar (ALE210)	S	X			X	X		X	X	X	X	X	X	X	
				1kg TUB with Handle (ALE260)	S		X												
23656284	V16-3		2.20 - 2.20	60g VOC (ALE215)	S						X								X
				250g Amber Jar (ALE210)	S	X			X	X		X	X	X	X	X	X	X	
23656279	V16-2		1.80 - 1.80	60g VOC (ALE215)	S						X								X
				250g Amber Jar (ALE210)	S	X			X	X		X	X	X	X	X	N	X	
				1kg TUB with Handle (ALE260)	S		X												
23656275	V16-1		1.00 - 1.00	60g VOC (ALE215)	S						X								X

CERTIFICATE OF ANALYSIS

SDG:	210203-41	**Client Reference:**	P18-669	**Report Number:**	587186
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586571

Sample Descriptions

Grain Sizes

very fine	<0.063mm	**fine**	0.063mm - 0.1mm	**medium**	0.1mm - 2mm	**coarse**	2mm - 10mm	**very coarse**	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
23656269	P22-1	0.60 - 0.60	Dark Brown	Silty Clay Loam	Stones	Vegetation
23656315	P22-2	1.30 - 1.30	Dark Brown	Loamy Sand	Stones	None
23656320	T19-1	0.30 - 0.30	Dark Brown	Sandy Silt Loam	Stones	None
23656304	V12-1	1.00 - 1.00	Dark Brown	Gravel	Stones	None
23656309	V12-2	1.60 - 1.60	Dark Brown	Loamy Sand	Stones	None
23656299	V13-1	1.00 - 1.00	Dark Brown	Loamy Sand	Stones	Vegetation
23656291	V14-1	0.30 - 0.30	Dark Brown	Sandy Silt Loam	Stones	None
23656275	V16-1	1.00 - 1.00	Dark Brown	Sand	Stones	None
23656279	V16-2	1.80 - 1.80	Dark Brown	Sand	Stones	None
23656284	V16-3	2.20 - 2.20	Dark Brown	Sand	Stones	None
23656355	V17-1	1.00 - 1.00	Dark Brown	Loamy Sand	Stones	None
23656342	V18-1	0.50 - 0.50	Dark Brown	Sandy Silt Loam	Stones	Vegetation
23656346	V18-2	1.50 - 1.50	Dark Brown	Loamy Sand	Stones	Vegetation
23656336	V19-1	0.50 - 0.50	Dark Brown	Sandy Loam	Stones	Vegetation
23656330	V20-1	1.30 - 1.30	Dark Brown	Sand	Stones	None
23656325	V21-1	0.50 - 0.50	Dark Brown	Sandy Silt Loam	Stones	None

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

CERTIFICATE OF ANALYSIS

SDG:	210203-41	**Client Reference:**	P18-669	**Report Number:**	587186
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586571

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	P22-1	P22-2	T19-1	V12-1	V12-2	V13-1
			Depth (m)	0.60 - 0.60	1.30 - 1.30	0.30 - 0.30	1.00 - 1.00	1.60 - 1.60	1.00 - 1.00
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	01/02/2021	01/02/2021	01/02/2021	02/02/2021	02/02/2021	02/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021
			SDG Ref	210203-41	210203-41	210203-41	210203-41	210203-41	210203-41
			Lab Sample No.(s)	23656269	23656315	23656320	23656304	23656309	23656299
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		8.3	13	7.6	8.6	15	12
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M	<12 M	<12 #	<12 M	<12 M
Phenol	<0.01 mg/kg	TM062 (S)		0.0109 M	<0.01 M	<0.01 M	<0.01 #	<0.01 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 #	<0.01 M	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 #	<0.015 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M	<0.035 #	<0.035 M	<0.035 M
Soil Organic Matter (SOM)	<0.35 %	TM132		3.4 #	4.53 #	13.3 #	1.74 #	16.6 #	11.2 #
pH	1 pH Units	TM133		10.8 M	10.7 M	10.4 M	9.78 #	10.9 M	10.2 M
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	<1 M	<1 #	4.35 M	<1 M
Arsenic	<0.6 mg/kg	TM181		6.93 M	10.5 M	<6 M	<6 #	4.61 M	6.06 M
Cadmium	<0.02 mg/kg	TM181		0.707 M	0.875 M	0.42 M	<0.2 #	0.295 M	0.232 M
Chromium	<0.9 mg/kg	TM181		316 M	103 M	17.6 M	<9 #	34.1 M	10.5 M
Copper	<1.4 mg/kg	TM181		16.3 M	16.5 M	<14 M	<14 #	10.4 M	<14 M
Iron	<1000 mg/kg	TM181		114000 #	94700 #	60800 #	<10000 #	22400 #	20700 #
Lead	<0.7 mg/kg	TM181		57.5 M	61.9 M	26.9 M	<7 #	28.6 M	11.9 M
Manganese	<0.13 mg/kg	TM181		26200 M	9520 M	2630 M	5590 #	4620 M	2950 M
Mercury	<0.1 mg/kg	TM181		<1 M	<1 M	<1 M	<1 #	<0.1 M	<1 M
Nickel	<0.2 mg/kg	TM181		14.6 M	18.2 M	13.1 M	<2 #	5.65 M	6.82 M
Selenium	<1 mg/kg	TM181		16.9 #	<10 #	<10 #	<10 #	3.12 #	<10 #
Vanadium	<0.2 mg/kg	TM181		341 #	162 #	52.4 #	21 #	73.8 #	24.5 #
Zinc	<1.9 mg/kg	TM181		174 M	193 M	80 M	<19 #	93.2 M	52.7 M
Asbestos Quantification - Gravimetric - %	<0.001 %	TM304		<0.001 #		0.0159 #			
Asbestos Quantification - PCOM Evaluation - %	<0.001 %	TM304		<0.001 #		<0.001 #			
Additional Asbestos Components (Using TM048)		TM304		None #		None #			
Analysts Comments		TM304		0		N/A			
Asbestos Quantification - Total - %	<0.001 %	TM304		<0.001 #		0.0159 #			

Validated

CERTIFICATE OF ANALYSIS

SDG:	210203-41	**Client Reference:**	P18-669	**Report Number:**	587186
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586571

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	V14-1	V16-1	V16-2	V16-3	V17-1	V18-1
			Depth (m)	0.30 - 0.30	1.00 - 1.00	1.80 - 1.80	2.20 - 2.20	1.00 - 1.00	0.50 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	02/02/2021	02/02/2021	02/02/2021	02/02/2021	02/02/2021	02/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021
			SDG Ref	210203-41	210203-41	210203-41	210203-41	210203-41	210203-41
			Lab Sample No.(s)	23656291	23656275	23656279	23656284	23656355	23656342
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		11	10	3.5	10	17	11
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M	<12 M	<12 M	<12 M	<12 M
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	0.0121 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	0.109 M	0.0224 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	0.0726 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M	<0.035 M	0.194 M	<0.035 M
Soil Organic Matter (SOM)	<0.35 %	TM132		8.81 #	4.1 #		12.5 #	71.9 #	5.9 #
pH	1 pH Units	TM133		10.4 M	9.96 M	9.97 M	8.71 M	10.5 M	8.53 M
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	<1 M	<1 M	<1 M	20.9 M
Arsenic	<0.6 mg/kg	TM181		6.72 M	<6 M	<6 M	<6 M	<6 M	<6 M
Cadmium	<0.02 mg/kg	TM181		0.745 M	0.283 M	<0.2 M	<0.2 M	0.592 M	0.497 M
Chromium	<0.9 mg/kg	TM181		89.2 M	40.9 M	17.1 M	15.4 M	27.8 M	<9 M
Copper	<1.4 mg/kg	TM181		14.3 M	<14 M	<14 M	<14 M	<14 M	<14 M
Iron	<1000 mg/kg	TM181		67200 #	41000 #	14100 #	15300 #	23100 #	128000 #
Lead	<0.7 mg/kg	TM181		51.1 M	16.6 M	400 M	8.08 M	36.5 M	23.2 M
Manganese	<0.13 mg/kg	TM181		7640 M	6910 M	3220 M	3340 M	4840 M	8720 M
Mercury	<0.1 mg/kg	TM181		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Nickel	<0.2 mg/kg	TM181		13.8 M	5.54 M	4.98 M	14.3 M	6.84 M	5.69 M
Selenium	<1 mg/kg	TM181		<10 #	<10 #	<10 #	<10 #	<10 #	<10 #
Vanadium	<0.2 mg/kg	TM181		159 #	53.2 #	50.3 #	44.4 #	40.3 #	21.9 #
Zinc	<1.9 mg/kg	TM181		167 M	63.2 M	20.2 M	27.6 M	78.7 M	98.1 M

CERTIFICATE OF ANALYSIS

SDG:	210203-41	**Client Reference:**	P18-669	**Report Number:**	587186
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586571

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	V18-2	V19-1	V20-1	V21-1		
			Depth (m)	1.50 - 1.50	0.50 - 0.50	1.30 - 1.30	0.50 - 0.50		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	02/02/2021	01/02/2021	01/02/2021	01/02/2021		
			Sample Time	.	.	.	.		
			Date Received	03/02/2021	03/02/2021	03/02/2021	03/02/2021		
			SDG Ref	210203-41	210203-41	210203-41	210203-41		
			Lab Sample No.(s)	23656346	23656336	23656330	23656325		
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		21	7.8	12	10		
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M	<12 M	<12 M		
Phenol	<0.01 mg/kg	TM062 (S)		0.0126 M	<0.01 M	<0.01 M	<0.01 M		
Cresols	<0.01 mg/kg	TM062 (S)		0.0126 M	<0.01 M	<0.01 M	<0.01 M		
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M		
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M	<0.035 M		
Soil Organic Matter (SOM)	<0.35 %	TM132		50.7 #	3.43 #	4.41 #	11 #		
pH	1 pH Units	TM133		10.5 M	11.4 M	11.1 M	10.1 M		
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	<1 M	<1 M		
Arsenic	<0.6 mg/kg	TM181		6.22 M	15.5 M	<6 M	14.5 M		
Cadmium	<0.02 mg/kg	TM181		0.711 M	0.563 M	0.348 M	0.609 M		
Chromium	<0.9 mg/kg	TM181		86.9 M	66.1 M	10.5 M	<9 M		
Copper	<1.4 mg/kg	TM181		<14 M	44.2 M	71.7 M	<14 M		
Iron	<1000 mg/kg	TM181		33800 #	96400 #	53700 #	232000 #		
Lead	<0.7 mg/kg	TM181		27.3 M	32.4 M	12.8 M	41.1 M		
Manganese	<0.13 mg/kg	TM181		10500 M	8110 M	3330 M	4560 M		
Mercury	<0.1 mg/kg	TM181		<1 M	<1 M	<1 M	<1 M		
Nickel	<0.2 mg/kg	TM181		7.15 M	17.4 M	6.41 M	22.9 M		
Selenium	<1 mg/kg	TM181		<10 #	<10 #	<10 #	<10 #		
Vanadium	<0.2 mg/kg	TM181		87.3 #	131 #	52.3 #	80.1 #		
Zinc	<1.9 mg/kg	TM181		44.8 M	110 M	44 M	87.3 M		

Validated

CERTIFICATE OF ANALYSIS

SDG:	210203-41	**Client Reference:**	P18-669	**Report Number:**	587186
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586571

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	P22-1	P22-2	T19-1	V12-1	V12-2	V13-1
			Depth (m)	0.60 - 0.60	1.30 - 1.30	0.30 - 0.30	1.00 - 1.00	1.60 - 1.60	1.00 - 1.00
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	01/02/2021	01/02/2021	01/02/2021	02/02/2021	02/02/2021	02/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021
			SDG Ref	210203-41	210203-41	210203-41	210203-41	210203-41	210203-41
			Lab Sample No.(s)	23656269	23656315	23656320	23656304	23656309	23656299
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		82.2	86.3	81	83.9	91.9	81.1
Acenaphthene-d10 % recovery**	%	TM218		87.6	85.6	83.3	85.2	91.7	88
Phenanthrene-d10 % recovery**	%	TM218		91.4	86.5	81.9	91.1	91.8	95
Chrysene-d12 % recovery**	%	TM218		92.2	92.3	79.8	89.9	84.5	85
Perylene-d12 % recovery**	%	TM218		87.5	88.9	71.4	84.6	89	76.9
Naphthalene	<9 µg/kg	TM218		384 M	257 M	531 M	26.1 #	472 M	263 M
Acenaphthylene	<12 µg/kg	TM218		175 M	114 M	215 M	<12 #	61.6 M	113 M
Acenaphthene	<8 µg/kg	TM218		53.8 M	21.8 M	24.8 M	<8 #	116 M	50.2 M
Fluorene	<10 µg/kg	TM218		384 M	99.4 M	107 M	<10 #	138 M	167 M
Phenanthrene	<15 µg/kg	TM218		2350 M	773 M	1260 M	88.4 #	991 M	1130 M
Anthracene	<16 µg/kg	TM218		503 M	244 M	309 M	<16 #	235 M	282 M
Fluoranthene	<17 µg/kg	TM218		2690 M	1470 M	1960 M	114 #	1240 M	1340 M
Pyrene	<15 µg/kg	TM218		1900 M	1050 M	1480 M	98.4 #	901 M	968 M
Benz(a)anthracene	<14 µg/kg	TM218		1080 M	624 M	940 M	73.5 #	572 M	529 M
Chrysene	<10 µg/kg	TM218		1100 M	586 M	990 M	90.3 #	571 M	535 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		1430 M	817 M	1450 M	130 #	810 M	692 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		425 M	246 M	423 M	36.3 #	244 M	220 M
Benzo(a)pyrene	<15 µg/kg	TM218		886 M	490 M	779 M	63.6 #	485 M	386 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		622 M	336 M	537 M	53.1 #	362 M	281 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		148 M	75.5 M	138 M	<23 #	70 M	76.7 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		583 M	318 M	529 M	54.8 #	310 M	270 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		14700	7510	11700	828	7580	7300

Validated

CERTIFICATE OF ANALYSIS

SDG:	210203-41	**Client Reference:**	P18-669	**Report Number:**	587186
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586571

PAH by GCMS

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	V14-1	V16-1	V16-2	V16-3	V17-1	V18-1
			Depth (m)	0.30 - 0.30	1.00 - 1.00	1.80 - 1.80	2.20 - 2.20	1.00 - 1.00	0.50 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	02/02/2021	02/02/2021	02/02/2021	02/02/2021	02/02/2021	02/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021
			SDG Ref	210203-41	210203-41	210203-41	210203-41	210203-41	210203-41
			Lab Sample No.(s)	23656291	23656275	23656279	23656284	23656355	23656342
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		74.6	87	99.5	85.2	90.7	84.4
Acenaphthene-d10 % recovery**	%	TM218		84.8	86.8	97.8	83.9	89.3	86.4
Phenanthrene-d10 % recovery**	%	TM218		81.6	89.7	91.6	87.4	89.4	85
Chrysene-d12 % recovery**	%	TM218		75.6	87.5	69.1	80.5	75.9	84
Perylene-d12 % recovery**	%	TM218		71.8	83.6	53.9	71	70.2	75.6
Naphthalene	<9 µg/kg	TM218		632 M	113 M	166 M	68.8 M	1710 M	864 M
Acenaphthylene	<12 µg/kg	TM218		315 M	55.8 M	25 M	15.6 M	38.7 M	<240 M
Acenaphthene	<8 µg/kg	TM218		<160 M	<8 M	<8 M	<8 M	132 M	669 M
Fluorene	<10 µg/kg	TM218		326 M	46 M	48.1 M	21.5 M	152 M	<200 M
Phenanthrene	<15 µg/kg	TM218		2030 M	334 M	247 M	139 M	2140 M	10900 M
Anthracene	<16 µg/kg	TM218		683 M	107 M	55.5 M	25.8 M	311 M	1100 M
Fluoranthene	<17 µg/kg	TM218		3150 M	484 M	187 M	125 M	1100 M	6420 M
Pyrene	<15 µg/kg	TM218		2370 M	342 M	166 M	105 M	750 M	4340 M
Benz(a)anthracene	<14 µg/kg	TM218		1270 M	233 M	94.7 M	69.7 M	324 M	1470 M
Chrysene	<10 µg/kg	TM218		1300 M	237 M	141 M	85 M	382 M	1680 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		1670 M	323 M	137 M	101 M	506 M	2270 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		491 M	100 M	41.5 M	28.5 M	127 M	637 M
Benzo(a)pyrene	<15 µg/kg	TM218		938 M	178 M	66.3 M	53.6 M	277 M	1240 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		642 M	131 M	58.2 M	37.7 M	241 M	1130 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		<460 M	29.7 M	<23 M	<23 M	51.2 M	<460 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		618 M	132 M	58.3 M	41.4 M	240 M	1210 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		16400	2840	1490	917	8470	33900

CERTIFICATE OF ANALYSIS

SDG:	210203-41	**Client Reference:**	P18-669	**Report Number:**	587186
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586571

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	V18-2	V19-1	V20-1	V21-1		
			Depth (m)	1.50 - 1.50	0.50 - 0.50	1.30 - 1.30	0.50 - 0.50		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	02/02/2021	01/02/2021	01/02/2021	01/02/2021		
			Sample Time	.	.	.	.		
			Date Received	03/02/2021	03/02/2021	03/02/2021	03/02/2021		
			SDG Ref	210203-41	210203-41	210203-41	210203-41		
			Lab Sample No.(s)	23656346	23656336	23656330	23656325		
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		91.4	81.2	82.8	85.5		
Acenaphthene-d10 % recovery**	%	TM218		91.6	90.8	88	86.2		
Phenanthrene-d10 % recovery**	%	TM218		91.3	82	93	100		
Chrysene-d12 % recovery**	%	TM218		78.3	85	88.4	123		
Perylene-d12 % recovery**	%	TM218		76.2	76.8	82.7	109		
Naphthalene	<9 µg/kg	TM218		1900 M	<180 M	42.9 M	292 M		
Acenaphthylene	<12 µg/kg	TM218		56.4 M	<240 M	<12 M	82.3 M		
Acenaphthene	<8 µg/kg	TM218		168 M	<160 M	11 M	12.2 M		
Fluorene	<10 µg/kg	TM218		196 M	<200 M	24.1 M	42.4 M		
Phenanthrene	<15 µg/kg	TM218		2670 M	1000 M	137 M	431 M		
Anthracene	<16 µg/kg	TM218		495 M	<320 M	25 M	93.3 M		
Fluoranthene	<17 µg/kg	TM218		1980 M	2480 M	126 M	503 M		
Pyrene	<15 µg/kg	TM218		1370 M	2120 M	100 M	397 M		
Benz(a)anthracene	<14 µg/kg	TM218		791 M	1030 M	61 M	299 M		
Chrysene	<10 µg/kg	TM218		908 M	1330 M	79.5 M	375 M		
Benzo(b)fluoranthene	<15 µg/kg	TM218		1460 M	1630 M	81.9 M	553 M		
Benzo(k)fluoranthene	<14 µg/kg	TM218		359 M	526 M	23.2 M	165 M		
Benzo(a)pyrene	<15 µg/kg	TM218		826 M	800 M	41.5 M	276 M		
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		813 M	601 M	30.9 M	294 M		
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		122 M	<460 M	<23 M	71.1 M		
Benzo(g,h,i)perylene	<24 µg/kg	TM218		716 M	618 M	33.3 M	305 M		
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		14800	12100	818	4190		

Validated

CERTIFICATE OF ANALYSIS

SDG:	210203-41	**Client Reference:**	P18-669	**Report Number:**	587186
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586571

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	P22-1	P22-2	T19-1	V12-1	V12-2	V13-1
			Depth (m)	0.60 - 0.60	1.30 - 1.30	0.30 - 0.30	1.00 - 1.00	1.60 - 1.60	1.00 - 1.00
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	01/02/2021	01/02/2021	01/02/2021	02/02/2021	02/02/2021	02/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021
			SDG Ref	210203-41	210203-41	210203-41	210203-41	210203-41	210203-41
			Lab Sample No.(s)	23656269	23656315	23656320	23656304	23656309	23656299
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		68 4	121	27.5 4	114	58.6 4	63.2 4
Aliphatics >C5-C6	<10 µg/kg	TM089		<10 4	<10	<10 4	<10	14.2 4	11.4 4
Aliphatics >C6-C8	<10 µg/kg	TM089		10.9 4	<10	29.2 4	<10	60.2 4	51.3 4
Aliphatics >C8-C10	<10 µg/kg	TM089		<10 4	<10	23.8 4	<10	72 4	58.1 4
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	1530	<1000	<1000	1590
Aliphatics >C12-C16	<1000 µg/kg	TM414		9980	<1000	6420	<1000	22400	25800
Aliphatics >C16-C21	<1000 µg/kg	TM414		41200	4630	19700	<1000	45200	49500
Aliphatics >C21-C35	<1000 µg/kg	TM414		79600	28400	68100	2930	54100	84700
Aliphatics >C35-C44	<1000 µg/kg	TM414		32700	9780	60400	<1000	5900	20400
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		164000	43600	156000	<5000	128000	182000
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		199000	67900	233000	<10000	169000	234000
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10 4	<10	<10 4	<10	<10 4	<10 4
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10 4	<10	<10 4	<10	14.2 4	10.3 4
Aromatics >EC8-EC10	<10 µg/kg	TM089		<10 4	<10	16.2 4	<10	48.4 4	38.8 4
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	<1000	1270	<1000	<1000	<1000
Aromatics > EC12-EC16	<1000 µg/kg	TM414		1970	<1000	5430	<1000	4070	7590
Aromatics > EC16-EC21	<1000 µg/kg	TM414		6660	5010	15000	<1000	10100	13000
Aromatics > EC21-EC35	<1000 µg/kg	TM414		24800	17100	50700	<1000	23600	29000
Aromatics >EC35-EC44	<1000 µg/kg	TM414		1330	1170	4240	<1000	1980	2220
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		35100	24400	76700	<5000	40200	52300
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		199000	67900	233000	<10000	169000	235000
Total Aliphatics >C5-C10	<50 µg/kg	TM089		<50 4	<50	53 4	<50	146 4	121 4
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50 4	<50	<50 4	<50	62.5 4	<50 4
GRO >C5-C10	<20 µg/kg	TM089		<20 4	<20	53 4	<20	209 4	121 4

Validated

CERTIFICATE OF ANALYSIS

SDG:	210203-41	**Client Reference:**	P18-669	**Report Number:**	587186
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586571

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	V14-1	V16-1	V16-2	V16-3	V17-1	V18-1
			Depth (m)	0.30 - 0.30	1.00 - 1.00	1.80 - 1.80	2.20 - 2.20	1.00 - 1.00	0.50 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	02/02/2021	02/02/2021	02/02/2021	02/02/2021	02/02/2021	02/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021
			SDG Ref	210203-41	210203-41	210203-41	210203-41	210203-41	210203-41
			Lab Sample No.(s)	23656291	23656275	23656279	23656284	23656355	23656342
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		63 4	74.6	79.3	83.5	73.4	72
Aliphatics >C5-C6	<10 µg/kg	TM089		<10 4	<10	<10	<10	<10	<10
Aliphatics >C6-C8	<10 µg/kg	TM089		<10 4	<10	<10	<10	<10	22.4
Aliphatics >C8-C10	<10 µg/kg	TM089		<10 4	<10	<10	<10	<10	78.4
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	1780	3510
Aliphatics >C12-C16	<1000 µg/kg	TM414		1400	<1000	<1000	<1000	13000	34000
Aliphatics >C16-C21	<1000 µg/kg	TM414		6500	1710	10100	3200	48100	37900
Aliphatics >C21-C35	<1000 µg/kg	TM414		28300	8380	9920	7200	147000	48200
Aliphatics >C35-C44	<1000 µg/kg	TM414		20600	4790	<1000	<1000	44800	34700
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		57400	15200	21000	11000	254000	158000
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		128000	42000	30300	48000	401000	370000
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10 4	<10	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10 4	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/kg	TM089		<10 4	<10	<10	<10	<10	52.6
Aromatics > EC10-EC12	<1000 µg/kg	TM414		1190	<1000	<1000	<1000	2330	1960
Aromatics > EC12-EC16	<1000 µg/kg	TM414		3880	<1000	<1000	<1000	15200	17400
Aromatics > EC16-EC21	<1000 µg/kg	TM414		15800	4560	3290	9300	21400	42900
Aromatics > EC21-EC35	<1000 µg/kg	TM414		44700	14900	4350	25600	104000	96200
Aromatics >EC35-EC44	<1000 µg/kg	TM414		5230	6230	<1000	1100	3540	52900
Aromatics > EC40-EC44	<1000 µg/kg	TM414		1290	2600	<1000	<1000	<1000	13200
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		70800	26800	9300	37000	147000	211000
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		128000	42000	30300	48000	401000	370000
Total Aliphatics >C5-C10	<50 µg/kg	TM089		<50 4	<50	<50	<50	<50	101
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50 4	<50	<50	<50	<50	52.6
GRO >C5-C10	<20 µg/kg	TM089		<20 4	<20	<20	<20	<20	153

Validated

CERTIFICATE OF ANALYSIS

SDG:	210203-41	**Client Reference:**	P18-669	**Report Number:**	587186
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586571

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	V18-2	V19-1	V20-1	V21-1		
			Depth (m)	1.50 - 1.50	0.50 - 0.50	1.30 - 1.30	0.50 - 0.50		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	02/02/2021	01/02/2021	01/02/2021	01/02/2021		
			Sample Time	.	.	.	.		
			Date Received	03/02/2021	03/02/2021	03/02/2021	03/02/2021		
			SDG Ref	210203-41	210203-41	210203-41	210203-41		
			Lab Sample No.(s)	23656346	23656336	23656330	23656325		
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		115	75	74.3	76		
Aliphatics >C5-C6	<10 µg/kg	TM089		25.2	<10	<10	<10		
Aliphatics >C6-C8	<10 µg/kg	TM089		156	<10	<10	<10		
Aliphatics >C8-C10	<10 µg/kg	TM089		221	<10	<10	<10		
Aliphatics >C10-C12	<1000 µg/kg	TM414		1610	<1000	<1000	<1000		
Aliphatics >C12-C16	<1000 µg/kg	TM414		18700	4240	2990	1740		
Aliphatics >C16-C21	<1000 µg/kg	TM414		31000	13100	11000	12000		
Aliphatics >C21-C35	<1000 µg/kg	TM414		36000	84200	32200	47500		
Aliphatics >C35-C44	<1000 µg/kg	TM414		25600	86900	7040	20700		
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		113000	189000	53300	82200		
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		220000	327000	61500	112000		
Aromatics >EC5-EC7	<10 µg/kg	TM089		17.6	<10	<10	<10		
Aromatics >EC7-EC8	<10 µg/kg	TM089		49.1	<10	<10	<10		
Aromatics >EC8-EC10	<10 µg/kg	TM089		147	<10	<10	<10		
Aromatics > EC10-EC12	<1000 µg/kg	TM414		2400	<1000	<1000	<1000		
Aromatics > EC12-EC16	<1000 µg/kg	TM414		10200	3250	<1000	1900		
Aromatics > EC16-EC21	<1000 µg/kg	TM414		12900	11700	1200	3320		
Aromatics > EC21-EC35	<1000 µg/kg	TM414		42400	80100	5660	22100		
Aromatics >EC35-EC44	<1000 µg/kg	TM414		39000	42500	<1000	2100		
Aromatics > EC40-EC44	<1000 µg/kg	TM414		11300	19000	<1000	<1000		
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		107000	138000	8170	29700		
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		220000	327000	61500	112000		
Total Aliphatics >C5-C10	<50 µg/kg	TM089		402	<50	<50	<50		
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		214	<50	<50	<50		
GRO >C5-C10	<20 µg/kg	TM089		616	<20	<20	<20		

Validated

CERTIFICATE OF ANALYSIS

SDG:	210203-41	**Client Reference:**	P18-669	**Report Number:**	587186
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586571

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	P22-1	P22-2	T19-1	V12-1	V12-2	V13-1
			Depth (m)	0.60 - 0.60	1.30 - 1.30	0.30 - 0.30	1.00 - 1.00	1.60 - 1.60	1.00 - 1.00
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	01/02/2021	01/02/2021	01/02/2021	02/02/2021	02/02/2021	02/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021
			SDG Ref	210203-41	210203-41	210203-41	210203-41	210203-41	210203-41
			Lab Sample No.(s)	23656269	23656315	23656320	23656304	23656309	23656299
			AGS Reference						
Dibromofluoromethane**	%	TM116		105	104	102	107	107	106
Toluene-d8**	%	TM116		97.2	97.5	90.6	97.8	97.3	97.2
4-Bromofluorobenzene**	%	TM116		88.8	89.2	72.7	97.8	88.7	89.2
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 #	<200 M	<200 M
Benzene	<9 µg/kg	TM116		<180 M	<180 M	<180 M	<180 #	<180 M	<180 M
Toluene	<7 µg/kg	TM116		<140 M	<140 M	<140 M	<140 #	<140 M	<140 M
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<80 M	<80 #	<80 M	<80 M
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #	<200 #	<200 #	<200 #
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 #	<200 M	<200 M
Naphthalene	<13 µg/kg	TM116		<260 M	<260 M	<260 M	<260 #	373 M	<260 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800	<800	<800	<800

CERTIFICATE OF ANALYSIS

SDG:	210203-41	**Client Reference:**	P18-669	**Report Number:**	587186
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586571

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	V14-1	V16-1	V16-2	V16-3	V17-1	V18-1
			Depth (m)	0.30 - 0.30	1.00 - 1.00	1.80 - 1.80	2.20 - 2.20	1.00 - 1.00	0.50 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	02/02/2021	02/02/2021	02/02/2021	02/02/2021	02/02/2021	02/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021
			SDG Ref	210203-41	210203-41	210203-41	210203-41	210203-41	210203-41
			Lab Sample No.(s)	23656291	23656275	23656279	23656284	23656355	23656342
			AGS Reference						
Dibromofluoromethane**	%	TM116		110	105	104	105	116	112
Toluene-d8**	%	TM116		94	95.4	99.2	97.4	97.9	98.2
4-Bromofluorobenzene**	%	TM116		89.9	88.8	97.5	93.1	91.5	95.1
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Benzene	<9 µg/kg	TM116		<180 M	<180 M	<180 M	<180 M	<180 M	<180 M
Toluene	<7 µg/kg	TM116		<140 M	<140 M	<140 M	<140 M	<140 M	<140 M
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<80 M	<80 M	<80 M	<80 M
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #	<200 #	<200 #	<200 #
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Naphthalene	<13 µg/kg	TM116		320 M	<260 M	<260 M	<260 M	<260 M	769 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800	<800	<800	<800

CERTIFICATE OF ANALYSIS

SDG:	210203-41	**Client Reference:**	P18-669	**Report Number:**	587186
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586571

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	V18-2	V19-1	V20-1	V21-1		
			Depth (m)	1.50 - 1.50	0.50 - 0.50	1.30 - 1.30	0.50 - 0.50		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	02/02/2021	01/02/2021	01/02/2021	01/02/2021		
			Sample Time	.	.	.	.		
			Date Received	03/02/2021	03/02/2021	03/02/2021	03/02/2021		
			SDG Ref	210203-41	210203-41	210203-41	210203-41		
			Lab Sample No.(s)	23656346	23656336	23656330	23656325		
			AGS Reference						
Dibromofluoromethane**	%	TM116		104	109	102	106		
Toluene-d8**	%	TM116		95.3	95.6	97.1	98.7		
4-Bromofluorobenzene**	%	TM116		85.3	92	89.2	91		
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M		
Benzene	<9 µg/kg	TM116		<180 M	<180 M	<180 M	<180 M		
Toluene	<7 µg/kg	TM116		<140 M	<140 M	<140 M	<140 M		
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<80 M	<80 M		
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #	<200 #		
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M		
Naphthalene	<13 µg/kg	TM116		5880 M	<260 M	<260 M	<260 M		
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4	<0.4		
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800	<800		

CERTIFICATE OF ANALYSIS

SDG:	210203-41	**Client Reference:**	P18-669	**Report Number:**	587186
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586571

Asbestos Identification - Solid Samples

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&+$@	Sample deviation (see appendix)

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref.	P22-1	09/02/21	Eva Guerra	bundle of fibres in soil	Not Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Depth (m)	0.60 - 0.60										
Sample Type	SOLID										
Date Sampled	01/02/2021 00:00:00										
Date Received	03/02/2021 05:00:00										
SDG	210203-41										
Original Sample	23656269										
Method Number	TM048										
Cust. Sample Ref.	T19-1	09/02/2021	Marcin Magdziarek	Loose fibres in soil	Not Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Depth (m)	0.30 - 0.30										
Sample Type	SOLID										
Date Sampled	01/02/2021 00:00:00										
Date Received	03/02/2021 05:00:00										
SDG	210203-41										
Original Sample	23656320										
Method Number	TM048										
Cust. Sample Ref.	V12-1	09/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Depth (m)	1.00 - 1.00										
Sample Type	SOLID										
Date Sampled	02/02/2021 00:00:00										
Date Received	03/02/2021 05:00:00										
SDG	210203-41										
Original Sample	23656304										
Method Number	TM048										
Cust. Sample Ref.	V14-1	09/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Depth (m)	0.30 - 0.30										
Sample Type	SOLID										
Date Sampled	02/02/2021 00:00:00										
Date Received	03/02/2021 05:00:00										
SDG	210203-41										
Original Sample	23656291										
Method Number	TM048										
Cust. Sample Ref.	V16-2	09/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Depth (m)	1.80 - 1.80										
Sample Type	SOLID										
Date Sampled	02/02/2021 00:00:00										
Date Received	03/02/2021 05:00:00										
SDG	210203-41										
Original Sample	23656279										
Method Number	TM048										
Cust. Sample Ref.	V17-1	09/02/2021	James Richards	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Depth (m)	1.00 - 1.00										
Sample Type	SOLID										
Date Sampled	02/02/2021 00:00:00										
Date Received	03/02/2021 05:00:00										
SDG	210203-41										
Original Sample	23656355										
Method Number	TM048										
Cust. Sample Ref.	V18-1	09/02/2021	Marcin Magdziarek	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Depth (m)	0.50 - 0.50										
Sample Type	SOLID										
Date Sampled	02/02/2021 00:00:00										
Date Received	03/02/2021 05:00:00										
SDG	210203-41										
Original Sample	23656342										
Method Number	TM048										
Cust. Sample Ref.	V20-1	09/02/2021	James Richards	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Depth (m)	1.30 - 1.30										
Sample Type	SOLID										
Date Sampled	01/02/2021 00:00:00										
Date Received	03/02/2021 05:00:00										
SDG	210203-41										
Original Sample	23656330										
Method Number	TM048										

CERTIFICATE OF ANALYSIS

SDG:	210203-41	**Client Reference:**	P18-669	**Report Number:**	587186
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586571

Asbestos Quantification - Full

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

		Additional Asbestos Components	Analysts Comments	Asbestos Quantification - Gravimetric - %	Asbestos Quantification - PCOM	Asbestos Quantification - Total - %
Cust. Sample Ref.	P22-1	None (#)	-	<0.001 (#)	<0.001 (#)	<0.001 (#)
Depth (m)	0.60 - 0.60					
Sample Type	SOLID					
Date Sampled	01/02/2021 00:00:00					
Date Received	03/02/2021 05:00:00					
SDG	210203-41					
Original Sample	23656269					
Method Number	TM304					
Cust. Sample Ref.	T19-1	None (#)	N/A	0.0159 (#)	<0.001 (#)	0.0159 (#)
Depth (m)	0.30 - 0.30					
Sample Type	SOLID					
Date Sampled	01/02/2021 00:00:00					
Date Received	03/02/2021 05:00:00					
SDG	210203-41					
Original Sample	23656320					
Method Number	TM304					

Validated

CERTIFICATE OF ANALYSIS

SDG:	210203-41	**Client Reference:**	P18-669	**Report Number:**	587186
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586571

Notification of NDPs (No determination possible)

Date Received : 03/02/2021 08:04:33

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
23656279	V16-2	1.80 - 1.80	Total Organic Carbon	Sample unsuitable for analysis

CERTIFICATE OF ANALYSIS

SDG:	210203-41	**Client Reference:**	P18-669	**Report Number:**	587186
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586571

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM024	Method 4500A & B, AWWA/APHA, 20th Ed., 1999	Determination of Exchangeable Ammonium and Ammoniacal Nitrogen as N by titration on solids
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM132	In - house Method	ELTRA CS800 Operators Guide
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS
TM304	HSE Contract research Report no 83/1996	Asbestos Quantification in Soil: Fibres identified by morphology only
TM414	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	210203-41	**Client Reference:**	P18-669	**Report Number:**	587186
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	586571

Test Completion Dates

Lab Sample No(s)	23656269	23656315	23656320	23656304	23656309	23656299	23656291	23656275	23656279	23656284
Customer Sample Ref.	P22-1	P22-2	T19-1	V12-1	V12-2	V13-1	V14-1	V16-1	V16-2	V16-3
AGS Ref.										
Depth	0.60 - 0.60	1.30 - 1.30	0.30 - 0.30	1.00 - 1.00	1.60 - 1.60	1.00 - 1.00	0.30 - 0.30	1.00 - 1.00	1.80 - 1.80	2.20 - 2.20
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Ammonium Soil by Titration	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021
Asbestos ID in Solid Samples	09-Feb-2021		09-Feb-2021	09-Feb-2021			09-Feb-2021		09-Feb-2021	
Asbestos Quantification - Full	16-Feb-2021		17-Feb-2021							
Cyanide Comp/Free/Total/Thiocyanate	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	08-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021
EPH CWG GC (S)	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	08-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021
GRO by GC-FID (S)	11-Feb-2021	10-Feb-2021	10-Feb-2021	12-Feb-2021	10-Feb-2021	10-Feb-2021	11-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021
Metals in solid samples by OES	10-Feb-2021	10-Feb-2021	09-Feb-2021	10-Feb-2021	10-Feb-2021	09-Feb-2021	10-Feb-2021	10-Feb-2021	09-Feb-2021	09-Feb-2021
PAH by GCMS	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	08-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	11-Feb-2021	09-Feb-2021
pH	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	04-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021
Phenols by HPLC (S)	11-Feb-2021	11-Feb-2021	11-Feb-2021	12-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021
Sample description	06-Feb-2021	06-Feb-2021	06-Feb-2021	06-Feb-2021	03-Feb-2021	06-Feb-2021	06-Feb-2021	06-Feb-2021	06-Feb-2021	06-Feb-2021
Total Organic Carbon	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021		10-Feb-2021
TPH CWG GC (S)	11-Feb-2021	11-Feb-2021	11-Feb-2021	12-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021
VOC MS (S)	10-Feb-2021	10-Feb-2021	10-Feb-2021	09-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021

Lab Sample No(s)	23656355	23656342	23656346	23656336	23656330	23656325
Customer Sample Ref.	V17-1	V18-1	V18-2	V19-1	V20-1	V21-1
AGS Ref.						
Depth	1.00 - 1.00	0.50 - 0.50	1.50 - 1.50	0.50 - 0.50	1.30 - 1.30	0.50 - 0.50
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Ammonium Soil by Titration	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021
Asbestos ID in Solid Samples	09-Feb-2021	09-Feb-2021			09-Feb-2021	
Cyanide Comp/Free/Total/Thiocyanate	05-Feb-2021	09-Feb-2021	08-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021
EPH CWG GC (S)	08-Feb-2021	09-Feb-2021	08-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021
GRO by GC-FID (S)	10-Feb-2021	11-Feb-2021	11-Feb-2021	10-Feb-2021	10-Feb-2021	11-Feb-2021
Metals in solid samples by OES	09-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021	09-Feb-2021	09-Feb-2021
PAH by GCMS	08-Feb-2021	09-Feb-2021	08-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021
pH	05-Feb-2021	08-Feb-2021	04-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021
Phenols by HPLC (S)	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	12-Feb-2021
Sample description	04-Feb-2021	06-Feb-2021	03-Feb-2021	06-Feb-2021	06-Feb-2021	06-Feb-2021
Total Organic Carbon	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021
TPH CWG GC (S)	10-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021
VOC MS (S)	10-Feb-2021	10-Feb-2021	09-Feb-2021	09-Feb-2021	10-Feb-2021	10-Feb-2021

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as “mixed hydrocarbons”. Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528700
Fax: (01244) 528701
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

Rodgers Leask
Office 225
2430/2440
Aztec West
Almondsbury
Bristol
BS32 4QA

Attention: Elliot Thomas

CERTIFICATE OF ANALYSIS

Date of report Generation:	26 February 2021
Customer:	Rodgers Leask
Sample Delivery Group (SDG):	210204-77
Your Reference:	P18-669
Location:	Llanwern
Report No:	588534

This report has been revised and directly supersedes 587944 in its entirety.

We received 24 samples on Thursday February 04, 2021 and 24 of these samples were scheduled for analysis which was completed on Tuesday February 23, 2021. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:



Sonia McWhan
Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	210204-77	**Client Reference:**	P18-669	**Report Number:**	588534
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587944

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23666078	T8-1		0.50 - 0.50	03/02/2021
23666087	T9-1		0.50 - 0.50	03/02/2021
23666105	T9-2		1.50 - 1.50	03/02/2021
23666051	T10-1		0.30 - 0.30	03/02/2021
23666060	T10-2		1.00 - 1.00	03/02/2021
23666068	T10-3		2.90 - 2.90	03/02/2021
23666114	T13-1		0.40 - 0.40	03/02/2021
23666124	T13-2		1.10 - 1.10	03/02/2021
23666133	T14-1		0.30 - 0.30	03/02/2021
23666144	T14-2		1.40 - 1.40	03/02/2021
23666173	U10-1		1.00 - 1.00	02/02/2021
23666182	U10-2		1.50 - 1.50	02/02/2021
23666154	U11-1		1.00 - 1.00	02/02/2021
23666163	U11-2		1.40 - 1.40	02/02/2021
23666040	V6-1		0.80 - 0.80	03/02/2021
23666033	V7-1		1.00 - 1.00	03/02/2021
23666013	V8-1		0.50 - 0.50	02/02/2021
23666022	V8-2		2.00 - 2.00	02/02/2021
23666213	V9-1		0.90 - 0.90	02/02/2021
23666003	V9-2		1.50 - 1.50	02/02/2021
23666192	V10-1		0.30 - 0.30	02/02/2021
23666203	V10-2		1.50 - 1.50	02/02/2021
23665991	V11-1		0.50 - 0.50	02/02/2021
23666096	V11-2		1.60 - 1.60	02/02/2021

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG: 210204-77 **Client Reference:** P18-669 **Report Number:** 588534
Location: Llanwern **Order Number:** 108282 **Superseded Report:** 587944

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23666078		23666087		23666105		23666051		23666060		23666068		23666114		23666124		23666133	
Customer Sample Reference			T8-1		T9-1		T9-2		T10-1		T10-2		T10-3		T13-1		T13-2		T14-1	
AGS Reference																				
Depth (m)			0.50 - 0.50		0.50 - 0.50		1.50 - 1.50		0.30 - 0.30		1.00 - 1.00		2.90 - 2.90		0.40 - 0.40		1.10 - 1.10		0.30 - 0.30	
Container			250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Ammonium Soil by Titration	All	NDPs: 0 Tests: 24	X		X		X			X		X			X		X		X		X	
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 12			X				X					X			X				X	
Asbestos Quantification - Full	All	NDPs: 0 Tests: 1							X													
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 24	X		X		X			X		X			X		X		X		X	
EPH CWG GC (S)	All	NDPs: 0 Tests: 24	X		X		X			X		X			X		X		X		X	
GRO by GC-FID (S)	All	NDPs: 0 Tests: 24		X		X		X			X		X			X		X		X			
Metals in solid samples by OES	All	NDPs: 0 Tests: 24	X		X		X			X		X			X		X		X		X	
PAH by GCMS	All	NDPs: 0 Tests: 24	X		X		X			X		X			X		X		X		X	
pH	All	NDPs: 0 Tests: 24	X		X		X			X		X			X		X		X		X	
Phenols by HPLC (S)	All	NDPs: 0 Tests: 24	X		X		X			X		X			X		X		X		X	
Sample description	All	NDPs: 0 Tests: 17	X		X		X			X					X		X		X		X	
Total Organic Carbon	All	NDPs: 1 Tests: 23	X		X		X			X		X			N		X		X		X	
TPH CWG GC (S)	All	NDPs: 0 Tests: 24	X		X		X			X		X			X		X		X		X	
VOC MS (S)	All	NDPs: 0 Tests: 24		X		X		X			X		X			X		X		X			

23666013	V8-1		0.50 - 0.50	60g VOC (ALE215)	S						X								X
				250g Amber Jar (ALE210)	S	X			X	X		X	X	X	X	X	X	X	
				1kg TUB with Handle (ALE260)	S		X												
23666033	V7-1		1.00 - 1.00	60g VOC (ALE215)	S						X								X
				250g Amber Jar (ALE210)	S	X			X	X		X	X	X	X		X	X	
				1kg TUB with Handle (ALE260)	S		X												
23666040	V6-1		0.80 - 0.80	60g VOC (ALE215)	S						X								X
				250g Amber Jar (ALE210)	S	X			X	X		X	X	X	X		X	X	
23666163	U11-2		1.40 - 1.40	60g VOC (ALE215)	S						X								X
				250g Amber Jar (ALE210)	S	X			X	X		X	X	X	X		X	X	
23666154	U11-1		1.00 - 1.00	60g VOC (ALE215)	S						X								X
				250g Amber Jar (ALE210)	S	X			X	X		X	X	X	X	X	X	X	
				1kg TUB with Handle (ALE260)	S		X												
23666182	U10-2		1.50 - 1.50	60g VOC (ALE215)	S						X								X
				250g Amber Jar (ALE210)	S	X			X	X		X	X	X	X		X	X	
23666173	U10-1		1.00 - 1.00	60g VOC (ALE215)	S						X								X
				250g Amber Jar (ALE210)	S	X			X	X		X	X	X	X	X	X	X	
				1kg TUB with Handle (ALE260)	S		X												
23666144	T14-2		1.40 - 1.40	60g VOC (ALE215)	S						X								X
				250g Amber Jar (ALE210)	S	X			X	X		X	X	X	X	X	X	X	
23666133	T14-1		0.30 - 0.30	60g VOC (ALE215)	S						X								X

Validated

CERTIFICATE OF ANALYSIS

SDG:	210204-77	**Client Reference:**	P18-669	**Report Number:**	588534
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587944

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	Sample Type
			23666022	V8-2		2.00 - 2.00	250g Amber Jar (ALE210)	S
							60g VOC (ALE215)	S
			23666213	V9-1		0.90 - 0.90	1kg TUB with Handle (ALE260)	S
							250g Amber Jar (ALE210)	S
							60g VOC (ALE215)	S
			23666003	V9-2		1.50 - 1.50	250g Amber Jar (ALE210)	S
							60g VOC (ALE215)	S
			23666192	V10-1		0.30 - 0.30	1kg TUB with Handle (ALE260)	S
							250g Amber Jar (ALE210)	S
							60g VOC (ALE215)	S
			23666203	V10-2		1.50 - 1.50	250g Amber Jar (ALE210)	S
							60g VOC (ALE215)	S
			23665991	V11-1		0.50 - 0.50	1kg TUB with Handle (ALE260)	S
							250g Amber Jar (ALE210)	S
							60g VOC (ALE215)	S
			23666096	V11-2		1.60 - 1.60	250g Amber Jar (ALE210)	S
							60g VOC (ALE215)	S
Ammonium Soil by Titration	All	NDPs: 0 Tests: 24	X				X				X		X				X		X	
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 12			X				X						X					
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 24	X			X		X			X		X				X		X	
EPH CWG GC (S)	All	NDPs: 0 Tests: 24	X			X		X			X		X				X		X	
GRO by GC-FID (S)	All	NDPs: 0 Tests: 24		X			X		X			X		X				X		X
Metals in solid samples by OES	All	NDPs: 0 Tests: 24	X			X		X			X		X				X		X	
PAH by GCMS	All	NDPs: 0 Tests: 24	X			X		X			X		X				X		X	
pH	All	NDPs: 0 Tests: 24	X			X		X			X		X				X		X	
Phenols by HPLC (S)	All	NDPs: 0 Tests: 24	X			X		X			X		X				X		X	
Sample description	All	NDPs: 0 Tests: 17	X					X			X		X						X	
Total Organic Carbon	All	NDPs: 1 Tests: 23	X			X		X			X		X				X		X	
TPH CWG GC (S)	All	NDPs: 0 Tests: 24	X			X		X			X		X				X		X	
VOC MS (S)	All	NDPs: 0 Tests: 24		X			X		X			X		X				X		X

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
23666078	T8-1	0.50 - 0.50	Dark Brown	Sandy Loam	Stones	None
23666087	T9-1	0.50 - 0.50	Dark Brown	Sand	None	Stones
23666105	T9-2	1.50 - 1.50	Dark Brown	Sand	Stones	None
23666051	T10-1	0.30 - 0.30	Black	Sand	Stones	Vegetation
23666060	T10-2	1.00 - 1.00	Black	Sand	Stones	Vegetation
23666068	T10-3	2.90 - 2.90	Black	Silt Loam	Stones	None
23666114	T13-1	0.40 - 0.40	Black	Sand	None	Stones
23666124	T13-2	1.10 - 1.10	Dark Brown	Sandy Loam	Stones	N/A
23666133	T14-1	0.30 - 0.30	Grey	Sandy Loam	Stones	None
23666144	T14-2	1.40 - 1.40	Grey	Sand	Stones	None
23666173	U10-1	1.00 - 1.00	Dark Brown	Sandy Loam	Stones	Crushed Brick
23666182	U10-2	1.50 - 1.50	Dark Brown	Sand	Stones	Vegetation
23666154	U11-1	1.00 - 1.00	Dark Brown	Sand	Stones	Vegetation
23666163	U11-2	1.40 - 1.40	Dark Brown	Sand	Stones	None
23666040	V6-1	0.80 - 0.80	Black	Sand	Stones	None
23666033	V7-1	1.00 - 1.00	Black	Sand	Stones	Vegetation
23666013	V8-1	0.50 - 0.50	Black	Sand	Stones	Vegetation
23666022	V8-2	2.00 - 2.00	Dark Brown	Sand	Stones	Vegetation
23666213	V9-1	0.90 - 0.90	Dark Brown	Sand	Stones	Vegetation
23666003	V9-2	1.50 - 1.50	Dark Brown	Sand	Stones	Vegetation
23666192	V10-1	0.30 - 0.30	Dark Brown	Sandy Loam	Stones	None
23666203	V10-2	1.50 - 1.50	Dark Brown	Sand	Stones	Vegetation
23665991	V11-1	0.50 - 0.50	Dark Brown	Sand	Stones	Vegetation
23666096	V11-2	1.60 - 1.60	Dark Brown	Sand	Stones	None

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

CERTIFICATE OF ANALYSIS

SDG:	210204-77	**Client Reference:**	P18-669	**Report Number:**	588534
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587944

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	T8-1	T9-1	T9-2	T10-1	T10-2	T10-3
			Depth (m)	0.50 - 0.50	0.50 - 0.50	1.50 - 1.50	0.30 - 0.30	1.00 - 1.00	2.90 - 2.90
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021
			SDG Ref	210204-77	210204-77	210204-77	210204-77	210204-77	210204-77
			Lab Sample No.(s)	23666078	23666087	23666105	23666051	23666060	23666068
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		18	4.4	3.8	1.1	11	35
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M	<12 M	<12 M	<12 M	30.6 M
Phenol	<0.01 mg/kg	TM062 (S)		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Cresols	<0.01 mg/kg	TM062 (S)		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Xylenols	<0.015 mg/kg	TM062 (S)		<1.5 M	<1.5 M	<1.5 M	<1.5 M	<1.5 M	<1.5 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<3.5 M	<3.5 M	<3.5 M	<3.5 M	<3.5 M	<3.5 M
Soil Organic Matter (SOM)	<0.35 %	TM132		14.8 #	2.14 #	0.828 #	34.8 #	35 #	
pH	1 pH Units	TM133		11.8 M	12.7 M	12.7 M	10.9 M	11.8 M	11.7 M
Cyanide, Total	<1 mg/kg	TM153		1.32 M	<1 M	3.88 M	<1 M	<1 M	<1 M
Arsenic	<0.6 mg/kg	TM181		6.55 M	<6 M	<6 M	5.87 M	<6 M	<6 M
Cadmium	<0.02 mg/kg	TM181		0.204 M	1.09 M	<0.2 M	0.783 M	<0.2 M	0.315 M
Chromium	<0.9 mg/kg	TM181		617 M	841 M	1090 M	214 M	59.9 M	31.4 M
Copper	<1.4 mg/kg	TM181		19.7 M	18.4 M	19.6 M	15.4 M	<14 M	18.6 M
Iron	<1000 mg/kg	TM181		132000 #	134000 #	162000 #	59900 #	20900 #	17400 #
Lead	<0.7 mg/kg	TM181		40.8 M	34.3 M	<7 M	41.1 M	18.2 M	23.9 M
Manganese	<0.13 mg/kg	TM181		28100 M	49200 M	46300 M	13300 M	4060 M	2810 M
Mercury	<0.1 mg/kg	TM181		<1 M	<1 M	<1 M	<0.1 M	<1 M	<1 M
Nickel	<0.2 mg/kg	TM181		13.1 M	6.5 M	<2 M	10.5 M	5.86 M	6.74 M
Selenium	<1 mg/kg	TM181		14.7 #	25.2 #	24.4 #	4.5 #	<10 #	<10 #
Vanadium	<0.2 mg/kg	TM181		493 #	571 #	658 #	222 #	65.9 #	41.6 #
Zinc	<1.9 mg/kg	TM181		118 M	101 M	45.2 M	151 M	57.6 M	82.8 M
Asbestos Quantification - Gravimetric - %	<0.001 %	TM304					<0.001 #		
Asbestos Quantification - PCOM Evaluation - %	<0.001 %	TM304					<0.001 #		
Additional Asbestos Components (Using TM048)		TM304					None #		
Analysts Comments		TM304					0		
Asbestos Quantification - Total - %	<0.001 %	TM304					<0.001 #		

Validated

CERTIFICATE OF ANALYSIS

SDG: 210204-77 **Client Reference:** P18-669 **Report Number:** 588534
Location: Llanwern **Order Number:** 108282 **Superseded Report:** 587944

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	T13-1	T13-2	T14-1	T14-2	U10-1	U10-2
			Depth (m)	0.40 - 0.40	1.10 - 1.10	0.30 - 0.30	1.40 - 1.40	1.00 - 1.00	1.50 - 1.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	03/02/2021	03/02/2021	03/02/2021	03/02/2021	02/02/2021	02/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021
			SDG Ref	210204-77	210204-77	210204-77	210204-77	210204-77	210204-77
			Lab Sample No.(s)	23666114	23666124	23666133	23666144	23666173	23666182
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		9.7	14	12	32	10	14
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M	<12 M	<12 M	<12 M	<12 M
Phenol	<0.01 mg/kg	TM062 (S)		<1 M	<1 M	<1 M	<0.1 M	<1 M	<1 M
Cresols	<0.01 mg/kg	TM062 (S)		<1 M	<1 M	<1 M	<0.1 M	<1 M	<1 M
Xylenols	<0.015 mg/kg	TM062 (S)		<1.5 M	<1.5 M	<1.5 M	<0.15 M	<1.5 M	<1.5 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<3.5 M	<3.5 M	<3.5 M	<0.35 M	<3.5 M	<3.5 M
Soil Organic Matter (SOM)	<0.35 %	TM132		24.3 #	7.57 #	36.5 #	84 #	13.1 #	28.1 #
pH	1 pH Units	TM133		10 M	8.67 M	9.03 M	9.22 M	9.58 M	10.2 M
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Arsenic	<0.6 mg/kg	TM181		2.47 M	6.48 M	<6 M	6.93 M	6.33 M	7.37 M
Cadmium	<0.02 mg/kg	TM181		0.0984 M	<0.2 M	0.328 M	<0.2 M	0.317 M	<0.2 M
Chromium	<0.9 mg/kg	TM181		20 M	42.9 M	10.3 M	12.4 M	42.9 M	95.3 M
Copper	<1.4 mg/kg	TM181		5.72 M	<14 M	<14 M	29 M	19.7 M	15.6 M
Iron	<1000 mg/kg	TM181		12400 #	19600 #	14700 #	14800 #	60300 #	47000 #
Lead	<0.7 mg/kg	TM181		14.4 M	27.3 M	30.2 M	27.8 M	41.3 M	47 M
Manganese	<0.13 mg/kg	TM181		4480 M	3430 M	2760 M	5500 M	5150 M	5410 M
Mercury	<0.1 mg/kg	TM181		<0.1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Nickel	<0.2 mg/kg	TM181		3.76 M	15.3 M	6.21 M	30 M	14.2 M	12.6 M
Selenium	<1 mg/kg	TM181		3.55 #	<10 #	<10 #	<10 #	<10 #	<10 #
Vanadium	<0.2 mg/kg	TM181		39.9 #	98.2 #	25.3 #	28.3 #	90.2 #	138 #
Zinc	<1.9 mg/kg	TM181		61.5 M	60.5 M	74.2 M	61.6 M	117 M	161 M

Validated

CERTIFICATE OF ANALYSIS

SDG:	210204-77	**Client Reference:**	P18-669	**Report Number:**	588534
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587944

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	U11-1	U11-2	V6-1	V7-1	V8-1	V8-2
			Depth (m)	1.00 - 1.00	1.40 - 1.40	0.80 - 0.80	1.00 - 1.00	0.50 - 0.50	2.00 - 2.00
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	02/02/2021	02/02/2021	03/02/2021	03/02/2021	02/02/2021	02/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021
			SDG Ref	210204-77	210204-77	210204-77	210204-77	210204-77	210204-77
			Lab Sample No.(s)	23666154	23666163	23666040	23666033	23666013	23666022
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		1.6	4.4	11	1.6	4	6.8
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M	<12 M	<12 M	<12 M	<12 M
Phenol	<0.01 mg/kg	TM062 (S)		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Cresols	<0.01 mg/kg	TM062 (S)		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Xylenols	<0.015 mg/kg	TM062 (S)		<1.5 M	<1.5 M	<1.5 M	<1.5 M	<1.5 M	<1.5 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<3.5 M	<3.5 M	<3.5 M	<3.5 M	<3.5 M	<3.5 M
Soil Organic Matter (SOM)	<0.35 %	TM132		6.24 #	1.64 #	24 #	15.7 #	20.2 #	6.22 #
pH	1 pH Units	TM133		10.5 M	10.9 M	11.7 M	9.55 M	11.5 M	11.5 M
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	3.85 M	5.16 M	4.16 M	1.67 M
Arsenic	<0.6 mg/kg	TM181		3.37 M	<6 M	<6 M	8.22 M	7.15 M	<6 M
Cadmium	<0.02 mg/kg	TM181		0.385 M	<0.2 M	<0.2 M	0.473 M	0.663 M	<0.2 M
Chromium	<0.9 mg/kg	TM181		144 M	302 M	342 M	69.4 M	319 M	390 M
Copper	<1.4 mg/kg	TM181		14.8 M	<14 M	23.8 M	14.6 M	19.2 M	20 M
Iron	<1000 mg/kg	TM181		85900 #	76300 #	92100 #	16200 #	79900 #	143000 #
Lead	<0.7 mg/kg	TM181		1.08 M	<7 M	<7 M	34.6 M	59.4 M	25.6 M
Manganese	<0.13 mg/kg	TM181		13300 M	11300 M	19500 M	4490 M	19600 M	30600 M
Mercury	<0.1 mg/kg	TM181		<0.1 M	<1 M	<1 M	<0.1 M	<1 M	<1 M
Nickel	<0.2 mg/kg	TM181		8.82 M	9.85 M	10.9 M	14.6 M	13 M	9.7 M
Selenium	<1 mg/kg	TM181		4.9 #	10.1 #	11.6 #	2.01 #	11.2 #	16.8 #
Vanadium	<0.2 mg/kg	TM181		277 #	265 #	1030 #	181 #	549 #	1190 #
Zinc	<1.9 mg/kg	TM181		30.8 M	40 M	46.4 M	65.6 M	57.1 M	67.2 M

Validated

CERTIFICATE OF ANALYSIS

SDG: 210204-77 **Client Reference:** P18-669 **Report Number:** 588534
Location: Llanwern **Order Number:** 108282 **Superseded Report:** 587944

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	V9-1	V9-2	V10-1	V10-2	V11-1	V11-2
			Depth (m)	0.90 - 0.90	1.50 - 1.50	0.30 - 0.30	1.50 - 1.50	0.50 - 0.50	1.60 - 1.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	02/02/2021	02/02/2021	02/02/2021	02/02/2021	02/02/2021	02/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021
			SDG Ref	210204-77	210204-77	210204-77	210204-77	210204-77	210204-77
			Lab Sample No.(s)	23666213	23666003	23666192	23666203	23665991	23666096
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		9.7	5.3	12	13	0.38	14
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M	<12 M	<12 M	<12 M	<12 M
Phenol	<0.01 mg/kg	TM062 (S)		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Cresols	<0.01 mg/kg	TM062 (S)		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Xylenols	<0.015 mg/kg	TM062 (S)		<1.5 M	<1.5 M	<1.5 M	<1.5 M	<1.5 M	<1.5 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<3.5 M	<3.5 M	<3.5 M	<3.5 M	<3.5 M	<3.5 M
Soil Organic Matter (SOM)	<0.35 %	TM132		2.45 #	12.5 #	22.9 #	9.09 #	9.67 #	42.8 #
pH	1 pH Units	TM133		10 M	10.9 M	10.7 M	11.6 M	11 M	11.1 M
Cyanide, Total	<1 mg/kg	TM153		1.57 M	<1 M	1.7 M	2.67 M	<1 M	1.18 M
Arsenic	<0.6 mg/kg	TM181		<6 M	<6 M	8.2 M	<6 M	4.94 M	<6 M
Cadmium	<0.02 mg/kg	TM181		<0.2 M	<0.2 M	0.538 M	0.201 M	0.812 M	<0.2 M
Chromium	<0.9 mg/kg	TM181		70.9 M	146 M	94.3 M	82.7 M	127 M	56.5 M
Copper	<1.4 mg/kg	TM181		<14 M	18.2 M	25.1 M	<14 M	13.1 M	<14 M
Iron	<1000 mg/kg	TM181		29400 #	79000 #	74200 #	38300 #	68300 #	44800 #
Lead	<0.7 mg/kg	TM181		9.93 M	7.22 M	92.3 M	26.5 M	35.3 M	19.4 M
Manganese	<0.13 mg/kg	TM181		5240 M	10300 M	8280 M	5260 M	16600 M	5360 M
Mercury	<0.1 mg/kg	TM181		<1 M	<1 M	<1 M	<1 M	<0.1 M	<1 M
Nickel	<0.2 mg/kg	TM181		20.2 M	17.4 M	17.5 M	8.48 M	8.72 M	8.36 M
Selenium	<1 mg/kg	TM181		<10 #	<10 #	<10 #	<10 #	4.4 #	<10 #
Vanadium	<0.2 mg/kg	TM181		101 #	352 #	234 #	184 #	443 #	128 #
Zinc	<1.9 mg/kg	TM181		73.1 M	46.7 M	288 M	207 M	177 M	83.6 M

Validated

CERTIFICATE OF ANALYSIS

SDG: 210204-77 **Client Reference:** P18-669 **Report Number:** 588534
Location: Llanwern **Order Number:** 108282 **Superseded Report:** 587944

PAH by GCMS

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	T8-1	T9-1	T9-2	T10-1	T10-2	T10-3
			Depth (m)	0.50 - 0.50	0.50 - 0.50	1.50 - 1.50	0.30 - 0.30	1.00 - 1.00	2.90 - 2.90
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021
			SDG Ref	210204-77	210204-77	210204-77	210204-77	210204-77	210204-77
			Lab Sample No.(s)	23666078	23666087	23666105	23666051	23666060	23666068
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		85.4	96.9	96.7	83.2	95.7	89.5
Acenaphthene-d10 % recovery**	%	TM218		86	94.9	101	87.7	101	97.6
Phenanthrene-d10 % recovery**	%	TM218		87.2	96.6	101	84.8	104	85.8
Chrysene-d12 % recovery**	%	TM218		97.7	101	104	76.6	90.9	53.6
Perylene-d12 % recovery**	%	TM218		93.2	110	99.3	71.3	77.5	29.7
Naphthalene	<9 µg/kg	TM218		1500 M	780 M	1090 M	6900 M	2900 M	12300 M
Acenaphthylene	<12 µg/kg	TM218		1040 M	357 M	626 M	7740 M	675 M	1710 M
Acenaphthene	<8 µg/kg	TM218		144 M	79.8 M	57.3 M	834 M	195 M	754 M
Fluorene	<10 µg/kg	TM218		665 M	109 M	167 M	8800 M	852 M	3550 M
Phenanthrene	<15 µg/kg	TM218		4660 M	1030 M	1120 M	44400 M	4890 M	11900 M
Anthracene	<16 µg/kg	TM218		1720 M	320 M	348 M	14200 M	1220 M	2100 M
Fluoranthene	<17 µg/kg	TM218		10500 M	3330 M	4080 M	47300 M	6420 M	8250 M
Pyrene	<15 µg/kg	TM218		7920 M	3110 M	3420 M	32800 M	4810 M	5860 M
Benz(a)anthracene	<14 µg/kg	TM218		4830 M	2380 M	2040 M	15500 M	2680 M	2120 M
Chrysene	<10 µg/kg	TM218		4400 M	2340 M	1510 M	11800 M	2630 M	2230 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		7440 M	4190 M	3840 M	17200 M	4010 M	1960 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		2220 M	1400 M	1170 M	5660 M	1360 M	566 M
Benzo(a)pyrene	<15 µg/kg	TM218		4620 M	3410 M	2560 M	11400 M	2280 M	900 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		3780 M	2780 M	2110 M	8560 M	1620 M	376 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		737 M	490 M	411 M	1840 M	449 M	168 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		3430 M	2550 M	1880 M	7180 M	1650 M	412 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		59600	28700	26400	242000	38600	55200

Validated

CERTIFICATE OF ANALYSIS

SDG: 210204-77 **Client Reference:** P18-669 **Report Number:** 588534
Location: Llanwern **Order Number:** 108282 **Superseded Report:** 587944

PAH by GCMS

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	T13-1	T13-2	T14-1	T14-2	U10-1	U10-2
			Depth (m)	0.40 - 0.40	1.10 - 1.10	0.30 - 0.30	1.40 - 1.40	1.00 - 1.00	1.50 - 1.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	03/02/2021	03/02/2021	03/02/2021	03/02/2021	02/02/2021	02/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021
			SDG Ref	210204-77	210204-77	210204-77	210204-77	210204-77	210204-77
			Lab Sample No.(s)	23666114	23666124	23666133	23666144	23666173	23666182
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		93.9	88.1	85.2	75.6	96.2	82.1
Acenaphthene-d10 % recovery**	%	TM218		89.1	86.7	83.9	71.7	93.6	85.3
Phenanthrene-d10 % recovery**	%	TM218		85.9	90.2	84.1	52.4	96.9	85.1
Chrysene-d12 % recovery**	%	TM218		78.3	116	79.4	38.7	96.2	77.9
Perylene-d12 % recovery**	%	TM218		78.3	111	70.8	38	98.1	71.1
Naphthalene	<9 µg/kg	TM218		313 M	71.1 M	359 M	115 M	676 M	606 M
Acenaphthylene	<12 µg/kg	TM218		79.2 M	26.5 M	94.1 M	29.5 M	391 M	400 M
Acenaphthene	<8 µg/kg	TM218		<40 M	<8 M	13.8 M	<8 M	58.4 M	53.1 M
Fluorene	<10 µg/kg	TM218		66.7 M	27.2 M	66.2 M	35.2 M	280 M	320 M
Phenanthrene	<15 µg/kg	TM218		566 M	185 M	623 M	230 M	2460 M	2630 M
Anthracene	<16 µg/kg	TM218		124 M	43.8 M	104 M	<16 M	739 M	637 M
Fluoranthene	<17 µg/kg	TM218		678 M	259 M	689 M	234 M	5050 M	4150 M
Pyrene	<15 µg/kg	TM218		511 M	202 M	490 M	165 M	3340 M	2740 M
Benz(a)anthracene	<14 µg/kg	TM218		299 M	135 M	350 M	107 M	2440 M	1640 M
Chrysene	<10 µg/kg	TM218		378 M	151 M	394 M	104 M	2320 M	1580 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		447 M	218 M	592 M	109 M	3140 M	2090 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		147 M	66.4 M	174 M	<14 M	1060 M	652 M
Benzo(a)pyrene	<15 µg/kg	TM218		273 M	112 M	259 M	94.4 M	1930 M	1210 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		255 M	92.5 M	250 M	93.5 M	1570 M	1050 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		<115 M	<23 M	63.3 M	<23 M	356 M	234 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		251 M	94 M	231 M	82.7 M	1270 M	892 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		4390	1680	4750	1400	27100	20900

Validated

CERTIFICATE OF ANALYSIS

SDG: 210204-77 **Client Reference:** P18-669 **Report Number:** 588534
Location: Llanwern **Order Number:** 108282 **Superseded Report:** 587944

PAH by GCMS

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	U11-1	U11-2	V6-1	V7-1	V8-1	V8-2
			Depth (m)	1.00 - 1.00	1.40 - 1.40	0.80 - 0.80	1.00 - 1.00	0.50 - 0.50	2.00 - 2.00
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	02/02/2021	02/02/2021	03/02/2021	03/02/2021	02/02/2021	02/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021
			SDG Ref	210204-77	210204-77	210204-77	210204-77	210204-77	210204-77
			Lab Sample No.(s)	23666154	23666163	23666040	23666033	23666013	23666022
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		95.9	79.9	79.8	80.4	84.8	97.5
Acenaphthene-d10 % recovery**	%	TM218		93.3	80.1	80.8	83.4	86.7	94.9
Phenanthrene-d10 % recovery**	%	TM218		94.7	80.6	86.2	90.9	88.8	94.3
Chrysene-d12 % recovery**	%	TM218		95.8	79.3	77	75.5	79.3	97
Perylene-d12 % recovery**	%	TM218		101	77.8	73.8	70.6	74.2	104
Naphthalene	<9 µg/kg	TM218		36.1 M	24.4 M	270 M	5880 M	431 M	52.1 M
Acenaphthylene	<12 µg/kg	TM218		15.3 M	<12 M	80.4 M	1270 M	179 M	<12 M
Acenaphthene	<8 µg/kg	TM218		28.5 M	81.4 M	23.8 M	1940 M	33.4 M	17.8 M
Fluorene	<10 µg/kg	TM218		24.2 M	64.1 M	70 M	1800 M	91.5 M	<10 M
Phenanthrene	<15 µg/kg	TM218		515 M	1270 M	547 M	5090 M	1400 M	174 M
Anthracene	<16 µg/kg	TM218		82.3 M	206 M	145 M	848 M	422 M	36 M
Fluoranthene	<17 µg/kg	TM218		1680 M	2010 M	968 M	2090 M	2460 M	396 M
Pyrene	<15 µg/kg	TM218		1480 M	1660 M	862 M	1720 M	1820 M	412 M
Benz(a)anthracene	<14 µg/kg	TM218		1120 M	882 M	607 M	614 M	1200 M	273 M
Chrysene	<10 µg/kg	TM218		1220 M	841 M	655 M	610 M	1070 M	292 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		1410 M	1160 M	991 M	747 M	1510 M	448 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		701 M	444 M	310 M	274 M	515 M	142 M
Benzo(a)pyrene	<15 µg/kg	TM218		1230 M	799 M	681 M	519 M	912 M	330 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		1170 M	727 M	579 M	437 M	756 M	276 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		214 M	133 M	125 M	113 M	183 M	44.4 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		1000 M	591 M	524 M	374 M	663 M	277 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		11900	10900	7440	24300	13600	3170

Validated

CERTIFICATE OF ANALYSIS

SDG: 210204-77 **Client Reference:** P18-669 **Report Number:** 588534
Location: Llanwern **Order Number:** 108282 **Superseded Report:** 587944

PAH by GCMS

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	V9-1	V9-2	V10-1	V10-2	V11-1	V11-2
			Depth (m)	0.90 - 0.90	1.50 - 1.50	0.30 - 0.30	1.50 - 1.50	0.50 - 0.50	1.60 - 1.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	02/02/2021	02/02/2021	02/02/2021	02/02/2021	02/02/2021	02/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021
			SDG Ref	210204-77	210204-77	210204-77	210204-77	210204-77	210204-77
			Lab Sample No.(s)	23666213	23666003	23666192	23666203	23665991	23666096
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		78.3	96.8	86.4	79	93.1	96.8
Acenaphthene-d10 % recovery**	%	TM218		80.7	91.7	84	83.4	92.8	95.7
Phenanthrene-d10 % recovery**	%	TM218		77.1	90.3	86.5	87.2	97.7	98.2
Chrysene-d12 % recovery**	%	TM218		70.8	92.9	99.4	82.5	99.9	97.2
Perylene-d12 % recovery**	%	TM218		70.1	98.5	95.7	77.4	101	97.2
Naphthalene	<9 µg/kg	TM218		248 M	242 M	944 M	321 M	724 M	322 M
Acenaphthylene	<12 µg/kg	TM218		112 M	475 M	904 M	209 M	314 M	178 M
Acenaphthene	<8 µg/kg	TM218		59.6 M	64.3 M	86.4 M	64.1 M	58.6 M	38.3 M
Fluorene	<10 µg/kg	TM218		91.6 M	302 M	486 M	153 M	267 M	132 M
Phenanthrene	<15 µg/kg	TM218		972 M	8520 M	3550 M	1340 M	2260 M	1220 M
Anthracene	<16 µg/kg	TM218		277 M	1410 M	1610 M	417 M	576 M	322 M
Fluoranthene	<17 µg/kg	TM218		1950 M	13100 M	7750 M	2550 M	3590 M	2690 M
Pyrene	<15 µg/kg	TM218		1590 M	8470 M	5700 M	2240 M	2600 M	2100 M
Benz(a)anthracene	<14 µg/kg	TM218		1060 M	5040 M	5950 M	1660 M	1680 M	1880 M
Chrysene	<10 µg/kg	TM218		860 M	4960 M	5360 M	1450 M	1580 M	1750 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		1440 M	5490 M	8620 M	2220 M	2240 M	1960 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		520 M	1930 M	2820 M	791 M	714 M	741 M
Benzo(a)pyrene	<15 µg/kg	TM218		933 M	4280 M	4850 M	1510 M	1430 M	1710 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		822 M	3530 M	4020 M	1270 M	1130 M	1360 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		176 M	717 M	972 M	303 M	247 M	295 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		737 M	2920 M	3390 M	1110 M	1010 M	1150 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		11800	61500	57000	17600	20400	17800

CERTIFICATE OF ANALYSIS

SDG: 210204-77 **Client Reference:** P18-669 **Report Number:** 588534
Location: Llanwern **Order Number:** 108282 **Superseded Report:** 587944

TPH CWG (S)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	T8-1	T9-1	T9-2	T10-1	T10-2	T10-3
			Depth (m)	0.50 - 0.50	0.50 - 0.50	1.50 - 1.50	0.30 - 0.30	1.00 - 1.00	2.90 - 2.90
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021
			SDG Ref	210204-77	210204-77	210204-77	210204-77	210204-77	210204-77
			Lab Sample No.(s)	23666078	23666087	23666105	23666051	23666060	23666068
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		113	87	73	16.8 4	13.6 4	0.7 4
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	<10	<10	17.2 4	22.6 4	10.8 4
Aliphatics >C6-C8	<10 µg/kg	TM089		64.1	<10	22.9	95 4	134 4	58.5 4
Aliphatics >C8-C10	<10 µg/kg	TM089		49.6	<10	17.7	105 4	154 4	27.7 4
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	<1000	4740	5800	52300
Aliphatics >C12-C16	<1000 µg/kg	TM414		<1000	<1000	<1000	17500	20600	186000
Aliphatics >C16-C21	<1000 µg/kg	TM414		7120	5700	7190	26900	42200	811000
Aliphatics >C21-C35	<1000 µg/kg	TM414		17400	59900	67800	35500	78600	778000
Aliphatics >C35-C44	<1000 µg/kg	TM414		5950	13500	16400	21700	38500	188000
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		31300	79700	92100	106000	186000	2020000
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		189000	130000	162000	302000	323000	2690000
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	<10	<10 4	19.2 4	<10 4
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10	<10	13.1 4	26 4	<10 4
Aromatics >EC8-EC10	<10 µg/kg	TM089		32.7	<10	11.4	69.8 4	103 4	18.5 4
Aromatics > EC10-EC12	<1000 µg/kg	TM414		2620	<1000	<1000	4490	3420	26800
Aromatics > EC12-EC16	<1000 µg/kg	TM414		5440	<1000	<1000	13800	14900	151000
Aromatics > EC16-EC21	<1000 µg/kg	TM414		39500	5700	9970	58100	37200	265000
Aromatics > EC21-EC35	<1000 µg/kg	TM414		97500	37600	49900	111000	78200	224000
Aromatics >EC35-EC44	<1000 µg/kg	TM414		13000	6120	8430	8350	4070	9970
Aromatics > EC40-EC44	<1000 µg/kg	TM414		2630	1120	1450	<1000	<1000	1250
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		158000	50300	70000	196000	138000	677000
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		190000	130000	162000	303000	324000	2690000
Total Aliphatics >C5-C10	<50 µg/kg	TM089		114	<50	<50	217 4	311 4	97 4
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50	<50	<50	82.9 4	148 4	<50 4
GRO >C5-C10	<20 µg/kg	TM089		114	<20	<20	300 4	459 4	97 4

Validated

CERTIFICATE OF ANALYSIS

SDG: 210204-77 **Client Reference:** P18-669 **Report Number:** 588534
Location: Llanwern **Order Number:** 108282 **Superseded Report:** 587944

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	T13-1	T13-2	T14-1	T14-2	U10-1	U10-2
			Depth (m)	0.40 - 0.40	1.10 - 1.10	0.30 - 0.30	1.40 - 1.40	1.00 - 1.00	1.50 - 1.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	03/02/2021	03/02/2021	03/02/2021	03/02/2021	02/02/2021	02/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021
			SDG Ref	210204-77	210204-77	210204-77	210204-77	210204-77	210204-77
			Lab Sample No.(s)	23666114	23666124	23666133	23666144	23666173	23666182
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		58 4	65 4	23.2 4	26 4	55 4	53 4
Aliphatics >C5-C6	<10 µg/kg	TM089		<10 4	<10 4	<10 4	<10 4	<10 4	<10 4
Aliphatics >C6-C8	<10 µg/kg	TM089		28.9 4	<10 4	<10 4	<10 4	<10 4	19.7 4
Aliphatics >C8-C10	<10 µg/kg	TM089		20 4	<10 4	<10 4	<10 4	<10 4	33.6 4
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Aliphatics >C12-C16	<1000 µg/kg	TM414		4360	<1000	5130	<1000	1440	1780
Aliphatics >C16-C21	<1000 µg/kg	TM414		7640	<1000	13100	1360	6320	7410
Aliphatics >C21-C35	<1000 µg/kg	TM414		19800	<1000	19600	10600	14800	17300
Aliphatics >C35-C44	<1000 µg/kg	TM414		3740	<1000	<1000	<1000	2230	2690
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		36400	<5000	39200	12400	24900	29200
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		66200	<10000	91400	23200	249000	101000
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10 4	<10 4	<10 4	<10 4	<10 4	<10 4
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10 4	<10 4	<10 4	<10 4	<10 4	<10 4
Aromatics >EC8-EC10	<10 µg/kg	TM089		13.3 4	<10 4	<10 4	<10 4	<10 4	22 4
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	<1000	1010	<1000	1140	<1000
Aromatics > EC12-EC16	<1000 µg/kg	TM414		3470	<1000	5070	<1000	9130	3360
Aromatics > EC16-EC21	<1000 µg/kg	TM414		5080	<1000	7270	1300	68800	16800
Aromatics > EC21-EC35	<1000 µg/kg	TM414		19000	1510	33300	8190	133000	47100
Aromatics >EC35-EC44	<1000 µg/kg	TM414		1860	<1000	5570	<1000	11800	3760
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	1810	<1000
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		29800	<5000	52200	10800	224000	71900
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		66300	<10000	91400	23200	249000	101000
Total Aliphatics >C5-C10	<50 µg/kg	TM089		<50 4	<50 4	<50 4	<50 4	<50 4	53.4 4
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50 4	<50 4	<50 4	<50 4	<50 4	<50 4
GRO >C5-C10	<20 µg/kg	TM089		<20 4	<20 4	<20 4	<20 4	<20 4	53.4 4

Validated

CERTIFICATE OF ANALYSIS

SDG: 210204-77 **Client Reference:** P18-669 **Report Number:** 588534
Location: Llanwern **Order Number:** 108282 **Superseded Report:** 587944

TPH CWG (S)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	U11-1	U11-2	V6-1	V7-1	V8-1	V8-2
			Depth (m)	1.00 - 1.00	1.40 - 1.40	0.80 - 0.80	1.00 - 1.00	0.50 - 0.50	2.00 - 2.00
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	02/02/2021	02/02/2021	03/02/2021	03/02/2021	02/02/2021	02/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021
			SDG Ref	210204-77	210204-77	210204-77	210204-77	210204-77	210204-77
			Lab Sample No.(s)	23666154	23666163	23666040	23666033	23666013	23666022
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		89	103	18.1 4	65.4 4	71	92
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	<10	57.1 4	12.2 4	<10	<10
Aliphatics >C6-C8	<10 µg/kg	TM089		42.7	15.7	165 4	48.8 4	19.8	<10
Aliphatics >C8-C10	<10 µg/kg	TM089		85.3	16.7	61.6 4	194 4	17.7	<10
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	<1000	<5000	<1000	<1000
Aliphatics >C12-C16	<1000 µg/kg	TM414		1280	<1000	5130	105000	2120	<1000
Aliphatics >C16-C21	<1000 µg/kg	TM414		4200	<1000	16300	1730000	21900	8200
Aliphatics >C21-C35	<1000 µg/kg	TM414		7580	1670	49900	545000	26800	18000
Aliphatics >C35-C44	<1000 µg/kg	TM414		1120	<1000	16400	7810	7000	5240
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		14200	<5000	88000	2390000	58000	31600
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		41700	29700	148000	2770000	89900	66700
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	19 4	102 4	<10	<10
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10	31.4 4	13.2 4	<10	<10
Aromatics >EC8-EC10	<10 µg/kg	TM089		56.9	11.5	41.4 4	129 4	11.5	<10
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	<1000	<1000	10200	<1000	<1000
Aromatics > EC12-EC16	<1000 µg/kg	TM414		<1000	<1000	2680	40300	1790	<1000
Aromatics > EC16-EC21	<1000 µg/kg	TM414		3790	6660	5760	247000	7590	4080
Aromatics > EC21-EC35	<1000 µg/kg	TM414		21200	18600	49300	73200	20600	29700
Aromatics >EC35-EC44	<1000 µg/kg	TM414		2230	1840	2310	<5000	1440	<1000
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	<1000	<1000	<5000	<1000	<1000
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		27600	27300	60300	376000	31900	35100
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		41900	27300	149000	2770000	89900	66700
Total Aliphatics >C5-C10	<50 µg/kg	TM089		128	<50	283 4	255 4	<50	<50
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		56.9	<50	91.8 4	244 4	<50	<50
GRO >C5-C10	<20 µg/kg	TM089		185	<20	375 4	499 4	<20	<20

CERTIFICATE OF ANALYSIS

SDG: 210204-77 **Client Reference:** P18-669 **Report Number:** 588534
Location: Llanwern **Order Number:** 108282 **Superseded Report:** 587944

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	V9-1	V9-2	V10-1	V10-2	V11-1	V11-2
			Depth (m)	0.90 - 0.90	1.50 - 1.50	0.30 - 0.30	1.50 - 1.50	0.50 - 0.50	1.60 - 1.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	02/02/2021	02/02/2021	02/02/2021	02/02/2021	02/02/2021	02/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021
			SDG Ref	210204-77	210204-77	210204-77	210204-77	210204-77	210204-77
			Lab Sample No.(s)	23666213	23666003	23666192	23666203	23665991	23666096
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		99	109	55 4	77	59 4	87
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	<10	<10 4	<10	<10 4	15.1
Aliphatics >C6-C8	<10 µg/kg	TM089		40	18	<10 4	31.1	30.1 4	67.3
Aliphatics >C8-C10	<10 µg/kg	TM089		34.4	18	<10 4	19.6	25.1 4	87
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Aliphatics >C12-C16	<1000 µg/kg	TM414		<1000	<1000	3130	1230	<1000	2080
Aliphatics >C16-C21	<1000 µg/kg	TM414		2640	4040	33800	16000	2440	10200
Aliphatics >C21-C35	<1000 µg/kg	TM414		8010	6070	30500	53600	14900	42800
Aliphatics >C35-C44	<1000 µg/kg	TM414		1600	1370	7460	13400	4930	13600
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		12800	12000	75000	84400	22800	68700
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		34200	46200	581000	146000	49000	98500
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	<10 4	<10	<10 4	<10
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10	<10 4	<10	11 4	15.1
Aromatics >EC8-EC10	<10 µg/kg	TM089		23.3	12.7	<10 4	12.7	17.1 4	58
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	<1000	1600	<1000	<1000	<1000
Aromatics > EC12-EC16	<1000 µg/kg	TM414		<1000	<1000	13900	1970	<1000	1490
Aromatics > EC16-EC21	<1000 µg/kg	TM414		3970	8000	134000	7020	6060	4560
Aromatics > EC21-EC35	<1000 µg/kg	TM414		15600	23200	317000	47900	17800	22500
Aromatics >EC35-EC44	<1000 µg/kg	TM414		1300	2600	40000	4350	<1000	<1000
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	<1000	6880	<1000	<1000	<1000
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		21500	34200	506000	61600	26200	29800
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		34300	46200	581000	146000	49100	98800
Total Aliphatics >C5-C10	<50 µg/kg	TM089		74.4	<50	<50 4	50.6	55.2 4	169
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50	<50	<50 4	<50	<50 4	73.1
GRO >C5-C10	<20 µg/kg	TM089		74.4	<20	<20 4	50.6	55.2 4	242

CERTIFICATE OF ANALYSIS

SDG: 210204-77 **Client Reference:** P18-669 **Report Number:** 588534
Location: Llanwern **Order Number:** 108282 **Superseded Report:** 587944

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	T8-1	T9-1	T9-2	T10-1	T10-2	T10-3
			Depth (m)	0.50 - 0.50	0.50 - 0.50	1.50 - 1.50	0.30 - 0.30	1.00 - 1.00	2.90 - 2.90
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021	03/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021
			SDG Ref	210204-77	210204-77	210204-77	210204-77	210204-77	210204-77
			Lab Sample No.(s)	23666078	23666087	23666105	23666051	23666060	23666068
			AGS Reference						
Dibromofluoromethane**	%	TM116		104	99.5	88.9	111	103	95.3 4
Toluene-d8**	%	TM116		97.1	98	96.4	94.1	92.1	78 4
4-Bromofluorobenzene**	%	TM116		86.6	93.3	87.1	74.4	70.6	52.9 4
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<2000 4 M
Benzene	<9 µg/kg	TM116		<180 M	<180 M	<180 M	<180 M	<180 M	<1800 4 M
Toluene	<7 µg/kg	TM116		<140 M	<140 M	<140 M	<140 M	<140 M	2410 4 M
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<80 M	<80 M	<80 M	<800 4 M
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #	<200 #	<200 #	<2000 4 #
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<2000 4 M
Naphthalene	<13 µg/kg	TM116		<260 M	<260 M	1710 M	937 M	4400 M	<2600 4 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4	<0.4	<0.4	<4 4
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800	<800	<800	<8000 4

CERTIFICATE OF ANALYSIS

SDG: 210204-77 **Client Reference:** P18-669 **Report Number:** 588534
Location: Llanwern **Order Number:** 108282 **Superseded Report:** 587944

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	T13-1	T13-2	T14-1	T14-2	U10-1	U10-2
			Depth (m)	0.40 - 0.40	1.10 - 1.10	0.30 - 0.30	1.40 - 1.40	1.00 - 1.00	1.50 - 1.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	03/02/2021	03/02/2021	03/02/2021	03/02/2021	02/02/2021	02/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021
			SDG Ref	210204-77	210204-77	210204-77	210204-77	210204-77	210204-77
			Lab Sample No.(s)	23666114	23666124	23666133	23666144	23666173	23666182
			AGS Reference						
Dibromofluoromethane**	%	TM116		96.1	106	107	107	104	124
Toluene-d8**	%	TM116		91.9	97.6	94.9	94.6	96.9	101
4-Bromofluorobenzene**	%	TM116		72.7	87.1	71.2	70.8	86.1	92.5
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Benzene	<9 µg/kg	TM116		<180 M	<180 M	<180 M	<180 M	<180 M	<180 M
Toluene	<7 µg/kg	TM116		<140 M	<140 M	<140 M	<140 M	<140 M	<140 M
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<80 M	<80 M	<80 M	<80 M
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #	<200 #	<200 #	<200 #
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Naphthalene	<13 µg/kg	TM116		<260 M	<260 M	<260 M	<260 M	<260 M	<260 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800	<800	<800	<800

CERTIFICATE OF ANALYSIS

SDG: 210204-77 **Client Reference:** P18-669 **Report Number:** 588534
Location: Llanwern **Order Number:** 108282 **Superseded Report:** 587944

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	U11-1	U11-2	V6-1	V7-1	V8-1	V8-2
			Depth (m)	1.00 - 1.00	1.40 - 1.40	0.80 - 0.80	1.00 - 1.00	0.50 - 0.50	2.00 - 2.00
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	02/02/2021	02/02/2021	03/02/2021	03/02/2021	02/02/2021	02/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021
			SDG Ref	210204-77	210204-77	210204-77	210204-77	210204-77	210204-77
			Lab Sample No.(s)	23666154	23666163	23666040	23666033	23666013	23666022
			AGS Reference						
Dibromofluoromethane**	%	TM116		113	152	108	116	112	119
Toluene-d8**	%	TM116		102	102	97.3	97.9	98.8	99.9
4-Bromofluorobenzene**	%	TM116		88.8	97.2	82.2	87.5	89.8	98.1
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Benzene	<9 µg/kg	TM116		<180 M	<180 M	<180 M	<180 M	<180 M	<180 M
Toluene	<7 µg/kg	TM116		<140 M	<140 M	<140 M	<140 M	<140 M	<140 M
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<80 M	<80 M	<80 M	<80 M
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #	<200 #	<200 #	<200 #
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Naphthalene	<13 µg/kg	TM116		<260 M	<260 M	<260 M	4310 M	<260 M	<260 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800	<800	<800	<800

CERTIFICATE OF ANALYSIS

SDG: 210204-77 **Client Reference:** P18-669 **Report Number:** 588534
Location: Llanwern **Order Number:** 108282 **Superseded Report:** 587944

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	V9-1	V9-2	V10-1	V10-2	V11-1	V11-2
			Depth (m)	0.90 - 0.90	1.50 - 1.50	0.30 - 0.30	1.50 - 1.50	0.50 - 0.50	1.60 - 1.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	02/02/2021	02/02/2021	02/02/2021	02/02/2021	02/02/2021	02/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021
			SDG Ref	210204-77	210204-77	210204-77	210204-77	210204-77	210204-77
			Lab Sample No.(s)	23666213	23666003	23666192	23666203	23665991	23666096
			AGS Reference						
Dibromofluoromethane**	%	TM116		107	116	104	106	102	107
Toluene-d8**	%	TM116		98.7	99.9	97.6	97	95.3	97.6
4-Bromofluorobenzene**	%	TM116		87.3	94.4	86.8	88.3	77.2	87.8
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Benzene	<9 µg/kg	TM116		<180 M	<180 M	<180 M	<180 M	<180 M	<180 M
Toluene	<7 µg/kg	TM116		<140 M	<140 M	<140 M	<140 M	<140 M	<140 M
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<80 M	<80 M	<80 M	<80 M
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #	<200 #	<200 #	<200 #
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Naphthalene	<13 µg/kg	TM116		<260 M	<260 M	<260 M	<260 M	290 M	<260 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800	<800	<800	<800

CERTIFICATE OF ANALYSIS

SDG:	210204-77	**Client Reference:**	P18-669	**Report Number:**	588534
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587944

Asbestos Identification - Solid Samples

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	T9-1 0.50 - 0.50 SOLID 03/02/2021 00:00:00 04/02/2021 05:00:00 210204-77 23666087 TM048	10/02/2021	Christian Hallam	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	T10-1 0.30 - 0.30 SOLID 03/02/2021 00:00:00 04/02/2021 05:00:00 210204-77 23666051 TM048	10/02/2021	Christian Hallam	Fibre bundles in soil.	Not Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	T10-3 2.90 - 2.90 SOLID 03/02/2021 00:00:00 04/02/2021 05:00:00 210204-77 23666068 TM048	10/02/2021	Christian Hallam	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	T13-1 0.40 - 0.40 SOLID 03/02/2021 00:00:00 04/02/2021 05:00:00 210204-77 23666114 TM048	10/02/2021	Christian Hallam	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	T14-1 0.30 - 0.30 SOLID 03/02/2021 00:00:00 04/02/2021 05:00:00 210204-77 23666133 TM048	11/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	U10-1 1.00 - 1.00 SOLID 02/02/2021 00:00:00 04/02/2021 05:00:00 210204-77 23666173 TM048	10/02/2021	Christian Hallam	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	U11-1 1.00 - 1.00 SOLID 02/02/2021 00:00:00 04/02/2021 05:00:00 210204-77 23666154 TM048	09/02/2021	James Richards	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	V7-1 1.00 - 1.00 SOLID 03/02/2021 00:00:00 04/02/2021 05:00:00 210204-77 23666033 TM048	09/02/21	Christian Hallam	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

Validated

CERTIFICATE OF ANALYSIS

SDG: 210204-77 **Client Reference:** P18-669 **Report Number:** 588534
Location: Llanwern **Order Number:** 108282 **Superseded Report:** 587944

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	V8-1 0.50 - 0.50 SOLID 02/02/2021 00:00:00 04/02/2021 05:00:00 210204-77 23666013 TM048	09/02/21	Christian Hallam	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	V9-1 0.90 - 0.90 SOLID 02/02/2021 00:00:00 04/02/2021 05:00:00 210204-77 23666213 TM048	10/02/2021	Christian Hallam	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	V10-1 0.30 - 0.30 SOLID 02/02/2021 00:00:00 04/02/2021 05:00:00 210204-77 23666192 TM048	09/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	V11-1 0.50 - 0.50 SOLID 02/02/2021 00:00:00 04/02/2021 05:00:00 210204-77 23665991 TM048	10/02/2021	Christian Hallam	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	210204-77	**Client Reference:**	P18-669	**Report Number:**	588534
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587944

Asbestos Quantification - Full

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

		Additional Asbestos Components	Analysts Comments	Asbestos Quantification - Gravimetric - %	Asbestos Quantification - PCOM	Asbestos Quantification - Total - %
Cust. Sample Ref.	T10-1	None (#)	-	<0.001 (#)	<0.001 (#)	<0.001 (#)
Depth (m)	0.30 - 0.30					
Sample Type	SOLID					
Date Sampled	03/02/2021 00:00:00					
Date Receieved	04/02/2021 05:00:00					
SDG	210204-77					
Original Sample	23666051					
Method Number	TM304					

CERTIFICATE OF ANALYSIS

SDG:	210204-77	**Client Reference:**	P18-669	**Report Number:**	588534
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587944

Notification of NDPs (No determination possible)

Date Received : 04/02/2021 11:19:40

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
23666068	T10-3	2.90 - 2.90	Total Organic Carbon	Sample unsuitable for analysis

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM024	Method 4500A & B, AWWA/APHA, 20th Ed., 1999	Determination of Exchangeable Ammonium and Ammoniacal Nitrogen as N by titration on solids
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM132	In - house Method	ELTRA CS800 Operators Guide
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS
TM304	HSE Contract research Report no 83/1996	Asbestos Quantification in Soil: Fibres identified by morphology only
TM414	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

Test Completion Dates

Lab Sample No(s)	23666078	23666087	23666105	23666051	23666060	23666068	23666114	23666124	23666133	23666144
Customer Sample Ref.	T8-1	T9-1	T9-2	T10-1	T10-2	T10-3	T13-1	T13-2	T14-1	T14-2
AGS Ref.										
Depth	0.50 - 0.50	0.50 - 0.50	1.50 - 1.50	0.30 - 0.30	1.00 - 1.00	2.90 - 2.90	0.40 - 0.40	1.10 - 1.10	0.30 - 0.30	1.40 - 1.40
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Ammonium Soil by Titration	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021
Asbestos ID in Solid Samples		10-Feb-2021		10-Feb-2021		10-Feb-2021	10-Feb-2021		11-Feb-2021	
Asbestos Quantification - Full				17-Feb-2021						
Cyanide Comp/Free/Total/Thiocyanate	10-Feb-2021	11-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	11-Feb-2021	09-Feb-2021	09-Feb-2021	10-Feb-2021
EPH CWG GC (S)	09-Feb-2021	11-Feb-2021	10-Feb-2021	10-Feb-2021	09-Feb-2021	09-Feb-2021	11-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021
GRO by GC-FID (S)	12-Feb-2021	12-Feb-2021	12-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	12-Feb-2021	12-Feb-2021	11-Feb-2021	12-Feb-2021
Metals in solid samples by OES	09-Feb-2021	11-Feb-2021	11-Feb-2021	23-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021
PAH by GCMS	09-Feb-2021	11-Feb-2021	11-Feb-2021	10-Feb-2021	12-Feb-2021	12-Feb-2021	11-Feb-2021	09-Feb-2021	09-Feb-2021	11-Feb-2021
pH	08-Feb-2021	10-Feb-2021	09-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	10-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021
Phenols by HPLC (S)	11-Feb-2021	12-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	12-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021
Sample description	05-Feb-2021	10-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	10-Feb-2021	05-Feb-2021	05-Feb-2021	05-Feb-2021
Total Organic Carbon	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021		11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021
TPH CWG GC (S)	12-Feb-2021	12-Feb-2021	12-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	12-Feb-2021	12-Feb-2021	11-Feb-2021	12-Feb-2021
VOC MS (S)	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021

Lab Sample No(s)	23666173	23666182	23666154	23666163	23666040	23666033	23666013	23666022	23666213	23666003
Customer Sample Ref.	U10-1	U10-2	U11-1	U11-2	V6-1	V7-1	V8-1	V8-2	V9-1	V9-2
AGS Ref.										
Depth	1.00 - 1.00	1.50 - 1.50	1.00 - 1.00	1.40 - 1.40	0.80 - 0.80	1.00 - 1.00	0.50 - 0.50	2.00 - 2.00	0.90 - 0.90	1.50 - 1.50
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Ammonium Soil by Titration	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021
Asbestos ID in Solid Samples	10-Feb-2021		09-Feb-2021			09-Feb-2021	09-Feb-2021		10-Feb-2021	
Cyanide Comp/Free/Total/Thiocyanate	09-Feb-2021	09-Feb-2021	10-Feb-2021	09-Feb-2021	10-Feb-2021	09-Feb-2021	10-Feb-2021	09-Feb-2021	11-Feb-2021	10-Feb-2021
EPH CWG GC (S)	09-Feb-2021	09-Feb-2021	10-Feb-2021	09-Feb-2021	09-Feb-2021	10-Feb-2021	09-Feb-2021	09-Feb-2021	11-Feb-2021	09-Feb-2021
GRO by GC-FID (S)	12-Feb-2021	12-Feb-2021	12-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	12-Feb-2021	11-Feb-2021
Metals in solid samples by OES	09-Feb-2021	11-Feb-2021	23-Feb-2021	11-Feb-2021	11-Feb-2021	23-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021
PAH by GCMS	11-Feb-2021	10-Feb-2021	11-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021	11-Feb-2021	12-Feb-2021	11-Feb-2021
pH	08-Feb-2021	09-Feb-2021	08-Feb-2021	09-Feb-2021	09-Feb-2021	08-Feb-2021	08-Feb-2021	09-Feb-2021	08-Feb-2021	08-Feb-2021
Phenols by HPLC (S)	12-Feb-2021	12-Feb-2021	12-Feb-2021	11-Feb-2021	12-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021
Sample description	05-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021
Total Organic Carbon	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021
TPH CWG GC (S)	12-Feb-2021	12-Feb-2021	12-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	12-Feb-2021	11-Feb-2021
VOC MS (S)	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021

Lab Sample No(s)	23666192	23666203	23665991	23666096
Customer Sample Ref.	V10-1	V10-2	V11-1	V11-2
AGS Ref.				
Depth	0.30 - 0.30	1.50 - 1.50	0.50 - 0.50	1.60 - 1.60
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Ammonium Soil by Titration	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021
Asbestos ID in Solid Samples	09-Feb-2021		10-Feb-2021	
Cyanide Comp/Free/Total/Thiocyanate	10-Feb-2021	09-Feb-2021	10-Feb-2021	10-Feb-2021
EPH CWG GC (S)	09-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021
GRO by GC-FID (S)	12-Feb-2021	12-Feb-2021	12-Feb-2021	12-Feb-2021
Metals in solid samples by OES	09-Feb-2021	11-Feb-2021	23-Feb-2021	11-Feb-2021
PAH by GCMS	09-Feb-2021	10-Feb-2021	11-Feb-2021	11-Feb-2021
pH	08-Feb-2021	09-Feb-2021	08-Feb-2021	09-Feb-2021
Phenols by HPLC (S)	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021
Sample description	05-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021
Total Organic Carbon	10-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021
TPH CWG GC (S)	12-Feb-2021	12-Feb-2021	12-Feb-2021	12-Feb-2021
VOC MS (S)	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021

ALS Environmental, Land	Issue No. 4
	Date: 03/03/2020
QF.7.5.1 Data Amendments Form	Issued and Authorised by Quality Manager

SDG	Sample Event	Sample ID	Date Amended	Amendment Reason	Analysis/Component	Authorised (Lab Manager)	Previous Value	New Value	Units	Supersedes Report
210204-77	23665991	v11-1	24/02/2021	Analytical/Quality Issue	AS	Geraint Pumford	<6.0	4.94	mg/Kg	587944
210204-77	23665991	v11-1	24/02/2021	Analytical/Quality Issue	Cd	Geraint Pumford	<0.200	0.812	mg/Kg	587944
210204-77	23665991	v11-1	24/02/2021	Analytical/Quality Issue	Cr	Geraint Pumford	9.83	127	mg/Kg	587944
210204-77	23665991	v11-1	24/02/2021	Analytical/Quality Issue	Cu	Geraint Pumford	<14.0	13.1	mg/Kg	587944
210204-77	23665991	v11-1	24/02/2021	Analytical/Quality Issue	Fe	Geraint Pumford	<10000	102000	mg/Kg	587944
210204-77	23665991	v11-1	24/02/2021	Analytical/Quality Issue	Pb	Geraint Pumford	<7.0	35.3	mg/Kg	587944
210204-77	23665991	v11-1	24/02/2021	Analytical/Quality Issue	Mn	Geraint Pumford	26.7	16600	mg/Kg	587944
210204-77	23665991	v11-1	24/02/2021	Analytical/Quality Issue	Hg	Geraint Pumford	<1.00	<0.100	mg/Kg	587944
210204-77	23665991	v11-1	24/02/2021	Analytical/Quality Issue	Ni	Geraint Pumford	3.69	8.72	mg/Kg	587944
210204-77	23665991	v11-1	24/02/2021	Analytical/Quality Issue	Se	Geraint Pumford	<10.0	4.40	mg/Kg	587944
210204-77	23665991	v11-1	24/02/2021	Analytical/Quality Issue	V	Geraint Pumford	16.00	443.00	mg/Kg	587944
210204-77	23665991	v11-1	24/02/2021	Analytical/Quality Issue	Zn	Geraint Pumford	<19.0	177.00	mg/Kg	587944
210204-77	23666154	u11-1	24/02/2021	Analytical/Quality Issue	AS	Geraint Pumford	20.5	3.37	mg/Kg	587944
210204-77	23666154	u11-1	24/02/2021	Analytical/Quality Issue	Cd	Geraint Pumford	0.209	0.385	mg/Kg	587944
210204-77	23666154	u11-1	24/02/2021	Analytical/Quality Issue	Cr	Geraint Pumford	19.9	144	mg/Kg	587944
210204-77	23666154	u11-1	24/02/2021	Analytical/Quality Issue	Cu	Geraint Pumford	<14.0	14.8	mg/Kg	587944
210204-77	23666154	u11-1	24/02/2021	Analytical/Quality Issue	Fe	Geraint Pumford	25600	67200	mg/Kg	587944
210204-77	23666154	u11-1	24/02/2021	Analytical/Quality Issue	Pb	Geraint Pumford	9.25	1.08	mg/Kg	587944
210204-77	23666154	u11-1	24/02/2021	Analytical/Quality Issue	Mn	Geraint Pumford	57.7	13300	mg/Kg	587944
210204-77	23666154	u11-1	24/02/2021	Analytical/Quality Issue	Hg	Geraint Pumford	<1.00	<0.100	mg/Kg	587944
210204-77	23666154	u11-1	24/02/2021	Analytical/Quality Issue	Ni	Geraint Pumford	13.3	8.82	mg/Kg	587944
210204-77	23666154	u11-1	24/02/2021	Analytical/Quality Issue	Se	Geraint Pumford	<10.0	4.90	mg/Kg	587944
210204-77	23666154	u11-1	24/02/2021	Analytical/Quality Issue	V	Geraint Pumford	37.10	277.00	mg/Kg	587944
210204-77	23666154	u11-1	24/02/2021	Analytical/Quality Issue	Zn	Geraint Pumford	44.80	30.80	mg/Kg	587944
210204-77	23666033	V7-1	24/02/2021	Analytical/Quality Issue	AS	Geraint Pumford	<6.0	8.22	mg/Kg	587944
210204-77	23666033	V7-1	24/02/2021	Analytical/Quality Issue	Cd	Geraint Pumford	<0.200	0.473	mg/Kg	587944
210204-77	23666033	V7-1	24/02/2021	Analytical/Quality Issue	Cr	Geraint Pumford	11.8	69.4	mg/Kg	587944
210204-77	23666033	V7-1	24/02/2021	Analytical/Quality Issue	Cu	Geraint Pumford	<14.0	14.6	mg/Kg	587944
210204-77	23666033	V7-1	24/02/2021	Analytical/Quality Issue	Fe	Geraint Pumford	<10000	28800	mg/Kg	587944
210204-77	23666033	V7-1	24/02/2021	Analytical/Quality Issue	Pb	Geraint Pumford	<7.0	34.6	mg/Kg	587944
210204-77	23666033	V7-1	24/02/2021	Analytical/Quality Issue	Mn	Geraint Pumford	16.3	4490	mg/Kg	587944
210204-77	23666033	V7-1	24/02/2021	Analytical/Quality Issue	Hg	Geraint Pumford	<1.00	<0.100	mg/Kg	587944
210204-77	23666033	V7-1	24/02/2021	Analytical/Quality Issue	Ni	Geraint Pumford	3.70	14.6	mg/Kg	587944
210204-77	23666033	V7-1	24/02/2021	Analytical/Quality Issue	Se	Geraint Pumford	<10.0	2.01	mg/Kg	587944
210204-77	23666033	V7-1	24/02/2021	Analytical/Quality Issue	V	Geraint Pumford	30.80	181.00	mg/Kg	587944
210204-77	23666033	V7-1	24/02/2021	Analytical/Quality Issue	Zn	Geraint Pumford	<19.0	65.60	mg/Kg	587944
210204-77	23666051	T10-1	24/02/2021	Analytical/Quality Issue	AS	Geraint Pumford	<6.0	5.87	mg/Kg	587944
210204-77	23666051	T10-1	24/02/2021	Analytical/Quality Issue	Cd	Geraint Pumford	<0.200	0.783	mg/Kg	587944
210204-77	23666051	T10-1	24/02/2021	Analytical/Quality Issue	Cr	Geraint Pumford	<9.00	214	mg/Kg	587944
210204-77	23666051	T10-1	24/02/2021	Analytical/Quality Issue	Cu	Geraint Pumford	<14.0	15.4	mg/Kg	587944
210204-77	23666051	T10-1	24/02/2021	Analytical/Quality Issue	Fe	Geraint Pumford	<10000	90500	mg/Kg	587944
210204-77	23666051	T10-1	24/02/2021	Analytical/Quality Issue	Pb	Geraint Pumford	48.0	41.4	mg/Kg	587944
210204-77	23666051	T10-1	24/02/2021	Analytical/Quality Issue	Mn	Geraint Pumford	72.9	13300	mg/Kg	587944
210204-77	23666051	T10-1	24/02/2021	Analytical/Quality Issue	Hg	Geraint Pumford	<1.00	<0.100	mg/Kg	587944
210204-77	23666051	T10-1	24/02/2021	Analytical/Quality Issue	Ni	Geraint Pumford	5.09	10.5	mg/Kg	587944
210204-77	23666051	T10-1	24/02/2021	Analytical/Quality Issue	Se	Geraint Pumford	<10.0	4.50	mg/Kg	587944
210204-77	23666051	T10-1	24/02/2021	Analytical/Quality Issue	V	Geraint Pumford	10.70	222.00	mg/Kg	587944
210204-77	23666051	T10-1	24/02/2021	Analytical/Quality Issue	Zn	Geraint Pumford	40.80	151.00	mg/Kg	587944

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as “mixed hydrocarbons”. Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

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Rodgers Leask
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BS32 4QA

Attention: Elliot Thomas

CERTIFICATE OF ANALYSIS

Date of report Generation:	26 February 2021
Customer:	Rodgers Leask
Sample Delivery Group (SDG):	210205-65
Your Reference:	P18-669
Location:	Llanwern
Report No:	588536

This report has been revised and directly supersedes 587945 in its entirety.

We received 14 samples on Friday February 05, 2021 and 14 of these samples were scheduled for analysis which was completed on Tuesday February 23, 2021. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:



Sonia McWhan
Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	210205-65	**Client Reference:**	P18-669	**Report Number:**	588536
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587945

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23672951	S14-1		0.50 - 0.50	04/02/2021
23672957	S14-2		1.30 - 1.30	04/02/2021
23672963	S15-1		0.70 - 0.70	04/02/2021
23672967	S15-2		1.40 - 1.40	04/02/2021
23672946	T12-1		0.15 - 0.15	04/02/2021
23672941	T15-1		1.00 - 1.00	03/02/2021
23673002	U12-1		0.60 - 0.60	04/02/2021
23673008	U12-2		1.90 - 1.90	04/02/2021
23672993	U14-1		0.30 - 0.30	04/02/2021
23672997	U14-2		2.00 - 2.00	04/02/2021
23672977	U15-1		1.00 - 1.00	03/02/2021
23672982	U16-1		1.00 - 1.00	04/02/2021
23672987	U16-2		2.00 - 2.00	04/02/2021
23672972	U17-1		1.00 - 1.00	03/02/2021

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	210205-65	**Client Reference:**	P18-669	**Report Number:**	588536
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587945

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23672951		23672957		23672963		23672967		23672946		23672941		23673002		23673008			
Customer Sample Reference			S14-1		S14-2		S15-1		S15-2		T12-1		T15-1		U12-1		U12-2			
AGS Reference																				
Depth (m)			0.50 - 0.50		1.30 - 1.30		0.70 - 0.70		1.40 - 1.40		0.15 - 0.15		1.00 - 1.00		0.60 - 0.60		1.90 - 1.90			
Container			1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Ammonium Soil by Titration	All	NDPs: 0 Tests: 14		X		X			X		X		X		X		X			X
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 7	X					X						X					X	
Asbestos Quantification - Full	All	NDPs: 0 Tests: 2	X																	
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 14		X		X			X		X		X		X		X			X
EPH CWG GC (S)	All	NDPs: 0 Tests: 14		X		X			X		X		X		X		X			X
GRO by GC-FID (S)	All	NDPs: 0 Tests: 14			X		X			X		X				X		X		
Metals in solid samples by OES	All	NDPs: 0 Tests: 14		X		X			X		X		X		X		X			X
PAH by GCMS	All	NDPs: 0 Tests: 14		X		X			X		X		X		X		X			X
pH	All	NDPs: 0 Tests: 14		X		X			X		X		X		X		X			X
Phenols by HPLC (S)	All	NDPs: 0 Tests: 14		X		X			X		X		X		X		X			X
Sample description	All	NDPs: 0 Tests: 14		X		X			X		X		X		X		X			X
Total Organic Carbon	All	NDPs: 0 Tests: 14		X		X			X		X		X		X		X			X
TPH CWG GC (S)	All	NDPs: 0 Tests: 14		X		X			X		X		X		X		X			X
VOC MS (S)	All	NDPs: 0 Tests: 14			X		X			X		X				X		X		

23672972	U17-1		1.00 - 1.00	60g VOC (ALE215)	S						X								X
				250g Amber Jar (ALE210)	S	X			X	X		X	X	X	X	X	X	X	
23672987	U16-2		2.00 - 2.00	60g VOC (ALE215)	S						X								X
				250g Amber Jar (ALE210)	S	X			X	X		X	X	X	X	X	X	X	
				1kg TUB with Handle (ALE260)	S		X												
23672982	U16-1		1.00 - 1.00	60g VOC (ALE215)	S						X								X
				250g Amber Jar (ALE210)	S	X			X	X		X	X	X	X	X	X	X	
23672977	U15-1		1.00 - 1.00	60g VOC (ALE215)	S						X								X
				250g Amber Jar (ALE210)	S	X			X	X		X	X	X	X	X	X	X	
				1kg TUB with Handle (ALE260)	S		X	X											
23672997	U14-2		2.00 - 2.00	60g VOC (ALE215)	S						X								X
				250g Amber Jar (ALE210)	S	X			X	X		X	X	X	X	X	X	X	
				1kg TUB with Handle (ALE260)	S		X												
23672993	U14-1		0.30 - 0.30	60g VOC (ALE215)	S						X								X
				250g Amber Jar (ALE210)	S	X			X	X		X	X	X	X	X	X	X	
23673008	U12-2		1.90 - 1.90	60g VOC (ALE215)	S						X								X

CERTIFICATE OF ANALYSIS

SDG:	210205-65	**Client Reference:**	P18-669	**Report Number:**	588536
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587945

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
23672951	S14-1	0.50 - 0.50	Black	Sand	Stones	Vegetation
23672957	S14-2	1.30 - 1.30	Dark Brown	Sand	Stones	None
23672963	S15-1	0.70 - 0.70	Dark Brown	Sand	Stones	Vegetation
23672967	S15-2	1.40 - 1.40	Dark Brown	Sand	Stones	None
23672946	T12-1	0.15 - 0.15	Dark Brown	Sand	Stones	None
23672941	T15-1	1.00 - 1.00	Dark Brown	Sand	Stones	Vegetation
23673002	U12-1	0.60 - 0.60	Black	Sand	Stones	None
23673008	U12-2	1.90 - 1.90	Dark Brown	Sand	Stones	Vegetation
23672993	U14-1	0.30 - 0.30	Black	Sand	Stones	None
23672997	U14-2	2.00 - 2.00	Dark Brown	Stone/Soil	Stones	None
23672977	U15-1	1.00 - 1.00	Black	Sand	Stones	Vegetation
23672982	U16-1	1.00 - 1.00	Black	Sand	Stones	Vegetation
23672987	U16-2	2.00 - 2.00	Dark Brown	Sand	Stones	Vegetation
23672972	U17-1	1.00 - 1.00	Dark Brown	Sand	Stones	Vegetation

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

CERTIFICATE OF ANALYSIS

SDG: 210205-65 **Client Reference:** P18-669 **Report Number:** 588536
Location: Llanwern **Order Number:** 108282 **Superseded Report:** 587945

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	S14-1	S14-2	S15-1	S15-2	T12-1	T15-1
			Depth (m)	0.50 - 0.50	1.30 - 1.30	0.70 - 0.70	1.40 - 1.40	0.15 - 0.15	1.00 - 1.00
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021	03/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021
			SDG Ref	210205-65	210205-65	210205-65	210205-65	210205-65	210205-65
			Lab Sample No.(s)	23672951	23672957	23672963	23672967	23672946	23672941
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		13	14	9.9	32	3	4.1
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M	<12 M	<12 M	<12 M	<12 M
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	0.0116 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	0.0348 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	0.0464 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M
Soil Organic Matter (SOM)	<0.35 %	TM132		71.2 #	29.3 #	17.1 #	65.9 #	2.17 #	55.7 #
pH	1 pH Units	TM133		9.3 M	10.6 M	10.6 M	8.33 M	10.7 M	9.93 M
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Arsenic	<0.6 mg/kg	TM181		5.83 M	<6 M	9.45 M	<6 M	<6 M	3.72 M
Cadmium	<0.02 mg/kg	TM181		0.325 M	0.477 M	1.59 M	<0.2 M	<0.2 M	0.3 M
Chromium	<0.9 mg/kg	TM181		39.2 M	27.4 M	89.9 M	11.9 M	29 M	22.7 M
Copper	<1.4 mg/kg	TM181		16.2 M	<14 M	33.9 M	27.4 M	<14 M	8.49 M
Iron	<1000 mg/kg	TM181		30800 #	53800 #	171000 #	41300 #	11200 #	20400 #
Lead	<0.7 mg/kg	TM181		29.9 M	61.7 M	97.3 M	32 M	<7 M	14 M
Manganese	<0.13 mg/kg	TM181		4130 M	3230 M	8150 M	724 M	5290 M	3200 M
Mercury	<0.1 mg/kg	TM181		<0.1 M	<1 M	<0.1 M	<1 M	<1 M	<0.1 M
Nickel	<0.2 mg/kg	TM181		11.8 M	8 M	22 M	28.2 M	2.01 M	6.21 M
Selenium	<1 mg/kg	TM181		1.8 #	<10 #	<1 #	<10 #	<10 #	1.59 #
Vanadium	<0.2 mg/kg	TM181		59.5 #	46.4 #	134 #	33.8 #	47.5 #	32.6 #
Zinc	<1.9 mg/kg	TM181		87 M	143 M	380 M	55.9 M	<19 M	66.3 M
Asbestos Quantification - Gravimetric - %	<0.001 %	TM304		<0.001 #					
Asbestos Quantification - PCOM Evaluation - %	<0.001 %	TM304		<0.001 #					
Additional Asbestos Components (Using TM048)		TM304		None #					
Analysts Comments		TM304		0					
Asbestos Quantification - Total - %	<0.001 %	TM304		<0.001 #					

Validated

CERTIFICATE OF ANALYSIS

SDG: 210205-65 **Client Reference:** P18-669 **Report Number:** 588536
Location: Llanwern **Order Number:** 108282 **Superseded Report:** 587945

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	U12-1	U12-2	U14-1	U14-2	U15-1	U16-1
			Depth (m)	0.60 - 0.60	1.90 - 1.90	0.30 - 0.30	2.00 - 2.00	1.00 - 1.00	1.00 - 1.00
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	04/02/2021	04/02/2021	04/02/2021	04/02/2021	03/02/2021	04/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021
			SDG Ref	210205-65	210205-65	210205-65	210205-65	210205-65	210205-65
			Lab Sample No.(s)	23673002	23673008	23672993	23672997	23672977	23672982
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		9.9	9.7	11	6.8	0	3.6
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M	<12 M	<12 #	<12 M	<12 M
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 #	<0.01 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 #	<0.01 M	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 #	<0.015 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M	<0.035 #	<0.035 M	<0.035 M
Soil Organic Matter (SOM)	<0.35 %	TM132		27.8 #	4.52 #	30.2 #	<0.35 #	41.4 #	44.3 #
pH	1 pH Units	TM133		9.05 M	9.87 M	9.24 M	10.9 #	9.51 M	8.89 M
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	<1 M	<1 #	<1 M	4.06 M
Arsenic	<0.6 mg/kg	TM181		2.68 M	<6 M	2.71 M	<6 #	3.49 M	<6 M
Cadmium	<0.02 mg/kg	TM181		0.0911 M	<0.2 M	0.108 M	<0.2 #	0.234 M	<0.2 M
Chromium	<0.9 mg/kg	TM181		36.9 M	11.5 M	9.06 M	46.2 #	14.1 M	93.7 M
Copper	<1.4 mg/kg	TM181		7.98 M	<14 M	6.92 M	<14 #	6.65 M	16.7 M
Iron	<1000 mg/kg	TM181		<10000 #	<10000 #	<10000 #	<10000 #	12000 #	49100 #
Lead	<0.7 mg/kg	TM181		27.1 M	8.31 M	3.62 M	<7 #	15.9 M	89.4 M
Manganese	<0.13 mg/kg	TM181		3880 M	831 M	3530 M	4430 #	1080 M	4590 M
Mercury	<0.1 mg/kg	TM181		<0.1 M	<1 M	<0.1 M	<1 #	<0.1 M	<1 M
Nickel	<0.2 mg/kg	TM181		4.33 M	8.92 M	3.24 M	<2 #	4.15 M	10.2 M
Selenium	<1 mg/kg	TM181		2.89 #	<10 #	2.11 #	<10 #	<1 #	<10 #
Vanadium	<0.2 mg/kg	TM181		32.4 #	24.5 #	20.3 #	29.9 #	31 #	56.6 #
Zinc	<1.9 mg/kg	TM181		52.7 M	23 M	36.9 M	<19 #	33.5 M	207 M
Asbestos Quantification - Gravimetric - %	<0.001 %	TM304						0.0039 #	
Asbestos Quantification - PCOM Evaluation - %	<0.001 %	TM304						<0.001 #	
Additional Asbestos Components (Using TM048)		TM304						None #	
Analysts Comments		TM304						N/A	
Asbestos Quantification - Total - %	<0.001 %	TM304						0.0039 #	

CERTIFICATE OF ANALYSIS

SDG:	210205-65	**Client Reference:**	P18-669	**Report Number:**	588536
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587945

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.					
			U16-2	U17-1				
			Depth (m)	2.00 - 2.00	1.00 - 1.00			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	04/02/2021	03/02/2021			
			Sample Time	.	.			
			Date Received	05/02/2021	05/02/2021			
			SDG Ref	210205-65	210205-65			
			Lab Sample No.(s)	23672987	23672972			
			AGS Reference					
Moisture Content Ratio (% of as received sample)	%	PM024	12	9.7				
Exchangeable Ammonia as N	<12 mg/kg	TM024	<12 M	<12 M				
Phenol	<0.01 mg/kg	TM062 (S)	<0.01 M	<0.01 M				
Cresols	<0.01 mg/kg	TM062 (S)	<0.01 M	<0.01 M				
Xylenols	<0.015 mg/kg	TM062 (S)	<0.015 M	<0.015 M				
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)	<0.035 M	<0.035 M				
Soil Organic Matter (SOM)	<0.35 %	TM132	31.7 #	36.7 #				
pH	1 pH Units	TM133	9.84 M	10.3 M				
Cyanide, Total	<1 mg/kg	TM153	1.46 M	<1 M				
Arsenic	<0.6 mg/kg	TM181	5.23 M	4.04 M				
Cadmium	<0.02 mg/kg	TM181	0.363 M	0.38 M				
Chromium	<0.9 mg/kg	TM181	25.2 M	150 M				
Copper	<1.4 mg/kg	TM181	11.9 M	12.1 M				
Iron	<1000 mg/kg	TM181	24500 #	57500 #				
Lead	<0.7 mg/kg	TM181	408 M	<0.7 M				
Manganese	<0.13 mg/kg	TM181	2040 M	5440 M				
Mercury	<0.1 mg/kg	TM181	<0.1 M	<0.1 M				
Nickel	<0.2 mg/kg	TM181	10.8 M	9.07 M				
Selenium	<1 mg/kg	TM181	<1 #	1.27 #				
Vanadium	<0.2 mg/kg	TM181	23.4 #	73.1 #				
Zinc	<1.9 mg/kg	TM181	107 M	42.9 M				

Validated

CERTIFICATE OF ANALYSIS

SDG: 210205-65 **Client Reference:** P18-669 **Report Number:** 588536
Location: Llanwern **Order Number:** 108282 **Superseded Report:** 587945

PAH by GCMS

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	S14-1	S14-2	S15-1	S15-2	T12-1	T15-1
			Depth (m)	0.50 - 0.50	1.30 - 1.30	0.70 - 0.70	1.40 - 1.40	0.15 - 0.15	1.00 - 1.00
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021	03/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021
			SDG Ref	210205-65	210205-65	210205-65	210205-65	210205-65	210205-65
			Lab Sample No.(s)	23672951	23672957	23672963	23672967	23672946	23672941
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		97.3	79.3	77.1	86.5	78.6	80
Acenaphthene-d10 % recovery**	%	TM218		103	84.5	82.8	86.3	80.7	83.8
Phenanthrene-d10 % recovery**	%	TM218		107	84.6	80.6	59.3	83.1	89.5
Chrysene-d12 % recovery**	%	TM218		97	81.2	81.1	34.2	80.5	87.8
Perylene-d12 % recovery**	%	TM218		82.8	72.5	70.4	25.5	73.1	74.8
Naphthalene	<9 µg/kg	TM218		614 M	734 M	726 M	102 M	118 M	528 M
Acenaphthylene	<12 µg/kg	TM218		129 M	253 M	313 M	<12 M	30.5 M	140 M
Acenaphthene	<8 µg/kg	TM218		27.2 M	25.7 M	<40 M	16.4 M	11.7 M	28.3 M
Fluorene	<10 µg/kg	TM218		118 M	138 M	181 M	44.4 M	40.6 M	101 M
Phenanthrene	<15 µg/kg	TM218		1120 M	1380 M	1670 M	150 M	338 M	1060 M
Anthracene	<16 µg/kg	TM218		152 M	322 M	485 M	<16 M	84.4 M	281 M
Fluoranthene	<17 µg/kg	TM218		1120 M	2170 M	2690 M	68.1 M	480 M	1650 M
Pyrene	<15 µg/kg	TM218		822 M	1570 M	2010 M	57.4 M	342 M	1260 M
Benz(a)anthracene	<14 µg/kg	TM218		512 M	951 M	1260 M	36.8 M	228 M	886 M
Chrysene	<10 µg/kg	TM218		602 M	805 M	1180 M	54.6 M	259 M	875 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		796 M	1300 M	1730 M	55.9 M	295 M	1330 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		244 M	410 M	559 M	<14 M	108 M	400 M
Benzo(a)pyrene	<15 µg/kg	TM218		383 M	698 M	1020 M	25.5 M	162 M	725 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		280 M	623 M	878 M	<18 M	130 M	566 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		98.7 M	140 M	184 M	<23 M	32.7 M	144 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		328 M	502 M	689 M	<24 M	110 M	491 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		7340	12000	15600	611	2770	10500

Validated

CERTIFICATE OF ANALYSIS

SDG: 210205-65 **Client Reference:** P18-669 **Report Number:** 588536
Location: Llanwern **Order Number:** 108282 **Superseded Report:** 587945

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	U12-1	U12-2	U14-1	U14-2	U15-1	U16-1
			Depth (m)	0.60 - 0.60	1.90 - 1.90	0.30 - 0.30	2.00 - 2.00	1.00 - 1.00	1.00 - 1.00
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	04/02/2021	04/02/2021	04/02/2021	04/02/2021	03/02/2021	04/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021
			SDG Ref	210205-65	210205-65	210205-65	210205-65	210205-65	210205-65
			Lab Sample No.(s)	23673002	23673008	23672993	23672997	23672977	23672982
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		98.8	79.2	102	81.7	79.3	78.5
Acenaphthene-d10 % recovery**	%	TM218		106	83.3	108	83.3	81.5	84.8
Phenanthrene-d10 % recovery**	%	TM218		104	83.6	90.6	83.9	83.2	82.8
Chrysene-d12 % recovery**	%	TM218		96.8	79.6	86.6	78.6	79.7	83.4
Perylene-d12 % recovery**	%	TM218		86.4	73.1	77.4	72.1	70.7	70.2
Naphthalene	<9 µg/kg	TM218		851 M	48.4 M	662 M	30.7 #	258 M	1150 M
Acenaphthylene	<12 µg/kg	TM218		267 M	22.2 M	200 M	15.7 #	97.2 M	567 M
Acenaphthene	<8 µg/kg	TM218		32.1 M	<8 M	<80 M	<8 #	23.6 M	45.1 M
Fluorene	<10 µg/kg	TM218		166 M	17.9 M	123 M	13.8 #	91.9 M	236 M
Phenanthrene	<15 µg/kg	TM218		1720 M	151 M	1150 M	92.4 #	644 M	2680 M
Anthracene	<16 µg/kg	TM218		373 M	38.9 M	241 M	20.1 #	149 M	872 M
Fluoranthene	<17 µg/kg	TM218		2520 M	242 M	1450 M	132 #	820 M	5140 M
Pyrene	<15 µg/kg	TM218		1840 M	175 M	1100 M	91.7 #	614 M	3800 M
Benz(a)anthracene	<14 µg/kg	TM218		1300 M	118 M	686 M	56.5 #	506 M	2360 M
Chrysene	<10 µg/kg	TM218		1410 M	113 M	843 M	58.7 #	568 M	2140 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		2050 M	153 M	1030 M	59.7 #	705 M	3440 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		565 M	48.9 M	347 M	22.9 #	227 M	1170 M
Benzo(a)pyrene	<15 µg/kg	TM218		985 M	81.8 M	534 M	39.1 #	397 M	1910 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		867 M	75.1 M	371 M	31.2 #	303 M	1840 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		240 M	<23 M	<230 M	<23 #	87.3 M	379 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		886 M	63.2 M	432 M	26.9 #	232 M	1410 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		16100	1350	9150	692	5720	29200

CERTIFICATE OF ANALYSIS

SDG: 210205-65 Client Reference: P18-669 Report Number: 588536
Location: Llanwern Order Number: 108282 Superseded Report: 587945

PAH by GCMS

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	U16-2	U17-1				
			Depth (m)	2.00 - 2.00	1.00 - 1.00				
			Sample Type	Soil/Solid (S)	Soil/Solid (S)				
			Date Sampled	04/02/2021	03/02/2021				
			Sample Time	.	.				
			Date Received	05/02/2021	05/02/2021				
			SDG Ref	210205-65	210205-65				
			Lab Sample No.(s)	23672987	23672972				
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		77	96.3				
Acenaphthene-d10 % recovery**	%	TM218		82.9	99.3				
Phenanthrene-d10 % recovery**	%	TM218		81.9	106				
Chrysene-d12 % recovery**	%	TM218		83.4	97.1				
Perylene-d12 % recovery**	%	TM218		74.1	88.1				
Naphthalene	<9 µg/kg	TM218		780 M	202 M				
Acenaphthylene	<12 µg/kg	TM218		459 M	30 M				
Acenaphthene	<8 µg/kg	TM218		<40 M	24.4 M				
Fluorene	<10 µg/kg	TM218		195 M	39.6 M				
Phenanthrene	<15 µg/kg	TM218		2090 M	318 M				
Anthracene	<16 µg/kg	TM218		565 M	47.7 M				
Fluoranthene	<17 µg/kg	TM218		4030 M	231 M				
Pyrene	<15 µg/kg	TM218		2920 M	184 M				
Benz(a)anthracene	<14 µg/kg	TM218		1810 M	95.1 M				
Chrysene	<10 µg/kg	TM218		1790 M	119 M				
Benzo(b)fluoranthene	<15 µg/kg	TM218		2620 M	154 M				
Benzo(k)fluoranthene	<14 µg/kg	TM218		775 M	46.6 M				
Benzo(a)pyrene	<15 µg/kg	TM218		1440 M	76.2 M				
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		1350 M	63.3 M				
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		268 M	<23 M				
Benzo(g,h,i)perylene	<24 µg/kg	TM218		1010 M	72.3 M				
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		22100	1700				

CERTIFICATE OF ANALYSIS

SDG: 210205-65 **Client Reference:** P18-669 **Report Number:** 588536
Location: Llanwern **Order Number:** 108282 **Superseded Report:** 587945

TPH CWG (S)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	S14-1	S14-2	S15-1	S15-2	T12-1	T15-1
			Depth (m)	0.50 - 0.50	1.30 - 1.30	0.70 - 0.70	1.40 - 1.40	0.15 - 0.15	1.00 - 1.00
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021	03/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021
			SDG Ref	210205-65	210205-65	210205-65	210205-65	210205-65	210205-65
			Lab Sample No.(s)	23672951	23672957	23672963	23672967	23672946	23672941
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		3.8 4	13.4 4	17.3 4	5.8 4	57.5 4	12 4
Aliphatics >C5-C6	<10 µg/kg	TM089		<10 4	<10 4	<10 4	<10 4	<10 4	<10 4
Aliphatics >C6-C8	<10 µg/kg	TM089		<10 4	<10 4	<10 4	<10 4	<10 4	<10 4
Aliphatics >C8-C10	<10 µg/kg	TM089		<10 4	<10 4	<10 4	<10 4	<10 4	<10 4
Aliphatics >C10-C12	<1000 µg/kg	TM414		6370	1080	<1000	<1000	<1000	1230
Aliphatics >C12-C16	<1000 µg/kg	TM414		13600	5430	1900	<1000	<1000	4350
Aliphatics >C16-C21	<1000 µg/kg	TM414		18500	9240	5490	2600	3530	11200
Aliphatics >C21-C35	<1000 µg/kg	TM414		37300	18400	24000	20500	15700	31100
Aliphatics >C35-C44	<1000 µg/kg	TM414		9370	4800	6700	6740	4270	4700
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		85100	38900	38700	30300	24200	52500
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		145000	98600	79300	47400	33500	118000
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10 4	<10 4	<10 4	<10 4	<10 4	<10 4
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10 4	<10 4	<10 4	<10 4	<10 4	<10 4
Aromatics >EC8-EC10	<10 µg/kg	TM089		<10 4	<10 4	<10 4	<10 4	<10 4	<10 4
Aromatics > EC10-EC12	<1000 µg/kg	TM414		1670	<1000	<1000	<1000	<1000	<1000
Aromatics > EC12-EC16	<1000 µg/kg	TM414		11500	5350	2160	<1000	<1000	4030
Aromatics > EC16-EC21	<1000 µg/kg	TM414		15000	11500	9310	<1000	1230	12400
Aromatics > EC21-EC35	<1000 µg/kg	TM414		30900	39600	27600	15800	6640	44800
Aromatics >EC35-EC44	<1000 µg/kg	TM414		<1000	2300	1070	<1000	<1000	3930
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		60100	59700	40600	17100	9230	65800
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		145000	98600	79300	47400	33500	118000
Total Aliphatics >C5-C10	<50 µg/kg	TM089		<50 4	<50 4	<50 4	<50 4	<50 4	<50 4
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50 4	<50 4	<50 4	<50 4	<50 4	<50 4
GRO >C5-C10	<20 µg/kg	TM089		<20 4	<20 4	<20 4	<20 4	<20 4	<20 4

CERTIFICATE OF ANALYSIS

SDG: 210205-65 **Client Reference:** P18-669 **Report Number:** 588536
Location: Llanwern **Order Number:** 108282 **Superseded Report:** 587945

TPH CWG (S)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	U12-1	U12-2	U14-1	U14-2	U15-1	U16-1
			Depth (m)	0.60 - 0.60	1.90 - 1.90	0.30 - 0.30	2.00 - 2.00	1.00 - 1.00	1.00 - 1.00
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	04/02/2021	04/02/2021	04/02/2021	04/02/2021	03/02/2021	04/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021
			SDG Ref	210205-65	210205-65	210205-65	210205-65	210205-65	210205-65
			Lab Sample No.(s)	23673002	23673008	23672993	23672997	23672977	23672982
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		9.5 4	107	9.1 4	98.2	32.6 4	10.5 4
Aliphatics >C5-C6	<10 µg/kg	TM089		<10 4	<10	<10 4	<10	<10 4	<10 4
Aliphatics >C6-C8	<10 µg/kg	TM089		<10 4	<10	<10 4	<10	<10 4	<10 4
Aliphatics >C8-C10	<10 µg/kg	TM089		<10 4	<10	<10 4	<10	<10 4	<10 4
Aliphatics >C10-C12	<1000 µg/kg	TM414		1190	<1000	1270	<1000	<1000	1110
Aliphatics >C12-C16	<1000 µg/kg	TM414		3720	<1000	5130	<1000	2400	3620
Aliphatics >C16-C21	<1000 µg/kg	TM414		6440	<1000	13200	<1000	9340	6290
Aliphatics >C21-C35	<1000 µg/kg	TM414		11400	3540	39500	<1000	26100	18100
Aliphatics >C35-C44	<1000 µg/kg	TM414		<1000	<1000	5170	<1000	2890	4700
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		23300	5100	64200	<5000	41200	33800
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		75700	25000	111000	<10000	84200	80400
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10 4	<10	<10 4	<10	<10 4	<10 4
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10 4	<10	<10 4	<10	<10 4	<10 4
Aromatics >EC8-EC10	<10 µg/kg	TM089		<10 4	<10	<10 4	<10	<10 4	<10 4
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Aromatics > EC12-EC16	<1000 µg/kg	TM414		3460	<1000	3640	<1000	2750	3130
Aromatics > EC16-EC21	<1000 µg/kg	TM414		8690	8030	7600	<1000	8830	10500
Aromatics > EC21-EC35	<1000 µg/kg	TM414		34200	10500	32400	<1000	29500	31300
Aromatics >EC35-EC44	<1000 µg/kg	TM414		5470	<1000	2270	<1000	1670	<1000
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		52300	19900	46300	<5000	43000	46700
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		75700	25000	111000	<10000	84200	80400
Total Aliphatics >C5-C10	<50 µg/kg	TM089		<50 4	<50	<50 4	<50	<50 4	<50 4
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50 4	<50	<50 4	<50	<50 4	<50 4
GRO >C5-C10	<20 µg/kg	TM089		<20 4	<20	<20 4	<20	<20 4	<20 4

CERTIFICATE OF ANALYSIS

SDG: 210205-65 **Client Reference:** P18-669 **Report Number:** 588536
Location: Llanwern **Order Number:** 108282 **Superseded Report:** 587945

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	U16-2	U17-1
			Depth (m)	2.00 - 2.00	1.00 - 1.00
			Sample Type	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	04/02/2021	03/02/2021
			Sample Time	.	.
			Date Received	05/02/2021	05/02/2021
			SDG Ref	210205-65	210205-65
			Lab Sample No.(s)	23672987	23672972
			AGS Reference		
GRO Surrogate % recovery**	%	TM089		44.1 4	39.9 4
Aliphatics >C5-C6	<10 µg/kg	TM089		12.5 4	<10 4
Aliphatics >C6-C8	<10 µg/kg	TM089		65 4	<10 4
Aliphatics >C8-C10	<10 µg/kg	TM089		66.1 4	<10 4
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000
Aliphatics >C12-C16	<1000 µg/kg	TM414		1990	1270
Aliphatics >C16-C21	<1000 µg/kg	TM414		4310	7110
Aliphatics >C21-C35	<1000 µg/kg	TM414		6990	11700
Aliphatics >C35-C44	<1000 µg/kg	TM414		<1000	<1000
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		13400	21000
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		43200	34400
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10 4	<10 4
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10 4	<10 4
Aromatics >EC8-EC10	<10 µg/kg	TM089		44.5 4	<10 4
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	<1000
Aromatics > EC12-EC16	<1000 µg/kg	TM414		<1000	<1000
Aromatics > EC16-EC21	<1000 µg/kg	TM414		3890	2030
Aromatics > EC21-EC35	<1000 µg/kg	TM414		21000	9430
Aromatics >EC35-EC44	<1000 µg/kg	TM414		3740	<1000
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	<1000
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		29800	13400
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		43400	34400
Total Aliphatics >C5-C10	<50 µg/kg	TM089		144 4	<50 4
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50 4	<50 4
GRO >C5-C10	<20 µg/kg	TM089		144 4	<20 4

Validated

CERTIFICATE OF ANALYSIS

SDG: 210205-65 **Client Reference:** P18-669 **Report Number:** 588536
Location: Llanwern **Order Number:** 108282 **Superseded Report:** 587945

VOC MS (S)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	S14-1	S14-2	S15-1	S15-2	T12-1	T15-1
			Depth (m)	0.50 - 0.50	1.30 - 1.30	0.70 - 0.70	1.40 - 1.40	0.15 - 0.15	1.00 - 1.00
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021	03/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021
			SDG Ref	210205-65	210205-65	210205-65	210205-65	210205-65	210205-65
			Lab Sample No.(s)	23672951	23672957	23672963	23672967	23672946	23672941
			AGS Reference						
Dibromofluoromethane**	%	TM116		112	114	98.5	106	107	104
Toluene-d8**	%	TM116		102	100	93.6	94.6	100	101
4-Bromofluorobenzene**	%	TM116		100	98.8	73.9	75.7	92.5	101
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<2000 M	<2000 M	<200 M	<200 M	<200 M	<2000 M
Benzene	<9 µg/kg	TM116		<1800 M	<1800 M	<180 M	<180 M	<180 M	<1800 M
Toluene	<7 µg/kg	TM116		<1400 M	<1400 M	<140 M	<140 M	<140 M	<1400 M
Ethylbenzene	<4 µg/kg	TM116		<800 M	<800 M	<80 M	<80 M	<80 M	<800 M
p/m-Xylene	<10 µg/kg	TM116		<2000 #	<2000 #	<200 #	<200 #	<200 #	<2000 #
o-Xylene	<10 µg/kg	TM116		<2000 M	<2000 M	<200 M	<200 M	<200 M	<2000 M
Naphthalene	<13 µg/kg	TM116		<2600 M	<2600 M	<260 M	<260 M	<260 M	<2600 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<4	<4	<0.4	<0.4	<0.4	<4
Sum of BTEX	<40 µg/kg	TM116		<8000	<8000	<800	<800	<800	<8000

Validated

CERTIFICATE OF ANALYSIS

SDG: 210205-65 **Client Reference:** P18-669 **Report Number:** 588536
Location: Llanwern **Order Number:** 108282 **Superseded Report:** 587945

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	U12-1	U12-2	U14-1	U14-2	U15-1	U16-1
			Depth (m)	0.60 - 0.60	1.90 - 1.90	0.30 - 0.30	2.00 - 2.00	1.00 - 1.00	1.00 - 1.00
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	04/02/2021	04/02/2021	04/02/2021	04/02/2021	03/02/2021	04/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021
			SDG Ref	210205-65	210205-65	210205-65	210205-65	210205-65	210205-65
			Lab Sample No.(s)	23673002	23673008	23672993	23672997	23672977	23672982
			AGS Reference						
Dibromofluoromethane**	%	TM116		105	107	113	108	105	104
Toluene-d8**	%	TM116		99.9	98.6	99.5	100	98.5	99
4-Bromofluorobenzene**	%	TM116		96.3	90.6	99	95	87.8	92.4
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<2000 M	<200 M	<2000 M	<200 #	<200 M	<2000 M
Benzene	<9 µg/kg	TM116		<1800 M	<180 M	<1800 M	<180 #	<180 M	<1800 M
Toluene	<7 µg/kg	TM116		<1400 M	<140 M	<1400 M	<140 #	<140 M	<1400 M
Ethylbenzene	<4 µg/kg	TM116		<800 M	<80 M	<800 M	<80 #	<80 M	<800 M
p/m-Xylene	<10 µg/kg	TM116		<2000 #	<200 #	<2000 #	<200 #	<200 #	<2000 #
o-Xylene	<10 µg/kg	TM116		<2000 M	<200 M	<2000 M	<200 #	<200 M	<2000 M
Naphthalene	<13 µg/kg	TM116		<2600 M	<260 M	<2600 M	<260 #	<260 M	<2600 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<4	<0.4	<4	<0.4	<0.4	<4
Sum of BTEX	<40 µg/kg	TM116		<8000	<800	<8000	<800	<800	<8000

CERTIFICATE OF ANALYSIS

SDG:	210205-65	**Client Reference:**	P18-669	**Report Number:**	588536
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587945

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	U16-2	U17-1				
			Depth (m)	2.00 - 2.00	1.00 - 1.00				
			Sample Type	Soil/Solid (S)	Soil/Solid (S)				
			Date Sampled	04/02/2021	03/02/2021				
			Sample Time	.	.				
			Date Received	05/02/2021	05/02/2021				
			SDG Ref	210205-65	210205-65				
			Lab Sample No.(s)	23672987	23672972				
			AGS Reference						
Dibromofluoromethane**	%	TM116		99.8	107				
Toluene-d8**	%	TM116		92.6	98.3				
4-Bromofluorobenzene**	%	TM116		74.1	86.5				
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M				
Benzene	<9 µg/kg	TM116		<180 M	<180 M				
Toluene	<7 µg/kg	TM116		<140 M	<140 M				
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M				
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #				
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M				
Naphthalene	<13 µg/kg	TM116		<260 M	<260 M				
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4				
Sum of BTEX	<40 µg/kg	TM116		<800	<800				

CERTIFICATE OF ANALYSIS

SDG:	210205-65	**Client Reference:**	P18-669	**Report Number:**	588536
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587945

Asbestos Identification - Solid Samples

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	S14-1 0.50 - 0.50 SOLID 04/02/2021 00:00:00 05/02/2021 05:00:00 210205-65 23672951 TM048	11/02/2021	Marcin Magdziarek	Loose fibres in soil	Not Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	S15-1 0.70 - 0.70 SOLID 04/02/2021 00:00:00 05/02/2021 05:00:00 210205-65 23672963 TM048	11/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	T15-1 1.00 - 1.00 SOLID 03/02/2021 00:00:00 05/02/2021 05:00:00 210205-65 23672941 TM048	11/02/2021	Christian Hallam	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	U12-2 1.90 - 1.90 SOLID 04/02/2021 00:00:00 05/02/2021 05:00:00 210205-65 23673008 TM048	11/02/2021	Christian Hallam	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	U14-2 2.00 - 2.00 SOLID 04/02/2021 00:00:00 05/02/2021 05:00:00 210205-65 23672997 TM048	11/02/2021	Marcin Magdziarek	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	U15-1 1.00 - 1.00 SOLID 03/02/2021 00:00:00 05/02/2021 05:00:00 210205-65 23672977 TM048	11/02/2021	Paul Poynton	Degraded textile ACM debris in soil	Not Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	U16-2 2.00 - 2.00 SOLID 04/02/2021 00:00:00 05/02/2021 05:00:00 210205-65 23672987 TM048	11/02/2021	Christian Hallam	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	210205-65	**Client Reference:**	P18-669	**Report Number:**	588536
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587945

Asbestos Quantification - Full

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

		Additional Asbestos Components	Analysts Comments	Asbestos Quantification - Gravimetric - %	Asbestos Quantification - PCOM	Asbestos Quantification - Total - %
Cust. Sample Ref.	S14-1	None (#)	-	<0.001 (#)	<0.001 (#)	<0.001 (#)
Depth (m)	0.50 - 0.50					
Sample Type	SOLID					
Date Sampled	04/02/2021 00:00:00					
Date Receieved	05/02/2021 05:00:00					
SDG	210205-65					
Original Sample	23672951					
Method Number	TM304					
Cust. Sample Ref.	U15-1	None (#)	N/A	0.0039 (#)	<0.001 (#)	0.0039 (#)
Depth (m)	1.00 - 1.00					
Sample Type	SOLID					
Date Sampled	03/02/2021 00:00:00					
Date Receieved	05/02/2021 05:00:00					
SDG	210205-65					
Original Sample	23672977					
Method Number	TM304					

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM024	Method 4500A & B, AWWA/APHA, 20th Ed., 1999	Determination of Exchangeable Ammonium and Ammoniacal Nitrogen as N by titration on solids
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM132	In - house Method	ELTRA CS800 Operators Guide
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS
TM304	HSE Contract research Report no 83/1996	Asbestos Quantification in Soil: Fibres identified by morphology only
TM414	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	210205-65	**Client Reference:**	P18-669	**Report Number:**	588536
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587945

Test Completion Dates

Lab Sample No(s)	23672951	23672957	23672963	23672967	23672946	23672941	23673002	23673008	23672993	23672997
Customer Sample Ref.	S14-1	S14-2	S15-1	S15-2	T12-1	T15-1	U12-1	U12-2	U14-1	U14-2
AGS Ref.										
Depth	0.50 - 0.50	1.30 - 1.30	0.70 - 0.70	1.40 - 1.40	0.15 - 0.15	1.00 - 1.00	0.60 - 0.60	1.90 - 1.90	0.30 - 0.30	2.00 - 2.00
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Ammonium Soil by Titration	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021
Asbestos ID in Solid Samples	11-Feb-2021		11-Feb-2021			11-Feb-2021		11-Feb-2021		11-Feb-2021
Asbestos Quantification - Full	17-Feb-2021									
Cyanide Comp/Free/Total/Thiocyanate	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021
EPH CWG GC (S)	10-Feb-2021	10-Feb-2021	11-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021	11-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021
GRO by GC-FID (S)	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	12-Feb-2021	15-Feb-2021	12-Feb-2021
Metals in solid samples by OES	23-Feb-2021	11-Feb-2021	23-Feb-2021	11-Feb-2021	12-Feb-2021	23-Feb-2021	23-Feb-2021	11-Feb-2021	23-Feb-2021	11-Feb-2021
PAH by GCMS	12-Feb-2021	11-Feb-2021	11-Feb-2021	15-Feb-2021	11-Feb-2021	11-Feb-2021	12-Feb-2021	11-Feb-2021	15-Feb-2021	11-Feb-2021
pH	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021
Phenols by HPLC (S)	12-Feb-2021	12-Feb-2021	12-Feb-2021	12-Feb-2021	12-Feb-2021	12-Feb-2021	12-Feb-2021	12-Feb-2021	12-Feb-2021	12-Feb-2021
Sample description	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021
Total Organic Carbon	12-Feb-2021	12-Feb-2021	11-Feb-2021	12-Feb-2021	12-Feb-2021	11-Feb-2021	12-Feb-2021	12-Feb-2021	12-Feb-2021	11-Feb-2021
TPH CWG GC (S)	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	12-Feb-2021	15-Feb-2021	12-Feb-2021
VOC MS (S)	13-Feb-2021	13-Feb-2021	12-Feb-2021	12-Feb-2021	12-Feb-2021	13-Feb-2021	13-Feb-2021	12-Feb-2021	13-Feb-2021	12-Feb-2021

Lab Sample No(s)	23672977	23672982	23672987	23672972
Customer Sample Ref.	U15-1	U16-1	U16-2	U17-1
AGS Ref.				
Depth	1.00 - 1.00	1.00 - 1.00	2.00 - 2.00	1.00 - 1.00
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Ammonium Soil by Titration	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021
Asbestos ID in Solid Samples	11-Feb-2021		11-Feb-2021	
Asbestos Quantification - Full	18-Feb-2021			
Cyanide Comp/Free/Total/Thiocyanate	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021
EPH CWG GC (S)	10-Feb-2021	11-Feb-2021	10-Feb-2021	10-Feb-2021
GRO by GC-FID (S)	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021
Metals in solid samples by OES	23-Feb-2021	11-Feb-2021	23-Feb-2021	23-Feb-2021
PAH by GCMS	11-Feb-2021	11-Feb-2021	11-Feb-2021	12-Feb-2021
pH	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021
Phenols by HPLC (S)	12-Feb-2021	12-Feb-2021	12-Feb-2021	12-Feb-2021
Sample description	07-Feb-2021	07-Feb-2021	07-Feb-2021	07-Feb-2021
Total Organic Carbon	11-Feb-2021	12-Feb-2021	11-Feb-2021	12-Feb-2021
TPH CWG GC (S)	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021
VOC MS (S)	12-Feb-2021	13-Feb-2021	12-Feb-2021	12-Feb-2021

ALS Environmental, Land	Issue No. 4
	Date: 01/01/2020
QF.7.3.1 Data Amendments Form	Issued and Authorised by Quality Manager

SDG	Sample Event	Sample ID	Date Amended	Amendment Reason	Analyte/Component	Authorised (Lab Manager)	Previous Value	New Value	Units	Supersedes Report
210205-65	23672941	T15-1(1.00-1.00)	24/02/2021	Analytical/Quality Issue	Arsenic	G.Pumford	13.4	3.72	mg/kg	587945
210205-65	23672941	T15-1(1.00-1.00)	24/02/2021	Analytical/Quality Issue	Cadmium	G.Pumford	0.385	0.300	mg/kg	587945
210205-65	23672941	T15-1(1.00-1.00)	24/02/2021	Analytical/Quality Issue	Chromium	G.Pumford	17.0	22.7	mg/kg	587945
210205-65	23672941	T15-1(1.00-1.00)	24/02/2021	Analytical/Quality Issue	Copper	G.Pumford	43.3	8.49	mg/kg	587945
210205-65	23672941	T15-1(1.00-1.00)	24/02/2021	Analytical/Quality Issue	Iron	G.Pumford	23700	20400	mg/kg	587945
210205-65	23672941	T15-1(1.00-1.00)	24/02/2021	Analytical/Quality Issue	Lead	G.Pumford	39.3	14.0	mg/kg	587945
210205-65	23672941	T15-1(1.00-1.00)	24/02/2021	Analytical/Quality Issue	Manganese	G.Pumford	302	3200	mg/kg	587945
210205-65	23672941	T15-1(1.00-1.00)	24/02/2021	Analytical/Quality Issue	Mercury	G.Pumford	<0.100	<0.100	mg/kg	587945
210205-65	23672941	T15-1(1.00-1.00)	24/02/2021	Analytical/Quality Issue	Nickel	G.Pumford	41.3	6.21	mg/kg	587945
210205-65	23672941	T15-1(1.00-1.00)	24/02/2021	Analytical/Quality Issue	Selenium	G.Pumford	<1.00	1.59	mg/kg	587945
210205-65	23672941	T15-1(1.00-1.00)	24/02/2021	Analytical/Quality Issue	Vanadium	G.Pumford	70.2	32.6	mg/kg	587945
210205-65	23672941	T15-1(1.00-1.00)	24/02/2021	Analytical/Quality Issue	Zinc	G.Pumford	60.6	66.3	mg/kg	587945
210205-65	23672987	U16-2(2.00-2.00)	24/02/2021	Analytical/Quality Issue	Arsenic	G.Pumford	2.49	5.23	mg/kg	587945
210205-65	23672987	U16-2(2.00-2.00)	24/02/2021	Analytical/Quality Issue	Cadmium	G.Pumford	0.0437	0.363	mg/kg	587945
210205-65	23672987	U16-2(2.00-2.00)	24/02/2021	Analytical/Quality Issue	Chromium	G.Pumford	3.22	25.2	mg/kg	587945
210205-65	23672987	U16-2(2.00-2.00)	24/02/2021	Analytical/Quality Issue	Copper	G.Pumford	<1.40	11.9	mg/kg	587945
210205-65	23672987	U16-2(2.00-2.00)	24/02/2021	Analytical/Quality Issue	Iron	G.Pumford	2840	24500	mg/kg	587945
210205-65	23672987	U16-2(2.00-2.00)	24/02/2021	Analytical/Quality Issue	Lead	G.Pumford	5.90	408	mg/kg	587945
210205-65	23672987	U16-2(2.00-2.00)	24/02/2021	Analytical/Quality Issue	Manganese	G.Pumford	10.7	2040	mg/kg	587945
210205-65	23672987	U16-2(2.00-2.00)	24/02/2021	Analytical/Quality Issue	Mercury	G.Pumford	<0.100	<0.100	mg/kg	587945
210205-65	23672987	U16-2(2.00-2.00)	24/02/2021	Analytical/Quality Issue	Nickel	G.Pumford	1.32	10.8	mg/kg	587945
210205-65	23672987	U16-2(2.00-2.00)	24/02/2021	Analytical/Quality Issue	Selenium	G.Pumford	<1.00	<1.00	mg/kg	587945
210205-65	23672987	U16-2(2.00-2.00)	24/02/2021	Analytical/Quality Issue	Vanadium	G.Pumford	11.6	23.4	mg/kg	587945
210205-65	23672987	U16-2(2.00-2.00)	24/02/2021	Analytical/Quality Issue	Zinc	G.Pumford	10.3	107	mg/kg	587945
210205-65	23673002	U12-1	24/02/2021	Analytical/Quality Issue	Arsenic	G.Pumford	8.90	2.68	mg/Kg	587945
210205-65	23673002	U12-1	24/02/2021	Analytical/Quality Issue	Cadmium	G.Pumford	0.610	0.0911	mg/Kg	587945
210205-65	23673002	U12-1	24/02/2021	Analytical/Quality Issue	Chromium	G.Pumford	<9.00	36.9	mg/Kg	587945
210205-65	23673002	U12-1	24/02/2021	Analytical/Quality Issue	Copper	G.Pumford	65.4	7.98	mg/Kg	587945
210205-65	23673002	U12-1	24/02/2021	Analytical/Quality Issue	Iron	G.Pumford	49200	11600	mg/Kg	587945
210205-65	23673002	U12-1	24/02/2021	Analytical/Quality Issue	Lead	G.Pumford	74.0	27.1	mg/Kg	587945
210205-65	23673002	U12-1	24/02/2021	Analytical/Quality Issue	Manganese	G.Pumford	2690	3880	mg/Kg	587945
210205-65	23673002	U12-1	24/02/2021	Analytical/Quality Issue	Mercury	G.Pumford	<1.00	<0.100	mg/Kg	587945
210205-65	23673002	U12-1	24/02/2021	Analytical/Quality Issue	Nickel	G.Pumford	24.6	4.33	mg/Kg	587945
210205-65	23673002	U12-1	24/02/2021	Analytical/Quality Issue	Selenium	G.Pumford	<10.00	2.89	mg/Kg	587945
210205-65	23673002	U12-1	24/02/2021	Analytical/Quality Issue	Vanadium	G.Pumford	63.50	32.40	mg/Kg	587945
210205-65	23673002	U12-1	24/02/2021	Analytical/Quality Issue	Zinc	G.Pumford	101.00	52.70	mg/Kg	587945
210205-65	23672972	U17-1	24/02/2021	Analytical/Quality Issue	Arsenic	G.Pumford	<6.00	4.04	mg/Kg	587945
210205-65	23672972	U17-1	24/02/2021	Analytical/Quality Issue	Cadmium	G.Pumford	<0.200	0.380	mg/Kg	587945
210205-65	23672972	U17-1	24/02/2021	Analytical/Quality Issue	Chromium	G.Pumford	<9.00	150	mg/Kg	587945
210205-65	23672972	U17-1	24/02/2021	Analytical/Quality Issue	Copper	G.Pumford	<14.0	12.1	mg/Kg	587945
210205-65	23672972	U17-1	24/02/2021	Analytical/Quality Issue	Iron	G.Pumford	<10000	66400	mg/Kg	587945
210205-65	23672972	U17-1	24/02/2021	Analytical/Quality Issue	Lead	G.Pumford	<7.00	<0.700	mg/Kg	587945
210205-65	23672972	U17-1	24/02/2021	Analytical/Quality Issue	Manganese	G.Pumford	12.6	5440		587945
210205-65	23672972	U17-1	24/02/2021	Analytical/Quality Issue	Mercury	G.Pumford	<1.00	<0.100	mg/Kg	587945
210205-65	23672972	U17-1	24/02/2021	Analytical/Quality Issue	Nickel	G.Pumford	<2.00	9.07	mg/Kg	587945
210205-65	23672972	U17-1	24/02/2021	Analytical/Quality Issue	Selenium	G.Pumford	<10.00	1.27	mg/Kg	587945
210205-65	23672972	U17-1	24/02/2021	Analytical/Quality Issue	Vanadium	G.Pumford	2.58	73.10	mg/Kg	587945
210205-65	23672972	U17-1	24/02/2021	Analytical/Quality Issue	Zinc	G.Pumford	<19.0	42.90	mg/Kg	587945
210205-65	23672993	U14-1	24/02/2021	Analytical/Quality Issue	Arsenic	G.Pumford	9.98	2.71	mg/Kg	587945
210205-65	23672993	U14-1	24/02/2021	Analytical/Quality Issue	Cadmium	G.Pumford	<0.200	0.108	mg/Kg	587945
210205-65	23672993	U14-1	24/02/2021	Analytical/Quality Issue	Chromium	G.Pumford	<9.00	9.06	mg/Kg	587945
210205-65	23672993	U14-1	24/02/2021	Analytical/Quality Issue	Copper	G.Pumford	<14.0	6.92	mg/Kg	587945
210205-65	23672993	U14-1	24/02/2021	Analytical/Quality Issue	Iron	G.Pumford	18500	7600	mg/Kg	587945
210205-65	23672993	U14-1	24/02/2021	Analytical/Quality Issue	Lead	G.Pumford	11.2	3.62	mg/Kg	587945
210205-65	23672993	U14-1	24/02/2021	Analytical/Quality Issue	Manganese	G.Pumford	183	3530	mg/Kg	587945
210205-65	23672993	U14-1	24/02/2021	Analytical/Quality Issue	Mercury	G.Pumford	<1.00	<0.100	mg/Kg	587945
210205-65	23672993	U14-1	24/02/2021	Analytical/Quality Issue	Nickel	G.Pumford	9.08	3.24	mg/Kg	587945
210205-65	23672993	U14-1	24/02/2021	Analytical/Quality Issue	Selenium	G.Pumford	<10.00	2.11	mg/Kg	587945
210205-65	23672993	U14-1	24/02/2021	Analytical/Quality Issue	Vanadium	G.Pumford	23.30	20.30	mg/Kg	587945
210205-65	23672993	U14-1	24/02/2021	Analytical/Quality Issue	Zinc	G.Pumford	22.40	16.90	mg/Kg	587945
210205-65	23672951	S14-1(0.50-0.50)	24/02/2021	Analytical/Quality Issue	Arsenic	G.Pumford	7.24	5.83	mg/kg	587945
210205-65	23672951	S14-1(0.50-0.50)	24/02/2021	Analytical/Quality Issue	Cadmium	G.Pumford	0.210	0.325	mg/kg	587945
210205-65	23672951	S14-1(0.50-0.50)	24/02/2021	Analytical/Quality Issue	Chromium	G.Pumford	10.1	39.2	mg/kg	587945
210205-65	23672951	S14-1(0.50-0.50)	24/02/2021	Analytical/Quality Issue	Copper	G.Pumford	9.02	16.2	mg/kg	587945
210205-65	23672951	S14-1(0.50-0.50)	24/02/2021	Analytical/Quality Issue	Iron	G.Pumford	14900	30800	mg/kg	587945
210205-65	23672951	S14-1(0.50-0.50)	24/02/2021	Analytical/Quality Issue	Lead	G.Pumford	26.9	29.9	mg/kg	587945
210205-65	23672951	S14-1(0.50-0.50)	24/02/2021	Analytical/Quality Issue	Manganese	G.Pumford	238	4130	mg/kg	587945
210205-65	23672951	S14-1(0.50-0.50)	24/02/2021	Analytical/Quality Issue	Mercury	G.Pumford	<0.1	<0.1	mg/kg	587945
210205-65	23672951	S14-1(0.50-0.50)	24/02/2021	Analytical/Quality Issue	Nickel	G.Pumford	5.95	11.8	mg/kg	587945
210205-65	23672951	S14-1(0.50-0.50)	24/02/2021	Analytical/Quality Issue	Selenium	G.Pumford	<1.00	1.80	mg/kg	587945
210205-65	23672951	S14-1(0.50-0.50)	24/02/2021	Analytical/Quality Issue	Vanadium	G.Pumford	23.0	59.5	mg/kg	587945
210205-65	23672951	S14-1(0.50-0.50)	24/02/2021	Analytical/Quality Issue	Zinc	G.Pumford	53.9	87.0	mg/kg	587945
210205-65	23672963	S15-1(0.70-0.70)	24/02/2021	Analytical/Quality Issue	Arsenic	G.Pumford	14.4	9.45	mg/kg	587945
210205-65	23672963	S15-1(0.70-0.70)	24/02/2021	Analytical/Quality Issue	Cadmium	G.Pumford	0.283	1.59	mg/kg	587945
210205-65	23672963	S15-1(0.70-0.70)	24/02/2021	Analytical/Quality Issue	Chromium	G.Pumford	10.2	89.9	mg/kg	587945
210205-65	23672963	S15-1(0.70-0.70)	24/02/2021	Analytical/Quality Issue	Copper	G.Pumford	8.52	33.9	mg/kg	587945
210205-65	23672963	S15-1(0.70-0.70)	24/02/2021	Analytical/Quality Issue	Iron	G.Pumford	19000	171000	mg/kg	587945
210205-65	23672963	S15-1(0.70-0.70)	24/02/2021	Analytical/Quality Issue	Lead	G.Pumford	32.5	97.3	mg/kg	587945
210205-65	23672963	S15-1(0.70-0.70)	24/02/2021	Analytical/Quality Issue	Manganese	G.Pumford	244	8150	mg/kg	587945
210205-65	23672963	S15-1(0.70-0.70)	24/02/2021	Analytical/Quality Issue	Mercury	G.Pumford	<0.100	<0.100	mg/kg	587945
210205-65	23672963	S15-1(0.70-0.70)	24/02/2021	Analytical/Quality Issue	Nickel	G.Pumford	8.55	22.0	mg/kg	587945
210205-65	23672963	S15-1(0.70-0.70)	24/02/2021	Analytical/Quality Issue	Selenium	G.Pumford	<1.00	<1.00	mg/kg	587945
210205-65	23672963	S15-1(0.70-0.70)	24/02/2021	Analytical/Quality Issue	Vanadium	G.Pumford	37.7	134	mg/kg	587945
210205-65	23672963	S15-1(0.70-0.70)	24/02/2021	Analytical/Quality Issue	Zinc	G.Pumford	55.6	380	mg/kg	587945
210205-65	23672977	U15-1(1.00-1.00)	24/02/2021	Analytical/Quality Issue	Arsenic	G.Pumford	12.0	5.49	mg/kg	587945
210205-65	23672977	U15-1(1.00-1.00)	24/02/2021	Analytical/Quality Issue	Cadmium	G.Pumford	0.272	0.234	mg/kg	587945
210205-65	23672977	U15-1(1.00-1.00)	24/02/2021	Analytical/Quality Issue	Chromium	G.Pumford	7.00	14.1	mg/kg	587945
210205-65	23672977	U15-1(1.00-1.00)	24/02/2021	Analytical/Quality Issue	Copper	G.Pumford	4.42	6.65	mg/kg	587945
210205-65	23672977	U15-1(1.00-1.00)	24/02/2021	Analytical/Quality Issue	Iron	G.Pumford	29900	12000	mg/kg	587945
210205-65	23672977	U15-1(1.00-1.00)	24/02/2021	Analytical/Quality Issue	Lead	G.Pumford	7.94	15.9	mg/kg	587945
210205-65	23672977	U15-1(1.00-1.00)	24/02/2021	Analytical/Quality Issue	Manganese	G.Pumford	356	1080	mg/kg	587945
210205-65	23672977	U15-1(1.00-1.00)	24/02/2021	Analytical/Quality Issue	Mercury	G.Pumford	<0.100	<0.100	mg/kg	587945
210205-65	23672977	U15-1(1.00-1.00)	24/02/2021	Analytical/Quality Issue	Nickel	G.Pumford	9.90	4.15	mg/kg	587945
210205-65	23672977	U15-1(1.00-1.00)	24/02/2021	Analytical/Quality Issue	Selenium	G.Pumford	<1.00	<1.00	mg/kg	587945
210205-65	23672977	U15-1(1.00-1.00)	24/02/2021	Analytical/Quality Issue	Vanadium	G.Pumford	28.2	31.0	mg/kg	587945
210205-65	23672977	U15-1(1.00-1.00)	24/02/2021	Analytical/Quality Issue	Zinc	G.Pumford	32.7	33.5	mg/kg	587945

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as “mixed hydrocarbons”. Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

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Rodgers Leask
Office 225
2430/2440
Aztec West
Almondsbury
Bristol
BS32 4QA

Attention: Elliot Thomas

CERTIFICATE OF ANALYSIS

Date of report Generation:	19 February 2021
Customer:	Rodgers Leask
Sample Delivery Group (SDG):	210206-39
Your Reference:	P18-669
Location:	Llanwern
Report No:	587491

This report has been revised and directly supersedes 587296 in its entirety.

We received 16 samples on Saturday February 06, 2021 and 16 of these samples were scheduled for analysis which was completed on Friday February 19, 2021. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	210206-39	**Client Reference:**	P18-669	**Report Number:**	587491
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587296

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23677975	S16-1		0.90 - 0.90	04/02/2021
23678020	S16-2		2.20 - 2.20	04/02/2021
23678025	S18-1		0.70 - 0.70	04/02/2021
23678034	S19-1		1.00 - 1.00	04/02/2021
23678039	S19-2		2.00 - 2.00	04/02/2021
23677997	S21-1		0.50 - 0.50	05/02/2021
23678005	S21-2		1.80 - 1.80	05/02/2021
23678009	S22-1		0.50 - 0.50	05/02/2021
23678013	S22-2		1.30 - 1.30	05/02/2021
23677984	T21-1		1.00 - 1.00	05/02/2021
23677989	T21-2		2.00 - 2.00	05/02/2021
23678044	U19-1		0.30 - 0.30	05/02/2021
23678051	U20-1		0.80 - 0.80	05/02/2021
23678058	U20-2		1.30 - 1.30	05/02/2021
23678064	U21-1		0.50 - 0.50	05/02/2021
23677979	U21-2		1.40 - 1.40	05/02/2021

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG:	210206-39	**Client Reference:**	P18-669	**Report Number:**	587491
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587296

Results Legend

X Test

N No Determination Possible

Sample Types -

S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23677975		23678020		23678025		23678034		23678039		23677997		23678005		23678009				
Customer Sample Reference			S16-1		S16-2		S18-1		S19-1		S19-2		S21-1		S21-2		S22-1				
AGS Reference																					
Depth (m)			0.90 - 0.90		2.20 - 2.20		0.70 - 0.70		1.00 - 1.00		2.00 - 2.00		0.50 - 0.50		1.80 - 1.80		0.50 - 0.50				
Container			1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)
Sample Type			S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Ammonium Soil by Titration	All	NDPs: 0 Tests: 16		X		X			X		X			X			X		X		
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 8	X					X					X			X					X
Asbestos Quantification - Full	All	NDPs: 0 Tests: 2											X			X					
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 16		X		X			X		X			X			X		X		
EPH CWG GC (S)	All	NDPs: 0 Tests: 16		X		X			X		X			X			X		X		
GRO by GC-FID (S)	All	NDPs: 0 Tests: 16			X		X			X		X			X			X		X	
Metals in solid samples by OES	All	NDPs: 0 Tests: 16		X		X			X		X			X			X		X		
PAH by GCMS	All	NDPs: 0 Tests: 16		X		X			X		X			X			X		X		
pH	All	NDPs: 0 Tests: 16		X		X			X		X			X			X		X		
Phenols by HPLC (S)	All	NDPs: 0 Tests: 16		X		X			X		X			X			X		X		
Sample description	All	NDPs: 0 Tests: 15		X		X			X		X			X			X		X		
Total Organic Carbon	All	NDPs: 0 Tests: 16		X		X			X		X			X			X		X		
TPH CWG GC (S)	All	NDPs: 0 Tests: 16		X		X			X		X			X			X		X		
VOC MS (S)	All	NDPs: 0 Tests: 16			X		X			X		X			X			X		X	

23677979	U21-2		1.40 - 1.40	60g VOC (ALE215)	S								x												x
				250g Amber Jar (ALE210)	S	x				x	x		x	x	x	x	x	x	x	x					
23678064	U21-1		0.50 - 0.50	60g VOC (ALE215)	S								x												x
				250g Amber Jar (ALE210)	S	x				x	x		x	x	x	x	x	x	x	x					
				1kg TUB with Handle (ALE260)	S		x																		
23678058	U20-2		1.30 - 1.30	60g VOC (ALE215)	S								x												x
				250g Amber Jar (ALE210)	S	x				x	x		x	x	x	x	x	x	x	x					
23678051	U20-1		0.80 - 0.80	60g VOC (ALE215)	S								x												x
				250g Amber Jar (ALE210)	S	x				x	x		x	x	x	x	x	x	x	x					
				1kg TUB with Handle (ALE260)	S		x																		
23678044	U19-1		0.30 - 0.30	60g VOC (ALE215)	S								x												x
				250g Amber Jar (ALE210)	S	x				x	x		x	x	x	x	x	x	x	x					
23677989	T21-2		2.00 - 2.00	60g VOC (ALE215)	S								x												x
				250g Amber Jar (ALE210)	S	x				x	x		x	x	x	x	x	x	x	x					
23677984	T21-1		1.00 - 1.00	60g VOC (ALE215)	S								x												x
				250g Amber Jar (ALE210)	S	x				x	x		x	x	x	x	x	x	x	x					
				1kg TUB with Handle (ALE260)	S		x																		
23678013	S22-2		1.30 - 1.30	60g VOC (ALE215)	S								x												x
				250g Amber Jar (ALE210)	S	x				x	x		x	x	x	x	x	x	x	x					
23678009	S22-1		0.50 - 0.50	60g VOC (ALE215)	S								x												x
				250g Amber Jar (ALE210)	S	x				x	x		x	x	x	x	x			x	x				

CERTIFICATE OF ANALYSIS

SDG:	210206-39	**Client Reference:**	P18-669	**Report Number:**	587491
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587296

Sample Descriptions

Grain Sizes

very fine	<0.063mm	**fine**	0.063mm - 0.1mm	**medium**	0.1mm - 2mm	**coarse**	2mm - 10mm	**very coarse**	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
23677975	S16-1	0.90 - 0.90	Dark Brown	Loamy Sand	Stones	None
23678020	S16-2	2.20 - 2.20	Dark Brown	Sand	Stones	Crushed Brick
23678025	S18-1	0.70 - 0.70	Dark Brown	Sand	Stones	None
23678034	S19-1	1.00 - 1.00	Dark Brown	Loamy Sand	Stones	Vegetation
23678039	S19-2	2.00 - 2.00	Dark Brown	Sand	Stones	Vegetation
23677997	S21-1	0.50 - 0.50	Dark Brown	Sandy Loam	Stones	Vegetation
23678005	S21-2	1.80 - 1.80	Dark Brown	Loamy Sand	Stones	Vegetation
23678009	S22-1	0.50 - 0.50	Dark Brown	Loamy Sand	Vegetation	Brick
23678013	S22-2	1.30 - 1.30	Dark Brown	Sandy Loam	Stones	Vegetation
23677984	T21-1	1.00 - 1.00	Dark Brown	Loamy Sand	Stones	None
23677989	T21-2	2.00 - 2.00	Dark Brown	Loamy Sand	Stones	Vegetation
23678044	U19-1	0.30 - 0.30	Dark Brown	Loamy Sand	Stones	Vegetation
23678051	U20-1	0.80 - 0.80	Dark Brown	Loamy Sand	Stones	Coal fragments
23678058	U20-2	1.30 - 1.30	Dark Brown	Stone/Soil	Stones	Vegetation
23678064	U21-1	0.50 - 0.50	Dark Brown	Loamy Sand	Stones	Brick
23677979	U21-2	1.40 - 1.40	Dark Brown	Loamy Sand	Stones	None

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

CERTIFICATE OF ANALYSIS

SDG:	210206-39	**Client Reference:**	P18-669	**Report Number:**	587491
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587296

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	S16-1	S16-2	S18-1	S19-1	S19-2	S21-1
			Depth (m)	0.90 - 0.90	2.20 - 2.20	0.70 - 0.70	1.00 - 1.00	2.00 - 2.00	0.50 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021	05/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	06/02/2021	06/02/2021	06/02/2021	06/02/2021	06/02/2021	06/02/2021
			SDG Ref	210206-39	210206-39	210206-39	210206-39	210206-39	210206-39
			Lab Sample No.(s)	23677975	23678020	23678025	23678034	23678039	23677997
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		11	19	11	14	16	16
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M	<12 M	<12 M	<12 M	<12 M
Phenol	<0.01 mg/kg	TM062 (S)		0.0113 M	<0.01 M	<0.01 M	0.0116 M	<0.01 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	0.0116 M	0.0119 M	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M
Soil Organic Matter (SOM)	<0.35 %	TM132		61.7 #	32.1 #	4.47 #	62.9 #	33.6 #	45.2 #
pH	1 pH Units	TM133		11.1 M	8.96 M	12.6 M	10.1 M	11 M	10.5 M
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Arsenic	<0.6 mg/kg	TM181		<6 M	6.47 M	<6 M	7.62 M	9.93 M	<6 M
Cadmium	<0.02 mg/kg	TM181		<0.2 M	<0.2 M	<0.2 M	0.459 M	<0.2 M	0.956 M
Chromium	<0.9 mg/kg	TM181		83.6 M	11.7 M	458 M	51 M	123 M	120 M
Copper	<1.4 mg/kg	TM181		<14 M	22.6 M	<14 M	<14 M	28 M	29.9 M
Iron	<1000 mg/kg	TM181		40100 #	24200 #	134000 #	34500 #	47100 #	59200 #
Lead	<0.7 mg/kg	TM181		22.2 M	20.2 M	9.23 M	66.1 M	64.8 M	52.4 M
Manganese	<0.13 mg/kg	TM181		4880 M	4100 M	29000 M	3280 M	8070 M	9620 M
Mercury	<0.1 mg/kg	TM181		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Nickel	<0.2 mg/kg	TM181		8.99 M	19.9 M	2.79 M	11.7 M	18.1 M	10.9 M
Selenium	<1 mg/kg	TM181		<10 #	<10 #	<10 #	<10 #	<10 #	<10 #
Vanadium	<0.2 mg/kg	TM181		94.1 #	31.1 #	458 #	57.3 #	134 #	245 #
Zinc	<1.9 mg/kg	TM181		55.3 M	73.8 M	60.5 M	88.3 M	113 M	183 M
Asbestos Quantification - Gravimetric - %	<0.001 %	TM304						<0.001 #	<0.001 #
Asbestos Quantification - PCOM Evaluation - %	<0.001 %	TM304						<0.001 #	<0.001 #
Additional Asbestos Components (Using TM048)		TM304						None #	None #
Analysts Comments		TM304						N/A	0
Asbestos Quantification - Total - %	<0.001 %	TM304						<0.001 #	<0.001 #

Validated

CERTIFICATE OF ANALYSIS

SDG:	210206-39	**Client Reference:**	P18-669	**Report Number:**	587491
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587296

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	S21-2	S22-1	S22-2	T21-1	T21-2	U19-1
			Depth (m)	1.80 - 1.80	0.50 - 0.50	1.30 - 1.30	1.00 - 1.00	2.00 - 2.00	0.30 - 0.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	06/02/2021	06/02/2021	06/02/2021	06/02/2021	06/02/2021	06/02/2021
			SDG Ref	210206-39	210206-39	210206-39	210206-39	210206-39	210206-39
			Lab Sample No.(s)	23678005	23678009	23678013	23677984	23677989	23678044
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		20	15	21	16	17	11
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M	<12 M	<12 M	<12 M	<12 M
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)		0.0124 M	<0.01 M	0.0127 M	<0.01 M	<0.01 M	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M
Soil Organic Matter (SOM)	<0.35 %	TM132		16.5 #	21.7 #	24.3 #	37.2 #	36.7 #	8.26 #
pH	1 pH Units	TM133		11.2 M	10.2 M	9.63 M	10.8 M	10.4 M	12 M
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Arsenic	<0.6 mg/kg	TM181		10.9 M	<6 M	11.6 M	<6 M	6.59 M	<6 M
Cadmium	<0.02 mg/kg	TM181		1.44 M	0.592 M	1.44 M	<0.2 M	0.597 M	0.889 M
Chromium	<0.9 mg/kg	TM181		182 M	133 M	85.7 M	44.9 M	179 M	476 M
Copper	<1.4 mg/kg	TM181		44.7 M	19.9 M	23.6 M	25.4 M	18.6 M	<14 M
Iron	<1000 mg/kg	TM181		70900 #	65500 #	122000 #	66400 #	59400 #	154000 #
Lead	<0.7 mg/kg	TM181		75 M	44.6 M	114 M	58 M	51.7 M	31.5 M
Manganese	<0.13 mg/kg	TM181		4170 M	6900 M	7740 M	2400 M	8280 M	28200 M
Mercury	<0.1 mg/kg	TM181		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Nickel	<0.2 mg/kg	TM181		24.9 M	17.8 M	23.8 M	17.9 M	16.4 M	10.1 M
Selenium	<1 mg/kg	TM181		<10 #	<10 #	<10 #	<10 #	<10 #	12 #
Vanadium	<0.2 mg/kg	TM181		101 #	122 #	183 #	48.5 #	245 #	409 #
Zinc	<1.9 mg/kg	TM181		239 M	89.9 M	353 M	127 M	107 M	86.1 M

Validated

CERTIFICATE OF ANALYSIS

SDG:	210206-39	**Client Reference:**	P18-669	**Report Number:**	587491
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587296

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	U20-1	U20-2	U21-1	U21-2		
			Depth (m)	0.80 - 0.80	1.30 - 1.30	0.50 - 0.50	1.40 - 1.40		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	05/02/2021	05/02/2021	05/02/2021	05/02/2021		
			Sample Time	.	.	.	.		
			Date Received	06/02/2021	06/02/2021	06/02/2021	06/02/2021		
			SDG Ref	210206-39	210206-39	210206-39	210206-39		
			Lab Sample No.(s)	23678051	23678058	23678064	23677979		
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		8.4	15	11	13		
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 #	<12 M	<12 M		
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 #	<0.01 M	<0.01 M		
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 #	<0.01 M	<0.01 M		
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 #	<0.015 M	<0.015 M		
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 #	<0.035 M	<0.035 M		
Soil Organic Matter (SOM)	<0.35 %	TM132		7.57 #	4.86 #	33.1 #	9.09 #		
pH	1 pH Units	TM133		10.9 M	10.1 #	9.8 M	10.4 M		
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 #	<1 M	<1 M		
Arsenic	<0.6 mg/kg	TM181		<6 M	6.86 #	7.16 M	7.62 M		
Cadmium	<0.02 mg/kg	TM181		0.349 M	0.645 #	<0.2 M	0.892 M		
Chromium	<0.9 mg/kg	TM181		<9 M	64.2 #	21.5 M	14 M		
Copper	<1.4 mg/kg	TM181		<14 M	15.6 #	33.3 M	16.8 M		
Iron	<1000 mg/kg	TM181		17100 #	51900 #	215000 #	81800 #		
Lead	<0.7 mg/kg	TM181		24.6 M	424 #	169 M	91.7 M		
Manganese	<0.13 mg/kg	TM181		1380 M	6270 #	3200 M	6760 M		
Mercury	<0.1 mg/kg	TM181		<1 M	<1 #	<1 M	<1 M		
Nickel	<0.2 mg/kg	TM181		12.4 M	12.4 #	42 M	13.1 M		
Selenium	<1 mg/kg	TM181		<10 #	<10 #	<10 #	<10 #		
Vanadium	<0.2 mg/kg	TM181		19.1 #	89.5 #	49.8 #	78.8 #		
Zinc	<1.9 mg/kg	TM181		57.9 M	95.3 #	117 M	108 M		

Validated

CERTIFICATE OF ANALYSIS

SDG:	210206-39	**Client Reference:**	P18-669	**Report Number:**	587491
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587296

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	S16-1	S16-2	S18-1	S19-1	S19-2	S21-1
			Depth (m)	0.90 - 0.90	2.20 - 2.20	0.70 - 0.70	1.00 - 1.00	2.00 - 2.00	0.50 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021	05/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	06/02/2021	06/02/2021	06/02/2021	06/02/2021	06/02/2021	06/02/2021
			SDG Ref	210206-39	210206-39	210206-39	210206-39	210206-39	210206-39
			Lab Sample No.(s)	23677975	23678020	23678025	23678034	23678039	23677997
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		101	98.6	95.8	104	82.9	79.9
Acenaphthene-d10 % recovery**	%	TM218		102	98.4	96.6	108	86.8	82.7
Phenanthrene-d10 % recovery**	%	TM218		101	98.2	94.5	98.6	87	86.4
Chrysene-d12 % recovery**	%	TM218		89.9	86.3	89.9	96.8	77.8	75.8
Perylene-d12 % recovery**	%	TM218		77.3	87.3	86.1	83.3	75.7	72.7
Naphthalene	<9 µg/kg	TM218		376 M	169 M	450 M	3270 M	3630 M	1170 M
Acenaphthylene	<12 µg/kg	TM218		28 M	39.1 M	61.8 M	1810 M	5690 M	464 M
Acenaphthene	<8 µg/kg	TM218		53.7 M	17.1 M	10.2 M	184 M	415 M	79.3 M
Fluorene	<10 µg/kg	TM218		150 M	43.7 M	55.8 M	1220 M	6780 M	751 M
Phenanthrene	<15 µg/kg	TM218		649 M	257 M	592 M	11800 M	36400 M	5970 M
Anthracene	<16 µg/kg	TM218		72.7 M	46.9 M	89.2 M	2370 M	7660 M	1380 M
Fluoranthene	<17 µg/kg	TM218		358 M	287 M	526 M	16900 M	42000 M	8180 M
Pyrene	<15 µg/kg	TM218		298 M	216 M	372 M	12000 M	28900 M	6080 M
Benz(a)anthracene	<14 µg/kg	TM218		165 M	120 M	233 M	7070 M	13700 M	3000 M
Chrysene	<10 µg/kg	TM218		286 M	131 M	248 M	6690 M	12000 M	2890 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		271 M	114 M	377 M	8550 M	15700 M	3730 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		78.3 M	51.6 M	118 M	3230 M	5310 M	1140 M
Benzo(a)pyrene	<15 µg/kg	TM218		135 M	98.8 M	185 M	5230 M	10100 M	2310 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		87.3 M	89.1 M	162 M	3040 M	7000 M	1890 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		34.4 M	<23 M	42.7 M	811 M	1170 M	365 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		127 M	82.9 M	179 M	3230 M	6440 M	1530 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		3170	1760	3700	87300	203000	40900

Validated

CERTIFICATE OF ANALYSIS

SDG:	210206-39	**Client Reference:**	P18-669	**Report Number:**	587491
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587296

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	S21-2	S22-1	S22-2	T21-1	T21-2	U19-1
			Depth (m)	1.80 - 1.80	0.50 - 0.50	1.30 - 1.30	1.00 - 1.00	2.00 - 2.00	0.30 - 0.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	06/02/2021	06/02/2021	06/02/2021	06/02/2021	06/02/2021	06/02/2021
			SDG Ref	210206-39	210206-39	210206-39	210206-39	210206-39	210206-39
			Lab Sample No.(s)	23678005	23678009	23678013	23677984	23677989	23678044
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		82.7	98.5	97	82.1	82.6	98.9
Acenaphthene-d10 % recovery**	%	TM218		83.5	96.4	94.5	81.9	83.3	97
Phenanthrene-d10 % recovery**	%	TM218		86.1	97.5	96	83.2	84.2	97.8
Chrysene-d12 % recovery**	%	TM218		84.1	99.5	94.6	75.6	80.8	96.7
Perylene-d12 % recovery**	%	TM218		80.6	106	100	70.7	75.7	101
Naphthalene	<9 µg/kg	TM218		1130 M	577 M	649 M	720 M	420 M	282 M
Acenaphthylene	<12 µg/kg	TM218		226 M	604 M	347 M	269 M	210 M	98.6 M
Acenaphthene	<8 µg/kg	TM218		527 M	36.5 M	38.4 M	<40 M	19.8 M	<8 M
Fluorene	<10 µg/kg	TM218		460 M	463 M	220 M	194 M	131 M	55.9 M
Phenanthrene	<15 µg/kg	TM218		1650 M	3250 M	1910 M	1670 M	1130 M	1040 M
Anthracene	<16 µg/kg	TM218		436 M	1790 M	616 M	352 M	269 M	234 M
Fluoranthene	<17 µg/kg	TM218		1880 M	6500 M	3600 M	2120 M	1810 M	1600 M
Pyrene	<15 µg/kg	TM218		1460 M	4690 M	2660 M	1540 M	1330 M	1090 M
Benz(a)anthracene	<14 µg/kg	TM218		776 M	2500 M	1490 M	823 M	776 M	652 M
Chrysene	<10 µg/kg	TM218		775 M	2470 M	1270 M	859 M	793 M	680 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		1030 M	3430 M	1610 M	1020 M	1030 M	617 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		324 M	1130 M	606 M	322 M	341 M	293 M
Benzo(a)pyrene	<15 µg/kg	TM218		673 M	2320 M	1340 M	627 M	660 M	505 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		474 M	1830 M	1060 M	448 M	498 M	429 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		90.9 M	335 M	194 M	<115 M	88.9 M	79.3 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		456 M	1580 M	929 M	445 M	494 M	378 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		12400	33500	18600	11400	10000	8040

Validated

CERTIFICATE OF ANALYSIS

SDG:	210206-39	**Client Reference:**	P18-669	**Report Number:**	587491
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587296

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	U20-1	U20-2	U21-1	U21-2		
			Depth (m)	0.80 - 0.80	1.30 - 1.30	0.50 - 0.50	1.40 - 1.40		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	05/02/2021	05/02/2021	05/02/2021	05/02/2021		
			Sample Time	.	.	.	.		
			Date Received	06/02/2021	06/02/2021	06/02/2021	06/02/2021		
			SDG Ref	210206-39	210206-39	210206-39	210206-39		
			Lab Sample No.(s)	23678051	23678058	23678064	23677979		
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		104	102	91.2	84.5		
Acenaphthene-d10 % recovery**	%	TM218		101	98.4	94.9	85.6		
Phenanthrene-d10 % recovery**	%	TM218		97.1	98.4	94.4	87.6		
Chrysene-d12 % recovery**	%	TM218		93	95.5	89.8	84.5		
Perylene-d12 % recovery**	%	TM218		90.7	104	78.1	82.2		
Naphthalene	<9 µg/kg	TM218		157 M	55.6 #	1080 M	198 M		
Acenaphthylene	<12 µg/kg	TM218		<12 M	14.7 #	394 M	73.7 M		
Acenaphthene	<8 µg/kg	TM218		13.4 M	10.2 #	28.6 M	12.6 M		
Fluorene	<10 µg/kg	TM218		41 M	13.2 #	232 M	49.3 M		
Phenanthrene	<15 µg/kg	TM218		225 M	130 #	2850 M	403 M		
Anthracene	<16 µg/kg	TM218		32.6 M	23.7 #	758 M	96.6 M		
Fluoranthene	<17 µg/kg	TM218		114 M	173 #	5170 M	579 M		
Pyrene	<15 µg/kg	TM218		87.1 M	145 #	3580 M	428 M		
Benz(a)anthracene	<14 µg/kg	TM218		60 M	122 #	2220 M	284 M		
Chrysene	<10 µg/kg	TM218		97.2 M	146 #	1940 M	301 M		
Benzo(b)fluoranthene	<15 µg/kg	TM218		86.2 M	152 #	2870 M	398 M		
Benzo(k)fluoranthene	<14 µg/kg	TM218		19.6 M	73.4 #	893 M	140 M		
Benzo(a)pyrene	<15 µg/kg	TM218		44.8 M	145 #	1600 M	243 M		
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		31.3 M	139 #	1130 M	182 M		
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		<23 M	28.2 #	266 M	37 M		
Benzo(g,h,i)perylene	<24 µg/kg	TM218		45 M	129 #	1050 M	210 M		
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		1050	1500	26100	3640		

Validated

CERTIFICATE OF ANALYSIS

SDG:	210206-39	**Client Reference:**	P18-669	**Report Number:**	587491
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587296

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	S16-1	S16-2	S18-1	S19-1	S19-2	S21-1
			Depth (m)	0.90 - 0.90	2.20 - 2.20	0.70 - 0.70	1.00 - 1.00	2.00 - 2.00	0.50 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021	05/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	06/02/2021	06/02/2021	06/02/2021	06/02/2021	06/02/2021	06/02/2021
			SDG Ref	210206-39	210206-39	210206-39	210206-39	210206-39	210206-39
			Lab Sample No.(s)	23677975	23678020	23678025	23678034	23678039	23677997
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		14.8 4	134 4	59 4	9 4	88.5	15.6 4
Aliphatics >C5-C6	<10 µg/kg	TM089		71.2 4	14.9 4	<10 4	<10 4	<10	<10 4
Aliphatics >C6-C8	<10 µg/kg	TM089		359 4	45.9 4	18.1 4	<10 4	29.8	14.3 4
Aliphatics >C8-C10	<10 µg/kg	TM089		295 4	64.5 4	42.9 4	<10 4	39.3	11.9 4
Aliphatics >C10-C12	<1000 µg/kg	TM414		17600	<1000	<1000	2780	<1000	1270
Aliphatics >C12-C16	<1000 µg/kg	TM414		77200	8060	<1000	6670	1800	4620
Aliphatics >C16-C21	<1000 µg/kg	TM414		87500	15800	2800	19800	9370	10400
Aliphatics >C21-C35	<1000 µg/kg	TM414		60000	16600	37000	42500	32100	38700
Aliphatics >C35-C44	<1000 µg/kg	TM414		12000	3110	4790	6510	8590	10900
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		254000	43600	45200	78200	52200	66000
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		323000	59500	59400	249000	120000	187000
Aromatics >EC5-EC7	<10 µg/kg	TM089		91.5 4	<10 4	<10 4	<10 4	<10	<10 4
Aromatics >EC7-EC8	<10 µg/kg	TM089		115 4	11.2 4	<10 4	<10 4	<10	<10 4
Aromatics >EC8-EC10	<10 µg/kg	TM089		197 4	42.2 4	28.3 4	<10 4	26.2	<10 4
Aromatics > EC10-EC12	<1000 µg/kg	TM414		4410	<1000	<1000	4810	2530	2110
Aromatics > EC12-EC16	<1000 µg/kg	TM414		31500	2420	1860	12400	4920	7470
Aromatics > EC16-EC21	<1000 µg/kg	TM414		14500	2830	1930	48400	19700	27800
Aromatics > EC21-EC35	<1000 µg/kg	TM414		17200	9700	9170	100000	38200	77400
Aromatics >EC35-EC44	<1000 µg/kg	TM414		<1000	<1000	<1000	4810	2880	6620
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		68800	16000	14200	171000	68300	121000
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		324000	59700	59500	249000	121000	188000
Total Aliphatics >C5-C10	<50 µg/kg	TM089		725 4	125 4	61 4	<50 4	69	<50 4
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		403 4	53.3 4	<50 4	<50 4	<50	<50 4
GRO >C5-C10	<20 µg/kg	TM089		1130 4	179 4	61 4	<20 4	69	<20 4

Validated

CERTIFICATE OF ANALYSIS

SDG:	210206-39	**Client Reference:**	P18-669	**Report Number:**	587491
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587296

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	S21-2	S22-1	S22-2	T21-1	T21-2	U19-1
			Depth (m)	1.80 - 1.80	0.50 - 0.50	1.30 - 1.30	1.00 - 1.00	2.00 - 2.00	0.30 - 0.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	06/02/2021	06/02/2021	06/02/2021	06/02/2021	06/02/2021	06/02/2021
			SDG Ref	210206-39	210206-39	210206-39	210206-39	210206-39	210206-39
			Lab Sample No.(s)	23678005	23678009	23678013	23677984	23677989	23678044
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		15.4 4	73	44.8 4	26 4	31.1 4	56.2 4
Aliphatics >C5-C6	<10 µg/kg	TM089		13.6 4	<10	<10 4	<10 4	<10 4	<10 4
Aliphatics >C6-C8	<10 µg/kg	TM089		65.7 4	32.8	27.9 4	<10 4	13.3 4	11.3 4
Aliphatics >C8-C10	<10 µg/kg	TM089		68.2 4	55	33 4	<10 4	12.1 4	12.4 4
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	1580	<1000
Aliphatics >C12-C16	<1000 µg/kg	TM414		10400	<1000	<1000	2950	3740	1500
Aliphatics >C16-C21	<1000 µg/kg	TM414		29900	<1000	3020	4120	5800	5900
Aliphatics >C21-C35	<1000 µg/kg	TM414		90400	2400	11100	10600	19300	59600
Aliphatics >C35-C44	<1000 µg/kg	TM414		21200	<1000	3300	2850	4450	10200
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		153000	<5000	19000	21500	34900	77200
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		226000	52400	84100	54800	84800	93000
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10 4	<10	<10 4	<10 4	<10 4	<10 4
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10 4	<10	<10 4	<10 4	<10 4	<10 4
Aromatics >EC8-EC10	<10 µg/kg	TM089		44.6 4	36.3	21.6 4	<10 4	<10 4	<10 4
Aromatics > EC10-EC12	<1000 µg/kg	TM414		1380	<1000	<1000	<1000	<1000	<1000
Aromatics > EC12-EC16	<1000 µg/kg	TM414		9270	<1000	1720	3900	5130	<1000
Aromatics > EC16-EC21	<1000 µg/kg	TM414		19900	14000	17600	7530	12300	2430
Aromatics > EC21-EC35	<1000 µg/kg	TM414		41600	31200	41900	18600	30600	11700
Aromatics >EC35-EC44	<1000 µg/kg	TM414		1290	2610	3230	2390	1140	<1000
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		73400	48700	65200	33300	49900	15800
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		226000	48700	84200	54800	84800	93000
Total Aliphatics >C5-C10	<50 µg/kg	TM089		148 4	87.8	61 4	<50 4	<50 4	<50 4
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50 4	<50	<50 4	<50 4	<50 4	<50 4
GRO >C5-C10	<20 µg/kg	TM089		148 4	87.8	61 4	<20 4	<20 4	<20 4

Validated

CERTIFICATE OF ANALYSIS

SDG:	210206-39	**Client Reference:**	P18-669	**Report Number:**	587491
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587296

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	U20-1	U20-2	U21-1	U21-2		
			Depth (m)	0.80 - 0.80	1.30 - 1.30	0.50 - 0.50	1.40 - 1.40		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	05/02/2021	05/02/2021	05/02/2021	05/02/2021		
			Sample Time	.	.	.	.		
			Date Received	06/02/2021	06/02/2021	06/02/2021	06/02/2021		
			SDG Ref	210206-39	210206-39	210206-39	210206-39		
			Lab Sample No.(s)	23678051	23678058	23678064	23677979		
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		87	122	15 4	81		
Aliphatics >C5-C6	<10 µg/kg	TM089		14.2	<10	<10 4	17.3		
Aliphatics >C6-C8	<10 µg/kg	TM089		66.6	<10	<10 4	84		
Aliphatics >C8-C10	<10 µg/kg	TM089		50.2	<10	<10 4	109		
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	1150	<1000		
Aliphatics >C12-C16	<1000 µg/kg	TM414		<1000	<1000	3640	4230		
Aliphatics >C16-C21	<1000 µg/kg	TM414		2150	<1000	6390	14400		
Aliphatics >C21-C35	<1000 µg/kg	TM414		21000	1470	18600	28900		
Aliphatics >C35-C44	<1000 µg/kg	TM414		7370	<1000	4230	6140		
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		31500	<5000	34000	54400		
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		40900	11500	85100	84200		
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	<10 4	<10		
Aromatics >EC7-EC8	<10 µg/kg	TM089		27.3	<10	<10 4	16.1		
Aromatics >EC8-EC10	<10 µg/kg	TM089		32.7	<10	<10 4	72.5		
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000		
Aromatics > EC12-EC16	<1000 µg/kg	TM414		<1000	<1000	3780	1020		
Aromatics > EC16-EC21	<1000 µg/kg	TM414		1230	<1000	11000	5290		
Aromatics > EC21-EC35	<1000 µg/kg	TM414		6190	7650	34400	22200		
Aromatics >EC35-EC44	<1000 µg/kg	TM414		<1000	<1000	1160	1030		
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000		
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		9410	9250	51100	29800		
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		41100	<10000	85100	84500		
Total Aliphatics >C5-C10	<50 µg/kg	TM089		131	<50	<50 4	210		
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		60	<50	<50 4	88.6		
GRO >C5-C10	<20 µg/kg	TM089		191	<20	<20 4	299		

Validated

CERTIFICATE OF ANALYSIS

SDG:	210206-39	**Client Reference:**	P18-669	**Report Number:**	587491
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587296

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	S16-1	S16-2	S18-1	S19-1	S19-2	S21-1
			Depth (m)	0.90 - 0.90	2.20 - 2.20	0.70 - 0.70	1.00 - 1.00	2.00 - 2.00	0.50 - 0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	04/02/2021	04/02/2021	04/02/2021	04/02/2021	04/02/2021	05/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	06/02/2021	06/02/2021	06/02/2021	06/02/2021	06/02/2021	06/02/2021
			SDG Ref	210206-39	210206-39	210206-39	210206-39	210206-39	210206-39
			Lab Sample No.(s)	23677975	23678020	23678025	23678034	23678039	23677997
			AGS Reference						
Dibromofluoromethane**	%	TM116		100	112	98.8	96.7	104	109
Toluene-d8**	%	TM116		92.9	97.6	96.1	88.3	94.8	95.7
4-Bromofluorobenzene**	%	TM116		76.8	94.3	89.9	72.2	87.7	86.8
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<2000 M
Benzene	<9 µg/kg	TM116		205 M	<180 M	<180 M	<180 M	<180 M	<1800 M
Toluene	<7 µg/kg	TM116		380 M	<140 M	<140 M	<140 M	<140 M	<1400 M
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<80 M	<80 M	<80 M	<800 M
p/m-Xylene	<10 µg/kg	TM116		271 #	<200 #	<200 #	<200 #	<200 #	<2000 #
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<2000 M
Naphthalene	<13 µg/kg	TM116		<260 M	<260 M	<260 M	341 M	337 M	4140 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4	<0.4	<0.4	<4
Sum of BTEX	<40 µg/kg	TM116		856	<800	<800	<800	<800	<8000

CERTIFICATE OF ANALYSIS

SDG:	210206-39	**Client Reference:**	P18-669	**Report Number:**	587491
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587296

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	S21-2	S22-1	S22-2	T21-1	T21-2	U19-1
			Depth (m)	1.80 - 1.80	0.50 - 0.50	1.30 - 1.30	1.00 - 1.00	2.00 - 2.00	0.30 - 0.30
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021	05/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	06/02/2021	06/02/2021	06/02/2021	06/02/2021	06/02/2021	06/02/2021
			SDG Ref	210206-39	210206-39	210206-39	210206-39	210206-39	210206-39
			Lab Sample No.(s)	23678005	23678009	23678013	23677984	23677989	23678044
			AGS Reference						
Dibromofluoromethane**	%	TM116		105	105	97.9	108	108	106
Toluene-d8**	%	TM116		95.1	95.7	95.3	99.7	101	97
4-Bromofluorobenzene**	%	TM116		82.9	88.2	82.3	98.4	96.9	92.6
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<2000 M	<2000 M	<200 M
Benzene	<9 µg/kg	TM116		<180 M	<180 M	<180 M	<1800 M	<1800 M	<180 M
Toluene	<7 µg/kg	TM116		<140 M	<140 M	<140 M	<1400 M	<1400 M	<140 M
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<80 M	<800 M	<800 M	<80 M
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #	<2000 #	<2000 #	<200 #
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<2000 M	<2000 M	<200 M
Naphthalene	<13 µg/kg	TM116		<260 M	<260 M	<260 M	<2600 M	<2600 M	<260 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4	<4	<4	<0.4
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800	<8000	<8000	<800

CERTIFICATE OF ANALYSIS

SDG:	210206-39	**Client Reference:**	P18-669	**Report Number:**	587491
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587296

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	U20-1	U20-2	U21-1	U21-2		
			Depth (m)	0.80 - 0.80	1.30 - 1.30	0.50 - 0.50	1.40 - 1.40		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	05/02/2021	05/02/2021	05/02/2021	05/02/2021		
			Sample Time	.	.	.	.		
			Date Received	06/02/2021	06/02/2021	06/02/2021	06/02/2021		
			SDG Ref	210206-39	210206-39	210206-39	210206-39		
			Lab Sample No.(s)	23678051	23678058	23678064	23677979		
			AGS Reference						
Dibromofluoromethane**	%	TM116		104	112	98	109		
Toluene-d8**	%	TM116		98.6	97.9	93.3	97.1		
4-Bromofluorobenzene**	%	TM116		91.1	95.2	79	90.6		
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 #	<200 M	<200 M		
Benzene	<9 µg/kg	TM116		<180 M	<180 #	<180 M	<180 M		
Toluene	<7 µg/kg	TM116		<140 M	<140 #	<140 M	<140 M		
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 #	<80 M	<80 M		
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #	<200 #		
o-Xylene	<10 µg/kg	TM116		<200 M	<200 #	<200 M	<200 M		
Naphthalene	<13 µg/kg	TM116		<260 M	<260 #	<260 M	<260 M		
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4	<0.4		
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800	<800		

CERTIFICATE OF ANALYSIS

SDG:	210206-39	**Client Reference:**	P18-669	**Report Number:**	587491
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587296

Asbestos Identification - Solid Samples

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	S16-1 0.90 - 0.90 SOLID 04/02/2021 00:00:00 06/02/2021 05:00:00 210206-39 23677975 TM048	15/02/2021	Marcin Magdziarek	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	S18-1 0.70 - 0.70 SOLID 04/02/2021 00:00:00 06/02/2021 05:00:00 210206-39 23678025 TM048	12/02/2021	Marcin Magdziarek	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	S19-2 2.00 - 2.00 SOLID 04/02/2021 00:00:00 06/02/2021 05:00:00 210206-39 23678039 TM048	15/02/2021	Marcin Magdziarek	Loose fibres in soil	Not Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	S21-1 0.50 - 0.50 SOLID 05/02/2021 00:00:00 06/02/2021 05:00:00 210206-39 23677997 TM048	12/02/2021	Marcin Magdziarek	Soil containing ACM debris	Not Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	S22-1 0.50 - 0.50 SOLID 05/02/2021 00:00:00 06/02/2021 05:00:00 210206-39 23678009 TM048	12/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	T21-1 1.00 - 1.00 SOLID 05/02/2021 00:00:00 06/02/2021 05:00:00 210206-39 23677984 TM048	15/02/2021	Agnieszka Chelmowska	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	U20-1 0.80 - 0.80 SOLID 05/02/2021 00:00:00 06/02/2021 05:00:00 210206-39 23678051 TM048	12/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	U21-1 0.50 - 0.50 SOLID 05/02/2021 00:00:00 06/02/2021 05:00:00 210206-39 23678064 TM048	12/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	210206-39	**Client Reference:**	P18-669	**Report Number:**	587491
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587296

Asbestos Quantification - Full

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

		Additional Asbestos Components	Analysts Comments	Asbestos Quantification - Gravimetric - %	Asbestos Quantification - PCOM	Asbestos Quantification - Total - %
Cust. Sample Ref.	S19-2	None (#)	N/A	<0.001 (#)	<0.001 (#)	<0.001 (#)
Depth (m)	2.00 - 2.00					
Sample Type	SOLID					
Date Sampled	04/02/2021 00:00:00					
Date Received	06/02/2021 05:00:00					
SDG	210206-39					
Original Sample	23678039					
Method Number	TM304					
Cust. Sample Ref.	S21-1	None (#)	-	<0.001 (#)	<0.001 (#)	<0.001 (#)
Depth (m)	0.50 - 0.50					
Sample Type	SOLID					
Date Sampled	05/02/2021 00:00:00					
Date Received	06/02/2021 05:00:00					
SDG	210206-39					
Original Sample	23677997					
Method Number	TM304					

CERTIFICATE OF ANALYSIS

SDG:	210206-39	**Client Reference:**	P18-669	**Report Number:**	587491
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587296

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM024	Method 4500A & B, AWWA/APHA, 20th Ed., 1999	Determination of Exchangeable Ammonium and Ammoniacal Nitrogen as N by titration on solids
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM132	In - house Method	ELTRA CS800 Operators Guide
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS
TM304	HSE Contract research Report no 83/1996	Asbestos Quantification in Soil: Fibres identified by morphology only
TM414	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	210206-39	**Client Reference:**	P18-669	**Report Number:**	587491
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	587296

Test Completion Dates

Lab Sample No(s)	23677975	23678020	23678025	23678034	23678039	23677997	23678005	23678009	23678013	23677984
Customer Sample Ref.	S16-1	S16-2	S18-1	S19-1	S19-2	S21-1	S21-2	S22-1	S22-2	T21-1
AGS Ref.										
Depth	0.90 - 0.90	2.20 - 2.20	0.70 - 0.70	1.00 - 1.00	2.00 - 2.00	0.50 - 0.50	1.80 - 1.80	0.50 - 0.50	1.30 - 1.30	1.00 - 1.00
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Ammonium Soil by Titration	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021
Asbestos ID in Solid Samples	15-Feb-2021		12-Feb-2021		15-Feb-2021	12-Feb-2021		12-Feb-2021		15-Feb-2021
Asbestos Quantification - Full					19-Feb-2021	18-Feb-2021				
Cyanide Comp/Free/Total/Thiocyanate	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021
EPH CWG GC (S)	11-Feb-2021	11-Feb-2021	11-Feb-2021	10-Feb-2021	11-Feb-2021	10-Feb-2021	10-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021
GRO by GC-FID (S)	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021
Metals in solid samples by OES	11-Feb-2021	11-Feb-2021	12-Feb-2021	12-Feb-2021	12-Feb-2021	15-Feb-2021	12-Feb-2021	15-Feb-2021	15-Feb-2021	11-Feb-2021
PAH by GCMS	15-Feb-2021	11-Feb-2021	12-Feb-2021	16-Feb-2021	11-Feb-2021	10-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021	11-Feb-2021
pH	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021
Phenols by HPLC (S)	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021
Sample description	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021
Total Organic Carbon	12-Feb-2021	12-Feb-2021	12-Feb-2021	12-Feb-2021	12-Feb-2021	15-Feb-2021	12-Feb-2021	12-Feb-2021	12-Feb-2021	15-Feb-2021
TPH CWG GC (S)	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021
VOC MS (S)	12-Feb-2021	12-Feb-2021	12-Feb-2021	12-Feb-2021	12-Feb-2021	14-Feb-2021	12-Feb-2021	12-Feb-2021	12-Feb-2021	14-Feb-2021

Lab Sample No(s)	23677989	23678044	23678051	23678058	23678064	23677979
Customer Sample Ref.	T21-2	U19-1	U20-1	U20-2	U21-1	U21-2
AGS Ref.						
Depth	2.00 - 2.00	0.30 - 0.30	0.80 - 0.80	1.30 - 1.30	0.50 - 0.50	1.40 - 1.40
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Ammonium Soil by Titration	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021
Asbestos ID in Solid Samples			12-Feb-2021		12-Feb-2021	
Cyanide Comp/Free/Total/Thiocyanate	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021	10-Feb-2021
EPH CWG GC (S)	10-Feb-2021	10-Feb-2021	11-Feb-2021	10-Feb-2021	11-Feb-2021	11-Feb-2021
GRO by GC-FID (S)	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021
Metals in solid samples by OES	15-Feb-2021	15-Feb-2021	12-Feb-2021	15-Feb-2021	11-Feb-2021	15-Feb-2021
PAH by GCMS	11-Feb-2021	11-Feb-2021	15-Feb-2021	11-Feb-2021	12-Feb-2021	11-Feb-2021
pH	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021	09-Feb-2021
Phenols by HPLC (S)	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021
Sample description	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021	08-Feb-2021
Total Organic Carbon	15-Feb-2021	12-Feb-2021	12-Feb-2021	12-Feb-2021	12-Feb-2021	12-Feb-2021
TPH CWG GC (S)	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021	15-Feb-2021
VOC MS (S)	14-Feb-2021	12-Feb-2021	12-Feb-2021	12-Feb-2021	12-Feb-2021	12-Feb-2021

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as “mixed hydrocarbons”. Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528700
Fax: (01244) 528701
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

Rodgers Leask
Office 225
2430/2440
Aztec West
Almondsbury
Bristol
BS32 4QA

Attention: Elliot Thomas

CERTIFICATE OF ANALYSIS

Date of report Generation:	24 February 2021
Customer:	Rodgers Leask
Sample Delivery Group (SDG):	210212-101
Your Reference:	P18-669
Location:	Llanwern
Report No:	587965

We received 19 samples on Friday February 12, 2021 and 19 of these samples were scheduled for analysis which was completed on Tuesday February 23, 2021. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:



Sonia McWhan
Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	210212-101	**Client Reference:**	P18-669	**Report Number:**	587965
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
23716424	SPLA-1		0.20 - 0.20	11/02/2021
23716430	SPLA-2		0.20 - 0.20	11/02/2021
23716436	SPLA-3		0.20 - 0.20	11/02/2021
23716443	SPLA-4		0.20 - 0.20	11/02/2021
23716403	SPLP-1		0.20 - 0.20	11/02/2021
23716409	SPLP-2		0.20 - 0.20	11/02/2021
23716417	SPLP-3		0.20 - 0.20	11/02/2021
23716468	W213-1		0.20 - 0.20	11/02/2021
23716473	W213-2		0.20 - 0.20	11/02/2021
23716480	W213-3		0.20 - 0.20	11/02/2021
23716485	W213-4		0.20 - 0.20	11/02/2021
23716489	W213-5		0.20 - 0.20	11/02/2021
23716387	W213-6		0.20 - 0.20	11/02/2021
23716392	W213-7		0.20 - 0.20	11/02/2021
23716399	W213-8		0.20 - 0.20	11/02/2021
23716382	W300-1		0.20 - 0.20	11/02/2021
23716449	W300-2		0.20 - 0.20	11/02/2021
23716453	W300-3		0.20 - 0.20	11/02/2021
23716459	W300-4		0.20 - 0.20	11/02/2021

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG: 210212-101 **Client Reference:** P18-669 **Report Number:** 587965
Location: Llanwern **Order Number:** 108282 **Superseded Report:**

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	23716424	23716430	23716436	23716443	23716403	23716409	23716417	23716468
			Customer Sample Reference	SPLA-1	SPLA-2	SPLA-3	SPLA-4	SPLP-1	SPLP-2	SPLP-3	W213-1
			AGS Reference								
			Depth (m)	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20
			Container	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)
			Sample Type	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Ammonium Soil by Titration	All	NDPs: 0 Tests: 19		X			X		X			X			X		X			X		
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 10				X					X			X					X			X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 19		X			X		X			X			X		X			X		
EPH CWG GC (S)	All	NDPs: 0 Tests: 19		X			X		X			X			X		X			X		
GRO by GC-FID (S)	All	NDPs: 0 Tests: 19			X			X		X			X			X		X			X	
Metals in solid samples by OES	All	NDPs: 0 Tests: 19		X			X		X			X			X		X			X		
PAH by GCMS	All	NDPs: 0 Tests: 19		X			X		X			X			X		X			X		
pH	All	NDPs: 0 Tests: 19		X			X		X			X			X		X			X		
Phenols by HPLC (S)	All	NDPs: 0 Tests: 19		X			X		X			X			X		X			X		
Sample description	All	NDPs: 0 Tests: 19		X			X		X			X			X		X			X		
Total Organic Carbon	All	NDPs: 0 Tests: 19		X			X		X			X			X		X			X		
TPH CWG GC (S)	All	NDPs: 0 Tests: 19		X			X		X			X			X		X			X		
VOC MS (S)	All	NDPs: 0 Tests: 19			X			X		X			X			X		X			X	

23716382	W300-1		0.20 - 0.20	250g Amber Jar (ALE210)	S		X			X		X				X		X		X		X	
				1kg TUB with Handle (ALE260)	S			X															
23716399	W213-8		0.20 - 0.20	60g VOC (ALE215)	S								X										X
				250g Amber Jar (ALE210)	S		X			X		X				X		X		X		X	
23716392	W213-7		0.20 - 0.20	60g VOC (ALE215)	S								X										X
				250g Amber Jar (ALE210)	S		X			X		X				X		X		X		X	
				1kg TUB with Handle (ALE260)	S			X															
23716387	W213-6		0.20 - 0.20	60g VOC (ALE215)	S								X										X
				250g Amber Jar (ALE210)	S		X			X		X				X		X		X		X	
23716489	W213-5		0.20 - 0.20	60g VOC (ALE215)	S								X										X
				250g Amber Jar (ALE210)	S		X			X		X				X		X		X		X	
				1kg TUB with Handle (ALE260)	S			X															
23716485	W213-4		0.20 - 0.20	60g VOC (ALE215)	S								X										X
				250g Amber Jar (ALE210)	S		X			X		X				X		X		X		X	
23716480	W213-3		0.20 - 0.20	60g VOC (ALE215)	S								X										X
				250g Amber Jar (ALE210)	S		X			X		X				X		X		X		X	
				1kg TUB with Handle (ALE260)	S			X															
23716473	W213-2		0.20 - 0.20	60g VOC (ALE215)	S								X										X
				250g Amber Jar (ALE210)	S		X			X		X				X		X		X		X	
23716468	W213-1		0.20 - 0.20	60g VOC (ALE215)	S								X										X
				250g Amber Jar (ALE210)	S		X			X		X				X		X		X		X	

Validated

CERTIFICATE OF ANALYSIS

SDG:	210212-101	**Client Reference:**	P18-669	**Report Number:**	587965
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			23716382	23716449		23716453		23716459	
Customer Sample Reference			W300-1	W300-2		W300-3		W300-4	
AGS Reference									
Depth (m)			0.20 - 0.20	0.20 - 0.20		0.20 - 0.20		0.20 - 0.20	
Container			60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)
Sample Type			S	S	S	S	S	S	S	S
Ammonium Soil by Titration	All	NDPs: 0 Tests: 19		X			X		X	
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 10				X				
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 19		X			X		X	
EPH CWG GC (S)	All	NDPs: 0 Tests: 19		X			X		X	
GRO by GC-FID (S)	All	NDPs: 0 Tests: 19	X		X			X		X
Metals in solid samples by OES	All	NDPs: 0 Tests: 19		X			X		X	
PAH by GCMS	All	NDPs: 0 Tests: 19		X			X		X	
pH	All	NDPs: 0 Tests: 19		X			X		X	
Phenols by HPLC (S)	All	NDPs: 0 Tests: 19		X			X		X	
Sample description	All	NDPs: 0 Tests: 19		X			X		X	
Total Organic Carbon	All	NDPs: 0 Tests: 19		X			X		X	
TPH CWG GC (S)	All	NDPs: 0 Tests: 19		X			X		X	
VOC MS (S)	All	NDPs: 0 Tests: 19	X		X			X		X

CERTIFICATE OF ANALYSIS

SDG:	210212-101	**Client Reference:**	P18-669	**Report Number:**	587965
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
23716424	SPLA-1	0.20 - 0.20	Dark Brown	Sandy Silt Loam	Stones	Vegetation
23716430	SPLA-2	0.20 - 0.20	Dark Brown	Sandy Loam	Stones	Vegetation
23716436	SPLA-3	0.20 - 0.20	Grey	Sandy Clay Loam	Stones	Vegetation
23716443	SPLA-4	0.20 - 0.20	Dark Brown	Sandy Loam	Stones	Vegetation
23716403	SPLP-1	0.20 - 0.20	Dark Brown	Sandy Loam	Stones	Vegetation
23716409	SPLP-2	0.20 - 0.20	Dark Brown	Sandy Loam	Stones	Vegetation
23716417	SPLP-3	0.20 - 0.20	Dark Brown	Sandy Silt Loam	Stones	Vegetation
23716468	W213-1	0.20 - 0.20	Dark Brown	Sand	Stones	Vegetation
23716473	W213-2	0.20 - 0.20	Dark Brown	Sandy Loam	Stones	Vegetation
23716480	W213-3	0.20 - 0.20	Dark Brown	Sandy Loam	Stones	Vegetation
23716485	W213-4	0.20 - 0.20	Dark Brown	Sand	Stones	Vegetation
23716489	W213-5	0.20 - 0.20	Dark Brown	Sandy Loam	Stones	Vegetation
23716387	W213-6	0.20 - 0.20	Dark Brown	Sand	Stones	Vegetation
23716392	W213-7	0.20 - 0.20	Dark Brown	Sandy Loam	Stones	Vegetation
23716399	W213-8	0.20 - 0.20	Dark Brown	Sand	Stones	Vegetation
23716382	W300-1	0.20 - 0.20	Dark Brown	Sandy Loam	Stones	Vegetation
23716449	W300-2	0.20 - 0.20	Dark Brown	Sand	Stones	Vegetation
23716453	W300-3	0.20 - 0.20	Dark Brown	Sandy Loam	Stones	Vegetation
23716459	W300-4	0.20 - 0.20	Dark Brown	Sandy Loam	Stones	Vegetation

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

Validated

CERTIFICATE OF ANALYSIS

SDG: 210212-101 **Client Reference:** P18-669 **Report Number:** 587965
Location: Llanwern **Order Number:** 108282 **Superseded Report:**

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	SPLA-1	SPLA-2	SPLA-3	SPLA-4	SPLP-1	SPLP-2
			Depth (m)	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	12/02/2021	12/02/2021	12/02/2021	12/02/2021	12/02/2021	12/02/2021
			SDG Ref	210212-101	210212-101	210212-101	210212-101	210212-101	210212-101
			Lab Sample No.(s)	23716424	23716430	23716436	23716443	23716403	23716409
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		32	22	35	27	27	20
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M	<12 M	<12 M	<12 M	<12 M
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	0.0137 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M
Soil Organic Matter (SOM)	<0.35 %	TM132		5.34 #	9.22 #	3.71 #	15.9 #	31.2 #	6.78 #
pH	1 pH Units	TM133		7.89 M	8.44 M	8.18 M	8.31 M	8.57 M	9.36 M
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Arsenic	<0.6 mg/kg	TM181		12.1 M	18.7 M	13.5 M	10.4 M	9.96 M	12.2 M
Cadmium	<0.02 mg/kg	TM181		<0.2 M	1.09 M	<0.2 M	0.706 M	0.826 M	<0.2 M
Chromium	<0.9 mg/kg	TM181		38.6 M	32.1 M	39.8 M	22.4 M	90.8 M	50.9 M
Copper	<1.4 mg/kg	TM181		18.6 M	13 M	<14 M	25.2 M	12.3 M	25.8 M
Iron	<1000 mg/kg	TM181		75000 #	129000 #	47200 #	21300 #	93700 #	98100 #
Lead	<0.7 mg/kg	TM181		36.6 M	32.7 M	32.8 M	56 M	19.8 M	85.6 M
Manganese	<0.13 mg/kg	TM181		1590 M	2120 M	772 M	1760 M	11600 M	3540 M
Mercury	<0.1 mg/kg	TM181		<1 M	0.154 M	<1 M	<0.1 M	<0.1 M	<1 M
Nickel	<0.2 mg/kg	TM181		33.4 M	24.6 M	39.6 M	22.2 M	14.5 M	25.8 M
Selenium	<1 mg/kg	TM181		<10 #	<1 #	<10 #	<1 #	3.31 #	<10 #
Vanadium	<0.2 mg/kg	TM181		63.8 #	80.8 #	57.3 #	28.4 #	192 #	101 #
Zinc	<1.9 mg/kg	TM181		135 M	129 M	133 M	254 M	74.2 M	267 M

Validated

CERTIFICATE OF ANALYSIS

SDG: 210212-101 **Client Reference:** P18-669 **Report Number:** 587965
Location: Llanwern **Order Number:** 108282 **Superseded Report:**

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	SPLP-3	W213-1	W213-2	W213-3	W213-4	W213-5
			Depth (m)	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	12/02/2021	12/02/2021	12/02/2021	12/02/2021	12/02/2021	12/02/2021
			SDG Ref	210212-101	210212-101	210212-101	210212-101	210212-101	210212-101
			Lab Sample No.(s)	23716417	23716468	23716473	23716480	23716485	23716489
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		28	13	12	18	9.8	13
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M	<12 M	<12 M	<12 M	<12 M
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M
Soil Organic Matter (SOM)	<0.35 %	TM132		11.1 #	6.74 #	7.69 #	6.02 #	22.2 #	8.21 #
pH	1 pH Units	TM133		8.52 M	8.9 M	8.74 M	8.59 M	8.63 M	8.86 M
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	2.04 M	<1 M	<1 M	<1 M
Arsenic	<0.6 mg/kg	TM181		11 M	14.4 M	13.1 M	20.2 M	9.93 M	67 M
Cadmium	<0.02 mg/kg	TM181		0.856 M	1.11 M	0.356 M	1.39 M	<0.2 M	0.577 M
Chromium	<0.9 mg/kg	TM181		312 M	59.7 M	50 M	68.5 M	34.2 M	18.6 M
Copper	<1.4 mg/kg	TM181		21.6 M	31.8 M	81.9 M	30.7 M	27.8 M	91.4 M
Iron	<1000 mg/kg	TM181		116000 #	65400 #	52400 #	76900 #	33400 #	45900 #
Lead	<0.7 mg/kg	TM181		21.5 M	90.7 M	142 M	121 M	42.6 M	253 M
Manganese	<0.13 mg/kg	TM181		14300 M	4490 M	2850 M	4420 M	2050 M	657 M
Mercury	<0.1 mg/kg	TM181		<0.1 M	<0.1 M	<1 M	<0.1 M	<1 M	<0.1 M
Nickel	<0.2 mg/kg	TM181		24.1 M	21.7 M	27.2 M	31.9 M	18.9 M	24.5 M
Selenium	<1 mg/kg	TM181		3.43 #	1.1 #	<10 #	<1 #	<10 #	<1 #
Vanadium	<0.2 mg/kg	TM181		701 #	61.6 #	91.2 #	142 #	45.4 #	34 #
Zinc	<1.9 mg/kg	TM181		148 M	267 M	376 M	401 M	103 M	207 M

Validated

CERTIFICATE OF ANALYSIS

SDG: 210212-101 **Client Reference:** P18-669 **Report Number:** 587965
Location: Llanwern **Order Number:** 108282 **Superseded Report:**

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	W213-6	W213-7	W213-8	W300-1	W300-2	W300-3
			Depth (m)	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	12/02/2021	12/02/2021	12/02/2021	12/02/2021	12/02/2021	12/02/2021
			SDG Ref	210212-101	210212-101	210212-101	210212-101	210212-101	210212-101
			Lab Sample No.(s)	23716387	23716392	23716399	23716382	23716449	23716453
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		14	14	11	10	14	17
Exchangeable Ammonia as N	<12 mg/kg	TM024		<12 M	<12 M	<12 M	<12 M	<12 M	<12 M
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	0.0113 M	<0.01 M	<0.01 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	0.0113 M	0.0111 M	0.0116 M	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M
Soil Organic Matter (SOM)	<0.35 %	TM132		7.55 #	7.76 #	25.2 #	2.6 #	2.67 #	5.6 #
pH	1 pH Units	TM133		8.56 M	8.68 M	10.7 M	8.95 M	10.2 M	9.46 M
Cyanide, Total	<1 mg/kg	TM153		1.43 M	<1 M	<1 M	<1 M	<1 M	<1 M
Arsenic	<0.6 mg/kg	TM181		14.6 M	13 M	6.51 M	4.93 M	17.7 M	47.2 M
Cadmium	<0.02 mg/kg	TM181		0.326 M	1.39 M	<0.2 M	0.281 M	<0.2 M	1.28 M
Chromium	<0.9 mg/kg	TM181		111 M	162 M	267 M	9.54 M	256 M	127 M
Copper	<1.4 mg/kg	TM181		29.7 M	26.3 M	20.8 M	12.3 M	34.9 M	52.8 M
Iron	<1000 mg/kg	TM181		86800 #	86900 #	105000 #	10500 #	169000 #	119000 #
Lead	<0.7 mg/kg	TM181		174 M	85.1 M	54.2 M	62.1 M	79.9 M	89.5 M
Manganese	<0.13 mg/kg	TM181		5460 M	12000 M	12600 M	271 M	11300 M	9550 M
Mercury	<0.1 mg/kg	TM181		<1 M	<0.1 M	<1 M	<0.1 M	<1 M	<0.1 M
Nickel	<0.2 mg/kg	TM181		28.5 M	19.3 M	13.3 M	9.02 M	22.8 M	20.3 M
Selenium	<1 mg/kg	TM181		<10 #	3.36 #	<10 #	<1 #	<10 #	1.35 #
Vanadium	<0.2 mg/kg	TM181		164 #	385 #	380 #	11.2 #	252 #	156 #
Zinc	<1.9 mg/kg	TM181		400 M	278 M	141 M	58 M	225 M	444 M

Validated

CERTIFICATE OF ANALYSIS

SDG:	210212-101	**Client Reference:**	P18-669	**Report Number:**	587965
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Customer Sample Ref.	W300-4
Depth (m)	0.20 - 0.20
Sample Type	Soil/Solid (S)
Date Sampled	11/02/2021
Sample Time	.
Date Received	12/02/2021
SDG Ref	210212-101
Lab Sample No.(s)	23716459
AGS Reference	

Component	LOD/Units	Method	
Moisture Content Ratio (% of as received sample)	%	PM024	15
Exchangeable Ammonia as N	<12 mg/kg	TM024	<12 M
Phenol	<0.01 mg/kg	TM062 (S)	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)	0.0234 M
Xylenols	<0.015 mg/kg	TM062 (S)	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)	<0.035 M
Soil Organic Matter (SOM)	<0.35 %	TM132	2.78 #
pH	1 pH Units	TM133	8.97 M
Cyanide, Total	<1 mg/kg	TM153	<1 M
Arsenic	<0.6 mg/kg	TM181	10.5 M
Cadmium	<0.02 mg/kg	TM181	1.64 M
Chromium	<0.9 mg/kg	TM181	100 M
Copper	<1.4 mg/kg	TM181	17.7 M
Iron	<1000 mg/kg	TM181	174000 #
Lead	<0.7 mg/kg	TM181	66.4 M
Manganese	<0.13 mg/kg	TM181	7920 M
Mercury	<0.1 mg/kg	TM181	<0.1 M
Nickel	<0.2 mg/kg	TM181	17.1 M
Selenium	<1 mg/kg	TM181	<1 #
Vanadium	<0.2 mg/kg	TM181	147 #
Zinc	<1.9 mg/kg	TM181	344 M

Validated

CERTIFICATE OF ANALYSIS

SDG: 210212-101 **Client Reference:** P18-669 **Report Number:** 587965
Location: Llanwern **Order Number:** 108282 **Superseded Report:**

PAH by GCMS

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	SPLA-1	SPLA-2	SPLA-3	SPLA-4	SPLP-1	SPLP-2
			Depth (m)	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	12/02/2021	12/02/2021	12/02/2021	12/02/2021	12/02/2021	12/02/2021
			SDG Ref	210212-101	210212-101	210212-101	210212-101	210212-101	210212-101
			Lab Sample No.(s)	23716424	23716430	23716436	23716443	23716403	23716409
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		96.9	93.2	92.9	93.7	93.8	98.2
Acenaphthene-d10 % recovery**	%	TM218		97.5	93.2	90.9	93.7	93	97.7
Phenanthrene-d10 % recovery**	%	TM218		100	86.9	85.6	92.6	89	101
Chrysene-d12 % recovery**	%	TM218		82.8	85.8	87.5	90.3	88.1	89.8
Perylene-d12 % recovery**	%	TM218		81.1	84.3	90.8	88.2	92	87.5
Naphthalene	<9 µg/kg	TM218		41.3 M	184 M	<9 M	409 M	56.4 M	1300 M
Acenaphthylene	<12 µg/kg	TM218		20 M	78.3 M	<12 M	213 M	<12 M	933 M
Acenaphthene	<8 µg/kg	TM218		<8 M	<8 M	<8 M	24.9 M	17 M	157 M
Fluorene	<10 µg/kg	TM218		<10 M	44.4 M	<10 M	153 M	23.2 M	1270 M
Phenanthrene	<15 µg/kg	TM218		67.2 M	262 M	<15 M	990 M	178 M	7770 M
Anthracene	<16 µg/kg	TM218		<16 M	73.9 M	<16 M	273 M	37.3 M	1610 M
Fluoranthene	<17 µg/kg	TM218		171 M	466 M	<17 M	1680 M	248 M	10200 M
Pyrene	<15 µg/kg	TM218		122 M	342 M	<15 M	1230 M	211 M	7290 M
Benz(a)anthracene	<14 µg/kg	TM218		74.6 M	256 M	<14 M	713 M	115 M	3450 M
Chrysene	<10 µg/kg	TM218		67.6 M	217 M	<10 M	552 M	102 M	2800 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		94.4 M	381 M	<15 M	973 M	161 M	4780 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		29.2 M	135 M	<14 M	324 M	53.3 M	1470 M
Benzo(a)pyrene	<15 µg/kg	TM218		58.5 M	238 M	<15 M	581 M	108 M	2850 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		47.1 M	215 M	<18 M	449 M	79.5 M	2320 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		<23 M	34.6 M	<23 M	71.4 M	<23 M	471 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		40.3 M	180 M	<24 M	367 M	70.4 M	1980 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		834	3110	<118	9000	1460	50600

Validated

CERTIFICATE OF ANALYSIS

SDG: 210212-101 **Client Reference:** P18-669 **Report Number:** 587965
Location: Llanwern **Order Number:** 108282 **Superseded Report:**

PAH by GCMS

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Customer Sample Ref.	SPLP-3	W213-1	W213-2	W213-3	W213-4	W213-5
Depth (m)	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20
Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Date Sampled	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021
Sample Time	.	.	.	.	.	.
Date Received	12/02/2021	12/02/2021	12/02/2021	12/02/2021	12/02/2021	12/02/2021
SDG Ref	210212-101	210212-101	210212-101	210212-101	210212-101	210212-101
Lab Sample No.(s)	23716417	23716468	23716473	23716480	23716485	23716489
AGS Reference						

Component	LOD/Units	Method											
Naphthalene-d8 % recovery**	%	TM218	98.5		93.1		91.7		91.4		93.1		95.8	
Acenaphthene-d10 % recovery**	%	TM218	98.3		88.1		91.2		87.1		98		92.2	
Phenanthrene-d10 % recovery**	%	TM218	103		85.6		87.9		87.3		95.3		88	
Chrysene-d12 % recovery**	%	TM218	87		82.7		88.4		89.7		83.5		75.6	
Perylene-d12 % recovery**	%	TM218	85.2		77.7		83		88.6		77.9		70.2	
Naphthalene	<9 µg/kg	TM218	215	M	181	M	160	M	304	M	431	M	<180	M
Acenaphthylene	<12 µg/kg	TM218	117	M	137	M	215	M	265	M	277	M	<240	M
Acenaphthene	<8 µg/kg	TM218	22.8	M	230	M	121	M	334	M	21.1	M	<160	M
Fluorene	<10 µg/kg	TM218	82.6	M	212	M	236	M	439	M	198	M	<200	M
Phenanthrene	<15 µg/kg	TM218	637	M	1740	M	1800	M	2920	M	1940	M	989	M
Anthracene	<16 µg/kg	TM218	185	M	452	M	1110	M	808	M	478	M	<320	M
Fluoranthene	<17 µg/kg	TM218	1310	M	4590	M	12700	M	5250	M	3700	M	1980	M
Pyrene	<15 µg/kg	TM218	966	M	3610	M	10400	M	3730	M	2580	M	1510	M
Benz(a)anthracene	<14 µg/kg	TM218	520	M	2580	M	9050	M	2900	M	1100	M	1120	M
Chrysene	<10 µg/kg	TM218	426	M	2410	M	9160	M	2600	M	982	M	1110	M
Benzo(b)fluoranthene	<15 µg/kg	TM218	747	M	3850	M	12300	M	4250	M	1400	M	1850	M
Benzo(k)fluoranthene	<14 µg/kg	TM218	245	M	1480	M	4190	M	1270	M	476	M	606	M
Benzo(a)pyrene	<15 µg/kg	TM218	448	M	2310	M	7010	M	2440	M	779	M	954	M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218	339	M	1730	M	4940	M	1930	M	690	M	792	M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218	74.8	M	337	M	1050	M	362	M	124	M	<460	M
Benzo(g,h,i)perylene	<24 µg/kg	TM218	303	M	1450	M	3810	M	1570	M	581	M	686	M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218	6640		27300		78200		31400		15800		11600	

CERTIFICATE OF ANALYSIS

SDG: 210212-101 **Client Reference:** P18-669 **Report Number:** 587965
Location: Llanwern **Order Number:** 108282 **Superseded Report:**

PAH by GCMS

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	W213-6	W213-7	W213-8	W300-1	W300-2	W300-3
			Depth (m)	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	12/02/2021	12/02/2021	12/02/2021	12/02/2021	12/02/2021	12/02/2021
			SDG Ref	210212-101	210212-101	210212-101	210212-101	210212-101	210212-101
			Lab Sample No.(s)	23716387	23716392	23716399	23716382	23716449	23716453
			AGS Reference						
Naphthalene-d8 % recovery**	%	TM218		92.3	101	95.2	94.6	96.2	91.6
Acenaphthene-d10 % recovery**	%	TM218		89.3	103	98.4	92.3	97.3	91.5
Phenanthrene-d10 % recovery**	%	TM218		85.7	103	102	87.9	102	91.6
Chrysene-d12 % recovery**	%	TM218		84.2	83.1	81.3	85.9	83.6	99.5
Perylene-d12 % recovery**	%	TM218		80.2	79.7	75.5	83.7	80.9	100
Naphthalene	<9 µg/kg	TM218		248 M	307 M	8430 M	102 M	63.7 M	129 M
Acenaphthylene	<12 µg/kg	TM218		195 M	201 M	1290 M	58.9 M	35.5 M	52.2 M
Acenaphthene	<8 µg/kg	TM218		99.7 M	<80 M	268 M	19.9 M	29.6 M	14.9 M
Fluorene	<10 µg/kg	TM218		141 M	125 M	838 M	59.2 M	27.6 M	33.6 M
Phenanthrene	<15 µg/kg	TM218		1090 M	990 M	5740 M	476 M	372 M	298 M
Anthracene	<16 µg/kg	TM218		314 M	289 M	1810 M	121 M	105 M	78.6 M
Fluoranthene	<17 µg/kg	TM218		2660 M	2600 M	8490 M	662 M	794 M	513 M
Pyrene	<15 µg/kg	TM218		2040 M	1970 M	6290 M	489 M	665 M	398 M
Benz(a)anthracene	<14 µg/kg	TM218		1660 M	1360 M	3520 M	338 M	430 M	315 M
Chrysene	<10 µg/kg	TM218		1510 M	1440 M	3580 M	299 M	451 M	276 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		2670 M	2260 M	4870 M	514 M	723 M	489 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		961 M	772 M	1600 M	188 M	250 M	154 M
Benzo(a)pyrene	<15 µg/kg	TM218		1640 M	1270 M	3220 M	318 M	439 M	284 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		1340 M	1090 M	2530 M	275 M	359 M	233 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		230 M	276 M	549 M	43.9 M	78.1 M	41.6 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		1140 M	990 M	2310 M	262 M	370 M	214 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		17900	15900	55300	4230	5190	3520

CERTIFICATE OF ANALYSIS

SDG: 210212-101 **Client Reference:** P18-669 **Report Number:** 587965
Location: Llanwern **Order Number:** 108282 **Superseded Report:**

PAH by GCMS

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Customer Sample Ref.	W300-4
Depth (m)	0.20 - 0.20
Sample Type	Soil/Solid (S)
Date Sampled	11/02/2021
Sample Time	.
Date Received	12/02/2021
SDG Ref	210212-101
Lab Sample No.(s)	23716459
AGS Reference	

Component	LOD/Units	Method	
Naphthalene-d8 % recovery**	%	TM218	94.6
Acenaphthene-d10 % recovery**	%	TM218	91.7
Phenanthrene-d10 % recovery**	%	TM218	83.8
Chrysene-d12 % recovery**	%	TM218	82.2
Perylene-d12 % recovery**	%	TM218	81.5
Naphthalene	<9 µg/kg	TM218	167 M
Acenaphthylene	<12 µg/kg	TM218	71 M
Acenaphthene	<8 µg/kg	TM218	23.3 M
Fluorene	<10 µg/kg	TM218	44.4 M
Phenanthrene	<15 µg/kg	TM218	459 M
Anthracene	<16 µg/kg	TM218	98.9 M
Fluoranthene	<17 µg/kg	TM218	744 M
Pyrene	<15 µg/kg	TM218	571 M
Benz(a)anthracene	<14 µg/kg	TM218	399 M
Chrysene	<10 µg/kg	TM218	433 M
Benzo(b)fluoranthene	<15 µg/kg	TM218	730 M
Benzo(k)fluoranthene	<14 µg/kg	TM218	210 M
Benzo(a)pyrene	<15 µg/kg	TM218	433 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218	346 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218	73.5 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218	327 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218	5130

CERTIFICATE OF ANALYSIS

SDG: 210212-101 **Client Reference:** P18-669 **Report Number:** 587965
Location: Llanwern **Order Number:** 108282 **Superseded Report:**

TPH CWG (S)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	SPLA-1	SPLA-2	SPLA-3	SPLA-4	SPLP-1	SPLP-2
			Depth (m)	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	12/02/2021	12/02/2021	12/02/2021	12/02/2021	12/02/2021	12/02/2021
			SDG Ref	210212-101	210212-101	210212-101	210212-101	210212-101	210212-101
			Lab Sample No.(s)	23716424	23716430	23716436	23716443	23716403	23716409
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		74.1	125	70.9	90	79	82.8
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	<10	<10	<10	<10	<10
Aliphatics >C6-C8	<10 µg/kg	TM089		<10	<10	<10	<10	<10	<10
Aliphatics >C8-C10	<10 µg/kg	TM089		<10	<10	<10	<10	<10	<10
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Aliphatics >C12-C16	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	3770	1090
Aliphatics >C16-C21	<1000 µg/kg	TM414		<1000	4780	<1000	2370	11000	5670
Aliphatics >C21-C35	<1000 µg/kg	TM414		2020	19700	1560	14100	30800	20700
Aliphatics >C35-C44	<1000 µg/kg	TM414		<1000	3390	<1000	2560	6470	3760
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		<5000	28100	<5000	19000	52000	31300
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		10900	49800	<10000	55500	86200	109000
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/kg	TM089		<10	<10	<10	<10	<10	<10
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	1090
Aromatics > EC12-EC16	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	1670
Aromatics > EC16-EC21	<1000 µg/kg	TM414		<1000	2090	<1000	5920	2750	14300
Aromatics > EC21-EC35	<1000 µg/kg	TM414		7860	17600	1360	24500	27500	54000
Aromatics >EC35-EC44	<1000 µg/kg	TM414		<1000	1860	<1000	5150	3280	6340
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	1020
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		8860	21800	<5000	36500	34200	77400
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		<10000	49800	<10000	55500	86200	109000
Total Aliphatics >C5-C10	<50 µg/kg	TM089		<50	<50	<50	<50	<50	<50
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50	<50	<50	<50	<50	<50
GRO >C5-C10	<20 µg/kg	TM089		<20	<20	<20	<20	<20	<20

CERTIFICATE OF ANALYSIS

SDG: 210212-101 **Client Reference:** P18-669 **Report Number:** 587965
Location: Llanwern **Order Number:** 108282 **Superseded Report:**

TPH CWG (S)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	SPLP-3	W213-1	W213-2	W213-3	W213-4	W213-5
			Depth (m)	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	12/02/2021	12/02/2021	12/02/2021	12/02/2021	12/02/2021	12/02/2021
			SDG Ref	210212-101	210212-101	210212-101	210212-101	210212-101	210212-101
			Lab Sample No.(s)	23716417	23716468	23716473	23716480	23716485	23716489
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		84	80.5	88.3	86.9	34 4	82.4
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	<10	<10	<10	<10 4	<10
Aliphatics >C6-C8	<10 µg/kg	TM089		<10	<10	<10	<10	<10 4	<10
Aliphatics >C8-C10	<10 µg/kg	TM089		<10	<10	<10	<10	<10 4	<10
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	3270	<1000
Aliphatics >C12-C16	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	11300	<1000
Aliphatics >C16-C21	<1000 µg/kg	TM414		1480	1150	3670	1620	50500	1730
Aliphatics >C21-C35	<1000 µg/kg	TM414		3920	4520	10700	11700	2660000	6160
Aliphatics >C35-C44	<1000 µg/kg	TM414		<1000	<1000	<1000	2070	319000	<1000
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		5400	6440	14900	15700	3040000	8340
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		29500	147000	68000	69500	3090000	204000
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	<10	<10	<10 4	<10
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10	<10	<10	<10 4	<10
Aromatics >EC8-EC10	<10 µg/kg	TM089		<10	<10	<10	<10	<10 4	<10
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Aromatics > EC12-EC16	<1000 µg/kg	TM414		<1000	1970	<1000	<1000	4440	<1000
Aromatics > EC16-EC21	<1000 µg/kg	TM414		6920	20100	4800	7800	15300	7290
Aromatics > EC21-EC35	<1000 µg/kg	TM414		15600	108000	35700	40200	24800	183000
Aromatics >EC35-EC44	<1000 µg/kg	TM414		<1000	10200	12400	4940	<1000	5270
Aromatics > EC40-EC44	<1000 µg/kg	TM414		<1000	1870	3820	1170	<1000	<1000
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		24100	141000	53200	53800	46200	196000
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		29500	147000	68000	69500	3090000	204000
Total Aliphatics >C5-C10	<50 µg/kg	TM089		<50	<50	<50	<50	<50 4	<50
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50	<50	<50	<50	<50 4	<50
GRO >C5-C10	<20 µg/kg	TM089		<20	<20	<20	<20	<20 4	<20

CERTIFICATE OF ANALYSIS

SDG: 210212-101 **Client Reference:** P18-669 **Report Number:** 587965
Location: Llanwern **Order Number:** 108282 **Superseded Report:**

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	W213-6	W213-7	W213-8	W300-1	W300-2	W300-3
			Depth (m)	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	12/02/2021	12/02/2021	12/02/2021	12/02/2021	12/02/2021	12/02/2021
			SDG Ref	210212-101	210212-101	210212-101	210212-101	210212-101	210212-101
			Lab Sample No.(s)	23716387	23716392	23716399	23716382	23716449	23716453
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		101	70.3	20 4	107	112	94.5
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	<10	<10 4	<10	<10	<10
Aliphatics >C6-C8	<10 µg/kg	TM089		<10	<10	<10 4	<10	<10	<10
Aliphatics >C8-C10	<10 µg/kg	TM089		<10	<10	<10 4	<10	<10	<10
Aliphatics >C10-C12	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	<1000
Aliphatics >C12-C16	<1000 µg/kg	TM414		<1000	<1000	3160	<1000	<1000	<1000
Aliphatics >C16-C21	<1000 µg/kg	TM414		1410	1160	17300	<1000	6060	1560
Aliphatics >C21-C35	<1000 µg/kg	TM414		10500	8800	42200	23300	54500	24300
Aliphatics >C35-C44	<1000 µg/kg	TM414		1140	<1000	12000	5000	18500	6460
Total Aliphatics >C10-C44	<5000 µg/kg	TM414		13300	10600	74900	29100	79500	32500
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414		85900	62500	228000	36900	99200	47000
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	<10 4	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10	<10 4	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/kg	TM089		<10	<10	<10 4	<10	<10	<10
Aromatics > EC10-EC12	<1000 µg/kg	TM414		<1000	<1000	9950	<1000	<1000	<1000
Aromatics > EC12-EC16	<1000 µg/kg	TM414		<1000	1230	6320	<1000	<1000	<1000
Aromatics > EC16-EC21	<1000 µg/kg	TM414		10700	9350	33400	<1000	1810	1310
Aromatics > EC21-EC35	<1000 µg/kg	TM414		55000	38100	93200	5460	16100	11300
Aromatics >EC35-EC44	<1000 µg/kg	TM414		6290	2870	10400	1430	1770	1670
Aromatics > EC40-EC44	<1000 µg/kg	TM414		1270	<1000	1690	<1000	<1000	<1000
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414		72600	51800	153000	7860	19800	14400
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414		85900	62500	228000	36900	99200	47000
Total Aliphatics >C5-C10	<50 µg/kg	TM089		<50	<50	<50 4	<50	<50	<50
Total Aromatics >EC5-EC10	<50 µg/kg	TM089		<50	<50	<50 4	<50	<50	<50
GRO >C5-C10	<20 µg/kg	TM089		<20	<20	<20 4	<20	<20	<20

CERTIFICATE OF ANALYSIS

SDG: 210212-101 **Client Reference:** P18-669 **Report Number:** 587965
Location: Llanwern **Order Number:** 108282 **Superseded Report:**

TPH CWG (S)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	Depth (m)	Sample Type	Date Sampled	Sample Time	Date Received	SDG Ref	Lab Sample No.(s)	AGS Reference
			W300-4	0.20 - 0.20	Soil/Solid (S)	11/02/2021	.	12/02/2021	210212-101	23716459	
GRO Surrogate % recovery**	%	TM089	80.1								
Aliphatics >C5-C6	<10 µg/kg	TM089	<10								
Aliphatics >C6-C8	<10 µg/kg	TM089	<10								
Aliphatics >C8-C10	<10 µg/kg	TM089	<10								
Aliphatics >C10-C12	<1000 µg/kg	TM414	<1000								
Aliphatics >C12-C16	<1000 µg/kg	TM414	<1000								
Aliphatics >C16-C21	<1000 µg/kg	TM414	1480								
Aliphatics >C21-C35	<1000 µg/kg	TM414	21400								
Aliphatics >C35-C44	<1000 µg/kg	TM414	4470								
Total Aliphatics >C10-C44	<5000 µg/kg	TM414	27400								
Total Aliphatics & Aromatics >C10-C44	<10000 µg/kg	TM414	80700								
Aromatics >EC5-EC7	<10 µg/kg	TM089	<10								
Aromatics >EC7-EC8	<10 µg/kg	TM089	<10								
Aromatics >EC8-EC10	<10 µg/kg	TM089	<10								
Aromatics > EC10-EC12	<1000 µg/kg	TM414	<1000								
Aromatics > EC12-EC16	<1000 µg/kg	TM414	1810								
Aromatics > EC16-EC21	<1000 µg/kg	TM414	20300								
Aromatics > EC21-EC35	<1000 µg/kg	TM414	28800								
Aromatics >EC35-EC44	<1000 µg/kg	TM414	2210								
Aromatics > EC40-EC44	<1000 µg/kg	TM414	<1000								
Total Aromatics > EC10-EC44	<5000 µg/kg	TM414	53300								
Total Aliphatics & Aromatics >C5-C44	<10000 µg/kg	TM414	80700								
Total Aliphatics >C5-C10	<50 µg/kg	TM089	<50								
Total Aromatics >EC5-EC10	<50 µg/kg	TM089	<50								
GRO >C5-C10	<20 µg/kg	TM089	<20								

CERTIFICATE OF ANALYSIS

SDG: 210212-101 **Client Reference:** P18-669 **Report Number:** 587965
Location: Llanwern **Order Number:** 108282 **Superseded Report:**

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	SPLA-1	SPLA-2	SPLA-3	SPLA-4	SPLP-1	SPLP-2
			Depth (m)	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	12/02/2021	12/02/2021	12/02/2021	12/02/2021	12/02/2021	12/02/2021
			SDG Ref	210212-101	210212-101	210212-101	210212-101	210212-101	210212-101
			Lab Sample No.(s)	23716424	23716430	23716436	23716443	23716403	23716409
			AGS Reference						
Dibromofluoromethane**	%	TM116		108	107	112	106	106	107
Toluene-d8**	%	TM116		95.6	95.7	94.4	97.8	97.9	98.1
4-Bromofluorobenzene**	%	TM116		88.7	90	87.3	94	93.9	96.9
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Benzene	<9 µg/kg	TM116		<180 M	<180 M	<180 M	<180 M	<180 M	<180 M
Toluene	<7 µg/kg	TM116		<140 M	<140 M	<140 M	<140 M	<140 M	<140 M
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<80 M	<80 M	<80 M	<80 M
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #	<200 #	<200 #	<200 #
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Naphthalene	<13 µg/kg	TM116		<260 M	<260 M	<260 M	<260 M	<260 M	<260 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800	<800	<800	<800

CERTIFICATE OF ANALYSIS

SDG: 210212-101 **Client Reference:** P18-669 **Report Number:** 587965
Location: Llanwern **Order Number:** 108282 **Superseded Report:**

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	SPLP-3	W213-1	W213-2	W213-3	W213-4	W213-5
			Depth (m)	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	12/02/2021	12/02/2021	12/02/2021	12/02/2021	12/02/2021	12/02/2021
			SDG Ref	210212-101	210212-101	210212-101	210212-101	210212-101	210212-101
			Lab Sample No.(s)	23716417	23716468	23716473	23716480	23716485	23716489
			AGS Reference						
Dibromofluoromethane**	%	TM116		108	105	106	105	99.5	108
Toluene-d8**	%	TM116		98.3	96.6	97.3	96.3	91.2	96.9
4-Bromofluorobenzene**	%	TM116		97.4	90.9	93.9	92	81.3	92.9
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Benzene	<9 µg/kg	TM116		<180 M	<180 M	<180 M	<180 M	<180 M	<180 M
Toluene	<7 µg/kg	TM116		<140 M	<140 M	<140 M	<140 M	<140 M	<140 M
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<80 M	<80 M	<80 M	<80 M
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #	<200 #	<200 #	<200 #
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Naphthalene	<13 µg/kg	TM116		<260 M	<260 M	<260 M	<260 M	<260 M	<260 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800	<800	<800	<800

Validated

CERTIFICATE OF ANALYSIS

SDG: 210212-101 **Client Reference:** P18-669 **Report Number:** 587965
Location: Llanwern **Order Number:** 108282 **Superseded Report:**

VOC MS (S)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	W213-6	W213-7	W213-8	W300-1	W300-2	W300-3
			Depth (m)	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021
			Sample Time	.	.	.	.	.	.
			Date Received	12/02/2021	12/02/2021	12/02/2021	12/02/2021	12/02/2021	12/02/2021
			SDG Ref	210212-101	210212-101	210212-101	210212-101	210212-101	210212-101
			Lab Sample No.(s)	23716387	23716392	23716399	23716382	23716449	23716453
			AGS Reference						
Dibromofluoromethane**	%	TM116		108	106	90.8	105	105	106
Toluene-d8**	%	TM116		97.3	98	91.5	97.5	97.4	98.8
4-Bromofluorobenzene**	%	TM116		91	95.1	77.8	93.7	94	96.6
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Benzene	<9 µg/kg	TM116		<180 M	<180 M	<180 M	<180 M	<180 M	<180 M
Toluene	<7 µg/kg	TM116		<140 M	<140 M	<140 M	<140 M	<140 M	<140 M
Ethylbenzene	<4 µg/kg	TM116		<80 M	<80 M	<80 M	<80 M	<80 M	<80 M
p/m-Xylene	<10 µg/kg	TM116		<200 #	<200 #	<200 #	<200 #	<200 #	<200 #
o-Xylene	<10 µg/kg	TM116		<200 M	<200 M	<200 M	<200 M	<200 M	<200 M
Naphthalene	<13 µg/kg	TM116		<260 M	<260 M	1770 M	<260 M	<260 M	<260 M
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Sum of BTEX	<40 µg/kg	TM116		<800	<800	<800	<800	<800	<800

CERTIFICATE OF ANALYSIS

SDG:	210212-101	**Client Reference:**	P18-669	**Report Number:**	587965
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	Depth (m)	Sample Type	Date Sampled	Sample Time	Date Received	SDG Ref	Lab Sample No.(s)	AGS Reference
			W300-4	0.20 - 0.20	Soil/Solid (S)	11/02/2021	.	12/02/2021	210212-101	23716459	
Dibromofluoromethane**	%	TM116	108								
Toluene-d8**	%	TM116	96.5								
4-Bromofluorobenzene**	%	TM116	93.8								
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116	<200 M								
Benzene	<9 µg/kg	TM116	<180 M								
Toluene	<7 µg/kg	TM116	<140 M								
Ethylbenzene	<4 µg/kg	TM116	<80 M								
p/m-Xylene	<10 µg/kg	TM116	<200 #								
o-Xylene	<10 µg/kg	TM116	<200 M								
Naphthalene	<13 µg/kg	TM116	<260 M								
Sum of Detected Xylenes	<0.02 mg/kg	TM116	<0.4								
Sum of BTEX	<40 µg/kg	TM116	<800								

CERTIFICATE OF ANALYSIS

SDG:	210212-101	**Client Reference:**	P18-669	**Report Number:**	587965
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

Asbestos Identification - Solid Samples

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	SPLA-2 0.20 - 0.20 SOLID 11/02/2021 00:00:00 12/02/2021 05:00:00 210212-101 23716430 TM048	23/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	SPLA-4 0.20 - 0.20 SOLID 11/02/2021 00:00:00 12/02/2021 05:00:00 210212-101 23716443 TM048	23/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	SPLP-1 0.20 - 0.20 SOLID 11/02/2021 00:00:00 12/02/2021 05:00:00 210212-101 23716403 TM048	18/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	SPLP-3 0.20 - 0.20 SOLID 11/02/2021 00:00:00 12/02/2021 05:00:00 210212-101 23716417 TM048	18/02/2021	Agnieszka Chelmowska	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	W213-1 0.20 - 0.20 SOLID 11/02/2021 00:00:00 12/02/2021 05:00:00 210212-101 23716468 TM048	22/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	W213-3 0.20 - 0.20 SOLID 11/02/2021 00:00:00 12/02/2021 05:00:00 210212-101 23716480 TM048	23/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	W213-5 0.20 - 0.20 SOLID 11/02/2021 00:00:00 12/02/2021 05:00:00 210212-101 23716489 TM048	22/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	W213-7 0.20 - 0.20 SOLID 11/02/2021 00:00:00 12/02/2021 05:00:00 210212-101 23716392 TM048	18/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

Validated

CERTIFICATE OF ANALYSIS

SDG: 210212-101 **Client Reference:** P18-669 **Report Number:** 587965
Location: Llanwern **Order Number:** 108282 **Superseded Report:**

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	W300-1 0.20 - 0.20 SOLID 11/02/2021 00:00:00 12/02/2021 05:00:00 210212-101 23716382 TM048	22/02/2021	Paul Poynton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	W300-3 0.20 - 0.20 SOLID 11/02/2021 00:00:00 12/02/2021 05:00:00 210212-101 23716453 TM048	18/02/2021	Agnieszka Chelmowska	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM024	Method 4500A & B, AWWA/APHA, 20th Ed., 1999	Determination of Exchangeable Ammonium and Ammoniacal Nitrogen as N by titration on solids
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM132	In - house Method	ELTRA CS800 Operators Guide
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS
TM414	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Life Sciences Ltd Hawarden (Method codes TM) or ALS Life Sciences Ltd Aberdeen (Method codes S).

CERTIFICATE OF ANALYSIS

SDG:	210212-101	**Client Reference:**	P18-669	**Report Number:**	587965
Location:	Llanwern	**Order Number:**	108282	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	23716424	23716430	23716436	23716443	23716403	23716409	23716417	23716468	23716473	23716480
Customer Sample Ref.	SPLA-1	SPLA-2	SPLA-3	SPLA-4	SPLP-1	SPLP-2	SPLP-3	W213-1	W213-2	W213-3
AGS Ref.										
Depth	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Ammonium Soil by Titration	18-Feb-2021	19-Feb-2021	19-Feb-2021	19-Feb-2021	18-Feb-2021	19-Feb-2021	19-Feb-2021	19-Feb-2021	19-Feb-2021	19-Feb-2021
Asbestos ID in Solid Samples		23-Feb-2021		23-Feb-2021	18-Feb-2021		18-Feb-2021	22-Feb-2021		23-Feb-2021
Cyanide Comp/Free/Total/Thiocyanate	18-Feb-2021	16-Feb-2021	18-Feb-2021	17-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021	17-Feb-2021
EPH CWG GC (S)	17-Feb-2021	17-Feb-2021	17-Feb-2021	17-Feb-2021	17-Feb-2021	17-Feb-2021	17-Feb-2021	17-Feb-2021	17-Feb-2021	17-Feb-2021
GRO by GC-FID (S)	18-Feb-2021	19-Feb-2021	18-Feb-2021	18-Feb-2021	19-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021
Metals in solid samples by OES	20-Feb-2021	20-Feb-2021	20-Feb-2021	20-Feb-2021	22-Feb-2021	20-Feb-2021	22-Feb-2021	20-Feb-2021	20-Feb-2021	20-Feb-2021
PAH by GCMS	19-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021	19-Feb-2021	19-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021
pH	16-Feb-2021	17-Feb-2021	16-Feb-2021	17-Feb-2021	17-Feb-2021	16-Feb-2021	16-Feb-2021	17-Feb-2021	16-Feb-2021	17-Feb-2021
Phenols by HPLC (S)	17-Feb-2021	17-Feb-2021	17-Feb-2021	18-Feb-2021	17-Feb-2021	17-Feb-2021	17-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021
Sample description	13-Feb-2021	14-Feb-2021	14-Feb-2021	14-Feb-2021	14-Feb-2021	13-Feb-2021	13-Feb-2021	13-Feb-2021	13-Feb-2021	14-Feb-2021
Total Organic Carbon	19-Feb-2021	19-Feb-2021	19-Feb-2021	19-Feb-2021	19-Feb-2021	18-Feb-2021	18-Feb-2021	19-Feb-2021	19-Feb-2021	19-Feb-2021
TPH CWG GC (S)	18-Feb-2021	19-Feb-2021	18-Feb-2021	18-Feb-2021	19-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021
VOC MS (S)	18-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021

Lab Sample No(s)	23716485	23716489	23716387	23716392	23716399	23716382	23716449	23716453	23716459
Customer Sample Ref.	W213-4	W213-5	W213-6	W213-7	W213-8	W300-1	W300-2	W300-3	W300-4
AGS Ref.									
Depth	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20	0.20 - 0.20
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Ammonium Soil by Titration	19-Feb-2021	18-Feb-2021	19-Feb-2021	19-Feb-2021	19-Feb-2021	19-Feb-2021	18-Feb-2021	19-Feb-2021	18-Feb-2021
Asbestos ID in Solid Samples		22-Feb-2021		18-Feb-2021		22-Feb-2021		18-Feb-2021	
Cyanide Comp/Free/Total/Thiocyanate	16-Feb-2021	18-Feb-2021	16-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021	16-Feb-2021
EPH CWG GC (S)	17-Feb-2021	17-Feb-2021	17-Feb-2021	17-Feb-2021	17-Feb-2021	17-Feb-2021	17-Feb-2021	17-Feb-2021	17-Feb-2021
GRO by GC-FID (S)	19-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021	19-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021
Metals in solid samples by OES	20-Feb-2021	20-Feb-2021	20-Feb-2021	22-Feb-2021	20-Feb-2021	19-Feb-2021	20-Feb-2021	22-Feb-2021	22-Feb-2021
PAH by GCMS	18-Feb-2021	18-Feb-2021	18-Feb-2021	19-Feb-2021	22-Feb-2021	18-Feb-2021	22-Feb-2021	18-Feb-2021	19-Feb-2021
pH	16-Feb-2021	17-Feb-2021	15-Feb-2021	17-Feb-2021	16-Feb-2021	17-Feb-2021	15-Feb-2021	17-Feb-2021	16-Feb-2021
Phenols by HPLC (S)	17-Feb-2021	17-Feb-2021	17-Feb-2021	17-Feb-2021	17-Feb-2021	18-Feb-2021	17-Feb-2021	18-Feb-2021	17-Feb-2021
Sample description	13-Feb-2021	14-Feb-2021	13-Feb-2021	13-Feb-2021	14-Feb-2021	14-Feb-2021	13-Feb-2021	13-Feb-2021	13-Feb-2021
Total Organic Carbon	18-Feb-2021	19-Feb-2021	19-Feb-2021	19-Feb-2021	19-Feb-2021	18-Feb-2021	19-Feb-2021	19-Feb-2021	19-Feb-2021
TPH CWG GC (S)	19-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021	19-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021
VOC MS (S)	18-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021	18-Feb-2021

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

18. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

19. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Amended Report

Report No.:	22-26760-2		
Initial Date of Issue:	22-Jul-2022	**Date of Re-Issue:**	25-Jul-2022
Client	Rodgers Leask Environmental		
Client Address:	Office 225 2430/2440 Aztec West Almoundsbury Bristol BS32 4AQ		
Contact(s):	Caitlin Davies Chris Wilson David McCarroll		
Project	P18-669		
Quotation No.:		**Date Received:**	15-Jul-2022
Order No.:	PO115623	**Date Instructed:**	15-Jul-2022
No. of Samples:	8		
Turnaround (Wkdays):	10	**Results Due:**	28-Jul-2022
Date Approved:	25-Jul-2022		
Approved By:			
Details:	Stuart Henderson, Technical Manager		

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental		**Chemtest Job No.:**			22-26760	22-26760	22-26760	22-26760	22-26760	22-26760	22-26760	22-26760
Quotation No.:		**Chemtest Sample ID.:**			1468353	1468354	1468355	1468356	1468357	1468358	1468359	1468360
		Client Sample ID.:			3CP2-3	AV31-1	AV32-1	AW32-1	AO33-1	AO32-1	AO32-2	AO28-C
		Sample Type:			SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			0.20	0.70	1.00	1.00	1.70	2.00	2.90	
		Bottom Depth (m):			0.20	0.70	1.00	1.00	1.70	2.00	2.90	
		Date Sampled:			13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022
		Asbestos Lab:			DURHAM	DURHAM	DURHAM			DURHAM		DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**								
ACM Type	U	2192		N/A	-	-	-			Fibres/Clumps		-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected			Amosite		No Asbestos Detected
Asbestos by Gravimetry	U	2192	%	0.001						0.005		
Total Asbestos	U	2192	%	0.001						0.005		
Moisture	N	2030	%	0.020	9.2	2.9	4.1	0.82	1.3	26	8.7	26
Soil Colour	N	2040		N/A	Brown	Black	Brown	Brown	Grey	Grey	Brown	Grey
Other Material	N	2040		N/A	Stones	Stones	Stones	Roots and Stones	Stones	Stones	Stones	Stones
Soil Texture	N	2040		N/A	Sand	Sand	Sand	Sand	Gravel	Sand	Gravel	Clay
pH	M	2010		4.0	10.1	9.6	10.1	9.0	10.3	8.9	10.0	8.5
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50	1.2	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Ammoniacal Nitrogen	M	2425	mg/kg	0.50	5.1	< 0.50	< 0.50	1.7	3.4	11	5.1	180
Iron (Total)	N	2430	mg/kg	100	57000	110000	83000	91000	31000	35000	85000	28000
Arsenic	M	2455	mg/kg	0.5	6.2	8.2	17	280	9.1	19	9.6	13
Cadmium	M	2455	mg/kg	0.10	0.25	0.14	0.56	1.5	0.20	0.16	0.77	< 0.10
Chromium	M	2455	mg/kg	0.5	200	28	43	57	31	24	67	29
Manganese	M	2455	mg/kg	1.0	11000	2200	15000	76000	3300	2800	4200	380
Copper	M	2455	mg/kg	0.50	17	13	26	200	24	23	21	9.6
Mercury	M	2455	mg/kg	0.05	0.14	< 0.05	0.05	0.24	0.05	0.13	0.16	< 0.05
Nickel	M	2455	mg/kg	0.50	14	11	24	270	13	20	19	28
Lead	M	2455	mg/kg	0.50	44	44	55	100	24	35	150	20
Selenium	M	2455	mg/kg	0.25	1.8	1.2	0.96	1.0	0.85	1.3	1.3	0.85
Vanadium	U	2455	mg/kg	0.5	410	40	80	160	55	46	98	36
Zinc	M	2455	mg/kg	0.50	110	74	130	270	55	72	330	72
Organic Matter	M	2625	%	0.40	5.3	67	47	41	9.1	34	24	4.1
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	8.8	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	< 1.0	19	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	28	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental		**Chemtest Job No.:**			22-26760	22-26760	22-26760	22-26760	22-26760	22-26760	22-26760	22-26760
Quotation No.:		**Chemtest Sample ID.:**			1468353	1468354	1468355	1468356	1468357	1468358	1468359	1468360
		Client Sample ID.:			3CP2-3	AV31-1	AV32-1	AW32-1	AO33-1	AO32-1	AO32-2	AO28-C
		Sample Type:			SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			0.20	0.70	1.00	1.00	1.70	2.00	2.90	
		Bottom Depth (m):			0.20	0.70	1.00	1.00	1.70	2.00	2.90	
		Date Sampled:			13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022
		Asbestos Lab:			DURHAM	DURHAM	DURHAM			DURHAM		DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**								
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	< 10	28	< 10	< 10	< 10	< 10	< 10	< 10
Benzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.4	< 1.0
Toluene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
m & p-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl Tert-Butyl Ether	M	2760	µg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Naphthalene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	4.4	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene	N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.87	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.15	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.50	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	M	2800	mg/kg	0.10	2.1	0.86	1.4	3.2	0.75	0.55	1.5	< 0.10
Anthracene	M	2800	mg/kg	0.10	0.48	0.16	0.26	0.88	0.19	0.19	0.39	< 0.10
Fluoranthene	M	2800	mg/kg	0.10	2.4	0.64	0.92	5.4	1.0	0.46	1.8	< 0.10
Pyrene	M	2800	mg/kg	0.10	1.7	0.56	0.75	3.7	0.75	0.40	1.5	< 0.10
Benzo[a]anthracene	M	2800	mg/kg	0.10	1.1	0.42	0.60	2.9	0.54	< 0.10	0.69	< 0.10
Chrysene	M	2800	mg/kg	0.10	0.93	0.32	0.65	2.7	0.43	< 0.10	0.94	< 0.10
Benzo[b]fluoranthene	M	2800	mg/kg	0.10	1.6	0.50	0.77	4.2	0.80	< 0.10	1.1	< 0.10
Benzo[k]fluoranthene	M	2800	mg/kg	0.10	0.50	0.16	0.21	1.4	0.30	< 0.10	0.52	< 0.10
Benzo[a]pyrene	M	2800	mg/kg	0.10	1.1	0.38	0.49	2.9	0.49	< 0.10	0.67	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.45	2.4	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.10	< 0.10	< 0.10	0.17	0.49	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2800	mg/kg	0.10	< 0.10	< 0.10	0.45	2.1	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	N	2800	mg/kg	2.0	12	4.0	7.1	38	5.3	< 2.0	9.1	< 2.0
Resorcinol	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Phenol	M	2920	mg/kg	0.020	0.092	< 0.020	0.88	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Cresols	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Xylenols	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
1-Naphthol	N	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Trimethylphenols	M	2920	mg/kg	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020

Results - Soil

Project: P18-669

Client: Rodgers Leask Environmental					**Chemtest Job No.:**	22-26760	22-26760	22-26760	22-26760	22-26760	22-26760	22-26760	22-26760
Quotation No.:					**Chemtest Sample ID.:**	1468353	1468354	1468355	1468356	1468357	1468358	1468359	1468360
					Client Sample ID.:	3CP2-3	AV31-1	AV32-1	AW32-1	AO33-1	AO32-1	AO32-2	AO28-C
					Sample Type:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
					Top Depth (m):	0.20	0.70	1.00	1.00	1.70	2.00	2.90	
					Bottom Depth (m):	0.20	0.70	1.00	1.00	1.70	2.00	2.90	
					Date Sampled:	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022	13-Jul-2022
					Asbestos Lab:	DURHAM	DURHAM	DURHAM			DURHAM		DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**									
Total Phenols	M	2920	mg/kg	0.10		< 0.10	< 0.10	0.88	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2425	Extractable Ammonium in soils	Ammonium	Extraction with potassium chloride solution / analysis by 'Aquakem 600' Discrete Analyser using sodium salicylate and sodium dichloroisocyanurate.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

Appendix E: Gas Monitoring

2.9

4B & 5D-WS01

Date	Oxygen Concentration (%)		Carbon dioxide concentration (%)		Methane concentration (%)		Flow Rate		Gas Screening Value	3 Days preceding Barometric Pressure (mb)			Pressure	Pressure Trend	Base Level (m)	Water Level (m)	H2S (ppm)	CO (ppm)
	Minimum	Steady	Peak	Steady	Peak	Steady	Peak	Steady		3rd	2nd	1st					Peak	Peak
28/03/23	18.3	18.3	0.2	0.1	0.2	0.2	-0.7	-0.6	-0.001	1006	1011	1025	1015	Falling	2.99	0.86	0.00	2
18/05/23	18.5	18.5	0.1	0.0	0.2	0.2	-3.1	-3.1	-0.006	1022	1026	1029	1030	Rising	No dip	No dip	0.00	1
08/06/23	17.2	21.2	0.0	0.0	0.0	0.0	0.0	0.0	0.000	1024	1023	1020	1018	Falling	3.05	1.60	0.00	2
21/06/23	16.1	18.8	0.0	0.0	0.2	0.2	-0.2	-0.2	0.000	1008	1010	1008	1019	Rising	2.92	DRY	0.00	2

Determining the Gas Screening Value

Maximum Carbon dioxide concentration	Maximum methane	Maximum flow rate*
0.2	0.2	0.3

*0.3 l/hr Flow has been used on any value less than 0.3 l/hr based on gas analyser potential error.

Gas Screening Value (l/hr) = Max. borehole flow rate (l/hr) x Max. gas concentration (%)

Gas Screening Value =	0.0006

4B & 5D-WS02

Date	Oxygen Concentration (%)		Carbon dioxide concentration (%)		Methane concentration (%)		Flow Rate		Gas Screening Value	3 Days preceding Barometric Pressure (mb)			Pressure	Pressure Trend	Base Level (m)	Water Level (m)	H2S (ppm)	CO (ppm)
	Minimum	Steady	Peak	Steady	Peak	Steady	Peak	Steady		3rd	2nd	1st					Peak	Peak
28/03/23	9.9	9.9	0.1	0.1	0.9	0.9	0.0	0.0	0.0000	1006	1011	1025	1016	Steady	2.44	1.23	0.00	0
18/05/23	2.9	2.9	0.1	0.0	0.5	0.5	-0.8	-0.1	-0.004	1022	1026	1029	1030	Rising	No dip	No dip	0.00	1
08/06/23	9.8	9.8	0.0	0.0	0.2	0.2	0.0	0.0	0.000	1024	1023	1020	1018	Falling	2.46	0.84	0.00	3
21/06/23	5.8	5.8	0.0	0.0	0.3	0.3	-0.1	-0.1	0.000	1008	1010	1008	1018	Rising	2.43	2.43	0.00	2
04/06/25	15.6	15.6	0.2	0.2	0.2	0.2	0.0	0.0	0.000	1014	1018	1005	1002	Rising	4.82	1.13	0.00	0
28/07/25	5.4	5.4	0.1	0.1	0.0	0.0	0.0	0.0	0.000	1020	1017	1019	1017	Steady	4.82	0.68	0.00	0
13/10/25	11.9	11.9	0.2	0.2	5.2	5.2	0.0	0.0	0.0	1035	1034	1031	1027	Falling	4.83	1.17	0.00	0
31/10/25	12.8	12.8	0.1	0.1	0.0	0.0	0.0	0.0	0.0	1008	999	1003	995	Falling	4.84	1.21	0.00	0
07/11/25	13.5	13.5	0.1	0.1	2.0	2.0	0.0	0.0	0.0	1005	1003	1004	999	Falling	4.84	1.40	0.00	0

Determining the Gas Screening Value

Maximum Carbon dioxide concentration	Maximum methane	Maximum flow rate*
0.2	5.2	0.3

*0.3 l/hr Flow has been used on any value less than 0.3 l/hr based on gas analyser potential error.

Gas Screening Value (l/hr) = Max. borehole flow rate (l/hr) x Max. gas concentration (%)

Gas Screening Value =	0.0156

4B & 5D-WS04

Date	Oxygen Concentration (%)		Carbon dioxide concentration (%)		Methane concentration (%)		Flow Rate		Gas Screening Value	3 Days preceding Barometric Pressure (mb)			Pressure	Pressure Trend	Base Level (m)	Water Level (m)	H2S (ppm)	CO (ppm)
	Minimum	Steady	Peak	Steady	Peak	Steady	Peak	Steady		3rd	2nd	1st					Peak	Peak
28/03/23	19.2	21.9	0.1	0.1	0.3	0.1	4.8	4.8	0.014	1006	1011	1025	1015	Steady	2.51	0.82	0.00	1
18/05/23	17.1	19.3	0.1	0.0	0.0	0.0	-1.2	-1.2	-0.001	1022	1026	1029	1030	Rising	No dip	No dip	0.00	2
08/06/23	19.0	20.9	0.0	0.0	0.0	0.0	-1.7	-1.7	0.000	1024	1023	1020	1018	Falling	2.58	1.11	0.00	2
21/06/23	20.8	20.8	0.0	0.0	0.0	0.0	-1.3	-1.3	0.000	1008	1010	1008	1019	Rising	2.60	1.60	0.00	3

Determining the Gas Screening Value

Maximum Carbon dioxide concentration	Maximum methane	Maximum flow rate*
0.1	0.3	4.8

*0.3 l/hr Flow has been used on any value less than 0.3 l/hr based on gas analyser potential error.

Gas Screening Value (l/hr) = Max. borehole flow rate (l/hr) x Max. gas concentration (%)

Gas Screening Value =	0.0144

4B & 5D-WS05

Date	Oxygen Concentration (%)		Carbon dioxide concentration (%)		Methane concentration (%)		Flow Rate		Gas Screening Value	3 Days preceding Barometric Pressure (mb)			Pressure	Pressure Trend	Base Level (m)	Water Level (m)	H2S (ppm)	CO (ppm)
	Minimum	Steady	Peak	Steady	Peak	Steady	Peak	Steady		3rd	2nd	1st					Peak	Peak
28/03/23 - Battery Died									0.000	1006	1011	1025	1015	Steady	2.45	1.69	0.00	2
18/05/23	19.6	19.6	0.0	0.0	0.0	0.0	1.7	1.7	0.000	1022	1026	1029	1031	Rising	No dip	No dip	0.00	2
12/06/23	19.5	19.5	0.1	0.0	0.1	0.1	0.8	0.8	0.001	1024	1023	1020	1014	Steady	2.40	1.23	0.00	2
21/06/23	19.7	19.7	0.0	0.0	0.0	0.0	-1.6	-1.6	0.000	1008	1010	1008	1019	Rising	2.38	1.42	0.00	3
05/06/25	19.5	19.5	0.0	0.0	2.8	2.8	0.0	0.0	0.000	1018	1005	1003	999	Falling	2.92	1.68	0.00	0

Determining the Gas Screening Value

Maximum Carbon dioxide concentration	Maximum methane	Maximum flow rate*
0.1	2.8	1.7

*0.3 l/hr Flow has been used on any value less than 0.3 l/hr based on gas analyser potential error.

Gas Screening Value (l/hr) = Max. borehole flow rate (l/hr) x Max. gas concentration (%)

Gas Screening Value =	0.0476

4B & 5D-WS06

Date	Oxygen Concentration (%)		Carbon dioxide concentration (%)		Methane concentration (%)		Flow Rate		Gas Screening Value	3 Days preceding Barometric Pressure (mb)			Pressure	Pressure Trend	Base Level (m)	Water Level (m)	H2S (ppm)	CO (ppm)
	Minimum	Steady	Peak	Steady	Peak	Steady	Peak	Steady		3rd	2nd	1st					Peak	Peak
05/06/25	18.9	18.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1018	1005	1003	1002	Rising	2.3	0.8	0.0	0.0
28/07/25	17.8	17.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1020	1017	1019	1017	Steady	2.35	0.5	0.00	0
13/10/25	20.4	20.4	0.1	0.1	0.0	0.0	0.0	0.0	0.0	1035	1034	1031	1027	Falling	2.35	2.1	0.00	0
31/10/25	20.4	20.4	0.1	0.1	0.0	0.0	0.0	0.0	0.0	1008	999	1003	996	Falling	2.35	2.2	0.00	0
07/11/25	20.2	20.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	1005	1003	1004	999	Falling	2.35	2.2	0.00	0
18/12/25	17.7	17.7	0.0	0.0	0.6	0.0	0.0	0.0	0.0	1001	1013	1009	995	Falling	No dip		0.00	0

Determining the Gas Screening Value

Maximum Carbon dioxide concentration	Maximum methane	Maximum flow rate*
0.1	0.6	0.3

*0.3 l/hr Flow has been used on any value less than 0.3 l/hr based on gas analyser potential error.

Gas Screening Value (l/hr) = Max. borehole flow rate (l/hr) x Max. gas concentration (%)

Gas Screening Value =	0.0018

4B & 5D-WS07

Date	Oxygen Concentration (%)		Carbon dioxide concentration (%)		Methane concentration (%)		Flow Rate		Gas Screening Value	3 Days preceding Barometric Pressure (mb)			Pressure	Pressure Trend	Base Level (m)	Water Level (m)	H2S (ppm)	CO (ppm)
	Minimum	Steady	Peak	Steady	Peak	Steady	Peak	Steady		3rd	2nd	1st					Peak	Peak
04/06/25	19.9	19.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1014	1018	1005	1003	Rising	2.4	1.5	0.0	0.0
23/07/25	18.2	18.2	0.0	0.0	1.7	1.7	3.8	0.0	0.1	998	1003	1013	1013	Rising	2.37	2.07	0.00	0
28/07/25	17.7	17.7	0.0	0.0	0.1	0.1	0.0	0.0	0.0	1020	1017	1019	1017	Steady	2.38	2.13	0.00	0
13/10/25	18.9	18.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1035	1034	1031	1027	Falling	2.38	1.54	0.00	0
31/10/25	19.0	19.0	0.0	0.0	0.5	0.5	0.0	0.0	0.0	1008	999	1003	994	Falling	2.38	0.86	0.00	0
07/11/25	19.7	19.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1005	1003	1004	1001	Falling	2.38	1.51	0.00	0

Determining the Gas Screening Value

Maximum Carbon dioxide concentration	Maximum methane	Maximum flow rate*
0.1	1.7	3.8

*0.3 l/hr Flow has been used on any value less than 0.3 l/hr based on gas analyser potential error.

Gas Screening Value (l/hr) = Max. borehole flow rate (l/hr) x Max. gas concentration (%)

Gas Screening Value =	0.0646

Appendix F: Permeability Testing

Project: P18-669

Phase 4B/5D

4B/5D-INF01 (30/10/2025)				
Time (m)	Water level (mm)	Difference from start (mm)	Permeability (mm/min)	Permeability (m/s)
0	274	0	-	-
1	273	1	1.00	1.67E-05
2	273	1	0.50	8.33E-06
3	272	2	0.67	1.11E-05
4	270	4	1.00	1.67E-05
5	270	4	0.80	1.33E-05
6	268	6	1.00	1.67E-05
7	267	7	1.00	1.67E-05
8	267	7	0.88	1.46E-05
9	267	7	0.78	1.30E-05
10	267	7	0.70	1.17E-05
40	265	9	0.23	3.75E-06
120	265	9	0.08	1.25E-06
200	255	19	0.10	1.58E-06
400	234	40	0.10	1.67E-06
1600	214	60	0.04	6.25E-07

4B/5D-INF02 (19/01/2026)				
Time (m)	Water level (mm)	Difference from start (mm)	Permeability (mm/min)	Permeability (m/s)
0	270	0	-	-
1	265	5	5.00	8.33E-05
2	260	10	5.00	8.33E-05
3	260	10	3.33	5.56E-05
4	260	10	2.50	4.17E-05
5	260	10	2.00	3.33E-05
6	260	10	1.67	2.78E-05
7	260	10	1.43	2.38E-05
8	260	10	1.25	2.08E-05
9	260	10	1.11	1.85E-05
10	260	10	1.00	1.67E-05
20	260	10	0.50	8.33E-06
50	260	10	0.20	3.33E-06
110	260	10	0.09	1.52E-06
170	260	10	0.06	9.80E-07
230	259	11	0.05	7.97E-07

4B/5D-INF03 (20/01/2026)				
Time (m)	Water level (mm)	Difference from start (mm)	Permeability (mm/min)	Permeability (m/s)
0	270	0	-	-
1	270	0	0.00	0.00E+00
2	270	0	0.00	0.00E+00
3	269	1	0.33	5.56E-06
4	269	1	0.25	4.17E-06
5	269	1	0.20	3.33E-06
6	269	1	0.17	2.78E-06
7	269	1	0.14	2.38E-06
8	269	1	0.13	2.08E-06
9	269	1	0.11	1.85E-06
10	269	1	0.10	1.67E-06
15	269	1	0.07	1.11E-06
20	269	1	0.05	8.33E-07
30	268	2	0.07	1.11E-06
60	266	4	0.07	1.11E-06
120	264	6	0.05	8.33E-07

Phase 4B 5D - Falling Head Tests

4B5D-WS05 (05/08/2025) - Falling Head					
	Break (min)	Depth (m bgl)	Change (m)	Speed (m/s)	
Initial		2.917			
1	-	Water added	-	-	
2	1	0.683	-	-	
3	1	0.779	0.096	1.600E-03	
4	1	0.860	0.081	1.350E-03	
5	1	0.934	0.074	1.233E-03	
6	1	1.000	0.066	1.100E-03	
7	1	1.058	0.058	9.667E-04	
8	1	1.110	0.052	8.667E-04	
9	1	1.160	0.050	8.333E-04	
10	1	1.211	0.051	8.500E-04	
40	30	1.635	0.475	2.639E-04	
70	30	1.706	0.546	3.033E-04	
130	90	1.808	0.173	3.204E-05	
190	0	1.884	-	-	Test Period
250	60	1.905	0.021	5.833E-06	
310	120	1.931	0.047	6.528E-06	
1500	1310	1.962	0.078	9.924E-07	
Initial Water (m bgl)	1.884				
Duration (min)	1310				
Final Water (m bgl)	1.962				
Measured Change (m)	0.078				
Speed (m/sec)	9.92E-07				

4B5D-WS07 (05/08/2025) - Falling Head					
	Break (min)	Depth (m bgl)	Change (m)	Speed (m/s)	
Initial		2.110			
0	-	Water added	-	-	
1	1	0.801	-	-	
2	1	0.817	0.016	2.667E-04	
3	1	0.83	0.013	2.167E-04	
4	1	0.834	0.004	6.667E-05	
5	1	0.84	0.006	1.000E-04	
6	1	0.841	0.001	1.667E-05	
7	1	0.846	0.005	8.333E-05	
8	1	0.851	0.005	8.333E-05	
9	1	0.855	0.004	6.667E-05	
10	1	0.856	0.001	1.667E-05	
40	0	0.918	-	-	Test Period
100	60	0.924	0.006	1.667E-06	
1060	1020	1.009	0.091	1.487E-06	
1700	1660	1.012	0.094	9.438E-07	
Initial Water (m bgl)	0.918				
Duration (min)	1660				
Final Water (m bgl)	1.012				
Measured Change (m)	0.094				
Speed (m/sec)	9.44E-07				

4B5D-WS06 (13/10/2025) - Falling Head					
	Break (min)	Depth (m bgl)	Change (m)	Speed (m/s)	
Initial		2.347			
0	-	Water added	-	-	
1	1	0.050	-	-	
2	1	0.100	0.050	8.333E-04	
3	1	0.150	0.050	8.333E-04	
4	1	0.170	0.020	3.333E-04	
5	1	0.192	0.022	3.667E-04	
6	1	0.221	0.029	4.833E-04	
7	1	0.224	0.003	5.000E-05	
8	2	0.233	0.012	1.000E-04	
9	3	0.235	0.014	7.778E-05	
10	0	0.246	-	-	Test Period
40	30	0.260	0.039	2.167E-05	
120	110	0.264	0.043	6.515E-06	
460	450	0.267	0.021	7.778E-07	
Initial Water (m bgl)	0.246				
Duration (min)	450				
Final Water (m bgl)	0.267				
Measured Change (m)	0.021				
Speed (m/sec)	7.78E-07				