June 2017

HANSON CEMENT - PADESWOOD WORKS

Factual Report on Ground Investigation in the Areas of Raised Made Ground and Railway Track

Submitted to:
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REPORT

Report **Number** 1773079.506/A.0

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Summary

Hanson Cement is considering a proposed development at the Padeswood Works site for the construction of a new vertical roller mill together with ancillary development (Padeswood Cement Mill 5). The works will include site profiling within the planning application area to achieve required ground levels and laying of new or realigned railway track to service the proposed rail loading facility.

Golder has prepared a Phase 1 Contaminated Land Assessment to support the planning application for the construction of the new vertical roller mill and rail loading facility which included a risk analysis using the identified source-pathway-receptor model to assess the severity of any potential contamination of ground, groundwater and surface water (Golder, May 2017). The assessment concluded that a Phase 2 investigation would provide an opportunity to characterise two of the major potential sources of contamination within the planning application boundary: the area of raised Made Ground to the north, and the existing railway line and associated infrastructure, to the east. The report recommended that environmental characterisation of the ground in these two areas be undertaken.

This report presents the findings of the Phase 2 environmental intrusive investigation carried out to characterise the shallow soils in the area of raised Made Ground and in the area of the railway track. A total of 14 trial pits were excavated (TP1-TP4, TP4A, TP4B and TP5-TP12), and the soil arisings logged and photographed. No visual or olfactory evidence of contamination was noted during excavation of the trial pits. A total of 23 soil samples were analysed for a standard suite of analysis (comprising pH, moisture content, metals, volatile organic compounds, semi-volatile organic compounds, including polycyclic aromatic hydrocarbons and phenols, and total petroleum hydrocarbons). Eleven of these samples were scheduled for additional analysis comprising total alkalinity, total organic carbon, antimony, chloride, fluoride, total sulphate, soluble sulphate and asbestos identification.

An assessment of the laboratory analysis results against the UK screening criteria for potential human health impacts was carried out. The determinands analysed did not exceed the screening criteria and the samples are therefore not considered to pose a risk to site users. The material is therefore considered appropriate for re-use on the Site.

Asbestos was not identified in the samples analysed during the intrusive investigation presented in this report. In addition, asbestos was not identified in a previous ground investigation carried out within the planning application area by Soil Mechanics in 2007 (refer to Appendix A).

The results of soil analysis indicated generally elevated pH values deriving from the Site activities. Adequate PPE should be worn by construction workers during excavation and mobilisation of the Made Ground to avoid dermal contact with the soils.

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1.0 INTRODUCTION

1.1 Terms of Reference

Hanson Cement ('Hanson') has requested that Golder Associates (UK) Limited ('Golder') undertakes an intrusive investigation and carries out environmental characterisation of the soils in the area of raised Made Ground and in the area of the disused railway line and associated infrastructure, located within the planning application area (the 'Site') forming part of the Padeswood Cement Works ('Cement Works'). This has been prepared in accordance with Golder's proposal dated 29 March 2017 (P1773079/2/V.0).

1.2 Background

Hanson is considering a proposed development at the Padeswood Cement Works site for the construction of a new vertical roller mill together with ancillary development (Padeswood Cement Mill 5). The works will include site profiling to achieve required ground levels and laying of new or realigned railway track to service the proposed rail loading facility.

It is understood that no deep foundations are proposed for the new railway line. Likewise the works in the area of raised Made Ground will comprise profiling (excavation) to the ground level of the surrounding plant and buildings. It is estimated that re-profiling will be no more than 3 m.

Golder has prepared a Phase 1 Contaminated Land Assessment to support the planning application for the construction of the new vertical roller mill and rail loading facility which included a risk analysis using the identified source-pathway-receptor model to assess the severity of any potential contamination of ground, groundwater and surface water (Golder, 2017). The assessment identified the requirement to characterise for potential land contamination two areas of interest comprising Made Ground to the north, and the existing railway line and associated infrastructure, to the east of the Site. The Phase 1 report is provided as Appendix A of this report.

An intrusive investigation was therefore carried out to gather environmental information in these two areas. The intrusive investigation was limited to environmental characterisation of shallow soils and excluded groundwater characterisation.

1.3 Objective of this Report

The objective of this report is to present the findings of the intrusive investigation and to assess the potential risks to human health arising from Made Ground in the two areas under investigation.

1.4 Document Structure

The remainder of this report is set out as follows:

- Section 2 presents the site setting and proposed development;
- Section 3 describes the methods and approach to the investigation;
- Section 4 presents the findings of the investigation;
- Section 5 presents the conclusions and recommendations; and
- Section 6 lists the references used in this report.

2.0 SITE SETTING

2.1 Site Setting

The Site lies within the north eastern part of the existing Padeswood Cement Works and is centred on OS grid reference NGR SJ 29230 62300 (Drawing 1). The application area lies wholly within the existing Padeswood Cement Works and extends to approximately 3.1 ha, including the temporary construction contractor's compound, laydown area and railway track improvements.

The application area currently comprises hardstanding and disturbed ground and is used for vehicle or rail access and general open storage.

The application is bounded to the north by a belt of mature woodland and agricultural land with the residential properties on Padeswood Drive lying approximately 200 m beyond. To the east lies nature woodland and agricultural land bisected by the Liverpool to Wrexham railway line, which runs in a north-south direction. The Cement Works lies to the west (Silo 6 and the cement packing bay and building) and south (the raw material storage hall).

The application area therefore lies within the industrial setting of the Cement Works, which itself lies within open countryside, to the west of the villages of Penyffordd and Penymynydd and to the south of the town of Buckley.

2.2 Proposed Development

In summary, the proposed development will comprise:

- Site profiling to achieve required ground levels;
- Civil foundations, including piling, services and access roadways for Mill 5;
- Demolition of Silos 11 and 12, the existing rail loading facility (including Silos 7, 8, 9 and 10) and a small railway cabin;
- Construction of a new vertical roller mill (VRM) together with ancillary development (comprising mainly belt conveyors and pneumatic pipelines) required to feed clinker and other raw materials to the mill and feed the resulting cement to existing and proposed cement storage silos and rail loading facility;
- Erection of three new steel cement storage silos, each with a storage capacity of 1,000 tonnes, fitted with rail and road loading facilities; and
- Laying of new or realigned railway track to service the proposed rail loading facility.

Ground Preparation and Civils Works

The area of proposed development for the new VRM will require the mechanical clearance and levelling of previously disturbed ground to facilitate the construction phase. It is envisaged that no material will need to be exported from the site during the ground preparation work. A temporary contractor's compound and laydown area will be established to the east and north of the new VRM for the duration of the construction phase.

Built Development – New Rail Loading Facility

The Cement Works has an existing operational private rail connection and sidings, which are currently used for importing coal. The Cement Works also has an existing rail loading facility to export cement; however, it is uneconomic to modify and therefore obsolete. It is therefore proposed to demolish the existing obsolete rail loading facility (including Silos 7, 8, 9, and 10) and erect a new rail loading facility, replacing the existing cement silos with three new 1,000 tonne silos. The new facility will not affect the ability of the Cement Works to import coal.

Sections of the existing private railway will be realigned and the railway track will be extended further into the works. The permitted development works required to the private railway line will involve approximately 445 m of new rail track, which will either renew, realign or extend the existing railway line and will include a realignment of the curve through to the proposed location for the new rail loading facility and proceed towards

the main Cement Works site road. The application area includes the length of railway line that will be new or realigned to service the proposed rail loading facility.

3.0 METHODS AND APPROACH TO THE INVESTIGATION

3.1 Recording Daily Progress

The daily activities were recorded by the Golder Engineer in the daily logs for the intrusive works and are included in Appendix B.

3.2 Trial Pit Locations and Service Clearance

The locations of the trial pits (Drawing 2) was based on proposal number P1773079/2/V.0 (Golder, March 2017) modified to take into account terrain levels, Site logistics and the alignment of below ground services.

Prior to mobilising to the Site, a utilities search was requested from Landmark Information Group (Appendix C). The search showed that no buried services were present in the areas of the proposed investigation.

3.3 Trial Pit Excavation and Logging

The trial pits were excavated on the 9 May and 10 May 2017. A total of 14 trial pits were completed using a 360 excavator supervised by a Golder Engineer. The soil arisings were logged by the Golder Engineer in general accordance with Eurocode 7 standards Part 2 (BS EN ISO 14688 and 14689). As a minimum, soil samples were collected at each change in lithology.

The final depths of the trial pits are presented in Table 1. The locations of the trial pits are shown on Drawing 2. The trial pit logs and photographs are presented in Appendices D and E, respectively.

Table 1: Trial Pit Depths and Comments

Trial Pit ID	Location	Final Depth (m bgl)	Comments
TP1	Area of raised Made Ground	3.10	-
TP2		3.00	
TP3		3.10	
TP4		0.50	Refusal in hard ground at 0.5 m bgl (110.4 m aOD).
TP4A		0.50	Trial pit relocated twice (to TP4A and TP4B) but same geology encountered and both terminated at 0.5 m bgl.
TP4B		0.50	
TP5		3.30	-
TP6		2.50	Refusal in hard ground at 2.5 m bgl (107.2 m aOD).
TP7		2.6	Refusal in hard ground at 2.6 m bgl (107.2 m aOD).
TP8		3.20	-
TP9		1.30	Refusal in hard ground at 1.3 m bgl (108.0 m aOD).
TP10		0.90	Trial pit excavated on the incline to provide information and environmental sample at lower elevation than TP9.
TP11	Railway track	2.90	-
TP12		3.00	

**m bgl: metres below ground level*

3.3.1 *In-situ* Field Testing

Soil samples were collected at approximately 1.0 m depth intervals and at additional locations based on the discretion of the engineer if visual and olfactory observations were merited to require it. No visual or olfactory evidence of contamination was noted in the soil arising from the trial pits. The samples were tested in the field using a photoionisation detector (PID). The results are included on the logs in Appendix D.

3.3.2 Laboratory Testing

Soil samples were placed into suitable sampling containers supplied by the laboratory. Sample containers were filled to reduce headspace as far as reasonably practicable. To prevent cross contamination, samples from each horizon were kept separate and sampling equipment was cleaned between each sample. Samples were stored in cool boxes with ice packs and dispatched to UKAS accredited laboratory Exova Jones Environmental.

An average of two samples per location was analysed for a standard suite of analysis to allow generic characterisation of the material. The standard suite comprised pH, moisture content, metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), including polycyclic aromatic hydrocarbons (PAHs) and phenols, and total petroleum hydrocarbons (TPHs). Eleven of these samples were scheduled for additional analysis comprising total alkalinity, total organic carbon, antimony, chloride, fluoride, total sulphate, soluble sulphate and asbestos identification.

The number of soil samples scheduled for laboratory analysis is summarised in Table 2.

Table 2: Schedule of Laboratory Analysis of Soil Samples

Soil Analysis	No. of Samples Analysed
pH	23 No.
Moisture Content	23 No.
Total alkalinity as $CaCO_3$	11 No.
Total Organic Carbon	11 No.
Metals (arsenic, cadmium, chromium, copper, nickel, lead, zinc, mercury, vanadium, beryllium, water soluble boron, selenium and barium)	23 No.
Antimony, chloride, fluoride, total sulphate and soluble sulphate (sulphate as SO_4, 2:1 extract)	11 No.
Volatile Organic Compounds (VOC)	23 No.
Semi-volatile Organic Compounds, including Polycyclic aromatic Hydrocarbons (PAHs) and Phenols	23 No.
Total Petroleum Hydrocarbons (TPHs)	23 No.
Asbestos identification	11 No.

3.4 Surveying of Trial Pit Locations

Following completion of the trial pits. The locations were surveyed to ordnance datum. The survey was undertaken on the 11 May 2017 by 1st Horizon Surveying and Engineering Ltd. The survey information (ground level and trial pit coordinates) is provided in the trial pit logs in Appendix D.

4.0 FINDINGS OF THE INVESTIGATION

4.1 Trial Pit Locations

The locations of the trial pits and the elevation of the ground level were surveyed by 1st Horizon Surveying and Engineering Ltd on 11 May 2017. The survey accuracy was reported to be ±30 mm for both the easting and northing coordinates and elevation. Table 3 presents the coordinates and ground elevations of the trial pit locations.

Table 3: Trial Pits Coordinates and Ground Levels

Location	OS Grid Coordinates		OSTN15 Grid System		Ground Level (m aOD)
	Easting	Northing	X	Y	
TP1	329273.010	362362.062	716.368	843.321	111.107
TP2	329278.289	362349.445	725.526	833.162	110.426
TP3	329259.957	362348.574	708.515	826.273	113.349
TP4	329267.664	362331.378	721.479	812.597	110.915
TP4A	329261.278	362333.306	714.815	812.302	110.470
TP4B	329260.439	362336.416	712.994	814.959	110.344
TP5	329256.162	362330.603	710.882	808.058	110.507
TP6	329248.060	362336.224	701.376	810.681	109.713
TP7	329232.355	362339.523	685.465	808.596	109.752
TP8	329256.309	362307.823	718.561	786.611	111.016
TP9	329317.372	362232.480	801.120	735.726	109.300
TP10	329303.712	362236.147	787.016	734.665	108.310
TP11	329392.043	362174.767	890.684	705.981	107.440
TP12	329353.440	362194.354	847.774	711.687	107.156

m aOD: metres above Ordnance Datum

4.2 Records of Ground Conditions

Ground conditions encountered during the excavation of the trial pits are recorded in the trial pit logs provided in Appendix D. Photographs of the soil arisings are provided in Appendix E.

Top soil was encountered in most, but not all, locations and comprised grey to greyish brown sand with frequent rootlets. The topsoil in the area of raised Made Ground contained gravel and cobbles of limestone.

The soil arisings encountered in the area of raised Made Ground comprised silty sand and gravelly silt with gravel and cobbles of limestone (limestone pulverised fuel ash (PFA)) with concrete, plastic, metal, iron and fabric in TP1, TP2, TP3, TP4, TP4A, TP4B, TP9 and TP10. The Made Ground in TP5 to TP7 comprised black ashy sand with gravel and cobbles of limestone with fragments of plastic, rubber and metal. Trial pits TP5 to TP7 could not be excavated below a level of 107.2 m aOD due to refusal. Brown to reddish brown gravelly sand with gravel and cobbles of limestone was encountered in TP8 and TP10.

The Made Ground in the area of the railway track comprised a strata of brownish grey sand with gravel of limestone overlying a strata of yellowish brown clay to brown sand with rare cobbles of limestone and frequent coal fragments, possibly representing re-worked glacial till soils.

The ground conditions encountered are summarised in Table 4.

Table 4: Summary of Ground Conditions Encountered During Trial Pit Excavation

Area of Investigation	Strata	Description	Approximate Depth (Elevation) Range Encountered	Observations
Area of raised Made Ground	TP	Grey silty gravelly SAND with cobbles of limestone and brick fragments and many rootlets.	GL-0.5 (113.0 – 109.0 m aOD)	Present in TP1, TP2, TP3, TP4, TP4A, TP4B and TP9
	MG	Greyish brown to brown silty gravelly, frequently ashy, SAND with gravel, cobbles and boulders of limestone. Frequent anthropogenic material including concrete, plastic, metal, iron and fabric. Occasionally with pockets of decaying wood.	GL – 1.5 m bgl (110.6 – 107.8 m aOD)	Present in TP1, TP4, TP4A, TP4B, TP9 and TP10
	MG	Dark greyish brown to brown to dark brown, occasionally greyish brown, clayey, sandy, gravelly SILT with gravel and cobbles of limestone and concrete and rare quartz. Frequent anthropogenic material including concrete, plastic, brick and electrical cables. Occasionally with pockets of decaying wood. Occasionally moist.	0.3 – 3.1 m bgl (113.0 – 107.4 m aOD)	Present in TP1, TP2 and TP3
	MG	Brown to dark grey becoming blackish dark grey with depth, silty, gravelly, ashy SAND. Gravel and cobbles of limestone and occasionally of concrete. With fragments of plastic, rubber and metal. With rare to many rootlets and decaying wood and associated natural organic odour.	GL – 3.3 m bgl (110.5 – 107.2 m aOD)	Present in TP5, TP6 and TP7 Strong material (refusal) encountered at the base of the trial pits, at 107.2 m aOD.
	MG	Brown to reddish brown gravelly SAND with gravel, pebbles and cobbles of limestone. Rare to frequent decaying wood with no organic odour.	GL – 3.2m bgl (111.0 – 107.4 m aOD)	TP8 and TP10
Area of Railway Track	TP	Greyish brown, silty, gravelly, SAND with frequent rootlets.	GL – 0.1 m bgl (107.4 – 107.1 m aOD)	TP11 and TP12
	MG	Brownish grey, becoming dark brown with depth, silty, slightly to very gravelly, SAND with frequent cobbles of limestone and occasional to frequent rootlets.	0.1 – 1.4 m bgl (107.3 – 106.0 m aOD)	TP11 and TP12
	MG	Yellowish brown to brown mottled yellow and grey, dry to moist, slightly silty, CLAY and SAND with frequent cobbles of limestone, concrete, pebbles of flint and small fragments of coal.	0.9 – 3.0 m bgl (106.3 – 104.2 m aOD)	TP11 and TP12

TP: topsoil, MG: Made Ground, GL: Ground Level, aOD: above Ordnance Datum

4.3 Visual and Olfactory Evidence of Contamination

There was no visual or olfactory evidence of contamination noted during the excavation and logging of the trial pits. Natural organic odours were noted during excavation of trial pits TP5, TP6 and TP11, associated with excavation of Made Ground containing decaying wood.

4.4 Results of Laboratory Analysis of Soil Samples

The results of laboratory analysis of soil samples are included in Appendix F.

The sample analysis results have been compared against the currently available UK criteria for assessment of potential human health impacts for a commercial land use, which is considered appropriate for an industrial development. The results were screened against the Suitable for Use Levels (S4UL), introduced in 2004 by Land Quality Management (LQM), and Category 4 Screening Levels (C4SL), introduced by Defra in 2014, for determinands for which screening levels are available. The assessment of the analytical results against the screening values is presented in Appendix G. The assessment shows that there are no exceedances of the screening values and the determinands are not considered to pose a risk to Site users. As there are no exceedances of the screening criteria, the material is considered appropriate to be re-used on Site.

The pH range of the samples was found to be slightly high, ranging from 7.7 to 12.7, denoting some impact from the Cement Works activity. The asbestos screen did not detect asbestos.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

Golder has prepared a Phase 1 Contaminated Land Assessment to support the planning application for the construction of the new vertical roller mill and rail loading facility which included a risk analysis using the identified source-pathway-receptor model to assess the severity of any potential contamination of ground, groundwater and surface water (Golder, March 2017). The assessment concluded that the development would provide an opportunity to characterise two of the major potential sources of contamination on Site: the area of raised Made Ground to the north, and the existing railway line and associated infrastructure, to the east of the Site. The report recommended that environmental characterisation of the ground in these two areas be undertaken.

This report reports presents the findings of the environmental intrusive investigation carried out to characterise the shallow soils in the area of raised Made Ground and in the area of the railway track. A total of 14 trial pits were excavated (TP1-TP4, TP4A, TP4B and TP5-TP12), and the soil arisings logged and photographed. No visual or olfactory evidence of contamination was noted during excavation of the trial pits. A total of 23 soil samples were analysed for a standard suite of analysis (comprising pH, moisture content, metals, volatile organic compounds, semi-volatile organic compounds, including polyaromatic hydrocarbons and phenols, and total petroleum hydrocarbons). Eleven of these samples were scheduled for additional analysis comprising total alkalinity, total organic carbon, antimony, chloride, fluoride, total sulphate, soluble sulphate and asbestos identification.

5.2 Recommendations

An assessment of the laboratory analysis results against the UK screening criteria for potential human health impacts was carried out. The determinands analysed did not exceed the screening criteria and the samples are therefore not considered to pose a risk to Site users for the proposed land use. The material is therefore considered appropriate for re-use on Site.

Asbestos was not identified in the samples analysed during the intrusive investigation presented in this report. In addition, asbestos was not identified in a previous ground investigation carried out on Site by Soil Mechanics in 2007 (Soil Mechanics, 2007). During excavation, mobilisation and emplacement of soils on Site, appropriate method statements should be in place for dealing with suspected asbestos.

The results of soil analysis indicated generally elevated pH values deriving from the Site activities. Adequate PPE should be worn by construction workers during excavation and mobilisation of the Made Ground to avoid dermal contact with the soils.

6.0 REFERENCES

Defra (2014). SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination – Policy Companion Document, December 2014.

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Report Signature Page

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DRAWINGS

Site Location Plan
As-built Phase 2 Investigation Locations

June 2017
Report No. 1773079.506/A.0

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CLIENT

Hanson
HEIDELBERGCEMENT Group

PROJECT

FACTUAL REPORT ON GROUND INVESTIGATION IN THE AREA OF RAISED MADE GROUND AND RAILWAY TRACK

CONSULTANT

Golder Associates

YYYY-MM-DD	2017-05-22
DESIGNED	TF
PREPARED	ECS
REVIEWED	TF
APPROVED	PW

TITLE

SITE LOCATION PLAN

PROJECT NO.	CONTROL	REV.	DRAWING
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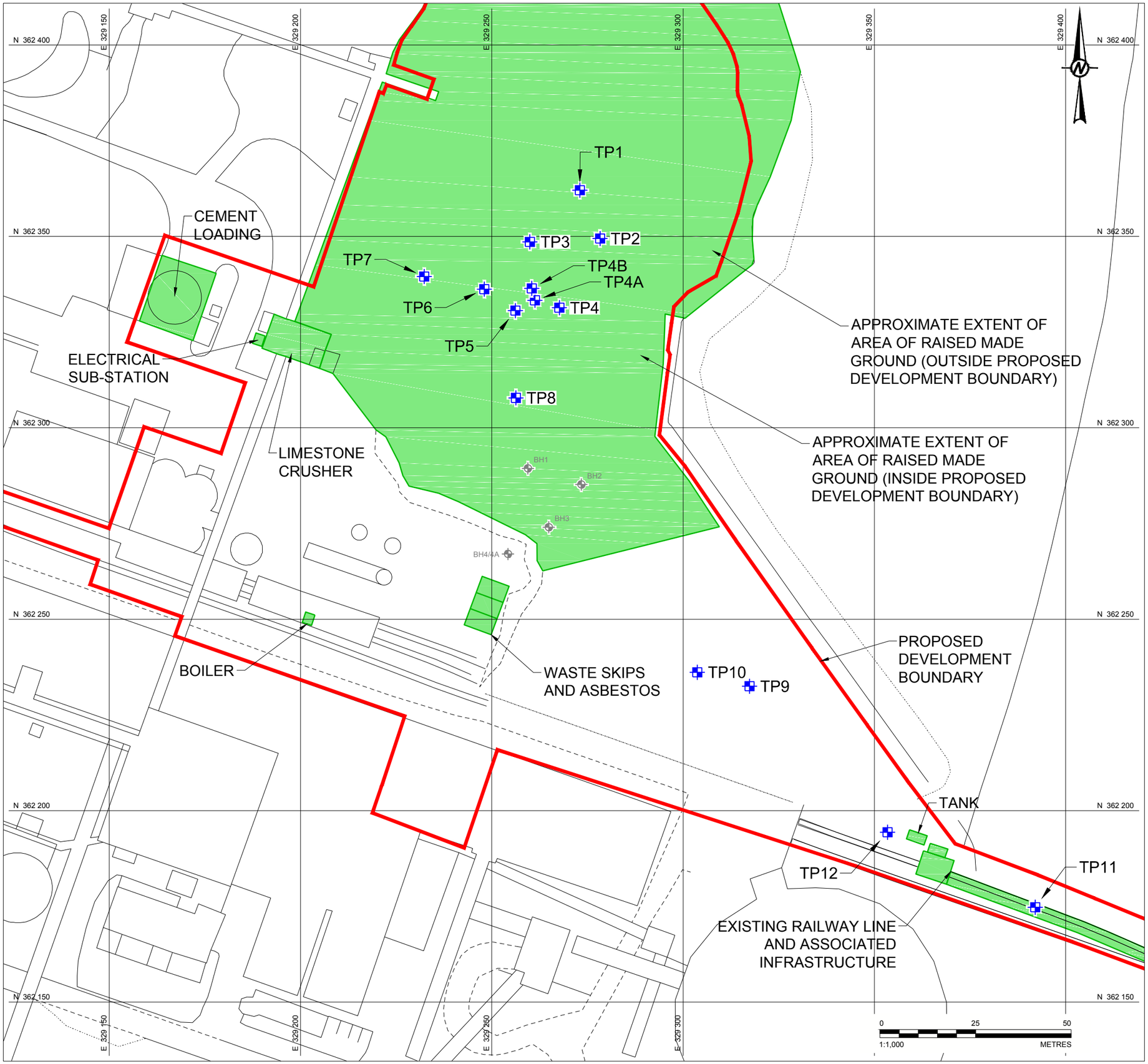

LEGEND

- PROPOSED DEVELOPMENT BOUNDARY
- OWNERSHIP BOUNDARY
- POTENTIAL CONTAMINATION SOURCES
- APPROXIMATE BOREHOLE LOCATIONS (SOIL MECHANICS, 2017)
- TRIAL PIT LOCATIONS (GOLDER ASSOCIATES, 2017)

REFERENCES

BASED ON HANSON/HEIDELBERG CEMENT GROUP DRAWING No P103/48 SITE CONTEXT PLAN, DATED MARCH 2017.

CLIENT

Hanson HEIDELBERGCEMENT Group

PROJECT

FACTUAL REPORT ON GROUND INVESTIGATION IN THE AREA OF RAISED MADE GROUND AND RAILWAY TRACK

TITLE

AS-BUILT PHASE 2 INVESTIGATION LOCATIONS

CONSULTANT

Golder Associates

YYYY-MM-DD	2017-05-22
DESIGNED	TF
PREPARED	ECS
REVIEWED	TF
APPROVED	PW

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APPENDIX A

Phase 1 Contaminated Land Assessment (Golder, 2017)

APPENDIX B

Site Daily Logs

DAILY SITE LOG

Date:	09/05/2017	**Site:**	Padeswood, Mold
Project No:	1773079	**Project Name:**	Padeswood SI

SITE DETAILS

Weather conditions *(e.g. dry / wet / humid / misty / hot / cold / icy etc.)*	**Details of time lost** *(e.g. due to rain)*
Dry, mild, slightly overcast (am) and sunny (pm)	-

WORKING HOURS – DETAILS

Engineer Name	**Total working hours (including travel)**		**Hours on Site**		**Hours underground (if applicable)**	
	From	To	From	To	From	To
T. Fernandes	7:45	17:50	7:55	17:40		

TASK DETAILS

Details of Golder task:
Supervision of trial pitting works

Names of visitors to site (if applicable)	**Details (purpose, time on/off-site, etc.)**
-	

Names of contractors on-site (if applicable)	**Details (purpose, time on/off-site, etc.)**
Rich Tiwney (sub-contractor of CCGI)	JCB machine driver

Golder Associates

Equipment/materials used (and details, e.g. description, delivery time, quantity, etc.)

JCB 3CX

HEALTH & SAFETY/ENVIRONMENTAL INCIDENTS/ACCIDENTS/NEAR MISSES – DETAILS

Site specific induction carried out by TF and RT on arrival to site.

NOTE: Please inform the H&S team so that these can be added to the Learning's Database

Detail any other occurrences that are likely to have a bearing on the work/claims etc., e.g. malfunction of equipment:

-

General report:

7:55 - Tf and RT arrive on site

8:45 - TF and RT finish site induction and meet Chris Sheady (CS)

8:50 - 9:20 - TF and RT carry out walkover of the TP locations

9:30 - 10:00 - TF and RT meet CS to let him know we are happy with access to the proposed locations and ready to mobilise and start work. TF comments that there are railway sleepers stored in the proposed location for TP9 and TP10 and that there is not sufficient working space to excavate by proposed TP11. TF also notes that there is an additional area of raised Made Ground (MG) next to the redline boundary between the railway track and the area of raised MG to the north. It may be worth relocating a couple of TPs to this area if it is to be removed. CS agrees it is worth relocating two TPs to the new area of raised MG and says he will organise for movement of the railway sleepers. In addition, CS will get a site electrician to assist with locating the electrical cable known to run along the railway track.

10:15 - TF and RT get permit to work

10:45 - Setting up at TP1

12:00 - TP1 completed, starting excavation of TP2

12:50 - TP2 completed, starting TP3

13:30 - TP3 completed, starting TP4. Could not excavate deeper than 0.5m depth in TP4 due to very hard ground. Backfilled and moved to TP4A - same issue encountered at 0.5m depth. Backfilled and moved to TP4B - same issue encountered at 0.5m depth

14:20 - Starting TP5

15:10 - TP5 completed, starting TP6

15:50 - TP6 completed, starting TP7

16:20 - TP7 completed, strating TP8
17:20 - TP8 completed. Work permit signed off. Met with CS to update on progress
17:40 - Leaving site

DAILY SITE LOG

Date:	10/05/2017	**Site:**	Padeswood, Mold
Project No:	1773079	**Project Name:**	Padeswood SI

SITE DETAILS

Weather conditions *(e.g. dry / wet / humid / misty / hot / cold / icy etc.)*	**Details of time lost** *(e.g. due to rain)*
Dry, and sunny and warm	-

WORKING HOURS – DETAILS

Engineer Name	**Total working hours (including travel)**		**Hours on Site**		**Hours underground (if applicable)**	
	From	To	From	To	From	To
T. Fernandes	7:50	14:30	8:00	14:20		

TASK DETAILS

Details of Golder task:
Supervision of trial pitting works

Names of visitors to site (if applicable)	**Details (purpose, time on/off-site, etc.)**
-	-

Names of contractors on-site (if applicable)	**Details (purpose, time on/off-site, etc.)**
Rich Tiwney (sub-contractor of CCGI)	JCB machine driver

Golder Associates

Equipment/materials used (and details, e.g. description, delivery time, quantity, etc.)

JCB 3CX

HEALTH & SAFETY/ENVIRONMENTAL INCIDENTS/ACCIDENTS/NEAR MISSES – DETAILS

-

NOTE: Please inform the H&S team so that these can be added to the Learning's Database

Detail any other occurrences that are likely to have a bearing on the work/claims etc., e.g. malfunction of equipment:

-

General report:

8:00 - TF and RT on site

8:10 - TF and RT meet with Chris Sheady (CS) and then sign work permit and mobilise to TP9. Awaiting for electrician to arrive and survey locations by the railway track.

9:00 - electrician arrives but does not bring CAT scanner. His colleague can only be on site around 11:30/12:00

9:15 - starting excavation at TP9. Terminated at 1.3m due to very strong ground. Made another attempt 2 m to the north but could not excavate further than approximately 1 m depth. Decided to move to TP10

10:00 - forklift driver moves railway sleepers to allow excavation of TP12.

10:10 - TP10 located on the incline in order to provide samples at lower elevation than those from TP9. Excavated to 0.9 m depth

10:45 - TP10 backfilled. CS asks TF to return to site the following day to accompany topo surveyor

10:50 - TF calls the electrician, his colleague will not be able to arrive before pm. Electrician and TF use Golder's CAT scanner and locate electrical cable by railway track. Cable runs beneath proposed location of TP11. TF calls CS and both agree it is ok to re-locate TP11 to the alignment of the disused railway track.

11:05 - Starting excavation of TP11

11:50 - TP11 completed, starting TP12

12:30 - TP12 completed

12:50 - RT leaves site. TF stays on site to organise sample containers

14:00 - TF signs off work permit and meets with CS to update on progress

14:20 - TF leaves site

APPENDIX C

Utilities Search (Landmark Information Group, 2017)

Landmark INFORMATION GROUP

Utilities Report

Prepared for: **Landmark Information Group Ltd**
Practitioner: Atkins
Order Number: 121775019_1
Site Name: Site off Padeswood Drive, Padeswood, MOLD
Date of Order: 19/04/2017
Date of Issue: 03/05/2017

Thank you for using our Utilities Report Service.

This report has been completed in accordance with the standards defined under Survey Category D of PAS128, a Publicly Available Specification for underground utility detection, verification and location published by the British Standards Institution.

Positional accuracy of plant is not guaranteed from information presented in a desktop search alone and the location of underground utilities should be verified through other means prior to breaking ground.

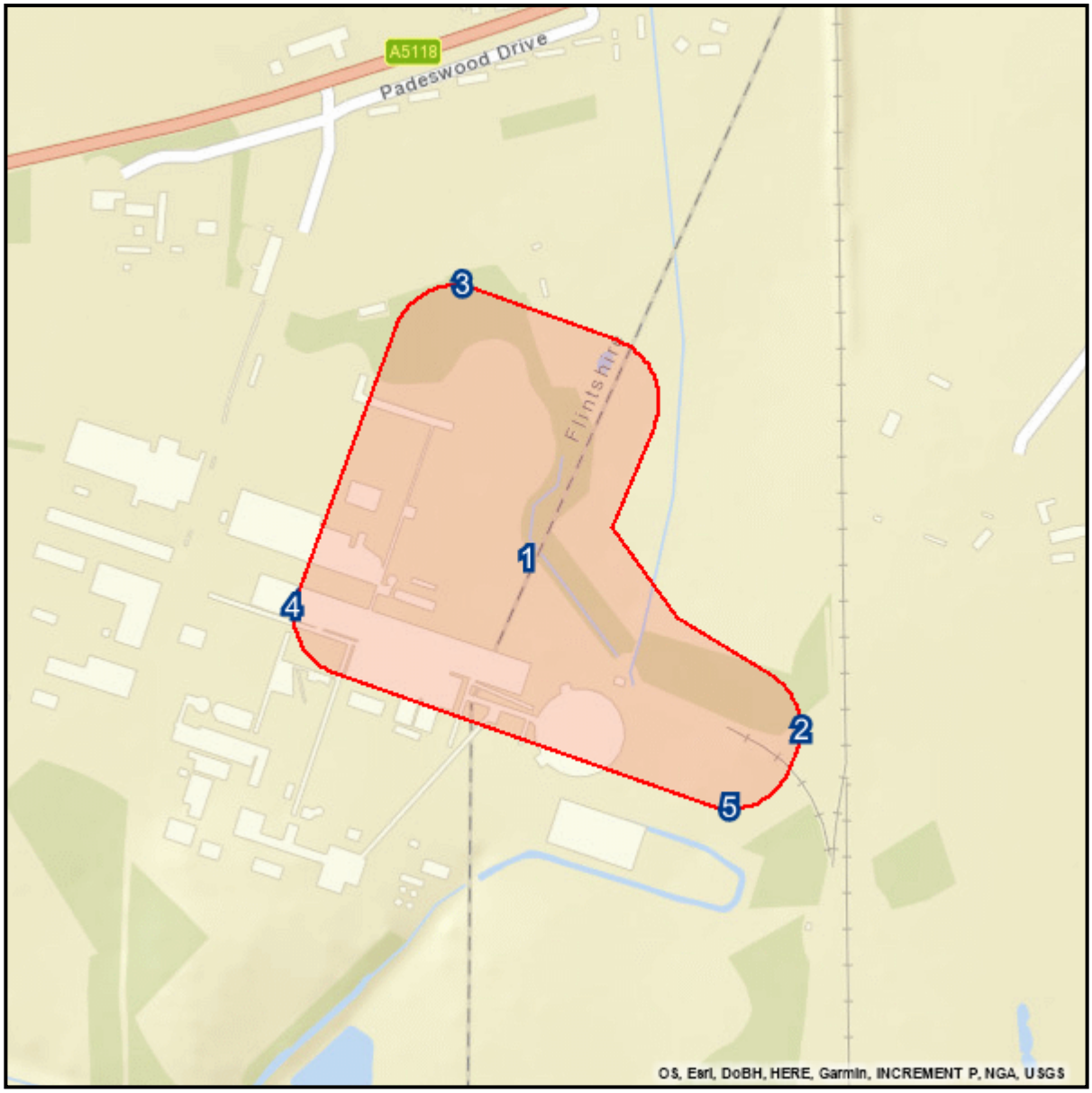
Information relating to the presence of Radio Frequency Identification Devices (RFIDs) has been requested from relevant utility companies or taken from mapping systems where available.

Utility companies who have not responded to enquiries are referenced on the enclosed Status Report accordingly. Their response will be chased and forwarded on for a period of up to four working weeks. Whilst we cannot guarantee that a utility company will respond to our enquiries, we endeavour to obtain responses from those that have not responded.

Any responses contained within this report have been obtained between the start date of the order and the date of issue.

If you want to discuss your report further with us please contact Landmark Customer Services.

Checked by **RG**



Please ensure that the search data covers the COMPLETE AREA within the boundary lines on this map. (marked by: ——)

Landmark will not be held responsible for any incident or accident arising from the use of the information associated with this particular Utility Search Report. The details provided are given in good faith, but no liability whatsoever can be accepted in respect thereof.

REFERENCE: 54308

SITE: Site off Padeswood Drive, Padeswood, MOLD

POST CODES:

CH7 4HB

SITE SIZE: 9.17 ha

MAP SCALE: 1:5000

COORDINATES:

1) 329293 362286; 2) 329507 362151; 3) 329242 362500; 4) 329110 362248; 5) 329451 362091;

Kumar M, Sunil

From: customerservices@landmark-information.co.uk
Sent: 19 April 2017 19:11
To: Telecoms Landmark Searches
Subject: Utility Report Information - Order Number -121775019 - your ref:1773079
Attachments: 1773079_Utilities_Datasheet.pdf; 1773079_Utils_Map_10k.gif; 1773079 _Utilities_Report_dummy_file.csv

Order Number: 121775019_1

Product Description: Utilities Report Premium Service

Site Address: Hanson Cement Ltd, Padeswood Works, Chester Road, Padeswood, MOLD, CH7 4HB

Site Easting: 329270

Site Northing: 362310

Delivery Method: Email

Site Area m2: 31736.7

Business Unit: 4

Input Method: 21

Overview Map: No

Works Description: Soil Investigation using Trial Pits

Request Status Report C LM / 54308

Site off Padeswood Drive, Padeswood, MOLD

OSGR: 329270,362310 **CH7 4HB**

Date Requested: 19-Apr-2017 **Client Reference:** 121775019_1

Affected Utilities We have received plans/information from the following companies. Please see the enclosed response.

Utility	Category	Date Issued	Late Response Issue Date	Notes
Dee Valley Water	Water,	03 May 17		Supplied in Batch B
Natural Resources Wales	Environmental Agency,	03 May 17		See response.
Openreach - [British Telecommunications]	Telecom,	03 May 17		

No response received We are still awaiting a full response from the following companies.

Utility	Category	Date Issued	Late Response Issue Date	Notes
Flintshire County Council	Council,			

Not affected utilities We have received a not affected/no plant present response from the following companies.

Utility	Category	Date Issued	Late Response Issue Date	Notes
C.A. Telecom UK - [Colt Technology Services]	Telecom,	03 May 17		
CityFibre	Telecom,	03 May 17		Website used.
Dŵr Cymru Welsh Water	Water, Sewerage,	03 May 17		Website used.
Energetics	Gas, Electric, Water,	03 May 17		
GTC	Telecom, Gas, Electric, Water, Pipeline,	03 May 17		
Instalcom - [CGI]	Telecom,	03 May 17		
Instalcom - [Level 3, Global Crossing (UK) & PEC and Fibernet UK]	Telecom,	03 May 17		
Interoute Vtesse	Telecom,	03 May 17		
LinesearchbeforeUdig	Pipeline,	03 May 17		
McNicholas - [KPN International]	Telecom,		22 May 17	Supplied in Batch C
McNicholas - [TATA Communications]	Telecom,		22 May 17	Supplied in Batch C
Network Rail	Rail,	03 May 17		
Plancast - [Interoute]	Telecom,	03 May 17		
SKY Telecommunications Services	Telecom,	03 May 17		
SP Energy Networks - (Manweb)	Electric,	03 May 17		Website used.
SSE	Telecom, Gas, Electric,	03 May 17		Website used.
Trafficmaster	Other,	03 May 17		Website used.
Verizon	Telecom,	03 May 17		
Virgin Media	Telecom,	03 May 17		
Vodafone	Telecom,	03 May 17		
Wales and West Utilities	Gas,	03 May 17		Website used.

Checked and Validated By Stacy-Ann Thomas

Date 03 May 2017

Definition of Terms

Affected	Utility supplier is expected to be affected by any work carried out in the area searched as their records indicate their plant is in or close to the area searched. It is recommended to anybody carrying out works in the area that they should consult with the utility company as soon as possible and in any event prior to carrying out any works.
No response received	At the date of sending the report no response has been received from the utility supplier.
Not affected	Utility supplier is not expected to be affected by any work carried out in the area searched as their records indicate their plant is not in or close to the area searched.

(c) Crown copyright and database rights 2017 Ordnance Survey 100019550 | Date: 05/05/17 | Scale: 1:1250 | Map Centre: 329297,362351 | Data updated: 02/02/17 | Our Ref: 221417 - 1 | Clean Water Plan A1

This plan is provided by Dee Valley Water pursuant to its obligations under the Water Industry Act 1991 sections 198 or 199. The information on this map is based on data currently recorded but the position of infrastructure shown on the map must be regarded as approximate. Users of this map are strongly advised to commission their own survey of the area before carrying out any works. The actual position of all apparatus MUST be established by trial holes. No liability whatsoever, including liability for negligence, is accepted by Dee Valley Water for any error or inaccuracy or omission, including the failure to accurately record, or record at all, the location of any water main, discharge pipe or drain or disposal main or any item of apparatus. This information is valid for the date printed. This plan is produced by Dee Valley Water Plc (c) Crown copyright and database rights 2017 Ordnance Survey 100019550. This map is to be used for the purposes of viewing the location of Dee Valley Water infrastructure only. Any other use of the map data is not permitted. This notice is not intended to exclude or restrict liability for death or personal injury resulting from negligence.

- Drain
- Non Potable
- Potable
- Private Supply
- Raw Water
- Sprinkler

stat.payments@atkinsglobal.com

54308

Dee Valley Water
Your local water company

Cyfoeth Naturiol Cymru
Natural Resources Wales

Ein cyf/Our ref: Atkins Plant Enquiries

Ebost/Email: datadistribution@cyfoethnaturiolcymru.gov.uk

Ffôn/Phone: 0300 065 3000

To: atkinsstatutory.enquiries@atkinsglobal.com

Dear Sir / Madam,

The process by which Natural Resources Wales responds to plant / asset enquiries has changed since August 2016.

We no longer carry out any checks on the sites in question, either on our mapping system or with internal teams. We ask that in the first instance organisations make their own checks via various links. These are as follows:

If you want to carry out works in, over, under or near a main river or flood defence (including a sea defence), or within a flood plain you will need to apply for Flood Risk Activity Permit. (This was previously called a Flood Defence Consent.) For further advice please visit our website http://naturalresources.wales/apply-for-a-permit/flood-risk-activities/?lang=en Contact details for the relevant office are also included within the application forms.

For locations of main rivers, flood defences and flood plains, you can view our Risk of Flooding maps online at this link https://naturalresources.wales/our-evidence-and-reports/maps/flood-risk-map/?lang=en

You can download GIS data on the locations of designated sites from the Lle web portal http://lle.wales.gov.uk/catalogue?lang=en

Further information about these sites can also be found on our website http://naturalresources.wales/conservation-biodiversity-and-wildlife/find-protected-areas-of-land-and-seas/designated-sites-search/?lang=en

Please note - although Natural Resources Wales is classed as a statutory undertaker, we do not generally have plant equipment or pipelines situated in the public highway.

To confirm: **Natural Resources Wales has not conducted a specific search of our records**. After checking the above links, if you have reason to think that your proposal will affect land or equipment which we own, please submit your enquiry to datadistribution@naturalresourceswales.gov.uk with details of the specific areas affected.

Yours sincerely

Tîm Cysylltiadau Allanol / **External Relations Team**
Cyfoeth Naturiol Cymru / **Natural Resources Wales**

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Cyfoeth Naturiol Cymru
Natural Resources Wales

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Our Ref: Ref shown on map

Date of issue shown on map

email: nnhc@openreach.co.uk

Dear Customer,

NR & SW ACT 1991 – PROPOSED WORKS AT:

Prior to commencement of work: for free onsite guidance and accurate up to date location of BT plant please contact our Plant Protection Service by the following methods
Email Dial before you dig CBYD@openreach.co.uk
Visit the website www.openreach.co.uk/cbyd

Thank you for your request of describing the above proposals.

Enclosed are copies of our drawing marked up to show the approximate locations of BT apparatus which is present in the immediate vicinity of your works. It is intended for general guidance only. No guarantee is given of its accuracy.

It should not be relied upon in the event of excavations or other works made near to British Telecommunications plc apparatus which may exist at various depths and may deviate from the marked route.

To avoid damage it is recommended that mechanical excavators or borers are not used within 600mm of British Telecommunications plc plant. If scaffolding is erected, please ensure that our equipment is not enclosed, blocked, covered or otherwise obstructed by the scaffolding.

In the event of BT apparatus being in the area of works we recommend that your plant/vehicle crossing is either resited, or apply for a budget estimate by submitting detailed plans to the above address, these will be forwarded to the appropriate department for their comments.

Please ensure you quote our reference on any future correspondence.

Yours faithfully,

Maps by email Plant Information Reply

IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.

openreach BT

CLICK BEFORE YOU DIG

FOR PROFESSIONAL FREE ON SITE ASSISTANCE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS INCLUDING LOCATE AND MARKING SERVICE

email cbyd@openreach.co.uk

ADVANCE NOTICE REQUIRED
(Office hours: Monday - Friday 08.00 to 17.00)
www.openreach.co.uk/cbyd

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KEY TO BT SYMBOLS

DP	
Planned DP	
PCP	
Planned PCP	
Built	
Planned	
Inferred	
Building	
Kiosk	K
Hatchings	

Pole	
Planned Pole	
Joint Box	
Change Of State	+
Split Coupling	×
Duct Tee	▲
Planned Box	
Manhole	
Planned Manhole	
Cabinet	
Planned Cabinet	

Other proposed plant is shown using dashed lines.
BT Symbols not listed above maybe disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation

openreach
a BT Group business

BT Ref : WIY06042L
Map Reference : (centre) SJ2929362286
Easting/Northing : (centre) 329293,3622
Issued : 25/04/2017 06:04:08

WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk

Sweet, George

From: Demi McQueeney <DemiM@sourcedesignservices.co.uk>
Sent: 16 May 2017 15:26
To: Statutory Enquiries
Subject: FW: PLANT ENQUIRY RESPONSES - NOT AFFECTED - KPN & TATA

Categories: GS Dealing With

The locations below are NOT AFFECTED by KPN & TATA apparatus.

54305 Atkins Global New cut east Fairleigh Maidstone Kent
54336 Atkins Global Oakley drive Bexley
54338 Atkins Global Wellington road Enfield
54332 Atkins Global Eastcott road Old town Swindon
54335 Atkins Global Oxford road Kidlington Oxford
54333 Atkins Global Marlowes Hemel Hempstead
54334 Atkins Global High stree Irthlingborough Wellingborough
54327 Atkins Global Mayfield and express drive Ilford London
54329 Atkins Global Bucks avenue Watford
54328 Atkins Global Moor lane Linclon
54326 Atkins Global Noral way Banbury
54331 Atkins Global Shaggy calf lane Slough
54330 Atkins Global Park street A2042 Ashford
54323 Atkins Global Bullsbrook road Brook Industrail estate Hayes
54322 Atkins Global A940 Dumphail Fores
54325 Atkins Global Daws heath road South end sea
54342 Atkins Global Pershore road Birmingham
54339 Atkins Global Hempstead road Uckfield
54324 Atkins Global Barmston lane washington
54321 Atkins Global regent road Altrincham
54312 Atkins Global Lochburn road Brassey street Currie street Glasgow
54320 Atkins Global Barby lane Barby Rugby
54316 Atkins Global Rock road Wadebridge Cornwall
54319 Atkins Global Elm avenue Watford
54317 Atkins Global Coalpit lane Bickerstaffe
54315 Atkins Global Wheat street Nuneaton
54310 Atkins Global Eldon street London
54314 Atkins Global Icknield way Aylesbury road Tring
54313 Atkins Global Copthorne bank Crawley
54311 Atkins Global St Mary road Ferndown
54309 Atkins Global Slough road Allens green Sawbridgeworth
54298 Atkins Global Calrence street Southend on sea
54308 Atkins Global Padeswood Drive Mold
54303 Atkins Global Crown drive Spalding
54297 Atkins Global Adjacent to Dowlas street Bonsor Street London
54306 Atkins Global Epsom road West Horsley
54300 Atkins Global Moss lane East Radnor street Old Birley street Manchester
54301 Atkins Global Glascoed road Ffordd William morgan Cwttir lane St Asaph
54307 Atkins Global Emerton garth New road Berkhamsted

Please quote these references on any correspondence.

Please note:
McNicholas, on behalf of our client, accept no liability for claims arising from inaccuracies, omissions or errors contained within your plant enquiry request.

If you require further information please do not hesitate to contact us.

Kind Regards,

SOURCE
DESIGN SERVICES

Demi McQueeney
Administrator
Part of the McNicholas Group

SOURCE
DESIGN SERVICES

Demi McQueeney
Administrator
Part of the McNicholas Group

****

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CP, Suhas

From: Plantenquiries <plantenquiries@catelecomuk.com>
Sent: 26 April 2017 12:47
To: Statutory Enquiries
Subject: RE: Plant Enquiry - 54308 - Site off Padeswood Drive, Padeswood, MOLD - Please respond by 02/05/2017

Please Note: Our search criteria has changed. We previously searched for Colt Network which was within 200 metres, this has now changed to 50 metres. The negative response will be for all enquiries that the network is 50 metres or more away from the place of enquiry.

Dear Sir/Madam,

Thank you for your enquiry for the above reference.

We can confirm that Colt Technology Services do not have apparatus near the above location as presented on your submitted plan, if any development or scheme amendments fall outside the 50 metre perimeter new plans must be submitted for review.

Search is based on Overseeing Organisation Agent data supplied; we do not accept responsibility for O.O. Agent inaccurate data.

If we can be of any further assistance please do not hesitate to contact us.

Kind regards,

Plant Enquiry Team

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-----Original Message-----
From: atkinsstatutory.enquiries@atkinsglobal.com [mailto:atkinsstatutory.enquiries@atkinsglobal.com]
Sent: 20 April 2017 08:51
To: osm.enquiries@atkinsglobal.com; osp-team@uk.verizon.com; osp-team@uk.verizonbusiness.com; nrswa@sky.uk; interoute.enquiries@plancast.co.uk; opburiedservicesenquiries@networkrail.co.uk; plantenquiries@mcnicholas.co.uk; plantenquiries@mcnicholas.co.uk; plantenquiries@instalcom.co.uk; cgiplantenquiries@instalcom.co.uk; plantenquiries@energetics-uk.com; Plantenquiries <plantenquiries@catelecomuk.com>
Cc: atkinsstatutory.enquiries@atkinsglobal.com
Subject: Plant Enquiry - 54308 - Site off Padeswood Drive, Padeswood, MOLD - Please respond by 02/05/2017

We have checked CityFibre's website and in this instance your area is not affected.

We have checked Dŵr Cymru Welsh Water’s website (for both Water & Sewer) and in this instance your area is not affected.

CP, Suhas

From: Plant Enquiries <plantenquiries@energetics-uk.com>
Sent: 20 April 2017 19:22
To: Statutory Enquiries
Subject: RE: Plant Enquiry - 54308 - Site off Padeswood Drive, Padeswood, MOLD - Please respond by 02/05/2017

Dear Sir/Madam,

Thank you for submitting your recent plant enquiry.

Based on the information provided, I can confirm that Energetics does not have any plant within the area(s) specified in your request.

Please be advised that it may take around 10 working days to process enquiries. In the unlikely event that you have been waiting longer than 10 working days, or require further assistance with outstanding enquiries, please call 01698 404945.

Please ensure all plant enquiries are sent to plantenquiries@energetics-uk.com

Regards

Plant Enquiries

E: plantenquiries@energetics-uk.com
W: www.energetics-uk.com

energetics
WE DESIGN • WE BUILD • WE CONNECT

International House, Stanley Boulevard, Hamilton International Technology Park, Glasgo

-----Original Message-----
From: atkinsstatutory.enquiries@atkinsglobal.com [mailto:atkinsstatutory.enquiries@atkinsglobal.com]
Sent: 20 April 2017 08:51
To: osm.enquiries@atkinsglobal.com; osp-team@uk.verizon.com; osp-team@uk.verizonbusiness.com; nrswa@sky.uk; interoute.enquiries@plancast.co.uk; opburiedservicesenquiries@networkrail.co.uk; plantenquiries@mcnicholas.co.uk; plantenquiries@mcnicholas.co.uk; plantenquiries@instalcom.co.uk; cgiplantenquiries@instalcom.co.uk; Plant Enquiries; plantenquiries@catelecomuk.com
Cc: atkinsstatutory.enquiries@atkinsglobal.com
Subject: Plant Enquiry - 54308 - Site off Padeswood Drive, Padeswood, MOLD - Please respond by 02/05/2017

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CP, Suhas

From: plantenquiryservice@gtc-uk.co.uk
Sent: 20 April 2017 12:30
To: Statutory Enquiries
Subject: GTC Plant Enquiry - Ref- 412291
Attachments: 412291.png

GTC Apparatus Not Found In Search Area

Our Plant Enquiry Service Ref: 412291
Your Enquiry Ref: LM 54308/SuK

Dear Chrissy,

Thank you for your enquiry concerning apparatus in the vicinity of your proposed work. GTC can confirm that we have no apparatus in the vicinity but please note that other asset owners may have and ensure all utility owners have been consulted. For your records, the search area is shown in the attached map.

Please note our assets now include those owned and operated by:

- GTC Pipelines Limited
- Independent Pipelines Limited
- Quadrant Pipelines Limited
- Electricity Network Company Limited
- Independent Power Networks Limited
- Independent Water Networks Limited
- Independent Fibre Networks Limited
- Independent Community Heating Limited

If you have any queries or require any further information please do not hesitate to contact us.

Your sincerely,

GTC Plant Enquiry Service.

GTC
Energy House
Woolpit Business Park
Woolpit
Bury St Edmunds
Suffolk, IP30 9UP
Tel: 01359 240363
plant.enquiries@gtc-uk.co.uk

NOTE:
This E-Mail originates from GTC, Energy House, Woolpit Business Park, Woolpit, Bury St Edmunds, Suffolk, IP30 9UP
VAT Number: GB688 8971 40. Registered No: 029431.

DISCLAIMER
The information in this E-Mail and in any attachments is confidential and may be privileged. If you are not the intended

GTC Plant Enquiry. Our Ref 412291, Your Ref LM 54308/SuK generated for AtkinsStatutory.Enquiries@atkinsglobal.com at 20/04/2017 07:59:44. This map shows the search area of your enquiry.

Instalcom Ltd, Borehamwood Ind. Park, Rowley Lane, Borehamwood, Herts, WD6 5PZ
Telephone: 0208 731 4600 Fax: 0208 731 4601 Email: plantenquiries@instalcom.co.uk

28 April 2017

Dear Sir or Madam,

Your Ref: 54308 - Site off Padeswood Drive, Padeswood, MOLD
Our Ref: C04/17 - 0021

With reference to your enquiry regarding the above noted location, I can confirm that CGI do not have any apparatus within the immediate proximity of your proposed works.

If you require any further information, please do not hesitate to contact me.

Plant Protection Administrator

Instalcom Limited
Borehamwood Ind. Park
Rowley Lane
Borehamwood,
WD6 5PZ
E mail: - cgiplantenquiries@instalcom.co.uk
Phone: - 020 8731 4600
Fax: - 020 8731 4601
Web: - www.instalcom.co.uk

CP, Suhas

From: Plantenquiries <Plantenquiries@instalcom.co.uk>
Sent: 25 April 2017 16:40
To: Statutory Enquiries
Subject: RE: E04-17-3290 Plant Enquiry - 54308 - Site off Padeswood Drive, Padeswood, MOLD - Please respond by 02/05/2017

Dear Sir or Madam,

Thank you for your plant enquiry below.

We can confirm that Level 3, Global Crossing (Uk) Ltd, Global Crossing PEC, Fibernet UK Ltd and Fibrespan Ltd do not have any apparatus within the indicated works area.

Instalcom responds to plant enquiries for all of the above and therefore you only need send one plant enquiry to cover all of these companies.

Please note that this response is only valid for 3 months. If your works do not commence within this time period, please resubmit your plant enquiry for assessment before any works commence.

Regards

Plant Enquiries Dept
Instalcom Limited
Borehamwood Ind. Park
Rowley Lane
Borehamwood
WD6 5PZ

Office: +44 (0)208 731 4613
Fax: +44 (0)208 731 4601
Email: plantenquiries@instalcom.co.uk
Web: http://www.instalcom.co.uk

-----Original Message-----
From: atkinsstatutory.enquiries@atkinsglobal.com
[mailto:atkinsstatutory.enquiries@atkinsglobal.com]
Sent: 20 April 2017 08:51
To: osm.enquiries@atkinsglobal.com; osp-team@uk.verizon.com; osp-team@uk.verizonbusiness.com; nrswa@sky.uk; interoute.enquiries@plancast.co.uk; opburiedservicesenquiries@networkrail.co.uk; plantenquiries@mcnicholas.co.uk; plantenquiries@mcnicholas.co.uk; Plantenquiries; cgiplantenquiries; plantenquiries@energetics-uk.com; plantenquiries@catelecomuk.com
Cc: atkinsstatutory.enquiries@atkinsglobal.com
Subject: Plant Enquiry - 54308 - Site off Padeswood Drive, Padeswood, MOLD - Please respond by 02/05/2017

On 26/04/2017 Interoute Vtesse's plant information system was checked to ascertain if your area of interest is affected by Interoute Vtesse plant. In this instance your area of interest was shown to be 'not affected' by Interoute Vtesse plant.

No liability of any kind whatsoever is accepted by Landmark Information Group, its servants or agents, for any error or omission in respect of information contained in this report. The underground services must be verified and established on site before any excavation is carried out.

Enquiry Confirmation

LSBUD Ref: 10270728

Date of enquiry: 20/04/2017
Time of enquiry: 07:54

Enquirer

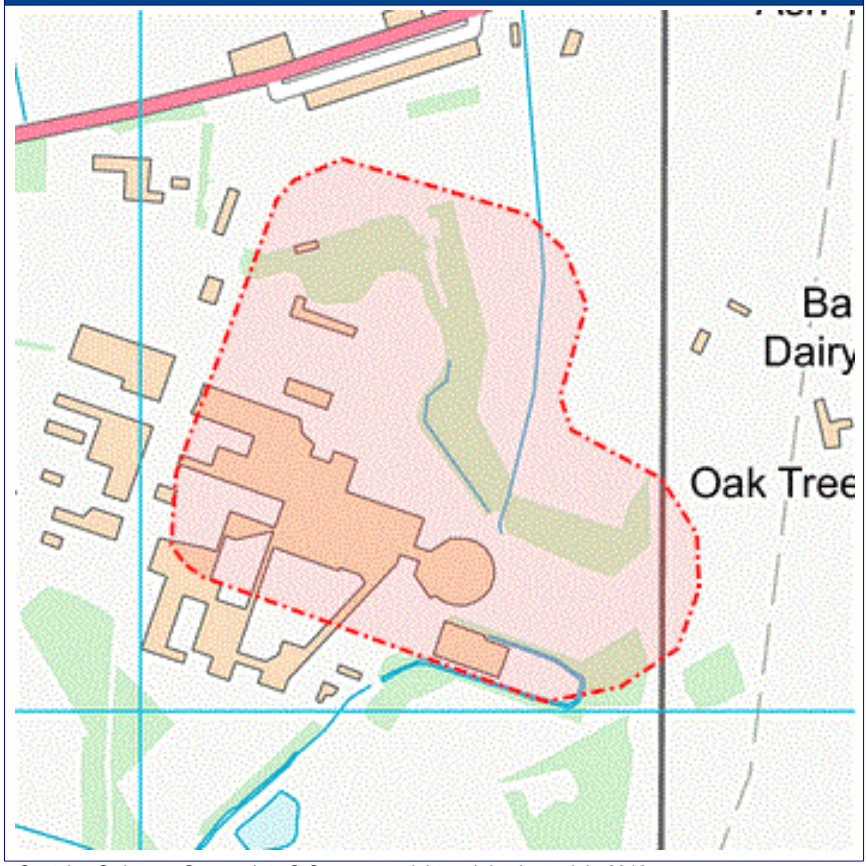
Name	Ms Christina Elliott	Phone	01454 662397
Company	Atkins	Mobile	Not Supplied
		Fax	Not Supplied
Address	500 Park Avenue Aztec West Almondsbury Bristol BS32 4RZ		
Email	stat.enquiries@atkinsglobal.com		
Notes	Please ensure your contact details are correct and up to date on the system in case the LSBUD Members need to contact you.		

Enquiry Details

Scheme/Reference	LM 54308/SuK		
Enquiry type	Initial Enquiry	Work category	Utility Works
Start date	02/05/2017	Work type	Single excavation site
End date	02/08/2017	Site size	203289 metres square
Searched location	XY= 329293, 362286 Easting/Northing	Work type buffer*	25 metres
Confirmed location	329273 362271		

* The WORK TYPE BUFFER is a distance added to your search area based on the Work type you have chosen.

Site Map



V3.3.2 Contains Ordnance Survey data © Crown copyright and database right 2016

Enquiry Confirmation

LSBUD Ref: 10270728

Date of enquiry: 20/04/2017
Time of enquiry: 07:54

LSBUD Members who have assets registered on the LSBUD service within the vicinity of your search area.

List of affected LSBUD members
No LinesearchbeforeUdig Asset Owners within the Zone of Interest

LSBUD members who do not have assets registered on the LSBUD service within the vicinity of your search area. Please be aware that LSBUD members make regular changes to their assets.

List of not affected LSBUD members		
AWE Pipeline	Fulcrum Pipelines Limited	Phillips 66
BOC Limited (A Member of the Linde Group)	Gamma	Premier Transmission Ltd (SNIP)
BP Midstream Pipelines	Gateshead Energy Company	Prysmian Cables & Systems Ltd (c/o Western Link)
BPA	Gigaclear PLC	Redundant Pipelines - LPDA
Carrington Gas Pipeline	Humbly Grove Energy	RWEnpower (Little Barford and South Haven)
CATS Pipeline c/o Wood Group PSN	IGas Energy	SABIC UK Petrochemicals
Cemex	Ineos Enterprises Limited	Scottish Power Generation
Centrica Energy	INEOS Manufacturing (Scotland and TSEP)	Seabank Power Ltd
Centrica Storage Ltd	Intergen (Coryton Energy or Spalding Energy)	SGN
CLH Pipeline System Ltd	Lark Energy	Shell (St Fergus to Mossmorran)
Concept Solutions People Ltd	Mainline Pipelines Limited	Shell Pipelines
ConocoPhillips (UK) Ltd	Manchester Jetline Limited	Total (Finaline, Colnbrook & Colwick Pipelines)
DIO (MOD Abandoned Pipelines)	Manx Cable Company	Transmission Capital
Dong Energy (UK) Ltd	Marchwood Power Ltd (Gas Pipeline)	Uniper UK Ltd
E.ON UK CHP Limited	Melbourn Solar Limited	Vattenfall
EirGrid	National Grid Gas (Above 7 bar), National Grid Gas Distribution Limited (Above 2 bar) and National Grid Electricity Transmission	Veolia ES SELCHP Limited
Electricity North West Limited	Northumbrian Water Group	Western Power Distribution
ENI & Himor c/o Penspen Ltd	NPower CHP Pipelines	Wingas Storage UK Ltd
ESP Utilities Group	Oikos Storage Limited	Zayo Group UK Ltd c/o JSM Group Ltd
ESSAR	Perenco UK Limited (Purbeck Southampton Pipeline)	
Esso Petroleum Company Limited	Petroineos	

CP, Suhas

From: Purser Richard <Richard.Purser@networkrail.co.uk> on behalf of OP Buried Services Enquiries <OPBuriedSE@networkrail.co.uk>
Sent: 20 April 2017 13:31
To: Statutory Enquiries
Subject: RE: Plant Enquiry - 54308 - Site off Padeswood Drive, Padeswood, MOLD - Please respond by 02/05/2017

Dear Sir/Madam,

With regards to your enquiry, Network Rail does not believe there is any Network Rail owned apparatus or underground services within the area you have defined. As there is always the possibility that new works could be planned and undertaken in this area by Network Rail this information is valid as at today's date and is supplied for general guidance only.

Please be aware that this response is based on Network Rail's records and knowledge and no guarantee can be given regarding accuracy or completeness. CAT scans, safe digging practices (as contained in HSE publications) and other appropriate investigative techniques should always be carried out.

There may be other apparatus or underground services owned or operated by Utility Companies and accordingly you should contact individual utilities for information.

If, in connection with your investigations and/or work, you become aware of Network Rail apparatus or underground services within your area of work, please ensure these are notified to our Asset Protection team via the following link as a matter of urgency so that appropriate measures for avoidance of risk and damage can be put in place.

https://urldefense.proofpoint.com/v2/url?u=http-3A__www.networkrail.co.uk_aspx_1758.aspx-3Fcd-3D1&d=DwIFAw&c=cUkzcZGZt-E3UgRE832-4A&r=cWjpnr1Nvb5GpbBsY43xvGOqQ_3PdNa9KLbP1Zgk_oio_5lXI2DtWBcADHfise3Q&m=AL2Yg8euWmDTnLQNLDwIOHSb0c6Y4oJd7jb7hbqPSjw&s=Dll4CKROKby8TWUdDpzz-Gz5QGskbMfmbE3B_suPUhI&e=

If you require any further clarification on any of the information please contact opburiedservicesenquiries@networkrail.co.uk.

Regards,

Richard Purser
Distribution Administrator (Underground Services), Asset Information Services

Asset Information Services: to inspire & enable through the power of data National Records Group, Audax Road, Clifton Moor York YO30 4US

T: 01904 386 388
E: richard.purser@networkrail.co.uk

-----Original Message-----
From: atkinsstatutory.enquiries@atkinsglobal.com [mailto:atkinsstatutory.enquiries@atkinsglobal.com]
Sent: 20 April 2017 08:51
To: osm.enquiries@atkinsglobal.com; osp-team@uk.verizon.com; osp-team@uk.verizonbusiness.com; nrswa@sky.uk; interoute.enquiries@plancast.co.uk; OP Buried Services Enquiries;

CP, Suhas

From: Interoute Enquiries <interoute.enquiries@plancast.co.uk>
Sent: 20 April 2017 14:13
To: Statutory Enquiries
Subject: RE: Plant Enquiry - 54308 - Site off Padeswood Drive, Padeswood, MOLD - Please respond by 02/05/2017

This response does not include Vtesse plant, please continue to use Vtesse details for their enquiries

To whom it may concern
Thank you for your enquiry regarding the above proposals at the above location

We would advise that we are unaware of any Interoute plant or services in this Location as indicated in your enquiry.

We bring to your attention the fact that whilst we try to ensure the information we provide is accurate, the information is provided Without Prejudice and Interoute and its Agents accept no liability for claims arising from any inaccuracy, omissions or errors contained in this response.

All responses are only vaild for 28 days

Yours faithfully

PLANCAST Plant Enquiry Department

The Old Haybarn
Rosebery Mews, Mentmore
Bedfordshire LU7 0UE

T: 01296 662647
www.plancast.co.uk

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Registered office: 1st Floor, The Old Haybarn, Rosebery Mews, Mentmore LU7 0UE. Registered in England and Wales with number 4455025 VAT No. 8567 195 80

-----Original Message-----
From: atkinsstatutory.enquiries@atkinsglobal.com [mailto:atkinsstatutory.enquiries@atkinsglobal.com]
Sent: 20 April 2017 08:51
To: osm.enquiries@atkinsglobal.com; osp-team@uk.verizon.com; osp-team@uk.verizonbusiness.com; nrswa@sky.uk; Interoute Enquiries <interoute.enquiries@plancast.co.uk>;

CP, Suhas

From: NRSWA <NRSWA@sky.uk>
Sent: 20 April 2017 19:24
To: Statutory Enquiries
Subject: Sky Telecommunications Services Ltd Plant Enquiry - PEN-17-04-2163 : ATKINS - Ready to Dig - 54308

Attention: ATKINS - Ready to Dig - ATKINS - Ready to Dig

Dear Sir/Madam,

RE: Site off Padeswood Drive, Padeswood, MOLD

Thank you for your enquiry.

Please be advised that Sky Telecommunications Services Ltd will not be affected by these works.

Best endeavours have been made to ensure accuracy, however if you require further information, please contact us.
If you would like to submit your plant enquiries electronically, please send them to nrswa@sky.uk

Please be advised that our fax number has changed to 0207 032 3252.

Regards

NRSWA Department
Network Infrastructure and Planning
SKY Telecommunications Services Ltd
70 Buckingham Avenue
SLOUGH
SL1 4PN

T +44 (0) 207 032 3234/250
F +44 (0) 207 032 3252
E nrswa@sky.uk

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We have checked SP Energy Networks - (Manweb) and in this instance your area is not affected.

We have checked SSE’s website and in this instance your area is not affected.

We have checked Trafficmaster's website and in this instance your area is not affected.

CP, Suhas

From: UK OSP-Team <osp-team@uk.verizon.com>
Sent: 20 April 2017 14:04
To: Statutory Enquiries
Cc: UK OSP-Team
Subject: RE: Plant Enquiry - 54308 - Site off Padeswood Drive, Padeswood, MOLD - Please respond by 02/05/2017

Dear Sir/Madam

Verizon is a licensed Statutory Undertaker.

We have reviewed your plans and have determined that Verizon (Formally known as MCI WorldCom, MFS) has no apparatus in the areas concerned.

If you have any further queries please do not hesitate to get in touch.

Yours faithfully

Plant Protection Officer (GB) Email osp-team@uk.verizon.com

-----Original Message-----
From: atkinsstatutory.enquiries@atkinsglobal.com [mailto:atkinsstatutory.enquiries@atkinsglobal.com]
Sent: 20 April 2017 08:51
To: osm.enquiries@atkinsglobal.com; UK OSP-Team; UK OSP-Team; nrswa@sky.uk; interoute.enquiries@plancast.co.uk; opburiedservicesenquiries@networkrail.co.uk; plantenquiries@mcnicholas.co.uk; plantenquiries@mcnicholas.co.uk; plantenquiries@instalcom.co.uk; cgiplantenquiries@instalcom.co.uk; plantenquiries@energetics-uk.com; plantenquiries@catelecomuk.com
Cc: atkinsstatutory.enquiries@atkinsglobal.com
Subject: Plant Enquiry - 54308 - Site off Padeswood Drive, Padeswood, MOLD - Please respond by 02/05/2017

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On 27/04/2017 Virgin Media's plant information system was checked to ascertain if your area of interest is affected by Virgin Media plant. In this instance your area of interest was shown to be 'not affected' by Virgin Media plant.

An additional response from Virgin Media in relation to your area of interest is available on request from £43 + VAT for areas up to 1km2. The rate for searches for sites larger than 1km2 is available upon request from Landmark Customer Services.

No liability of any kind whatsoever is accepted by Landmark Information Group, its servants or agents, for any error or omission in respect of information contained in this report. The underground services must be verified and established on site before any excavation is carried out.

CP, Suhas

From: Khandke, Harshita
Sent: 21 April 2017 09:34
To: Statutory Enquiries
Subject: RE: Plant Enquiry - 54308 - Site off Padeswood Drive, Padeswood, MOLD - Please respond by 02/05/2017

Please accept this email as confirmation that Vodafone: Fixed **does not** have apparatus within the vicinity of your proposed works detailed below.

Many thanks.

Plant Enquiries Team
T: 01454 662881
E: osm.enquiries@atkinsglobal.com

ATKINS working on behalf of Vodafone: Fixed

This response is made only in respect to electronic communications apparatus forming part of the Vodafone: Fixed electronic communications network formerly being part of the electronic communications networks of Cable & Wireless UK, Energis Communications Limited, Thus Group Holdings Plc and Your Communications Limited.

PLEASE NOTE:

The information given is indicative only. No warranty is made as to its accuracy. This information must not be solely relied upon in the event of excavation or other works carried out in the vicinity of Vodafone plant. No liability of any kind whatsoever is accepted by Vodafone, its servants, or agents, for any error or omission in respect of information contained on this information. The actual position of underground services must be verified and established on site before any mechanical plant is used. Authorities and contractors will be held liable for the full cost of repairs to Vodafone's apparatus and all claims made against them by Third parties as a result of any interference or damage.

IMPORTANT - PLEASE READ:-
Diversionary works may be necessary if the existing line of the highway/railway or its levels are altered, where apparatus is affected. Where apparatus is affected and requires diversion, you must submit draft details of the proposed scheme with a request for a 'C3 Budget Estimate' to c3requests@vodafone.com These estimates should be provided by Vodafone normally within 20 working days from receipt of your request. Please include proof of this C2 response when requesting a C3 (using the 'forward' option).

From: atkinsstatutory.enquiries@atkinsglobal.com [mailto:atkinsstatutory.enquiries@atkinsglobal.com]
Sent: 20 April 2017 13:21
To: National Plant Enquiry's <OSM.enquiries@atkinsglobal.com>; osp-team@uk.verizon.com; osp-team@uk.verizonbusiness.com; nrswa@sky.uk; interoute.enquiries@plancast.co.uk; opburiedservicesenquiries@networkrail.co.uk; plantenquiries@mcnicholas.co.uk; plantenquiries@mcnicholas.co.uk; plantenquiries@instalcom.co.uk; cgiplantenquiries@instalcom.co.uk; plantenquiries@energetics-uk.com; plantenquiries@catelecomuk.com
Cc: Statutory Enquiries <AtkinsStatutory.Enquiries@atkinsglobal.com>
Subject: Plant Enquiry - 54308 - Site off Padeswood Drive, Padeswood, MOLD - Please respond by 02/05/2017

Our Reference: 54308
Site Name: Site off Padeswood Drive, Padeswood, MOLD

READY to DIG

We have checked Wales and West Utilities’s website and in this instance your area is not affected.

APPENDIX D

Trial Pit Logs

Golder Associates	Client : Hanson Cement	Hole No. **TP1**
Site : Padeswood Works, Mold, Flintshire, CH7 4HB	**Project :** Padeswood Works Site Investigation	**Project No :** 1773079
Equipment & Methods : JCB 3CX	**Contractor :** CC Ground Investigation **Date Started :** 09/05/2017 **Completed :** **Logged by :** TF	**Ground Level :** 111.11 m **Co-ordinates :** E 329273.0 N 362362.1

WATER/ PROGRESS	SAMPLES		STRATA RECORD				
	Depth (m)	Type	PID Results (ppm)	Level (mAOD)	Legend	Depth (Thickness) m	Description
			0.00	110.61		(0.50)	Light grey slightly silty, slightly gravelly SAND. Gravel is fine to medium, angular to subangular, elongated and smooth. Frequent angular to subangular cobbles of limestone. Frequent brick fragments and rootlets. [TOPSOIL] No visual or olfactory evidence of contamination.
	1.00	ES	0.00	109.61		0.50 (1.00) 1.50	Greyish brown becoming brown with depth, slightly silty, slightly gravelly SAND. Gravel is fine to medium, subangular to subrounded limestone. Frequent angular to subangular cobbles and boulders of limestone and concrete. Occasional subangular to subrounded cobbles of quartz and flint. Frequent plastic fragments, metal and iron. Rare decaying wood branches. [MADE GROUND] No visual or olfactory evidence of contamination.
	2.50	ES	0.00	108.01		(1.60) 3.10	Brown to dark brown, occasionally greyish brown, very clayey, sandy gravelly SILT. Gravel is fine to medium, subangular to subrounded limestone. Occasional angular to subangular cobbles of concrete and limestone. Frequent fragments of plastic and brick and electrical cables, including one electrical plug and one fragment of rope. Occasional decaying wood branches and one boulder sized fragment of reinforced concrete. [MADE GROUND] No visual or olfactory evidence of contamination.
			0.00				End of Hole at 3.10m

Remarks : Trial pit terminated at 3.1m bGL.

Checked By: RL

Scale 1:18

GAUK-TP PID April 2008

Golder Associates	**Client :** Hanson Cement	**Hole No.** **TP2**
Site : Padeswood Works, Mold, Flintshire, CH7 4HB	**Project :** Padeswood Works Site Investigation	**Project No :** 1773079
Equipment & Methods : JCB 3CX	**Contractor :** CC Ground Investigation **Date Started :** 09/05/2017 **Completed :** **Logged by :** TF	**Ground Level :** 110.43 m **Co-ordinates :** E 329278.3 N 362349.4

WATER/ PROGRESS	SAMPLES		STRATA RECORD				
	Depth (m)	Type	PID Results (ppm)	Level (mAOD)	Legend	Depth (Thickness) m	Description
	0.30	ES	0.00	110.03		(0.40) 0.40	Brownish grey silty slightly gravelly SAND. Gravel is fine, angular to subangular, elongated and smooth. Frequent roots and rootlets. [TOPSOIL] No visual or olfactory evidence of contamination.
	2.00	ES	0.00 0.00	107.43		(2.60) 3.00	Dark greyish brown, slightly sandy SILT. Slightly moist becoming very moist with depth. Gravel is fine to medium, subangular to subrounded of limestone. Occasional angular to subangular cobbles of concrete and limestone and rare subrounded to rounded smooth quartz. Many fragments of brick, one large fragment of fabric and one 30 cm long section of 50 mm PVC groundwater monitoring pipe. [MADE GROUND] No visual or olfactory evidence of contamination. End of Hole at 3.00m

Remarks : Trial pit terminated at 3.0 m bGL.

Checked By:	**RL**
Scale 1:18	
GAUK-TP PID April 2008	

Golder Associates	**Client :** Hanson Cement	**Hole No.** **TP3**
Site : Padeswood Works, Mold, Flintshire, CH7 4HB	**Project :** Padeswood Works Site Investigation	**Project No :** 1773079
Equipment & Methods : JCB 3CX	**Contractor :** CC Ground Investigation **Date Started :** 09/05/2017 **Completed :** **Logged by :** TF	**Ground Level :** 113.35 m **Co-ordinates :** E 329260.0 N 362348.6

WATER/ PROGRESS	SAMPLES		STRATA RECORD				
	Depth (m)	Type	PID Results (ppm)	Level (mAOD)	Legend	Depth (Thickness) m	Description
						(0.40)	Greyish light brown very gravelly SAND. Gravel is fine to medium, angular to subangular. Frequent angular to subangular cobbles of limestone and concrete and many rootlets. Occasional plastic fragments and one electric cable. [TOPSOIL] No visual or olfactory evidence of contamination.
				112.95		0.40	
			0.00				Dark greyish brown, slightly sandy SILT. Slightly moist becoming wet with depth. Gravel is fine to medium, subangular to subrounded limestone. Frequent angular to subangular cobbles of concrete and occasional brick fragments. Rare decaying wood. [MADE GROUND] No visual or olfactory evidence of contamination.
	1.50	ES	0.00			(2.70)	
			0.00				
	3.00	ES		110.25		3.10	End of Hole at 3.10m

Remarks : Trial pit terminated at 3.1m bGL.

Checked By: RL

Scale 1:18

GAUK-TP PID April 2008

Golder Associates	Client : Hanson Cement	Hole No. **TP4**
Site : Padeswood Works, Mold, Flintshire, CH7 4HB	**Project :** Padeswood Works Site Investigation	**Project No :** 1773079
Equipment & Methods : JCB 3CX	**Contractor :** CC Ground Investigation **Date Started :** 09/05/2017 **Completed :** **Logged by :** TF	**Ground Level :** 110.92 m **Co-ordinates :** E 329267.7 N 362331.4

WATER/ PROGRESS	SAMPLES		STRATA RECORD				
	Depth (m)	Type	PID Results (ppm)	Level (mAOD)	Legend	Depth (Thickness) m	Description
						(0.20)	Greyish brown, silty, slightly gravelly, SAND. Gravel is fine, angular to subangular of limestone. Frequent rootlets. Frequent cobbles of angular to subangular limestone and fragments of brick and occasional plastic fragments. [TOPSOIL]
				110.72		0.20	No visual or olfactory evidence of contamination.
			0.00			(0.30)	Yellowish light brown, slightly silty, slightly gravelly SAND. Gravel is fine, angular to subangular of limestone and concrete. Frequent angular to subangular cobbles of limestone and concrete and occasional subangular pebbles of flint. Occasional plastic fragments. [MADE GROUND]
	0.40	ES					No visual or olfactory evidence of contamination.
				110.42		0.50	At 0.5 m depth: refusal in hard ground. Trial pit terminated at 0.5 m depth.
							End of Hole at 0.50m

Remarks : Refusal in hard ground at 0.5m bGL. Trial pit terminated. Trial pit location was re-located twice (TP4A and TP4B). TP4A and TP4B encountered the same geology and could not be excavated below 0.5m bGL.

Checked By: RL

Scale 1:18

GAUK-TP PID April 2008

Golder Associates	Client : Hanson Cement	Hole No. **TP4A**
Site : Padeswood Works, Mold, Flintshire, CH7 4HB	**Project :** Padeswood Works Site Investigation	**Project No :** 1773079
Equipment & Methods : JCB 3CX	**Contractor :** CC Ground Investigation **Date Started :** 09/05/2017 **Completed :** **Logged by :** TF	**Ground Level :** 110.47 m **Co-ordinates :** E 329261.3 N 362333.3

WATER/ PROGRESS	SAMPLES		STRATA RECORD				
	Depth (m)	Type	PID Results (ppm)	Level (mAOD)	Legend	Depth (Thickness) m	Description
				110.27		(0.20)	Greyish brown, silty, slightly gravelly, SAND. Gravel is fine, angular to subangular of limestone. Frequent rootlets. Frequent cobbles of angular to subangular limestone and fragments of brick and occasional plastic fragments. [TOPSOIL] No visual or olfactory evidence of contamination.
				109.97		0.20 (0.30) 0.50	Yellowish light brown, slightly silty, slightly gravelly SAND. Gravel is fine, angular to subangular of limestone and concrete. Frequent angular to subangular cobbles of limestone and concrete and occasional subangular pebbles of flint. Occasional plastic fragments. [MADE GROUND] No visual or olfactory evidence of contamination. At 0.5 m depth: refusal in hard ground. Trial pit terminated at 0.5 m depth. End of Hole at 0.50m

Remarks : Refusal in hard ground at 0.5m bGL. Trial pit terminated.

Checked By: RL
Scale 1:18
GAUK-TP PID April 2008

Golder Associates	Client : Hanson Cement	Hole No. **TP4B**
Site : Padeswood Works, Mold, Flintshire, CH7 4HB	**Project :** Padeswood Works Site Investigation	**Project No :** 1773079
Equipment & Methods : JCB 3CX	**Contractor :** CC Ground Investigation **Date Started :** 09/05/2017 **Completed :** **Logged by :** TF	**Ground Level :** 110.34 m **Co-ordinates :** E 329260.4 N 362336.4

WATER/ PROGRESS	SAMPLES		STRATA RECORD				
	Depth (m)	Type	PID Results (ppm)	Level (mAOD)	Legend	Depth (Thickness) m	Description
						(0.20)	Greyish brown, silty, slightly gravelly, SAND. Gravel is fine, angular to subangular of limestone. Frequent rootlets. Frequent cobbles of angular to subangular limestone and fragments of brick and occasional plastic fragments. [TOPSOIL]
				110.14		0.20	No visual or olfactory evidence of contamination.
						(0.30)	Yellowish light brown, slightly silty, slightly gravelly SAND. Gravel is fine, angular to subangular of limestone and concrete. Frequent angular to subangular cobbles of limestone and concrete and occasional subangular pebbles of flint. Occasional plastic fragments. [MADE GROUND]
							No visual or olfactory evidence of contamination.
				109.84		0.50	At 0.5 m depth: refusal in hard ground. Trial pit terminated at 0.5 m depth.
							End of Hole at 0.50m

Remarks : Refusal in hard ground at 0.5m bGL. Trial pit terminated.

Checked By: RL

Scale 1:18

GAUK-TP PID April 2008

Golder Associates	Client : Hanson Cement	Hole No. **TP5**
Site : Padeswood Works, Mold, Flintshire, CH7 4HB	**Project :** Padeswood Works Site Investigation	**Project No :** 1773079
Equipment & Methods : JCB 3CX	**Contractor :** CC Ground Investigation **Date Started :** 09/05/2017 **Completed :** **Logged by :** TF	**Ground Level :** 110.51 m **Co-ordinates :** E 329256.2 N 362330.6

WATER/ PROGRESS	SAMPLES		STRATA RECORD				
	Depth (m)	Type	PID Results (ppm)	Level (mAOD)	Legend	Depth (Thickness) m	Description
			0.00				Brown to dark grey becoming blackish dark grey with depth, very silty, gravelly, ashy, SAND. Becoming moist with depth. Sand is fine to medium. Gravel is fine, angular to subangular of concrete. Frequent fragments of plastic and occasional fragments of rubber and metal. [MADE GROUND] Frequent rootlets and decaying wood and natrual organic odour throughout depth profile. No visual evidence of contamination.
	1.50	ES	0.00			(3.30)	
			0.00				
	3.00	ES		107.21		3.30	End of Hole at 3.30m

Remarks : Trial pit terminated at 3.3m bGL

Checked By: RL

Scale 1:18

GAUK-TP PID April 2008

Golder Associates	Client : Hanson Cement	Hole No. **TP6**
Site : Padeswood Works, Mold, Flintshire, CH7 4HB	**Project :** Padeswood Works Site Investigation	**Project No :** 1773079
Equipment & Methods : JCB 3CX	**Contractor :** CC Ground Investigation **Date Started :** 09/05/2017 **Completed :** **Logged by :** TF	**Ground Level :** 109.71 m **Co-ordinates :** E 329248.1 N 362336.2

WATER/ PROGRESS	SAMPLES		STRATA RECORD				
	Depth (m)	Type	PID Results (ppm)	Level (mAOD)	Legend	Depth (Thickness) m	Description
			0.00				Brown to dark grey becoming blackish dark grey and black with depth, very silty, gravelly, ashy, SAND. Sand is fine to medium. Gravel is fine, angular to subangular concrete and limestone. Frequent angular to subangular, smooth and elongated, cobbles of limestone. [MADE GROUND] Frequent rootlets and decaying wood and slight organic odour (natural) throughout depth profile. No visual evidence of contamination.
	1.00	ES				(2.50)	
			0.00				
	2.30	ES					
				107.21		2.50	End of Hole at 2.50m

Remarks : Refusal in hard ground at 2.5m bGL. Trial pit terminated.

Checked By: RL

Scale 1:18

GAUK-TP PID April 2008

Golder Associates	**Client :** Hanson Cement	**Hole No.** **TP7**
Site : Padeswood Works, Mold, Flintshire, CH7 4HB	**Project :** Padeswood Works Site Investigation	**Project No :** 1773079
Equipment & Methods : JCB 3CX	**Contractor :** CC Ground Investigation **Date Started :** 09/05/2017 **Completed :** **Logged by :** TF	**Ground Level :** 109.75 m **Co-ordinates :** E 329232.4 N 362339.5

WATER/ PROGRESS	SAMPLES		STRATA RECORD				
	Depth (m)	Type	PID Results (ppm)	Level (mAOD)	Legend	Depth (Thickness) m	Description
			0.00			(2.60)	Black to blackish dark grey, occasionally mottled orange in places, very silty, gravelly, ashy, SAND. Moist to dry throughout depth profile. Sand is fine to medium. Gravel is fine, angular to subangular of concrete. Frequent angular to subangular, smooth and elongated, cobbles of limestone and occasional subrounded pebbles of quartz. Occasional fragments of plastic and rubber. [MADE GROUND] Rare rootlets and occasional fragments of decaying wood. No natural organic odour. No visual or olfactory evidence of contamination.
	1.50	ES	0.00				
	2.50	ES	0.00	107.15		2.60	End of Hole at 2.60m

Remarks : Refusal in hard ground at 2.6 m bGL. Trial pit terminated.

Checked By: RL

Scale 1:18

GAUK-TP PID April 2008

Golder Associates	Client : Hanson Cement	Hole No. **TP8**
Site : Padeswood Works, Mold, Flintshire, CH7 4HB	**Project :** Padeswood Works Site Investigation	**Project No :** 1773079
Equipment & Methods : JCB 3CX	**Contractor :** CC Ground Investigation **Date Started :** 09/05/2017 **Completed :** **Logged by :** TF	**Ground Level :** 111.02 m **Co-ordinates :** E 329256.3 N 362307.8

WATER/ PROGRESS	SAMPLES		STRATA RECORD				
	Depth (m)	Type	PID Results (ppm)	Level (mAOD)	Legend	Depth (Thickness) m	Description
	0.50	ES	0.00				Brown, mottled orange in places, very clayey, slightly silty, slightly gravelly SAND. Moist. Sand is fine to medium. Gravel is fine, angular to subangular, of limestone. Frequent angular to subrounded pebbles of limestone and brick fragments. [MADE GROUND] Frequent rootlets and occasional fragments of decaying wood throughout depth profile. No natural organic odour. No visual or olfactory evidence of contamination.
			0.00			(3.20)	
			0.00				
	3.00	ES		107.82		3.20	End of Hole at 3.20m

Remarks : Trial pit terminated at 3.2m bGL.

Checked By: RL

Scale 1:18

GAUK-TP PID April 2008

Golder Associates	**Client :** Hanson Cement	**Hole No.** **TP9**
Site : Padeswood Works, Mold, Flintshire, CH7 4HB	**Project :** Padeswood Works Site Investigation	**Project No :** 1773079
Equipment & Methods : JCB 3CX	**Contractor :** CC Ground Investigation **Date Started :** 10/05/2017 **Completed :** **Logged by :** TF	**Ground Level :** 109.30 m **Co-ordinates :** E 329317.4 N 362232.5

WATER/ PROGRESS	SAMPLES		STRATA RECORD				
	Depth (m)	Type	PID Results (ppm)	Level (mAOD)	Legend	Depth (Thickness) m	Description
	0.20	ES	0.00	109.00		(0.30)	Dark brown, slightly silty, slightly gravelly, SAND. Gravel is fine, angular to subangular, of limestone. Frequent rootlets. Frequent angular to subangular cobbles of limestone and occasional brick fragments. [TOPSOIL] No visual or olfactory evidence of contamination.
	1.20	ES	0.00	108.00		0.30 (1.00) 1.30	Dark brown, slightly silty, slightly gravelly, SAND. Gravel is fine, angular to subangular limestone. Frequent angular to subangular cobbles of strong limestone and rare angular to subangular cobbles of concrete. Frequent fragments of black plastic sheeting. No brick fragments. [MADE GROUND] No visual or olfactory evidence of contamination.
							End of Hole at 1.30m

Remarks : Refusal in hard ground at 1.3m bGL. Trial pit terminated.

Checked By: RL

Scale 1:18

GAUK-TP PID April 2008

Golder Associates	**Client :** Hanson Cement	**Hole No.** **TP10**
Site : Padeswood Works, Mold, Flintshire, CH7 4HB	**Project :** Padeswood Works Site Investigation	**Project No :** 1773079
Equipment & Methods : JCB 3CX	**Contractor :** CC Ground Investigation **Date Started :** 10/05/2017 **Completed :** **Logged by :** TF	**Ground Level :** 108.31 m **Co-ordinates :** E 329303.7 N 362236.1

WATER/ PROGRESS	SAMPLES		STRATA RECORD				
	Depth (m)	Type	PID Results (ppm)	Level (mAOD)	Legend	Depth (Thickness) m	Description
						(0.50)	Blackish dark brown to black, slightly silty, slightly gravelly, ashy, SAND. Gravel is fine, angular to subangular, of limestone. Frequent angular to subangular cobbles of strong limestone and rare angular to subangular cobbles of concrete and occasional small (< 2 cm) fragments of coal. [MADE GROUND] No visual or olfactory evidence of contamination.
				107.81		0.50	
						(0.40)	Reddish brown slightly gravelly SAND. Sand is medium grained. Gravel is fine, angular to subangular limestone. Frequent angular to subangular to subrounded cobbles of limestone. Rare rootlets and occasional fragments of decaying wood. [MADE GROUND] No visual or olfactory evidence of contamination.
	0.80	ES	0.00	107.41		0.90	
							End of Hole at 0.90m

Remarks : Trial pit excavated on the incline to provide information and environmental sample at lower elevation than TP9. Excavation terminated at 0.9 m bGL depth to avoid slope instability.

Checked By: RL

Scale 1:18

GAUK-TP PID April 2008

Golder Associates	**Client :** Hanson Cement	**Hole No.** **TP11**
Site : Padeswood Works, Mold, Flintshire, CH7 4HB	**Project :** Padeswood Works Site Investigation	**Project No :** 1773079
Equipment & Methods : JCB 3CX	**Contractor :** CC Ground Investigation **Date Started :** 10/05/2017 **Completed :** **Logged by :** TF	**Ground Level :** 107.44 m **Co-ordinates :** E 329392.0 N 362174.8

WATER/ PROGRESS	SAMPLES		STRATA RECORD				
	Depth (m)	Type	PID Results (ppm)	Level (mAOD)	Legend	Depth (Thickness) m	Description
				107.34		0.10	Greyish brown, slightly silty, slightly gravelly SAND with many rootlets. [TOPSOIL] No visual or olfactory evidence of contamination.
	0.30	ES	0.00	107.04		(0.30) 0.40	Brownish grey, silty, very gravelly SAND. Gravel is fine to medium to coarse, angular to subangular to subrounded. Frequent angular to subangular cobbles of limestone and frequent rootlets. [MADE GROUND] 3 no. railway sleepers from 0.1 to 0.2 m depth. No visual or olfactory evidence of contamination.
	1.00	ES	0.00	106.04		(1.00) 1.40	Dark brown, very clayey, very silty, slightly gravelly, SAND. Sand is fine grained. Gravel is medium, angular to subangular, of limestone. Occasional rootlets. Frequent, becoming rare with depth, angular to subangular cobbles of limestone. [MADE GROUND] No visual evidence of anthropogenic material. No visual or olfactory evidence of contamination.
			0.00	104.54		(1.50) 2.90	Yellowish brown becoming brown with depth, very sandy, very gravelly, dry to moist CLAY. Frequent subangular to subrounded pebbles of quartz and occasional subangular pebbles of limestone and flint. Occasional to frequent small (< 1 cm) fragments of coal. [MADE GROUND] No visual evidence of contamination. Slight, very mild, natural organic odour.
			0.00				End of Hole at 2.90m

Remarks : Trial pit terminated at 2.9m bGL.

Checked By: RL

Scale 1:18

GAUK-TP PID April 2008

Golder Associates	Client : Hanson Cement	Hole No. **TP12**
Site : Padeswood Works, Mold, Flintshire, CH7 4HB	**Project :** Padeswood Works Site Investigation	**Project No :** 1773079
Equipment & Methods : JCB 3CX	**Contractor :** CC Ground Investigation **Date Started :** 10/05/2017 **Completed :** **Logged by :** TF	**Ground Level :** 107.16 m **Co-ordinates :** E 329353.4 N 362194.4

WATER/ PROGRESS	SAMPLES		STRATA RECORD				
	Depth (m)	Type	PID Results (ppm)	Level (mAOD)	Legend	Depth (Thickness) m	Description
				107.06		0.10	Greyish brown, slightly silty, slightly gravelly SAND with many rootlets. [TOPSOIL] No visual or olfactory evidence of contamination.
	0.50	ES	10.60			(0.70)	Brownish grey, silty, very gravelly, ashy, SAND. Sand is fine grained. Gravel is fine to coarse, angular to subrounded. Frequent angular to subangular cobbles of limestone and frequent rootlets. [MADE GROUND] No visual or olfactory evidence of contamination.
				106.36		0.80	
				106.26		0.90	Black, silty, ashy SAND with frequent coal fragments. [MADE GROUND]
	1.00	ES					Dark brown, mottled yellow and grey in places, slightly silty, moist SAND. Sand is fine grained. Frequent small round to subrounded pebbles of quartz and small fragments of weathered coal. Occasional subangular to subrounded cobbles of weathered concrete and rare subangular to subrounded cobbles of limestone. [MADE GROUND] No visual or olfactory evidence of contamination. From 2.8 m depth: becoming wet.
	1.70	ES	0.00			(2.10)	
				104.16		3.00	End of Hole at 3.00m

Remarks : Trial pit terminated at 3.0m bGL.

Checked By: RL

Scale 1:18

GAUK-TP PID April 2008

APPENDIX E

Photographs of the Trial Pit Arisings

TRIAL PIT 1

Figure 1: TP1 at 0.0 - 0.5 m below ground level

Figure 2: TP1 at 0.5 - 1.5 m below ground level

Figure 3: TP1 at 1.5 - 3.1 m below ground level

TRIAL PIT 2

Figure 4: TP2 at 0.0 - 0.4 m below ground level

Figure 5: TP2 at 0.4 - 3.0 m below ground level

TRIAL PIT 3

Figure 6: TP3 at 0.0 - 0.4 m below ground level

Figure 7: TP3 at 0.4 - 3.1 m below ground level

TRIAL PIT 4

Figure 8: TP4 at 0.0 - 0.3 m below ground level

Figure 9: TP4 at 0.3 - 0.5 m below ground level

Figure 10: Excavated TP4

TRIAL PIT 5

Figure 11: TP5 at 0.0 - 3.3 m below ground level

TRIAL PIT 6

Figure 12: TP6 at 0.0 - 2.5 m below ground level

TRIAL PIT 7

Figure 13: TP7 at 0.0 - 2.6 m below ground level

TRIAL PIT 8

Figure 14: TP8 at 0.0 - 3.2 m below ground level

TRIAL PIT 9

Figure 15: TP9 at 0.0 - 0.3 m below ground level

Figure 16: TP9 at 0.3 - 1.3 m below ground level

TRIAL PIT 10

Figure 17: TP10 at 0.0 - 0.5 m below ground level

Figure 18: TP10 at 0.5 - 0.9 m below ground level

TRIAL PIT 11

Figure 19: TP11 at 0.1 - 0.4 m below ground level

Figure 20: TP11 at 0.4 - 1.4 m below ground level

Figure 21: TP11 at 1.4 - 2.9 m below ground level

TRIAL PIT 12

Figure 22: TP12 at 0.1 - 0.8 m below ground level

Figure 23: TP12 at 0.8 - 3.0 m below ground level

APPENDIX F

Results of Soil Laboratory Analysis (Laboratory Certificates)

Exova Jones Environmental

Registered Address : Exova (UK) Ltd, Lochend Industrial Estate, Newbridge, Midlothian, EH28 8PL

Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

Tel: +44 (0) 1244 833780
Fax: +44 (0) 1244 833781

Golder Associates Ltd
Golder House
Tadcaster Enterprise Park
Station Road
Tadcaster
LS24 9JF

Attention :	Teresa Fernandes
Date :	23rd May, 2017
Your reference :	1773079
Our reference :	Test Report 17/8521 Batch 1
Location :	Padeswood
Date samples received :	13th May, 2017
Status :	Final report
Issue :	1

Twenty three samples were received for analysis on 13th May, 2017 of which twenty three were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Compiled By:

Simon Gomery BSc
Project Manager

Client Name: Golder Associates Ltd
Reference: 1773079
Location: Padeswood
Contact: Teresa Fernandes
JE Job No.: 17/8521

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	1-2	3-5	6-7	8-10	11-13	14-16	17-19	20-22	23-25	26-28	LOD/LOR	Units	Method No.
Sample ID	TP1	TP1	TP2	TP2	TP3	TP3	TP4	TP5	TP5	TP6			
Depth	1.0	2.5	0.3	2.0	1.5	3.0	0.4	1.5	3.0	1.0			
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J	V J	V J	V J			
Sample Date	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017			
Antimony	-	1	-	2	2	-	2	1	5	<1	<1	mg/kg	TM30/PM15
Arsenic #	6.6	11.6	7.6	8.1	13.2	11.9	9.1	6.2	7.9	8.1	<0.5	mg/kg	TM30/PM15
Barium #	108	112	134	101	122	145	235	95	128	96	<1	mg/kg	TM30/PM15
Beryllium	0.8	0.8	1.2	0.7	0.9	1.1	1.2	0.6	1.0	0.5	<0.5	mg/kg	TM30/PM15
Cadmium #	1.3	0.9	1.3	0.8	1.2	1.5	2.6	0.9	0.7	1.0	<0.1	mg/kg	TM30/PM15
Chromium #	235.0	33.9	165.3	23.2	24.4	63.9	32.6	26.1	28.8	21.5	<0.5	mg/kg	TM30/PM15
Copper #	29	23	23	20	23	30	46	17	42	16	<1	mg/kg	TM30/PM15
Lead #	117	173	121	97	203	167	240	73	73	155	<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	1.1	<0.1	0.9	0.3	<0.1	0.5	<0.1	1.3	<0.1	mg/kg	TM30/PM15
Nickel #	27.6	18.0	16.5	17.9	14.4	34.7	21.5	12.7	16.5	12.6	<0.7	mg/kg	TM30/PM15
Selenium #	5	5	8	4	3	7	16	2	2	7	<1	mg/kg	TM30/PM15
Total Sulphate as SO4 #	-	1516	-	2591	3295	-	5896	1198	4010	2442	<50	mg/kg	TM50/PM29
Vanadium	28	27	66	39	22	31	34	24	26	16	<1	mg/kg	TM30/PM15
Water Soluble Boron #	-	2.0	-	3.4	4.3	-	3.6	4.7	3.8	4.9	<0.1	mg/kg	TM74/PM32
Zinc #	62	89	84	69	92	93	179	73	138	107	<5	mg/kg	TM30/PM15
Methyl Tertiary Butyl Ether #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/kg	TM15/PM10
Benzene #	<3	<3	<3	<3	13	<3	<3	<3	5	18	<3	ug/kg	TM15/PM10
Toluene #	4	<3	<3	<3	24	7	<3	9	12	23	<3	ug/kg	TM15/PM10
Ethylbenzene #	<3	<3	<3	<3	8	<3	<3	<3	<3	11	<3	ug/kg	TM15/PM10
p/m-Xylene #	7	<5	<5	<5	26	12	<5	<5	11	30	<5	ug/kg	TM15/PM10
o-Xylene #	<3	<3	<3	<3	12	6	<3	10	5	11	<3	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	89	93	88	88	84	86	95	69	80	64	<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	76	72	69	71	54	66	91	55	66	50	<0	%	TM15/PM10
TPH CWG													
Aliphatics													
>C5-C6 #	<0.1 SV	<0.1 SV	<0.1 SV	<0.1 SV	<0.1 SV	<0.1 SV	<0.1	<0.1 SV	<0.1 SV	<0.1 SV	<0.1	mg/kg	TM36/PM12
>C6-C8 #	<0.1 SV	<0.1 SV	<0.1 SV	<0.1 SV	<0.1 SV	<0.1 SV	<0.1	<0.1 SV	<0.1 SV	<0.1 SV	<0.1	mg/kg	TM36/PM12
>C8-C10	<0.1 SV	<0.1 SV	<0.1 SV	<0.1 SV	<0.1 SV	<0.1 SV	<0.1	<0.1 SV	<0.1 SV	<0.1 SV	<0.1	mg/kg	TM36/PM12
>C10-C12 #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM16
>C12-C16 #	<4	<4	<4	<4	<4	<4	<4	7	8	<4	<4	mg/kg	TM5/PM16
>C16-C21 #	<7	<7	<7	<7	<7	<7	<7	18	50	<7	<7	mg/kg	TM5/PM16
>C21-C35 #	40	29	58	46	<7	135	<7	255	408	40	<7	mg/kg	TM5/PM16
Total aliphatics C5-35	40	29	58	46	<19	135	<19	280	466	40	<19	mg/kg	TM5/TM36/PM12/PM16

Please see attached notes for all abbreviations and acronyms

Client Name: Golder Associates Ltd
Reference: 1773079
Location: Padeswood
Contact: Teresa Fernandes
JE Job No.: 17/8521

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	1-2	3-5	6-7	8-10	11-13	14-16	17-19	20-22	23-25	26-28	LOD/LOR	Units	Method No.
Sample ID	TP1	TP1	TP2	TP2	TP3	TP3	TP4	TP5	TP5	TP6			
Depth	1.0	2.5	0.3	2.0	1.5	3.0	0.4	1.5	3.0	1.0			
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J	V J	V J	V J			
Sample Date	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017			
TPH CWG													
Aromatics													
>C5-EC7 #	<0.1 SV	<0.1 SV	<0.1 SV	<0.1 SV	<0.1 SV	<0.1 SV	<0.1	<0.1 SV	<0.1 SV	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC7-EC8 #	<0.1 SV	<0.1 SV	<0.1 SV	<0.1 SV	<0.1 SV	<0.1 SV	<0.1	<0.1 SV	<0.1 SV	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC8-EC10 #	<0.1 SV	<0.1 SV	<0.1 SV	<0.1 SV	<0.1 SV	<0.1 SV	<0.1	<0.1 SV	<0.1 SV	<0.1 SV	<0.1	mg/kg	TM36/PM12
>EC10-EC12 #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM16
>EC12-EC16 #	<4	<4	<4	<4	<4	<4	<4	14	<4	<4	<4	mg/kg	TM5/PM16
>EC16-EC21 #	<7	<7	13	<7	<7	12	<7	42	17	<7	<7	mg/kg	TM5/PM16
>EC21-EC35 #	46	58	68	27	<7	177	<7	200	233	30	<7	mg/kg	TM5/PM16
Total aromatics C5-35 #	46	58	81	27	<19	189	<19	256	250	30	<19	mg/kg	TM5/TM36/PM12/PM16
Total aliphatics and aromatics(C5-35)	86	87	139	73	<38	324	<38	536	716	70	<38	mg/kg	TM5/TM36/PM12/PM16
Natural Moisture Content	12.0	12.6	12.0	13.6	15.3	20.5	18.7	9.3	19.9	8.8	<0.1	%	PM4/PM0
Chloride #	-	149	-	20	24	-	147	183	245	173	<2	mg/kg	TM38/PM20
Fluoride	-	2.6	-	3.3	1.3	-	<0.3	2.0	1.4	1.5	<0.3	mg/kg	TM27/PM20
Sulphate as SO4 (2:1 Ext) #	-	0.2122	-	0.2972	1.3092	-	0.0101	0.3097	0.2219	0.6493	<0.0015	g/l	TM38/PM20
Total Organic Carbon #	-	2.18	-	1.94	2.74	-	1.70	11.05	3.49	2.19	<0.02	%	TM21/PM24
Total Alkalinity as CaCO3	-	380	-	440	280	-	6400	320	1000	350	<10	mg/kg	TM75/PM58
pH #	11.58	9.18	9.04	10.58	9.49	12.13	12.74	8.27	10.91	10.34	<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Golder Associates Ltd
Reference: 1773079
Location: Padeswood
Contact: Teresa Fernandes
JE Job No.: 17/8521

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	29-30	31-32	33-35	36-38	39-40	41-43	44-46	47-48	49-50	51-52	LOD/LOR	Units	Method No.
Sample ID	TP6	TP7	TP7	TP8	TP8	TP9	TP9	TP10	TP11	TP11			
Depth	2.3	1.5	2.5	0.5	3.0	0.2	1.2	0.8	0.3	1.0			
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J	V J	V J	V J			
Sample Date	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	10/05/2017	10/05/2017	10/05/2017	10/05/2017	10/05/2017			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017			
Antimony	-	-	<1	2	-	-	<1	1	-	-	<1	mg/kg	TM30/PM15
Arsenic #	12.8	14.9	4.9	7.8	7.4	7.4	10.8	6.9	2.5	7.0	<0.5	mg/kg	TM30/PM15
Barium #	116	219	56	73	119	101	125	75	35	135	<1	mg/kg	TM30/PM15
Beryllium	0.8	0.8	<0.5	0.9	1.1	0.7	0.9	0.7	<0.5	0.8	<0.5	mg/kg	TM30/PM15
Cadmium #	1.1	2.7	1.6	0.1	0.2	0.6	0.9	0.6	0.4	0.1	<0.1	mg/kg	TM30/PM15
Chromium #	33.5	28.6	14.2	30.0	61.3	39.8	19.9	23.6	26.4	73.4	<0.5	mg/kg	TM30/PM15
Copper #	21	27	12	15	19	19	20	13	11	17	<1	mg/kg	TM30/PM15
Lead #	163	448	194	48	30	100	122	53	34	34	<5	mg/kg	TM30/PM15
Mercury #	1.9	15.6	0.7	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM30/PM15
Nickel #	15.1	14.6	10.1	15.5	24.3	16.4	17.6	12.8	8.4	22.1	<0.7	mg/kg	TM30/PM15
Selenium #	4	17	2	1	<1	3	4	3	<1	1	<1	mg/kg	TM30/PM15
Total Sulphate as SO4 #	-	-	2070	300	-	-	5156	1239	-	-	<50	mg/kg	TM50/PM29
Vanadium	27	28	11	27	34	20	22	17	10	27	<1	mg/kg	TM30/PM15
Water Soluble Boron #	-	-	2.7	0.5	-	-	3.4	1.8	-	-	<0.1	mg/kg	TM74/PM32
Zinc #	62	99	94	61	61	58	78	49	27	58	<5	mg/kg	TM30/PM15
Methyl Tertiary Butyl Ether #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/kg	TM15/PM10
Benzene #	10	12	<3	<3	4	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
Toluene #	21	25	8	<3	9	<3	3	<3	<3	<3	<3	ug/kg	TM15/PM10
Ethylbenzene #	11	15	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
p/m-Xylene #	35	39	8	<5	8	<5	<5	<5	<5	<5	<5	ug/kg	TM15/PM10
o-Xylene #	16	16	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	70	69	83	98	83	93	96	96	99	94	<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	52	53	54	101	55	73	80	88	106	92	<0	%	TM15/PM10
TPH CWG													
Aliphatics													
>C5-C6 #	<0.1 SV	<0.1 SV	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C6-C8 #	<0.1 SV	<0.1 SV	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C8-C10	<0.1 SV	<0.1 SV	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>C10-C12 #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM16
>C12-C16 #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM16
>C16-C21 #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM16
>C21-C35 #	47	<7	16	<7	<7	28	<7	<7	<7	<7	<7	mg/kg	TM5/PM16
Total aliphatics C5-35	47	<19	<19	<19	<19	28	<19	<19	<19	<19	<19	mg/kg	TM5/TM36/PM12/PM16

Please see attached notes for all abbreviations and acronyms

Client Name: Golder Associates Ltd
Reference: 1773079
Location: Padeswood
Contact: Teresa Fernandes
JE Job No.: 17/8521

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	29-30	31-32	33-35	36-38	39-40	41-43	44-46	47-48	49-50	51-52	LOD/LOR	Units	Method No.
Sample ID	TP6	TP7	TP7	TP8	TP8	TP9	TP9	TP10	TP11	TP11			
Depth	2.3	1.5	2.5	0.5	3.0	0.2	1.2	0.8	0.3	1.0			
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J	V J	V J	V J			
Sample Date	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	10/05/2017	10/05/2017	10/05/2017	10/05/2017	10/05/2017			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017			
TPH CWG													
Aromatics													
>C5-EC7 #	<0.1 SV	<0.1 SV	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC7-EC8 #	<0.1 SV	<0.1 SV	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC8-EC10 #	<0.1 SV	<0.1 SV	<0.1 SV	<0.1	<0.1	<0.1 SV	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM36/PM12
>EC10-EC12 #	3.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM16
>EC12-EC16 #	12	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM16
>EC16-EC21 #	60	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	mg/kg	TM5/PM16
>EC21-EC35 #	159	<7	<7	<7	<7	39	<7	<7	<7	<7	<7	mg/kg	TM5/PM16
Total aromatics C5-35 #	234	<19	<19	<19	<19	39	<19	<19	<19	<19	<19	mg/kg	TM5/TM36/PM12/PM16
Total aliphatics and aromatics(C5-35)	281	<38	<38	<38	<38	67	<38	<38	<38	<38	<38	mg/kg	TM5/TM36/PM12/PM16
Natural Moisture Content	12.7	23.3	8.2	15.5	18.6	8.4	9.8	8.5	5.0	17.5	<0.1	%	PM4/PM0
Chloride #	-	-	91	44	-	-	48	32	-	-	<2	mg/kg	TM38/PM20
Fluoride	-	-	1.9	2.7	-	-	0.9	0.9	-	-	<0.3	mg/kg	TM27/PM20
Sulphate as SO4 (2:1 Ext) #	-	-	0.4711	0.0505	-	-	0.3064	0.0919	-	-	<0.0015	g/l	TM38/PM20
Total Organic Carbon #	-	-	0.49	0.39	-	-	1.80	0.14	-	-	<0.02	%	TM21/PM24
Total Alkalinity as CaCO3	-	-	350	400	-	-	870	590	-	-	<10	mg/kg	TM75/PM58
pH #	10.61	9.92	10.53	8.24	8.47	10.85	11.06	11.29	8.98	7.71	<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Golder Associates Ltd
Reference: 1773079
Location: Padeswood
Contact: Teresa Fernandes
JE Job No.: 17/8521

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

J E Sample No.	53-54	55-56	57-58									
Sample ID	TP12	TP12	TP12									
Depth	0.5	1.0	1.7									
COC No / misc												
Containers	V J	V J	V J									
Sample Date	10/05/2017	10/05/2017	10/05/2017									
Sample Type	Soil	Soil	Soil									
Batch Number	1	1	1									
Date of Receipt	13/05/2017	13/05/2017	13/05/2017									

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
Antimony	-	-	-								<1	mg/kg	TM30/PM15
Arsenic #	5.5	8.7	6.6								<0.5	mg/kg	TM30/PM15
Barium #	106	172	61								<1	mg/kg	TM30/PM15
Beryllium	0.7	1.2	0.6								<0.5	mg/kg	TM30/PM15
Cadmium #	0.8	0.2	<0.1								<0.1	mg/kg	TM30/PM15
Chromium #	37.8	66.3	66.0								<0.5	mg/kg	TM30/PM15
Copper #	19	23	13								<1	mg/kg	TM30/PM15
Lead #	64	20	18								<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1								<0.1	mg/kg	TM30/PM15
Nickel #	14.7	27.9	10.9								<0.7	mg/kg	TM30/PM15
Selenium #	<1	<1	<1								<1	mg/kg	TM30/PM15
Total Sulphate as SO4 #	-	-	-								<50	mg/kg	TM50/PM29
Vanadium	21	27	25								<1	mg/kg	TM30/PM15
Water Soluble Boron #	-	-	-								<0.1	mg/kg	TM74/PM32
Zinc #	155	80	31								<5	mg/kg	TM30/PM15
Methyl Tertiary Butyl Ether #	<2	<2	<2								<2	ug/kg	TM15/PM10
Benzene #	<3	<3	<3								<3	ug/kg	TM15/PM10
Toluene #	<3	<3	<3								<3	ug/kg	TM15/PM10
Ethylbenzene #	<3	<3	<3								<3	ug/kg	TM15/PM10
p/m-Xylene #	<5	<5	<5								<5	ug/kg	TM15/PM10
o-Xylene #	<3	<3	<3								<3	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	88	98	103								<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	85	100	114								<0	%	TM15/PM10
TPH CWG													
Aliphatics													
>C5-C6 #	<0.1	<0.1	<0.1								<0.1	mg/kg	TM36/PM12
>C6-C8 #	<0.1	<0.1	<0.1								<0.1	mg/kg	TM36/PM12
>C8-C10	0.2	0.1	<0.1								<0.1	mg/kg	TM36/PM12
>C10-C12 #	16.0	<0.2	<0.2								<0.2	mg/kg	TM5/PM16
>C12-C16 #	327	24	<4								<4	mg/kg	TM5/PM16
>C16-C21 #	962	57	<7								<7	mg/kg	TM5/PM16
>C21-C35 #	500	18	<7								<7	mg/kg	TM5/PM16
Total aliphatics C5-35	1805	99	<19								<19	mg/kg	TM5/TM36/PM12/PM16

Client Name: Golder Associates Ltd
Reference: 1773079
Location: Padeswood
Contact: Teresa Fernandes
JE Job No.: 17/8521

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

J E Sample No.	53-54	55-56	57-58								LOD/LOR	Units	Method No.
Sample ID	TP12	TP12	TP12										
Depth	0.5	1.0	1.7										
COC No / misc													
Containers	V J	V J	V J										
Sample Date	10/05/2017	10/05/2017	10/05/2017										
Sample Type	Soil	Soil	Soil										
Batch Number	1	1	1										
Date of Receipt	13/05/2017	13/05/2017	13/05/2017										
TPH CWG													
Aromatics													
>C5-EC7 #	<0.1	<0.1	<0.1								<0.1	mg/kg	TM36/PM12
>EC7-EC8 #	<0.1	<0.1	<0.1								<0.1	mg/kg	TM36/PM12
>EC8-EC10 #	<0.1	<0.1	<0.1								<0.1	mg/kg	TM36/PM12
>EC10-EC12 #	5.4	<0.2	<0.2								<0.2	mg/kg	TM5/PM16
>EC12-EC16 #	125	9	<4								<4	mg/kg	TM5/PM16
>EC16-EC21 #	405	33	<7								<7	mg/kg	TM5/PM16
>EC21-EC35 #	274	8	<7								<7	mg/kg	TM5/PM16
Total aromatics C5-35 #	809	50	<19								<19	mg/kg	TM5/TM36/PM12/PM16
Total aliphatics and aromatics(C5-35)	2614	149	<38								<38	mg/kg	TM5/TM36/PM12/PM16
Natural Moisture Content	15.1	14.8	16.5								<0.1	%	PM4/PM0
Chloride #	-	-	-								<2	mg/kg	TM38/PM20
Fluoride	-	-	-								<0.3	mg/kg	TM27/PM20
Sulphate as SO4 (2:1 Ext) #	-	-	-								<0.0015	g/l	TM38/PM20
Total Organic Carbon #	-	-	-								<0.02	%	TM21/PM24
Total Alkalinity as CaCO3	-	-	-								<10	mg/kg	TM75/PM58
pH #	10.56	8.47	8.14								<0.01	pH units	TM73/PM11

Client Name: Golder Associates Ltd
Reference: 1773079
Location: Padeswood
Contact: Teresa Fernandes
JE Job No.: 17/8521

SVOC Report : **Solid**

J E Sample No.	1-2	3-5	6-7	8-10	11-13	14-16	17-19	20-22	23-25	26-28	LOD/LOR	Units	Method No.
Sample ID	TP1	TP1	TP2	TP2	TP3	TP3	TP4	TP5	TP5	TP6			
Depth	1.0	2.5	0.3	2.0	1.5	3.0	0.4	1.5	3.0	1.0			
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J	V J	V J	V J			
Sample Date	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017			
SVOC MS													
Phenols													
2-Chlorophenol #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
2-Methylphenol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
2-Nitrophenol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
2,4-Dichlorophenol #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
2,4-Dimethylphenol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
2,4,5-Trichlorophenol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
2,4,6-Trichlorophenol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
4-Chloro-3-methylphenol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
4-Methylphenol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
4-Nitrophenol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Pentachlorophenol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Phenol #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
PAHs													
2-Chloronaphthalene #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
2-Methylnaphthalene #	170	37	158	14	<10	107	27	354	91	151	<10	ug/kg	TM16/PM8
Naphthalene	391	<10	290	<10	<10	304	84	570	257	198	<10	ug/kg	TM16/PM8
Acenaphthylene	151	14	50	<10	<10	59	23	65	86	<10	<10	ug/kg	TM16/PM8
Acenaphthene	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Fluorene	86	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Phenanthrene #	913	85	321	131	44	312	79	539	363	132	<10	ug/kg	TM16/PM8
Anthracene	346	29	108	36	<10	98	37	190	187	35	<10	ug/kg	TM16/PM8
Fluoranthene #	1509	198	534	332	35	413	169	831	818	94	<10	ug/kg	TM16/PM8
Pyrene #	1329	176	456	308	30	311	134	680	727	90	<10	ug/kg	TM16/PM8
Benzo(a)anthracene	561	80	269	234	<10	166	59	494	459	27	<10	ug/kg	TM16/PM8
Chrysene	760	97	319	259	<10	163	68	526	557	44	<10	ug/kg	TM16/PM8
Benzo(bk)fluoranthene	1026	72	535	545	<10	362	29	868	980	<10	<10	ug/kg	TM16/PM8
Benzo(a)pyrene	676	73	325	264	<10	147	36	483	558	<10	<10	ug/kg	TM16/PM8
Indeno(123cd)pyrene	301	25	177	123	<10	137	<10	239	252	<10	<10	ug/kg	TM16/PM8
Dibenzo(ah)anthracene	90	<10	38	21	<10	<10	<10	69	46	<10	<10	ug/kg	TM16/PM8
Benzo(ghi)perylene	452	134	326	219	<10	161	<10	399	372	<10	<10	ug/kg	TM16/PM8
Benzo(b)fluoranthene	739	52	385	392	<10	261	21	625	706	<10	<10	ug/kg	TM16/PM8
Benzo(k)fluoranthene	287	20	150	153	<10	101	<10	243	274	<10	<10	ug/kg	TM16/PM8
Phthalates													
Bis(2-ethylhexyl) phthalate	<100	<100	124	<100	<100	213	<100	120	230	170	<100	ug/kg	TM16/PM8
Butylbenzyl phthalate	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	ug/kg	TM16/PM8
Di-n-butyl phthalate	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	ug/kg	TM16/PM8
Di-n-Octyl phthalate	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	ug/kg	TM16/PM8
Diethyl phthalate	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	ug/kg	TM16/PM8
Dimethyl phthalate #	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	ug/kg	TM16/PM8

Please see attached notes for all abbreviations and acronyms

Client Name: Golder Associates Ltd
Reference: 1773079
Location: Padeswood
Contact: Teresa Fernandes
JE Job No.: 17/8521

SVOC Report : **Solid**

J E Sample No.	1-2	3-5	6-7	8-10	11-13	14-16	17-19	20-22	23-25	26-28	LOD/LOR	Units	Method No.
Sample ID	TP1	TP1	TP2	TP2	TP3	TP3	TP4	TP5	TP5	TP6			
Depth	1.0	2.5	0.3	2.0	1.5	3.0	0.4	1.5	3.0	1.0			
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J	V J	V J	V J			
Sample Date	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017			
SVOC MS													
Other SVOCs													
1,2-Dichlorobenzene	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
1,2,4-Trichlorobenzene #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
1,3-Dichlorobenzene	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
1,4-Dichlorobenzene	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
2-Nitroaniline	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
2,4-Dinitrotoluene	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
2,6-Dinitrotoluene	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
3-Nitroaniline	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
4-Bromophenylphenylether #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
4-Chloroaniline	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
4-Chlorophenylphenylether	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
4-Nitroaniline	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Azobenzene	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Bis(2-chloroethoxy)methane	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Bis(2-chloroethyl)ether	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Carbazole	112	<10	<10	<10	<10	41	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Dibenzofuran #	124	17	99	<10	<10	77	<10	143	69	97	<10	ug/kg	TM16/PM8
Hexachlorobenzene	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Hexachlorobutadiene #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Hexachlorocyclopentadiene	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Hexachloroethane	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Isophorone #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
N-nitrosodi-n-propylamine #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Nitrobenzene #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Surrogate Recovery 2-Fluorobiphenyl	111	119	116	96	118	105	63 SV	108	100	98	<0	%	TM16/PM8
Surrogate Recovery p-Terphenyl-d14	126	116	122	125	110	128	63 SV	128	128	122	<0	%	TM16/PM8

Please see attached notes for all abbreviations and acronyms

Client Name: Golder Associates Ltd
Reference: 1773079
Location: Padeswood
Contact: Teresa Fernandes
JE Job No.: 17/8521

SVOC Report : **Solid**

J E Sample No.	29-30	31-32	33-35	36-38	39-40	41-43	44-46	47-48	49-50	51-52			
Sample ID	TP6	TP7	TP7	TP8	TP8	TP9	TP9	TP10	TP11	TP11			
Depth	2.3	1.5	2.5	0.5	3.0	0.2	1.2	0.8	0.3	1.0	Please see attached notes for all abbreviations and acronyms		
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J	V J	V J	V J			
Sample Date	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	10/05/2017	10/05/2017	10/05/2017	10/05/2017	10/05/2017			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1	LOD/LOR	Units	Method No.
Date of Receipt	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017			
SVOC MS													
Phenols													
2-Chlorophenol #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
2-Methylphenol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
2-Nitrophenol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
2,4-Dichlorophenol #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
2,4-Dimethylphenol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
2,4,5-Trichlorophenol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
2,4,6-Trichlorophenol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
4-Chloro-3-methylphenol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
4-Methylphenol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
4-Nitrophenol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Pentachlorophenol	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Phenol #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
PAHs													
2-Chloronaphthalene #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
2-Methylnaphthalene #	116	74	94	<10	<10	76	52	59	86	<10	<10	ug/kg	TM16/PM8
Naphthalene	152	141	74	<10	<10	93	113	64	50	<10	<10	ug/kg	TM16/PM8
Acenaphthylene	<10	<10	<10	<10	<10	<10	13	<10	18	<10	<10	ug/kg	TM16/PM8
Acenaphthene	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Fluorene	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Phenanthrene #	124	60	62	19	<10	96	75	60	55	<10	<10	ug/kg	TM16/PM8
Anthracene	28	<10	<10	<10	<10	15	26	14	47	<10	<10	ug/kg	TM16/PM8
Fluoranthene #	135	<10	25	56	<10	88	120	34	63	20	<10	ug/kg	TM16/PM8
Pyrene #	134	<10	27	57	<10	75	104	33	65	20	<10	ug/kg	TM16/PM8
Benzo(a)anthracene	83	<10	<10	31	<10	42	77	<10	20	<10	<10	ug/kg	TM16/PM8
Chrysene	107	<10	<10	30	<10	44	68	<10	30	<10	<10	ug/kg	TM16/PM8
Benzo(bk)fluoranthene	140	<10	<10	<10	<10	<10	71	<10	<10	<10	<10	ug/kg	TM16/PM8
Benzo(a)pyrene	98	<10	<10	<10	<10	<10	52	<10	<10	<10	<10	ug/kg	TM16/PM8
Indeno(123cd)pyrene	100	<10	<10	<10	<10	<10	26	<10	<10	<10	<10	ug/kg	TM16/PM8
Dibenzo(ah)anthracene	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Benzo(ghi)perylene	121	<10	<10	<10	<10	<10	45	<10	<10	<10	<10	ug/kg	TM16/PM8
Benzo(b)fluoranthene	101	<10	<10	<10	<10	<10	51	<10	<10	<10	<10	ug/kg	TM16/PM8
Benzo(k)fluoranthene	39	<10	<10	<10	<10	<10	20	<10	<10	<10	<10	ug/kg	TM16/PM8
Phthalates													
Bis(2-ethylhexyl) phthalate	<100	<100	<100	<100	<100	474	<100	<100	<100	<100	<100	ug/kg	TM16/PM8
Butylbenzyl phthalate	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	ug/kg	TM16/PM8
Di-n-butyl phthalate	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	ug/kg	TM16/PM8
Di-n-Octyl phthalate	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	ug/kg	TM16/PM8
Diethyl phthalate	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	ug/kg	TM16/PM8
Dimethyl phthalate #	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	ug/kg	TM16/PM8

Client Name: Golder Associates Ltd
Reference: 1773079
Location: Padeswood
Contact: Teresa Fernandes
JE Job No.: 17/8521

SVOC Report : **Solid**

J E Sample No.	29-30	31-32	33-35	36-38	39-40	41-43	44-46	47-48	49-50	51-52			
Sample ID	TP6	TP7	TP7	TP8	TP8	TP9	TP9	TP10	TP11	TP11			
Depth	2.3	1.5	2.5	0.5	3.0	0.2	1.2	0.8	0.3	1.0	Please see attached notes for all abbreviations and acronyms		
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J	V J	V J	V J			
Sample Date	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	10/05/2017	10/05/2017	10/05/2017	10/05/2017	10/05/2017			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	LOD/LOR	Units	Method No.
SVOC MS													
Other SVOCs													
1,2-Dichlorobenzene	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
1,2,4-Trichlorobenzene #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
1,3-Dichlorobenzene	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
1,4-Dichlorobenzene	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
2-Nitroaniline	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
2,4-Dinitrotoluene	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
2,6-Dinitrotoluene	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
3-Nitroaniline	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
4-Bromophenylphenylether #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
4-Chloroaniline	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
4-Chlorophenylphenylether	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
4-Nitroaniline	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Azobenzene	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Bis(2-chloroethoxy)methane	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Bis(2-chloroethyl)ether	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Carbazole	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Dibenzofuran #	74	105	38	<10	<10	38	27	27	<10	<10	<10	ug/kg	TM16/PM8
Hexachlorobenzene	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Hexachlorobutadiene #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Hexachlorocyclopentadiene	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Hexachloroethane	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Isophorone #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
N-nitrosodi-n-propylamine #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Nitrobenzene #	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	ug/kg	TM16/PM8
Surrogate Recovery 2-Fluorobiphenyl	104	102	106	118	93	110	114	107	102	112	<0	%	TM16/PM8
Surrogate Recovery p-Terphenyl-d14	124	109	122	102	121	115	121	112	96	117	<0	%	TM16/PM8

Client Name: Golder Associates Ltd
Reference: 1773079
Location: Padeswood
Contact: Teresa Fernandes
JE Job No.: 17/8521

SVOC Report : **Solid**

J E Sample No.	53-54	55-56	57-58									
Sample ID	TP12	TP12	TP12									
Depth	0.5	1.0	1.7									
COC No / misc												
Containers	V J	V J	V J									
Sample Date	10/05/2017	10/05/2017	10/05/2017									
Sample Type	Soil	Soil	Soil									
Batch Number	1	1	1									
Date of Receipt	13/05/2017	13/05/2017	13/05/2017									

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
SVOC MS													
Phenols													
2-Chlorophenol #	<10	<10	<10								<10	ug/kg	TM16/PM8
2-Methylphenol	<10	<10	<10								<10	ug/kg	TM16/PM8
2-Nitrophenol	<10	<10	<10								<10	ug/kg	TM16/PM8
2,4-Dichlorophenol #	<10	<10	<10								<10	ug/kg	TM16/PM8
2,4-Dimethylphenol	<10	<10	<10								<10	ug/kg	TM16/PM8
2,4,5-Trichlorophenol	<10	<10	<10								<10	ug/kg	TM16/PM8
2,4,6-Trichlorophenol	<10	<10	<10								<10	ug/kg	TM16/PM8
4-Chloro-3-methylphenol	<10	<10	<10								<10	ug/kg	TM16/PM8
4-Methylphenol	<10	<10	<10								<10	ug/kg	TM16/PM8
4-Nitrophenol	<10	<10	<10								<10	ug/kg	TM16/PM8
Pentachlorophenol	<10	<10	<10								<10	ug/kg	TM16/PM8
Phenol #	<10	<10	<10								<10	ug/kg	TM16/PM8
PAHs													
2-Chloronaphthalene #	<10	<10	<10								<10	ug/kg	TM16/PM8
2-Methylnaphthalene #	1034	<10	<10								<10	ug/kg	TM16/PM8
Naphthalene	472	<10	<10								<10	ug/kg	TM16/PM8
Acenaphthylene	<10	<10	<10								<10	ug/kg	TM16/PM8
Acenaphthene	<10	<10	<10								<10	ug/kg	TM16/PM8
Fluorene	<10	<10	<10								<10	ug/kg	TM16/PM8
Phenanthrene #	1348	<10	<10								<10	ug/kg	TM16/PM8
Anthracene	151	<10	<10								<10	ug/kg	TM16/PM8
Fluoranthene #	380	<10	<10								<10	ug/kg	TM16/PM8
Pyrene #	624	<10	<10								<10	ug/kg	TM16/PM8
Benzo(a)anthracene	153	<10	<10								<10	ug/kg	TM16/PM8
Chrysene	281	<10	<10								<10	ug/kg	TM16/PM8
Benzo(bk)fluoranthene	186	<10	<10								<10	ug/kg	TM16/PM8
Benzo(a)pyrene	78	<10	<10								<10	ug/kg	TM16/PM8
Indeno(123cd)pyrene	36	<10	<10								<10	ug/kg	TM16/PM8
Dibenzo(ah)anthracene	14	<10	<10								<10	ug/kg	TM16/PM8
Benzo(ghi)perylene	101	<10	<10								<10	ug/kg	TM16/PM8
Benzo(b)fluoranthene	134	<10	<10								<10	ug/kg	TM16/PM8
Benzo(k)fluoranthene	52	<10	<10								<10	ug/kg	TM16/PM8
Phthalates													
Bis(2-ethylhexyl) phthalate	490	<100	<100								<100	ug/kg	TM16/PM8
Butylbenzyl phthalate	<100	<100	<100								<100	ug/kg	TM16/PM8
Di-n-butyl phthalate	<100	<100	<100								<100	ug/kg	TM16/PM8
Di-n-Octyl phthalate	<100	<100	<100								<100	ug/kg	TM16/PM8
Diethyl phthalate	<100	<100	<100								<100	ug/kg	TM16/PM8
Dimethyl phthalate #	<100	<100	<100								<100	ug/kg	TM16/PM8

Client Name: Golder Associates Ltd
Reference: 1773079
Location: Padeswood
Contact: Teresa Fernandes
JE Job No.: 17/8521

SVOC Report : **Solid**

J E Sample No.	53-54	55-56	57-58									
Sample ID	TP12	TP12	TP12									
Depth	0.5	1.0	1.7							Please see attached notes for all abbreviations and acronyms		
COC No / misc												
Containers	V J	V J	V J									
Sample Date	10/05/2017	10/05/2017	10/05/2017									
Sample Type	Soil	Soil	Soil									
Batch Number	1	1	1									
Date of Receipt	13/05/2017	13/05/2017	13/05/2017							LOD/LOR	Units	Method No.
SVOC MS												
Other SVOCs												
1,2-Dichlorobenzene	<10	<10	<10							<10	ug/kg	TM16/PM8
1,2,4-Trichlorobenzene #	<10	<10	<10							<10	ug/kg	TM16/PM8
1,3-Dichlorobenzene	<10	<10	<10							<10	ug/kg	TM16/PM8
1,4-Dichlorobenzene	<10	<10	<10							<10	ug/kg	TM16/PM8
2-Nitroaniline	<10	<10	<10							<10	ug/kg	TM16/PM8
2,4-Dinitrotoluene	<10	<10	<10							<10	ug/kg	TM16/PM8
2,6-Dinitrotoluene	<10	<10	<10							<10	ug/kg	TM16/PM8
3-Nitroaniline	<10	<10	<10							<10	ug/kg	TM16/PM8
4-Bromophenylphenylether #	<10	<10	<10							<10	ug/kg	TM16/PM8
4-Chloroaniline	<10	<10	<10							<10	ug/kg	TM16/PM8
4-Chlorophenylphenylether	<10	<10	<10							<10	ug/kg	TM16/PM8
4-Nitroaniline	<10	<10	<10							<10	ug/kg	TM16/PM8
Azobenzene	<10	<10	<10							<10	ug/kg	TM16/PM8
Bis(2-chloroethoxy)methane	<10	<10	<10							<10	ug/kg	TM16/PM8
Bis(2-chloroethyl)ether	<10	<10	<10							<10	ug/kg	TM16/PM8
Carbazole	<10	<10	<10							<10	ug/kg	TM16/PM8
Dibenzofuran #	312	<10	<10							<10	ug/kg	TM16/PM8
Hexachlorobenzene	<10	<10	<10							<10	ug/kg	TM16/PM8
Hexachlorobutadiene #	<10	<10	<10							<10	ug/kg	TM16/PM8
Hexachlorocyclopentadiene	<10	<10	<10							<10	ug/kg	TM16/PM8
Hexachloroethane	<10	<10	<10							<10	ug/kg	TM16/PM8
Isophorone #	<10	<10	<10							<10	ug/kg	TM16/PM8
N-nitrosodi-n-propylamine #	<10	<10	<10							<10	ug/kg	TM16/PM8
Nitrobenzene #	<10	<10	<10							<10	ug/kg	TM16/PM8
Surrogate Recovery 2-Fluorobiphenyl	117	115	114							<0	%	TM16/PM8
Surrogate Recovery p-Terphenyl-d14	121	128	127							<0	%	TM16/PM8

Client Name: Golder Associates Ltd
Reference: 1773079
Location: Padeswood
Contact: Teresa Fernandes
JE Job No.: 17/8521

VOC Report : **Solid**

J E Sample No.	1-2	3-5	6-7	8-10	11-13	14-16	17-19	20-22	23-25	26-28	LOD/LOR	Units	Method No.
Sample ID	TP1	TP1	TP2	TP2	TP3	TP3	TP4	TP5	TP5	TP6			
Depth	1.0	2.5	0.3	2.0	1.5	3.0	0.4	1.5	3.0	1.0			
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J	V J	V J	V J			
Sample Date	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017			
VOC MS													
Dichlorodifluoromethane	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/kg	TM15/PM10
Methyl Tertiary Butyl Ether #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/kg	TM15/PM10
Chloromethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
Vinyl Chloride	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/kg	TM15_A/PM10
Bromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	ug/kg	TM15/PM10
Chloroethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/kg	TM15/PM10
Trichlorofluoromethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/kg	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	ug/kg	TM15/PM10
Dichloromethane (DCM) #	64	<30	84	<30	<30	102	59	218	<30	187	<30	ug/kg	TM15/PM10
trans-1-2-Dichloroethene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
1,1-Dichloroethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
cis-1-2-Dichloroethene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
2,2-Dichloropropane	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
Bromochloromethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
Chloroform #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
1,1,1-Trichloroethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
1,1-Dichloropropene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
Carbon tetrachloride #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
1,2-Dichloroethane #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
Benzene #	<3	<3	<3	<3	13	<3	<3	<3	5	18	<3	ug/kg	TM15/PM10
Trichloroethene (TCE) #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
1,2-Dichloropropane #	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	ug/kg	TM15/PM10
Dibromomethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
Bromodichloromethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
cis-1-3-Dichloropropene	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
Toluene #	4	<3	<3	<3	24	7	<3	9	12	23	<3	ug/kg	TM15/PM10
trans-1-3-Dichloropropene	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
1,1,2-Trichloroethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
Tetrachloroethene (PCE) #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
1,3-Dichloropropane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
Dibromochloromethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
1,2-Dibromoethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
Chlorobenzene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
1,1,1,2-Tetrachloroethane	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
Ethylbenzene #	<3	<3	<3	<3	8	<3	<3	<3	<3	11	<3	ug/kg	TM15/PM10
p/m-Xylene #	7	<5	<5	<5	26	12	<5	<5	11	30	<5	ug/kg	TM15/PM10
o-Xylene #	<3	<3	<3	<3	12	6	<3	10	5	11	<3	ug/kg	TM15/PM10
Styrene	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15_A/PM10
Bromoform	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
Isopropylbenzene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
1,1,2,2-Tetrachloroethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
Bromobenzene	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/kg	TM15/PM10
1,2,3-Trichloropropane #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
Propylbenzene #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
2-Chlorotoluene	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
1,3,5-Trimethylbenzene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
4-Chlorotoluene	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
tert-Butylbenzene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM15/PM10
1,2,4-Trimethylbenzene #	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	ug/kg	TM15/PM10
sec-Butylbenzene #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
4-Isopropyltoluene #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
1,3-Dichlorobenzene #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
1,4-Dichlorobenzene #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
n-Butylbenzene #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
1,2-Dichlorobenzene #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
1,2-Dibromo-3-chloropropane #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
1,2,4-Trichlorobenzene #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	ug/kg	TM15/PM10
Hexachlorobutadiene	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
Naphthalene	<27	<27	<27	<27	<27	<27	<27	<27	<27	<27	<27	ug/kg	TM15/PM10
1,2,3-Trichlorobenzene #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	89	93	88	88	84	86	95	69	80	64	<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	76	72	69	71	54	66	91	55	66	50	<0	%	TM15/PM10

Please see attached notes for all abbreviations and acronyms

Client Name: Golder Associates Ltd
Reference: 1773079
Location: Padeswood
Contact: Teresa Fernandes
JE Job No.: 17/8521

VOC Report : **Solid**

J E Sample No.	29-30	31-32	33-35	36-38	39-40	41-43	44-46	47-48	49-50	51-52	LOD/LOR	Units	Method No.
Sample ID	TP6	TP7	TP7	TP8	TP8	TP9	TP9	TP10	TP11	TP11			
Depth	2.3	1.5	2.5	0.5	3.0	0.2	1.2	0.8	0.3	1.0			
COC No / misc													
Containers	V J	V J	V J	V J	V J	V J	V J	V J	V J	V J			
Sample Date	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	10/05/2017	10/05/2017	10/05/2017	10/05/2017	10/05/2017			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017			
VOC MS													
Dichlorodifluoromethane	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/kg	TM15/PM10
Methyl Tertiary Butyl Ether #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/kg	TM15/PM10
Chloromethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
Vinyl Chloride	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/kg	TM15_A/PM10
Bromomethane	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	ug/kg	TM15/PM10
Chloroethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/kg	TM15/PM10
Trichlorofluoromethane #	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/kg	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	ug/kg	TM15/PM10
Dichloromethane (DCM) #	<30	<30	64	<30	74	69	<30	50	<30	<30	<30	ug/kg	TM15/PM10
trans-1-2-Dichloroethene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
1,1-Dichloroethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
cis-1-2-Dichloroethene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
2,2-Dichloropropane	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
Bromochloromethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
Chloroform #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
1,1,1-Trichloroethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
1,1-Dichloropropene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
Carbon tetrachloride #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
1,2-Dichloroethane #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
Benzene #	10	12	<3	<3	4	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
Trichloroethene (TCE) #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
1,2-Dichloropropane #	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	ug/kg	TM15/PM10
Dibromomethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
Bromodichloromethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
cis-1-3-Dichloropropene	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
Toluene #	21	25	8	<3	9	<3	3	<3	<3	<3	<3	ug/kg	TM15/PM10
trans-1-3-Dichloropropene	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
1,1,2-Trichloroethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
Tetrachloroethene (PCE) #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
1,3-Dichloropropane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
Dibromochloromethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
1,2-Dibromoethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
Chlorobenzene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
1,1,1,2-Tetrachloroethane	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
Ethylbenzene #	11	15	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
p/m-Xylene #	35	39	8	<5	8	<5	<5	<5	<5	<5	<5	ug/kg	TM15/PM10
o-Xylene #	16	16	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
Styrene	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15_A/PM10
Bromoform	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
Isopropylbenzene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
1,1,2,2-Tetrachloroethane #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
Bromobenzene	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	ug/kg	TM15/PM10
1,2,3-Trichloropropane #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
Propylbenzene #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
2-Chlorotoluene	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
1,3,5-Trimethylbenzene #	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
4-Chlorotoluene	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	ug/kg	TM15/PM10
tert-Butylbenzene #	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ug/kg	TM15/PM10
1,2,4-Trimethylbenzene #	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	ug/kg	TM15/PM10
sec-Butylbenzene #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
4-Isopropyltoluene #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
1,3-Dichlorobenzene #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
1,4-Dichlorobenzene #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
n-Butylbenzene #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
1,2-Dichlorobenzene #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
1,2-Dibromo-3-chloropropane #	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
1,2,4-Trichlorobenzene #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	ug/kg	TM15/PM10
Hexachlorobutadiene	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	ug/kg	TM15/PM10
Naphthalene	420	<27	<27	<27	<27	<27	<27	<27	<27	<27	<27	ug/kg	TM15/PM10
1,2,3-Trichlorobenzene #	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	70	69	83	98	83	93	96	96	99	94	<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	52	53	54	101	55	73	80	88	106	92	<0	%	TM15/PM10

Please see attached notes for all abbreviations and acronyms

Client Name: Golder Associates Ltd
Reference: 1773079
Location: Padeswood
Contact: Teresa Fernandes
JE Job No.: 17/8521

VOC Report : **Solid**

J E Sample No.	53-54	55-56	57-58									
Sample ID	TP12	TP12	TP12									
Depth	0.5	1.0	1.7									
COC No / misc												
Containers	V J	V J	V J									
Sample Date	10/05/2017	10/05/2017	10/05/2017									
Sample Type	Soil	Soil	Soil									
Batch Number	1	1	1									
Date of Receipt	13/05/2017	13/05/2017	13/05/2017									
VOC MS												
Dichlorodifluoromethane	<2	<2	<2								<2	ug/kg	TM15/PM10
Methyl Tertiary Butyl Ether #	<2	<2	<2								<2	ug/kg	TM15/PM10
Chloromethane #	<3	<3	<3								<3	ug/kg	TM15/PM10
Vinyl Chloride	<2	<2	<2								<2	ug/kg	TM15_A/PM10
Bromomethane	<1	<1	<1								<1	ug/kg	TM15/PM10
Chloroethane #	<2	<2	<2								<2	ug/kg	TM15/PM10
Trichlorofluoromethane #	<2	<2	<2								<2	ug/kg	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<6	<6	<6								<6	ug/kg	TM15/PM10
Dichloromethane (DCM) #	<30	<30	<30								<30	ug/kg	TM15/PM10
trans-1-2-Dichloroethene #	<3	<3	<3								<3	ug/kg	TM15/PM10
1,1-Dichloroethane #	<3	<3	<3								<3	ug/kg	TM15/PM10
cis-1-2-Dichloroethene #	<3	<3	<3								<3	ug/kg	TM15/PM10
2,2-Dichloropropane	<4	<4	<4								<4	ug/kg	TM15/PM10
Bromochloromethane #	<3	<3	<3								<3	ug/kg	TM15/PM10
Chloroform #	<3	<3	<3								<3	ug/kg	TM15/PM10
1,1,1-Trichloroethane #	<3	<3	<3								<3	ug/kg	TM15/PM10
1,1-Dichloropropene #	<3	<3	<3								<3	ug/kg	TM15/PM10
Carbon tetrachloride #	<4	<4	<4								<4	ug/kg	TM15/PM10
1,2-Dichloroethane #	<4	<4	<4								<4	ug/kg	TM15/PM10
Benzene #	<3	<3	<3								<3	ug/kg	TM15/PM10
Trichloroethene (TCE) #	<3	<3	<3								<3	ug/kg	TM15/PM10
1,2-Dichloropropane #	<6	<6	<6								<6	ug/kg	TM15/PM10
Dibromomethane #	<3	<3	<3								<3	ug/kg	TM15/PM10
Bromodichloromethane #	<3	<3	<3								<3	ug/kg	TM15/PM10
cis-1-3-Dichloropropene	<4	<4	<4								<4	ug/kg	TM15/PM10
Toluene #	<3	<3	<3								<3	ug/kg	TM15/PM10
trans-1-3-Dichloropropene	<3	<3	<3								<3	ug/kg	TM15/PM10
1,1,2-Trichloroethane #	<3	<3	<3								<3	ug/kg	TM15/PM10
Tetrachloroethene (PCE) #	<3	<3	<3								<3	ug/kg	TM15/PM10
1,3-Dichloropropane #	<3	<3	<3								<3	ug/kg	TM15/PM10
Dibromochloromethane #	<3	<3	<3								<3	ug/kg	TM15/PM10
1,2-Dibromoethane #	<3	<3	<3								<3	ug/kg	TM15/PM10
Chlorobenzene #	<3	<3	<3								<3	ug/kg	TM15/PM10
1,1,1,2-Tetrachloroethane	<3	<3	<3								<3	ug/kg	TM15/PM10
Ethylbenzene #	<3	<3	<3								<3	ug/kg	TM15/PM10
p/m-Xylene #	<5	<5	<5								<5	ug/kg	TM15/PM10
o-Xylene #	<3	<3	<3								<3	ug/kg	TM15/PM10
Styrene	<3	<3	<3								<3	ug/kg	TM15_A/PM10
Bromoform	<3	<3	<3								<3	ug/kg	TM15/PM10
Isopropylbenzene #	<3	<3	<3								<3	ug/kg	TM15/PM10
1,1,2,2-Tetrachloroethane #	<3	<3	<3								<3	ug/kg	TM15/PM10
Bromobenzene	<2	<2	<2								<2	ug/kg	TM15/PM10
1,2,3-Trichloropropane #	<4	<4	<4								<4	ug/kg	TM15/PM10
Propylbenzene #	<4	<4	<4								<4	ug/kg	TM15/PM10
2-Chlorotoluene	<3	<3	<3								<3	ug/kg	TM15/PM10
1,3,5-Trimethylbenzene #	<3	<3	<3								<3	ug/kg	TM15/PM10
4-Chlorotoluene	<3	<3	<3								<3	ug/kg	TM15/PM10
tert-Butylbenzene #	<5	<5	<5								<5	ug/kg	TM15/PM10
1,2,4-Trimethylbenzene #	<6	<6	<6								<6	ug/kg	TM15/PM10
sec-Butylbenzene #	<4	<4	<4								<4	ug/kg	TM15/PM10
4-Isopropyltoluene #	<4	<4	<4								<4	ug/kg	TM15/PM10
1,3-Dichlorobenzene #	<4	<4	<4								<4	ug/kg	TM15/PM10
1,4-Dichlorobenzene #	<4	<4	<4								<4	ug/kg	TM15/PM10
n-Butylbenzene #	<4	<4	<4								<4	ug/kg	TM15/PM10
1,2-Dichlorobenzene #	<4	<4	<4								<4	ug/kg	TM15/PM10
1,2-Dibromo-3-chloropropane #	<4	<4	<4								<4	ug/kg	TM15/PM10
1,2,4-Trichlorobenzene #	<7	<7	<7								<7	ug/kg	TM15/PM10
Hexachlorobutadiene	<4	<4	<4								<4	ug/kg	TM15/PM10
Naphthalene	<27	<27	<27								<27	ug/kg	TM15/PM10
1,2,3-Trichlorobenzene #	<7	<7	<7								<7	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	88	98	103								<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	85	100	114								<0	%	TM15/PM10

Please see attached notes for all abbreviations and acronyms

Client Name: Golder Associates Ltd
Reference: 1773079
Location: Padeswood
Contact: Teresa Fernandes

Note:

Analysis was carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Samples are retained for not less than 6 months from the date of analysis unless specifically requested.

Opinions, including ACM type and Asbestos level, lie outside the scope of our UKAS accreditation.

Where the sample is not taken by a Jones Environmental Laboratory consultant, Jones Environmental Laboratory cannot be responsible for inaccurate or unrepresentative sampling.

Signed on behalf of Jones Environmental Laboratory:

Ryan Butterworth
Asbestos Team Leader

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Date Of Analysis	Analysis	Result
17/8521	1	TP1	2.5	4	17/05/2017	**General Description (Bulk Analysis)**	Soil/Stones
					17/05/2017	**Asbestos Fibres**	NAD
					17/05/2017	**Asbestos Fibres (2)**	NAD
					17/05/2017	**Asbestos ACM**	NAD
					17/05/2017	**Asbestos ACM (2)**	NAD
					17/05/2017	**Asbestos Type**	NAD
					17/05/2017	**Asbestos Type (2)**	NAD
					17/05/2017	**Asbestos Level Screen**	NAD
17/8521	1	TP2	2.0	9	17/05/2017	**General Description (Bulk Analysis)**	Soil/Stones
					17/05/2017	**Asbestos Fibres**	NAD
					17/05/2017	**Asbestos Fibres (2)**	NAD
					17/05/2017	**Asbestos ACM**	NAD
					17/05/2017	**Asbestos ACM (2)**	NAD
					17/05/2017	**Asbestos Type**	NAD
					17/05/2017	**Asbestos Type (2)**	NAD
					17/05/2017	**Asbestos Level Screen**	NAD
17/8521	1	TP3	1.5	12	17/05/2017	**General Description (Bulk Analysis)**	Soil/Stones
					17/05/2017	**Asbestos Fibres**	NAD
					17/05/2017	**Asbestos Fibres (2)**	NAD
					17/05/2017	**Asbestos ACM**	NAD
					17/05/2017	**Asbestos ACM (2)**	NAD
					17/05/2017	**Asbestos Type**	NAD
					17/05/2017	**Asbestos Type (2)**	NAD
					17/05/2017	**Asbestos Level Screen**	NAD
17/8521	1	TP4	0.4	18	17/05/2017	**General Description (Bulk Analysis)**	soil/stones
					17/05/2017	**Asbestos Fibres**	NAD
					17/05/2017	**Asbestos Fibres (2)**	NAD
					17/05/2017	**Asbestos ACM**	NAD
					17/05/2017	**Asbestos ACM (2)**	NAD
					17/05/2017	**Asbestos Type**	NAD
					17/05/2017	**Asbestos Type (2)**	NAD
					17/05/2017	**Asbestos Level Screen**	NAD
17/8521	1	TP5	1.5	21	17/05/2017	**General Description (Bulk Analysis)**	soil/stones
					17/05/2017	**Asbestos Fibres**	NAD
					17/05/2017	**Asbestos Fibres (2)**	NAD

Client Name: Golder Associates Ltd
Reference: 1773079
Location: Padeswood
Contact: Teresa Fernandes

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Date Of Analysis	Analysis	Result
17/8521	1	TP5	1.5	21	17/05/2017	**Asbestos ACM**	NAD
					17/05/2017	**Asbestos ACM (2)**	NAD
					17/05/2017	**Asbestos Type**	NAD
					17/05/2017	**Asbestos Type (2)**	NAD
					17/05/2017	**Asbestos Level Screen**	NAD
17/8521	1	TP5	3.0	24	17/05/2017	**General Description (Bulk Analysis)**	soil/stones
					17/05/2017	**Asbestos Fibres**	NAD
					17/05/2017	**Asbestos Fibres (2)**	NAD
					17/05/2017	**Asbestos ACM**	NAD
					17/05/2017	**Asbestos ACM (2)**	NAD
					17/05/2017	**Asbestos Type**	NAD
					17/05/2017	**Asbestos Type (2)**	NAD
					17/05/2017	**Asbestos Level Screen**	NAD
17/8521	1	TP6	1.0	27	17/05/2017	**General Description (Bulk Analysis)**	soil/stones
					17/05/2017	**Asbestos Fibres**	NAD
					17/05/2017	**Asbestos Fibres (2)**	NAD
					17/05/2017	**Asbestos ACM**	NAD
					17/05/2017	**Asbestos ACM (2)**	NAD
					17/05/2017	**Asbestos Type**	NAD
					17/05/2017	**Asbestos Type (2)**	NAD
					17/05/2017	**Asbestos Level Screen**	NAD
17/8521	1	TP7	2.5	34	17/05/2017	**General Description (Bulk Analysis)**	soil/stones
					17/05/2017	**Asbestos Fibres**	NAD
					17/05/2017	**Asbestos Fibres (2)**	NAD
					17/05/2017	**Asbestos ACM**	NAD
					17/05/2017	**Asbestos ACM (2)**	NAD
					17/05/2017	**Asbestos Type**	NAD
					17/05/2017	**Asbestos Type (2)**	NAD
					17/05/2017	**Asbestos Level Screen**	NAD
17/8521	1	TP8	0.5	37	17/05/2017	**General Description (Bulk Analysis)**	soil/stones
					17/05/2017	**Asbestos Fibres**	NAD
					17/05/2017	**Asbestos Fibres (2)**	NAD
					17/05/2017	**Asbestos ACM**	NAD
					17/05/2017	**Asbestos ACM (2)**	NAD
					17/05/2017	**Asbestos Type**	NAD
					17/05/2017	**Asbestos Type (2)**	NAD
					17/05/2017	**Asbestos Level Screen**	NAD
17/8521	1	TP9	1.2	45	17/05/2017	**General Description (Bulk Analysis)**	soil/stones
					17/05/2017	**Asbestos Fibres**	NAD
					17/05/2017	**Asbestos Fibres (2)**	NAD
					17/05/2017	**Asbestos ACM**	NAD
					17/05/2017	**Asbestos ACM (2)**	NAD
					17/05/2017	**Asbestos Type**	NAD
					17/05/2017	**Asbestos Type (2)**	NAD
					17/05/2017	**Asbestos Level Screen**	NAD
17/8521	1	TP10	0.8	48	17/05/2017	**General Description (Bulk Analysis)**	soil/stones
					17/05/2017	**Asbestos Fibres**	NAD

Client Name: Golder Associates Ltd
Reference: 1773079
Location: Padeswood
Contact: Teresa Fernandes

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Date Of Analysis	Analysis	Result
17/8521	1	TP10	0.8	48	17/05/2017	**Asbestos Fibres (2)**	NAD
					17/05/2017	**Asbestos ACM**	NAD
					17/05/2017	**Asbestos ACM (2)**	NAD
					17/05/2017	**Asbestos Type**	NAD
					17/05/2017	**Asbestos Type (2)**	NAD
					17/05/2017	**Asbestos Level Screen**	NAD

Client Name: Golder Associates Ltd

Reference: 1773079

Location: Padeswood

Contact: Teresa Fernandes

Matrix : Solid

J E Job No.	Batch	Sample ID	Depth	J E Sample No.	Analysis	Reason
17/8521	1	TP1	1.0	1-2	GRO, VOC	Solid Samples were received at a temperature above 9°C.
17/8521	1	TP1	2.5	3-5	GRO, VOC	Solid Samples were received at a temperature above 9°C.
17/8521	1	TP2	0.3	6-7	GRO, VOC	Solid Samples were received at a temperature above 9°C.
17/8521	1	TP2	2.0	8-10	GRO, VOC	Solid Samples were received at a temperature above 9°C.
17/8521	1	TP3	1.5	11-13	GRO, VOC	Solid Samples were received at a temperature above 9°C.
17/8521	1	TP3	3.0	14-16	GRO, VOC	Solid Samples were received at a temperature above 9°C.
17/8521	1	TP4	0.4	17-19	GRO, VOC	Solid Samples were received at a temperature above 9°C.
17/8521	1	TP5	1.5	20-22	GRO, VOC	Solid Samples were received at a temperature above 9°C.
17/8521	1	TP5	3.0	23-25	GRO, VOC	Solid Samples were received at a temperature above 9°C.
17/8521	1	TP6	1.0	26-28	GRO, VOC	Solid Samples were received at a temperature above 9°C.
17/8521	1	TP6	2.3	29-30	GRO, VOC	Solid Samples were received at a temperature above 9°C.
17/8521	1	TP7	1.5	31-32	GRO, VOC	Solid Samples were received at a temperature above 9°C.
17/8521	1	TP7	2.5	33-35	GRO, VOC	Solid Samples were received at a temperature above 9°C.
17/8521	1	TP8	0.5	36-38	GRO, VOC	Solid Samples were received at a temperature above 9°C.
17/8521	1	TP8	3.0	39-40	GRO, VOC	Solid Samples were received at a temperature above 9°C.
17/8521	1	TP9	0.2	41-43	GRO, VOC	Solid Samples were received at a temperature above 9°C.
17/8521	1	TP9	1.2	44-46	GRO, VOC	Solid Samples were received at a temperature above 9°C.
17/8521	1	TP10	0.8	47-48	GRO, VOC	Solid Samples were received at a temperature above 9°C.
17/8521	1	TP11	0.3	49-50	GRO, VOC	Solid Samples were received at a temperature above 9°C.
17/8521	1	TP11	1.0	51-52	GRO, VOC	Solid Samples were received at a temperature above 9°C.
17/8521	1	TP12	0.5	53-54	GRO, VOC	Solid Samples were received at a temperature above 9°C.
17/8521	1	TP12	1.0	55-56	GRO, VOC	Solid Samples were received at a temperature above 9°C.
17/8521	1	TP12	1.7	57-58	GRO, VOC	Solid Samples were received at a temperature above 9°C.

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating.

Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

JE Job No.: 17/8521

SOILS

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

DEVIATING SAMPLES

Samples must be received in a condition appropriate to the requested analyses. All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. If this is not the case you will be informed and any test results that may be compromised highlighted on your deviating samples report.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS) accredited - UK.
SA	ISO17025 (SANAS) accredited - South Africa.
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
++	Result outside calibration range, results should be considered as indicative only and are not accredited.
*	Analysis subcontracted to a Jones Environmental approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

JE Job No: 17/8521

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465 and BS1377.	PM0	No preparation is required.				
TM5	Modified USEPA 8015B method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) with carbon banding within the range C8-C40 GC-FID.	PM16	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5/TM36	TM005: Modified USEPA 8015B: Determination of solvent Extractable Petroleum Hydrocarbons (EPH) including column fractionation in the carbon range of C10-35 into aliphatic and aromatic fractions by GC-FID. TM036: Modified USEPA 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C5-10 by headspace GC-FID. Including determination of BTEX and calculation of Aliphatic fractions.	PM12/PM16	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis./Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	Yes
TM5/TM36	TM005: Modified USEPA 8015B: Determination of solvent Extractable Petroleum Hydrocarbons (EPH) including column fractionation in the carbon range of C10-35 into aliphatic and aromatic fractions by GC-FID. TM036: Modified USEPA 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C5-10 by headspace GC-FID. Including determination of BTEX and calculation of Aliphatic fractions.	PM12/PM16	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis./Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM15	Modified USEPA 8260. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM15	Modified USEPA 8260. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM16	Modified USEPA 8270. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM16	Modified USEPA 8270. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM21	Modified USEPA 415.1. Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection.	PM24	Dried and ground solid samples are washed with hydrochloric acid, then rinsed with deionised water to remove the mineral carbon before TOC analysis.	Yes		AD	Yes
TM27	Modified US EPA method 9056.Determination of water soluble anions using Dionex (Ion-Chromatography).	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.			AD	Yes

JE Job No: 17/8521

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM30	Determination of Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7, 6010B and BS EN ISO 11885 2009	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.			AD	Yes
TM30	Determination of Trace Metal elements by ICP-OES (Inductively Coupled Plasma - Optical Emission Spectrometry). Modified US EPA Method 200.7, 6010B and BS EN ISO 11885 2009	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.	Yes		AD	Yes
TM36	Modified US EPA method 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID.	PM12	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM38	Soluble Ion analysis using the Thermo Aquakem Photometric Automatic Analyser. Modified US EPA methods 325.2, 375.4, 365.2, 353.1, 354.1	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
TM50	Acid soluble sulphate (Total Sulphate) analysed by ICP-OES	PM29	Dried and ground solid sample is boiled with dilute hydrochloric acid, the resulting liquor is then analysed.	Yes		AD	Yes
TM65	Asbestos Bulk Identification method based on HSG 248.	PM42	Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.			AR	
TM65	Asbestos Bulk Identification method based on HSG 248.	PM42	Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	
TM73	Modified US EPA methods 150.1 and 9045D and BS1377:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes		AR	No
TM74	Analysis of water soluble boron (20:1 extract) by ICP-OES.	PM32	Hot water soluble boron is extracted from dried and ground samples using a 20:1 ratio.	Yes		AD	Yes

JE Job No: 17/8521

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM75	Modified US EPA method 310.1. Determination of Alkalinity by Metrohm automated titration analyser.	PM58	Dried and ground solid samples are extracted with water in a 5:1 water to solid ratio, the samples are shaken on an orbital shaker.			AD	Yes
TM15_A	Modified USEPA 8260. Quantitative Determination of Volatile Organic Compounds, Vinyl Chloride & Styrene by Headspace GC-MS.	PM10	Modified US EPA method 5021. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes

APPENDIX G

Assessment of Soil Analysis Results

	Sample ID		Generic Assessment Criteria (GAC)				TP1	TP1	TP2	TP2	TP3	TP3	TP4	TP5	TP5	TP6	TP6	TP7	TP7	TP8	TP8	TP9	TP9	TP10	TP11	TP11	TP12	TP12	TP12
	Depth		Value	Name	Reference	Date	1.0	2.5	0.3	2.0	1.5	3.0	0.4	1.5	3.0	1.0	2.3	1.5	2.5	0.5	3.0	0.2	1.2	0.8	0.3	1.0	0.5	1.0	1.7
	Sample Type						Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
	Sampled Date						09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	10/05/2017	10/05/2017	10/05/2017	10/05/2017	10/05/2017	10/05/2017	10/05/2017	10/05/2017
	Sample Received Date						13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017
Determinand	**Units**	**LOD**																											
pH	pH units	<0.01	-	-	-	-	11.58	9.18	9.04	10.58	9.49	12.13	12.74	8.27	10.91	10.34	10.61	9.92	10.53	8.24	8.47	10.85	11.06	11.29	8.98	7.71	10.56	8.47	8.14
Natural Moisture Content	%	<0.1	-	-	-	-	12	12.6	12	13.6	15.3	20.5	18.7	9.3	19.9	8.8	12.7	23.3	8.2	15.5	18.6	8.4	9.8	8.5	5	17.5	15.1	14.8	16.5
Total Alkalinity as CaCO3	mg/kg	<10	-	-	-	-	-	380	-	440	280	-	6400	320	1000	350	-	-	350	400	-	-	870	590	-	-	-	-	-
Total Organic Carbon	%	<0.02	-	-	-	-	-	2.18	-	1.94	2.74	-	1.7	11.05	3.49	2.19	-	-	0.49	0.39	-	-	1.8	0.14	-	-	-	-	-
Chloride	mg/kg	<2	-	-	-	-	-	149	-	20	24	-	147	183	245	173	-	-	91	44	-	-	48	32	-	-	-	-	-
Fluoride	mg/kg	<0.3	-	-	-	-	-	2.6	-	3.3	1.3	-	<0.3	2	1.4	1.5	-	-	1.9	2.7	-	-	0.9	0.9	-	-	-	-	-
Sulphate as SO4 (2:1 Ext)	g/l	<0.0015	-	-	-	-	-	0.2122	-	0.2972	1.3092	-	0.0101	0.3097	0.2219	0.6493	-	-	0.4711	0.0505	-	-	0.3064	0.0919	-	-	-	-	-
Antimony	mg/kg	<1	7500	GAC	CLAIRE, 2010	2010	-	1	-	2	2	-	2	1	5	<1	-	-	<1	2	-	-	<1	1	-	-	-	-	-
Arsenic	mg/kg	<0.5	640	pC4SL	DEFRA, 2014	2014	6.6	11.6	7.6	8.1	13.2	11.9	9.1	6.2	7.9	8.1	12.8	14.9	4.9	7.8	7.4	7.4	10.8	6.9	2.5	7	5.5	8.7	6.6
Barium	mg/kg	<1	22000	GAC	CLAIRE, 2010	2010	108	112	134	101	122	145	235	95	128	96	116	219	56	73	119	101	125	75	35	135	106	172	61
Beryllium	mg/kg	<0.5	12	S4UL	LQM, 2014	2014	0.8	0.8	1.2	0.7	0.9	1.1	1.2	0.6	1	0.5	0.8	0.8	<0.5	0.9	1.1	0.7	0.9	0.7	<0.5	0.8	0.7	1.2	0.6
Cadmium	mg/kg	<0.1	220-420	pC4SL	DEFRA, 2014	2014	1.3	0.9	1.3	0.8	1.2	1.5	2.6	0.9	0.7	1	1.1	2.7	1.6	0.1	0.2	0.6	0.9	0.6	0.4	0.1	0.8	0.2	<0.1
Chromium	mg/kg	<0.5	8600	S4UL (Chromium III)	LQM, 2014	2014	235	33.9	165.3	23.2	24.4	63.9	32.6	26.1	28.8	21.5	33.5	28.6	14.2	30	61.3	39.8	19.9	23.6	26.4	73.4	37.8	66.3	66
Copper	mg/kg	<1	68000	S4UL	LQM, 2014	2014	29	23	23	20	23	30	46	17	42	16	21	27	12	15	19	19	20	13	11	17	19	23	13
Lead	mg/kg	<5	1100-6000	pC4SL	DEFRA, 2014	2014	117	173	121	97	203	167	240	73	73	155	163	448	194	48	30	100	122	53	34	34	64	20	18
Mercury	mg/kg	<0.1	1100	S4UL (inorganic mercury)	LQM, 2014	2014	<0.1	<0.1	1.1	<0.1	0.9	0.3	<0.1	0.5	<0.1	1.3	1.9	15.6	0.7	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	mg/kg	<0.7	1800	SGV	EA, 2009	2009	27.6	18	16.5	17.9	14.4	34.7	21.5	12.7	16.5	12.6	15.1	14.6	10.1	15.5	24.3	16.4	17.6	12.8	8.4	22.1	14.7	27.9	10.9
Selenium	mg/kg	<1	13000	SGV	EA, 2009	2009	5	5	8	4	3	7	16	2	2	7	4	17	2	1	<1	3	4	3	<1	1	<1	<1	<1
Total Sulphate as SO4	mg/kg	<50	-	-	-	-	-	1516	-	2591	3295	-	5896	1198	4010	2442	-	-	2070	300	-	-	5156	1239	-	-	-	-	-
Vanadium	mg/kg	<1	9000	S4UL	LQM, 2014	2014	28	27	66	39	22	31	34	24	26	16	27	28	11	27	34	20	22	17	10	27	21	27	25
Water Soluble Boron	mg/kg	<0.1	-	-	-	-	-	2	-	3.4	4.3	-	3.6	4.7	3.8	4.9	-	-	2.7	0.5	-	-	3.4	1.8	-	-	-	-	-
Zinc	mg/kg	<5	730000	S4UL	LQM, 2014	2014	62	89	84	69	92	93	179	73	138	107	62	99	94	61	61	58	78	49	27	58	155	80	31
VOC MS																													
Dichlorodifluoromethane	ug/kg	<2	-	-	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Methyl tert-butyl ether	ug/kg	<2	13000000	GAC	CLAIRE, 2010	2010	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Chloromethane	ug/kg	<3	1200	GAC	CLAIRE, 2010	2010	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Vinyl Chloride (Chloroethene)	ug/kg	<2	77	S4UL	LQM, 2014	2014	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Bromomethane	ug/kg	<1	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/kg	<2	1300000	GAC	CLAIRE, 2010	2010	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Trichlorofluoromethane	ug/kg	<2	-	-	-	-	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene (1,1 DCE)	ug/kg	<6	46000	GAC	CLAIRE, 2010	2010	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
Dichloromethane (DCM)	ug/kg	<30	360000	GAC	CLAIRE, 2010	2010	64	<30	84	<30	<30	102	59	218	<30	187	<30	<30	64	<30	74	69	<30	50	<30	<30	<30	<30	<30
Trans 1,2 dichloroethene	ug/kg	<3	40000	GAC	CLAIRE, 2010	2010	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
1,1-Dichloroethane	ug/kg	<3	-	-	-	-	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Cis 1,2 dichloroethene	ug/kg	<3	24000	GAC	CLAIRE, 2010	2010	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
2,2-Dichloropropane	ug/kg	<4	-	-	-	-	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Bromochloromethane	ug/kg	<3	-	-	-	-	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Chloroform (Trichloromethane)	ug/kg	<3	170000	S4UL	LQM, 2014	2014	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
1,1,1 Trichloroethane	ug/kg	<3	1300000	S4UL	LQM, 2014	2014	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
1,1-Dichloropropene	ug/kg	<3	-	-	-	-	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Tetrachloromethane (Carbon Tetrachloride)	ug/kg	<4	6300	S4UL	LQM, 2014	2014	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
1,2 Dichloroethane	ug/kg	<4	970	S4UL	LQM, 2014	2014	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Benzene	ug/kg	<3	47000	S4UL	LQM, 2014	2014	<3	<3	<3	<3	13	<3	<3	<3	5	18	10	12	<3	<3	4	<3	<3	<3	<3	<3	<3	<3	<3
Trichloroethene	ug/kg	<3	2600	S4UL	LQM, 2014	2014	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
1,2 Dichloropropane	ug/kg	<6	5900	GAC	CLAIRE, 2010	2010	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
Dibromomethane	ug/kg	<3	-	-	-	-	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Bromodichloromethane	ug/kg	<3	3700	GAC	CLAIRE, 2010	2010	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
cis-1-3-Dichloropropene	ug/kg	<4	-	-	-	-	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Toluene	ug/kg	<3	110000000	S4UL	LQM, 2014	2014	4	<3	<3	<3	24	7	<3	9	12	23	21	25	8	<3	9	<3	3	<3	<3	<3	<3	<3	<3
trans-1-3-Dichloropropene	ug/kg	<3	-	-	-	-	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
1,1,2 Trichloroethane	ug/kg	<3	190000	GAC	CLAIRE, 2010	2010	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Tetrachloroethene	ug/kg	<3	42000	S4UL	LQM, 2014	2014	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
1,3 Dichloropropane	ug/kg	<3	-	-	-	-	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Dibromochloromethane	ug/kg	<3	-	-	-	-	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
1,2-Dibromoethane	ug/kg	<3	-	-	-	-	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Chlorobenzene	ug/kg	<3	130000	S4UL	LQM, 2014	2014	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
1,1,1,2 Tetrachloroethane	ug/kg	<3	250000	S4UL	LQM, 2014	2014	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Ethylbenzene	ug/kg	<3	13000000	S4UL	LQM, 2014	2014	<3	<3	<3	<3	8	<3	<3	<3	<3	11	11	15	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
p/m-Xylene	ug/kg	<5	14000000	S4UL (p-xylene)	LQM, 2014	2014	7	<5	<5	<5	26	12	<5	<5	11	30	35	39	8	<5	8	<5	<5	<5	<5	<5	<5	<5	<5
o-Xylene	ug/kg	<3	15000000	S4UL	LQM, 2014	2014	<3	<3	<3	<3	12	6	<3	10	5	11	16	16	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Styrene	ug/kg	<3	6500000	GAC	CLAIRE, 2010	2010	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Bromoform	ug/kg	<3	1500000	GAC	CLAIRE, 2010	2010	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Isopropylbenzene	ug/kg	<3	3300000	GAC	CLAIRE, 2010	2010	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
1,1,2,2 Tetrachloroethane	ug/kg	<3	550000	S4UL	LQM, 2014	2014	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Bromobenzene	ug/kg	<2	220000	GAC	CLAIRE, 2010	2010	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,2,3 Trichloropropane	ug/kg	<4	-	-	-	-	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Propylbenzene	ug/kg	<4	9700000	GAC	CLAIRE, 2010	2010	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
2 Chlorotoluene	ug/kg	<3	-	-	-	-	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
1,3,5 Trimethylbenzene	ug/kg	<3	-	-	-	-	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
4-Chlorotoluene	ug/kg	<3	-	-	-	-	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
tert-Butylbenzene	ug/kg	<5	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2,4 Trimethylbenzene	ug/kg	<6	99000	GAC	CLAIRE, 2010	2010	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6
sec-Butylbenzene	ug/kg	<4	-	-	-	-	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
4-Isopropyltoluene	ug/kg	<4	-	-	-	-	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
1,3 Dichlorobenzene	ug/kg	<4	73000	S4UL	LQM, 2014	2014	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
1,4 Dichlorobenzene	ug/kg	<4	10000000	S4UL	LQM, 2014	2014	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
n-Butylbenzene	ug/kg	<4	-	-	-	-	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
1,2 Dichlorobenzene	ug/kg	<4	4800000	S4UL	LQM, 2014	2014	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
1,2-Dibromo-3-chloropropane	ug/kg	<4	-	-	-	-	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
1,2,4 Trichlorobenzene	ug/kg	<7	530000	S4UL	LQM, 2014	2014	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7
Hexachlorobutadiene	ug/kg	<4	66000	S4UL	LQM, 2014	2014	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Naphthalene	ug/kg	<27	-	-	-	-	<27	<27	<27	<27	<27	<27	<27	<27	<27	<27	420	<27	<27	<27	<27	<27	<27	<27	<27	<27	<27	<27	<27
1,2,3 Trichlorobenzene	ug/kg	<7	250000	S4UL	LQM, 2014	2014	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7
Surrogate Recovery Toluene D8	%	<0					89	93	88	88	84	86	95	69	80	64	70	69	83	98	83	93	96	96	99	94	88	98	103
Surrogate Recovery 4-Bromofluorobenzene	%	<0					76	72	69	71	54	66	91	55	66	50	52	53	54	101	55	73	80	88	106	92	85	100	114

	Sample ID		Generic Assessment Criteria (GAC)				TP1	TP1	TP2	TP2	TP3	TP3	TP4	TP5	TP5	TP6	TP6	TP7	TP7	TP8	TP8	TP9	TP9	TP10	TP11	TP11	TP12	TP12	TP12
	Depth		Value	Name	Reference	Date	1.0	2.5	0.3	2.0	1.5	3.0	0.4	1.5	3.0	1.0	2.3	1.5	2.5	0.5	3.0	0.2	1.2	0.8	0.3	1.0	0.5	1.0	1.7
	Sample Type						Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
	Sampled Date						09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	10/05/2017	10/05/2017	10/05/2017	10/05/2017	10/05/2017	10/05/2017	10/05/2017	10/05/2017	10/05/2017
	Sample Received Date						13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017
Determinand	**Units**	**LOD**																											
Methyl tert-butyl ether	ug/kg	<2	13000000	GAC	CLAIRE, 2010	2010	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Benzene	ug/kg	<3	47000	S4UL	LQM, 2014	2014	<3	<3	<3	<3	13	<3	<3	<3	5	18	10	12	<3	<3	4	<3	<3	<3	<3	<3	<3	<3	<3
Toluene	ug/kg	<3	110000000	S4UL	LQM, 2014	2014	4	<3	<3	<3	24	7	<3	9	12	23	21	25	8	<3	9	<3	3	<3	<3	<3	<3	<3	<3
Ethylbenzene	ug/kg	<3	13000000	S4UL	LQM, 2014	2014	<3	<3	<3	<3	8	<3	<3	<3	<3	11	11	15	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
p/m-Xylene	ug/kg	<5	14000000	S4UL (p-xylene)	LQM, 2014	2014	7	<5	<5	<5	26	12	<5	<5	11	30	35	39	8	<5	8	<5	<5	<5	<5	<5	<5	<5	<5
o-Xylene	ug/kg	<3	15000000	S4UL	LQM, 2014	2014	<3	<3	<3	<3	12	6	<3	10	5	11	16	16	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Surrogate Recovery Toluene D8	%	<0					89	93	88	88	84	86	95	69	80	64	70	69	83	98	83	93	96	96	99	94	88	98	103
Surrogate Recovery 4-Bromofluorobenzene	%	<0					76	72	69	71	54	66	91	55	66	50	52	53	54	101	55	73	80	88	106	92	85	100	114
SVOC MS																													
Phenols																													
2-Chlorophenol	ug/kg	<10	4	S4UL (Chlorophenols, except Pentachlorophenol)	LQM, 2014	2014	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2-Methylphenol	ug/kg	<10	180000000	GAC (Total cresols (2-, 3- and 4-methylphenol))	CLAIRE, 2010	2010	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2-Nitrophenol	ug/kg	<10	-	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2,4-Dichlorophenol	ug/kg	<10	-	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2,4 Dimethylphenol	ug/kg	<10	24000000	GAC	CLAIRE, 2010	2010	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2,4,5-Trichlorophenol	ug/kg	<10	-	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2,4,6-Trichlorophenol	ug/kg	<10	-	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
4-Chloro-3-methylphenol	ug/kg	<10	-	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
4-Methylphenol	ug/kg	<10	180000000	GAC (Total cresols (2-, 3- and 4-methylphenol))	CLAIRE, 2010	2010	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
4-Nitrophenol	ug/kg	<10	-	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Pentachlorophenol	ug/kg	<10	400000	S4UL	LQM, 2014	2014	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Phenol	ug/kg	<10	1500000	S4UL	LQM, 2014	2014	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
PAHs																													
2-Chloronaphthalene	ug/kg	<10	960000	GAC	CLAIRE, 2010	2010	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2-Methylnaphthalene	ug/kg	<10	-	-	-	-	170	37	158	14	<10	107	27	354	91	151	116	74	94	<10	<10	76	52	59	86	<10	1034	<10	<10
Naphthalene	ug/kg	<10	-	-	-	-	391	<10	290	<10	<10	304	84	570	257	198	152	141	74	<10	<10	93	113	64	50	<10	472	<10	<10
Acenaphthylene	ug/kg	<10	97000000	S4UL	LQM, 2014	2014	151	14	50	<10	<10	59	23	65	86	<10	<10	<10	<10	<10	<10	<10	13	<10	18	<10	<10	<10	<10
Acenaphthene	ug/kg	<10	97000000	S4UL	LQM, 2014	2014	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Fluorene	ug/kg	<10	68000000	S4UL	LQM, 2014	2014	86	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Phenanthrene	ug/kg	<10	22000000	S4UL	LQM, 2014	2014	913	85	321	131	44	312	79	539	363	132	124	60	62	19	<10	96	75	60	55	<10	1348	<10	<10
Anthracene	ug/kg	<10	540000000	S4UL	LQM, 2014	2014	346	29	108	36	<10	98	37	190	187	35	28	<10	<10	<10	<10	15	26	14	47	<10	151	<10	<10
Fluoranthene	ug/kg	<10	23000000	S4UL	LQM, 2014	2014	1509	198	534	332	35	413	169	831	818	94	135	<10	25	56	<10	88	120	34	63	20	380	<10	<10
Pyrene	ug/kg	<10	54000000	S4UL	LQM, 2014	2014	1329	176	456	308	30	311	134	680	727	90	134	<10	27	57	<10	75	104	33	65	20	624	<10	<10
Benzo(a)anthracene	ug/kg	<10	-	-	-	-	561	80	269	234	<10	166	59	494	459	27	83	<10	<10	31	<10	42	77	<10	20	<10	153	<10	<10
Chrysene	ug/kg	<10	350000	S4UL	LQM, 2014	2014	760	97	319	259	<10	163	68	526	557	44	107	<10	<10	30	<10	44	68	<10	30	<10	281	<10	<10
Benzo(bk)fluoranthene	ug/kg	<10		S4UL (for Benzo(b)fluoranthene)	LQM, 2014	2014	1026	72	535	545	<10	362	29	868	980	<10	140	<10	<10	<10	<10	<10	71	<10	<10	<10	186	<10	<10
Benzo[a]pyrene	ug/kg	<10	35000	S4UL	LQM, 2014	2014	676	73	325	264	<10	147	36	483	558	<10	98	<10	<10	<10	<10	<10	52	<10	<10	<10	78	<10	<10
Indeno[123-cd]pyrene	ug/kg	<10	510000	S4UL	LQM, 2014	2014	301	25	177	123	<10	137	<10	239	252	<10	100	<10	<10	<10	<10	<10	26	<10	<10	<10	36	<10	<10
Dibenzo[ah]anthracene	ug/kg	<10	-	-	-	-	90	<10	38	21	<10	<10	<10	69	46	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	14	<10	<10
Benzo[ghi]perylene	ug/kg	<10	4000000	S4UL	LQM, 2014	2014	452	134	326	219	<10	161	<10	399	372	<10	121	<10	<10	<10	<10	<10	45	<10	<10	<10	101	<10	<10
Benzo[b]fluoranthene	ug/kg	<10	44000	S4UL	LQM, 2014	2014	739	52	385	392	<10	261	21	625	706	<10	101	<10	<10	<10	<10	<10	51	<10	<10	<10	134	<10	<10
Benzo[k]fluoranthene	ug/kg	<10	1200000	S4UL	LQM, 2014	2014	287	20	150	153	<10	101	<10	243	274	<10	39	<10	<10	<10	<10	<10	20	<10	<10	<10	52	<10	<10
Phthalates																													
Bis(2-ethylhexyl)phthalate	ug/kg	<100	86000000	GAC	CLAIRE, 2010	2010	<100	<100	124	<100	<100	213	<100	120	230	170	<100	<100	<100	<100	<100	474	<100	<100	<100	<100	490	<100	<100
Butylbenzylphthalate	ug/kg	<100	940000000	GAC	CLAIRE, 2010	2010	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Di-n-butylphthalate	ug/kg	<100	15000000	GAC	CLAIRE, 2010	2010	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Di-n-octylphthalate	ug/kg	<100	89000000	GAC	CLAIRE, 2010	2010	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Diethylphthalate	ug/kg	<100	220000000	GAC	CLAIRE, 2010	2010	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Dimethylphthalate	ug/kg	<100	-	-	-	-	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Other SVOCs																													
1,2 Dichlorobenzene	ug/kg	<10	4800000	S4UL	LQM, 2014	2014	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,2,4 Trichlorobenzene	ug/kg	<10	530000	S4UL	LQM, 2014	2014	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,3 Dichlorobenzene	ug/kg	<10	73000	S4UL	LQM, 2014	2014	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,4 Dichlorobenzene	ug/kg	<10	10000000	S4UL	LQM, 2014	2014	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2 Nitroaniline	ug/kg	<10	-	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2,4 Dinitrotoluene	ug/kg	<10	3700000	GAC	CLAIRE, 2010	2010	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
2,6 Dinitrotoluene	ug/kg	<10	1900000	GAC	CLAIRE, 2010	2010	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
3 Nitroaniline	ug/kg	<10	-	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
4 Bromophenylphenylether	ug/kg	<10	-	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
4 Chloroaniline	ug/kg	<10	-	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
4 Chlorophenylphenylether	ug/kg	<10	-	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
4 Nitroaniline	ug/kg	<10	-	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Azobenzene	ug/kg	<10	-	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Bis(2-chloroethoxy)methane	ug/kg	<10	-	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Bis(2-chloroethyl)ether	ug/kg	<10	-	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Carbazole	ug/kg	<10	-	-	-	-	112	<10	<10	<10	<10	41	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Dibenzofuran	ug/kg	<10	-	-	-	-	124	17	99	<10	<10	77	<10	143	69	97	74	105	38	<10	<10	38	27	27	<10	<10	312	<10	<10
Hexachlorobenzene	ug/kg	<10	120000	S4UL	LQM, 2014	2014	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Hexachlorobutadiene	ug/kg	<10	66000	S4UL	LQM, 2014	2014	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Hexachlorocyclopentadiene	ug/kg	<10	-	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Hexachloroethane	ug/kg	<10	53000	GAC	CLAIRE, 2010	2010	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Isophorone	ug/kg	<10	-	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
N-nitrosodi-n-propylamine	ug/kg	<10	-	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Nitrobenzene	ug/kg	<10	-	-	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Surrogate Recovery 2-Fluorobiphenyl	%	<0					111	119	116	96	118	105	63	108	100	98	104	102	106	118	93	110	114	107	102	112	117	115	114
Surrogate Recovery p-Terphenyl-d14	%	<0					126	116	122	125	110	128	63	128	128	122	124	109	122	102	121	115	121	112	96	117	121	128	127

	Sample ID		Generic Assessment Criteria (GAC)				TP1	TP1	TP2	TP2	TP3	TP3	TP4	TP5	TP5	TP6	TP6	TP7	TP7	TP8	TP8	TP9	TP9	TP10	TP11	TP11	TP12	TP12	TP12
	Depth		Value	Name	Reference	Date	1.0	2.5	0.3	2.0	1.5	3.0	0.4	1.5	3.0	1.0	2.3	1.5	2.5	0.5	3.0	0.2	1.2	0.8	0.3	1.0	0.5	1.0	1.7
	Sample Type						Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
	Sampled Date						09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	09/05/2017	10/05/2017	10/05/2017	10/05/2017	10/05/2017	10/05/2017	10/05/2017	10/05/2017	10/05/2017	10/05/2017
	Sample Received Date						13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017	13/05/2017
Determinand	**Units**	**LOD**																											
TPH CWG																													
Aliphatics																													
>C5-C6	mg/kg	<0.1	12000000	S4UL	LQM, 2014	2014	<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	<0.1	<0.1	<0.1	<0.1	<0.1
>C6-C8	mg/kg	<0.1	40000000	S4UL	LQM, 2014	2014	<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	<0.1	<0.1	<0.1	<0.1	<0.1
>C8-C10	mg/kg	<0.1	11000000	S4UL	LQM, 2014	2014	<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	<0.1	<0.1	0.2	0.1	<0.1
>C10-C12	mg/kg	<0.2	47000000	S4UL	LQM, 2014	2014	<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	<0.2	<0.2	16	<0.2	<0.2
>C12-C16	mg/kg	<4	90000000	S4UL	LQM, 2014	2014	<4	<4	<4	<4	<4	<4	<4	7	8	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	327	24	<4
>C16-C21	mg/kg	<7	1800000000	S4UL for C16-C35	LQM, 2014	2014	<7	<7	<7	<7	<7	<7	<7	18	50	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	<7	962	57	<7
>C21-C35	mg/kg	<7	1800000000	S4UL for C16-C35	LQM, 2014	2014	40	29	58	46	<7	135	<7	255	408	40	47	<7	16	<7	<7	28	<7	<7	<7	<7	500	18	<7
Total aliphatics C5-35	mg/kg	<19					40	29	58	46	<19	135	<19	280	466	40	47	<19	<19	<19	<19	28	<19	<19	<19	<19	1805	99	<19
Aromatics																													
>C5-EC7	mg/kg	<0.1	86000000	S4UL	LQM, 2014	2014	<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	<0.1	<0.1	<0.1	<0.1	<0.1
>EC7-EC8	mg/kg	<0.1	180000000	S4UL	LQM, 2014	2014	<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	<0.1	<0.1	<0.1	<0.1	<0.1
>EC8-EC10	mg/kg	<0.1	17000000	S4UL	LQM, 2014	2014	<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	<0.1	<0.1	<0.1	<0.1	<0.1
>EC10-EC12	mg/kg	<0.2	34000000	S4UL	LQM, 2014	2014	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	3.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	5.4	<0.2	<0.2
>EC12-EC16	mg/kg	<4	38000000	S4UL	LQM, 2014	2014	<4	<4	<4	<4	<4	<4	<4	14	<4	<4	12	<4	<4	<4	<4	<4	<4	<4	<4	<4	125	9	<4
>EC16-EC21	mg/kg	<7	28000000	S4UL	LQM, 2014	2014	<7	<7	13	<7	<7	12	<7	42	17	<7	60	<7	<7	<7	<7	<7	<7	<7	<7	<7	405	33	<7
>EC21-EC35	mg/kg	<7	28000000	S4UL	LQM, 2014	2014	46	58	68	27	<7	177	<7	200	233	30	159	<7	<7	<7	<7	39	<7	<7	<7	<7	274	8	<7
Total aromatics C5-35	mg/kg	<19					46	58	81	27	<19	189	<19	256	250	30	234	<19	<19	<19	<19	39	<19	<19	<19	<19	809	50	<19
Total aliphatics and aromatics(C5-35)	mg/kg	<38					86	87	139	73	<38	324	<38	536	716	70	281	<38	<38	<38	<38	67	<38	<38	<38	<38	2614	149	<38
General Description (Bulk Analysis)	None						-	Soil/Stones	-	Soil/Stones	Soil/Stones	-	soil/stones	soil/stones	soil/stones	soil/stones	-	-	soil/stones	soil/stones	-	-	soil/stones	soil/stones	-	-	-	-	-
Asbestos Fibres	None						-	NAD	-	NAD	NAD	-	NAD	NAD	NAD	NAD	-	-	NAD	NAD	-	-	NAD	NAD	-	-	-	-	-
Asbestos Fibres (2)	None						-	NAD	-	NAD	NAD	-	NAD	NAD	NAD	NAD	-	-	NAD	NAD	-	-	NAD	NAD	-	-	-	-	-
Asbestos ACM	None						-	NAD	-	NAD	NAD	-	NAD	NAD	NAD	NAD	-	-	NAD	NAD	-	-	NAD	NAD	-	-	-	-	-
Asbestos ACM (2)	None						-	NAD	-	NAD	NAD	-	NAD	NAD	NAD	NAD	-	-	NAD	NAD	-	-	NAD	NAD	-	-	-	-	-
Asbestos Type	None						-	NAD	-	NAD	NAD	-	NAD	NAD	NAD	NAD	-	-	NAD	NAD	-	-	NAD	NAD	-	-	-	-	-
Asbestos Type (2)	None						-	NAD	-	NAD	NAD	-	NAD	NAD	NAD	NAD	-	-	NAD	NAD	-	-	NAD	NAD	-	-	-	-	-
Asbestos Level Screen	None						-	NAD	-	NAD	NAD	-	NAD	NAD	NAD	NAD	-	-	NAD	NAD	-	-	NAD	NAD	-	-	-	-	-

As a global, employee-owned organisation with over 50 years of experience, Golder Associates is driven by our purpose to engineer earth's development while preserving earth's integrity. We deliver solutions that help our clients achieve their sustainable development goals by providing a wide range of independent consulting, design and construction services in our specialist areas of earth, environment and energy.

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