Northern Ireland Environment Agency

City Industrial Waste / Campsie Sand & Gravel Sites

Ground Investigation Works – Factual Report

Final

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1 Introduction

1.1 Instruction

WYG Environment & Planning (N.I.) Ltd (WYG) were appointed by the Northern Ireland Environment Agency (NIEA), an executive agency within the Department of the Environment (DOE), under the Environmental and Sustainability Advice Support & Delivery Services (ESASDS) Framework – RM830 – Lot 16 to undertake an environmental risk assessment, remediation options appraisal and implement necessary leachate management measures associated with the large scale deposition of Controlled Waste at a site on the Mobuoy Road site in Londonderry (Figure 1).

1.2 Background

In December 2013, a report prepared by Chris Mills (known as the Mills Report) was published entitled *"A Review of Waste Disposal at the Mobuoy Site and the lessons learnt for the future regulation of the waste industry of Northern Ireland*[1]. The report states:

"A number of land folios have been reportedly used for large scale illegal disposal of Controlled Waste over recent years. This waste was deposited in sand and gravel extraction pits in an area adjacent to the River Faughan in the townland of Mobuoy, on the outskirts of Derry City, County Londonderry hereafter referred to as the Site. The total volume of macerated waste is understood to exceed 500,000m^3 and is actively producing landfill gas and leachate.[2]

The River Faughan is designated as an Area of Special Scientific Interest (ASSI) and is a candidate Special Area of Conservation (SAC) due to its diverse flora and fauna communities and in particular the presence of Atlantic Salmon. The NIEA has undertaken biological and chemical monitoring of local surface waters in response to the identification of these waste deposits. In addition, NIEA records and retains routine chemical and biological data for the River Faughan.

The NIEA criminal investigation is ongoing. The investigation process has included the collection of a large volume of evidence and information in the form of survey data, fieldwork photographic and analytical data from the waste mass and the leachate generated."

1.3 Scope of Services

The scope of services commissioned is outlined below:

1. Completion of a preliminary risk assessment (PRA) in accordance with the Model Procedures for

[1] http://www.doeni.gov.uk/niea/mills-review-december-2013.pdf
[2] A review of waste disposal at the Mobuoy site and the lessons learnt for the future regulation of the waste industry in Northern Ireland, Christopher Mills, NIEA - December 2013

the management of land affected by contamination (CLR 11);

2. Development of site and hydrogeological conceptual models;
3. Identification of any immediate landfill leachate risks and advice on viable leachate management options and costs with supervision of works on site;
4. Identification of landfill leachate risks in the short – medium term and advice on viable leachate management options and costs;
5. Design and implementation of a supporting site investigation programme;
6. Design and implement a suitable environmental monitoring programme;
7. Identification of suitable risk assessment tools to undertake quantitative risk assessment(s);
8. Provision of a landfill gas risk assessment;
9. Identification of potential remediation options with whole-life costings supporting the long-term site solution;
10. Reporting.

This report presents the factual information obtained within Task 5.

1.4 Legal Context

Investigation by the NIEA has identified illegal waste deposited within the site boundaries that have the potential to adversely affect environmental receptors and pose a health and safety risk to health. A number of legislative frameworks exist that are relevant to the site, most relevantly:

- Environmental Liability (Prevention and Remediation) Northern Ireland Regulations, 2009;
- Landfill Regulations (Northern Ireland) 2003; Waste and Contaminated Land (Northern Ireland) Order, 1997;
- Water (Northern Ireland) Order, 1999;
- Water Supply (Water Quality) Regulations (Northern Ireland) 2007 (as amended);
- The Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2003;
- The Groundwater Regulations (Northern Ireland) 2009 (and amendment);
- European Commission Habitats Directive 92/43/EEC;
- The Conservation Regulations (Northern Ireland) 1995 (as amended);
- The Wildlife (Northern Ireland) Order 1985 The Wildlife (Northern Ireland) Order 1985.

1.5 Objectives and Report Format

The objectives of this report are to provide factual information pertaining to the intrusive ground investigation works, this factual information will then be utilised to inform the proposed assessments at the site namely the Preliminary Risk Assessment, Gas Risk Assessment, Remedial options Appraisal and Hydrogeological risk assessment.

Section 2 of the report describes the site location and site setting, including a summary of the anticipated geology.

Section 3 of the report includes details of the ground investigation works undertaken by WYG, including the numbers and types of exploratory holes, weather conditions, a brief description of the site operations and a list of laboratory tests.

Section 4 of the report includes details of the scope and methodology of the groundwater, leachate, and surface water quality monitoring.

1.6 Terms and Conditions

Attention is drawn to the report conditions included in Appendix A.

Whilst we have acted with an appropriate level of care and diligence in undertaking these services, it is highlighted that the assessment is reliant on information obtained from third parties, the accuracy of which is outside of the control of WYG. No liability can be accepted for any such errors or inaccuracy.

The criminal investigation in to the deposition of waste materials on the site is ongoing.

The assessment is based on the description of the site and its environs as determined from site reconnaissance undertaken as part of this commission. The site is owned by third parties.

2 Site Details

The site is located to the east and west of Mobuoy Road, approximately 1.5km east of Londonderry City and centred at approximate National Grid Reference 248049, 417609. A site location map is presented as Figure 1 and the site boundary is shown on Figure 2.

2.1 Site Description and Current Use

The site is irregularly shaped and covers an area of approximately 46 hectares (Ha) and comprises of two discreet land parcels separated by Mobuoy Road referenced hereafter as City Industrial Waste and Campsie Sand and Gravels.

The City Industrial Waste and Campsie Sands and Gravels sites are understood to be non-operational although the sites are accessed infrequently by the site owners, visitors and potentially by trespassers.

The City Industrial Waste site boundary is secured by various means. The eastern boundary secured with a mixture of chain link fencing, concrete walls, and rigid steel wire fencing. The northern, western, and southern boundaries are secured with agricultural sheep wire/ barbed wire fencing. During the operational phase of the site, access was through one of two site entrances which would have been secured by a locked gate. The main entrance gate to the City Industrial Waste site is secured by placing concrete slaps in such a way to prevent the gates being opened. The secondary entrance to the site which would have been used to access the office block of City Industrial Waste is currently secured with a chain and padlock provided by WYG. Pedestrian access via the neighbouring Mobuoy House entrance cannot be secured, therefore access to the City Industrial Waste site cannot be restricted without further fencing works.

The Campsie Sand and Gravel site entrance is secured by an agricultural tubular aluminium gate secured with a padlock provided by WYG. An additional padlock is present on the chain which is owned by the Rivers Agency which permits them access to the River Faughan for maintenance works. The northern and eastern site boundaries are secured with a combination of sheep wire/barbed wire fencing and hedgerows. The southern site boundary is secured with sheep wire/barbed wire fencing. The western site boundary is in direct contact with the River Faughan and is not fenced. Access to the River Faughan along the northern section of the western site boundary is restricted by dense vegetation and the flood defence. Although vehicular access to the site is restricted by a secured gate, pedestrian access to the site is achievable by walking around the gate and the land adjacent to the River Faughan.

2.1.1 City Industrial Waste

The City Industrial Waste site is located to the east of the Mobuoy Road and covers an area of approximately 14Ha. City Industrial Waste is bound to the north, south and east by agricultural fields and the west by the Mobuoy road beyond which is the Campsie Sand & Gravel site. An unnamed tributary of the River Faughan flows along the southern boundary of the City Industrial Waste site in an east to west direction.

The City Industrial Waste site comprises of a former waste processing facility, closed landfill (licensed by the local Council as Inert) and an area of former sand and gravels extraction located approximately 100m east of the River Faughan and are described in more detail below.

The closed waste processing facility is located at the southern end of the City Industrial Waste land parcel and covers an area of approximately 2Ha. The closed facility comprises of large processing and storage sheds, workshops, gatehouse, weighbridge and administration buildings and associated service yard. An open surface water lagoon is located in the south-west corner of the facility. There is evidence of fly tipping and several service inspection covers have been removed along with electrical cabling.

Precast concrete slabs have been used to form approximately 4m high retaining walls along the southern boundary and to the north of the City Industrial Waste service yard. Some of the concrete slabs were noted to be in poor condition and in a state of structural distress and landfill leachate was evident seeping through lifting/ weep holes in the walls.

The central portion of the site is a closed landfill formed by a rectangular shaped plateau, elongated east to west and elevated approximately 4m above the level of the former City Industrial Waste facility. The area is characterised by steep embankments, local earthworks features including steep embankments and is covered by rough vegetation. An access track links the landfill area to the City Industrial Waste compound.

A rectangular area to the north of the closed landfill, elongated east to west, covering an area of approximately 2.4Ha, is characterised by earthworks and an extensive area of surface water located approximately 3m below the plateau level of the closed landfill. Soils are exposed directly at the surface across the majority of this area along with fragments of plastic, paper and other man made materials. Gas flows are evident manifested by odours, visible bubbling and welling through standing water and audible flow through the ground surface.

In the southern portion of the City Industrial Waste Site, to the south of the sheds, large earth covered stockpiles are present. To date, no site investigation work has been completed on these stockpiles, however, leachate has been observed to have been breaking out from the base of these stockpiles. During the immediate leachate actions works in April 2015, earthworks in the south eastern corner of the site identified tyres to be buried in this portion of the site.

2.1.2 Campsie Sand & Gravels

The Campsie Sand and Gravel site is irregularly shaped elongated north to south and covers an area of approximately 33Ha. The western boundary of the site is bound directly by the River Faughan and an earth embankment runs along the majority of the boundary although is locally absent.

The site topography is variable and undulates between approximately 6 and 8m AOD. The surface level of Mobuoy Road adjacent to the east of the site rises to a maximum level of approximately 19m AOD at the northern end of the site and forms a steep embankment.

A disused sand and gravel processing facility comprising of washing and screening plant and storage areas is located within the central portion of the site.

The southern portion of the site is transected by an unnamed tributary of the River Faughan and is accessed by an earth bridge to the south of the disused processing area. The southern area of is characterised by undulating scrub land with various engineered surface water channels and areas of ponded water. Ground gas was noted to be issuing through the ground surface locally in the southern portion of the site manifested by audible flows, bubbling/ welling through standing water and odours. Areas of suspected landfill leachate break-out were observed locally close to the tributary to the River Faughan near BH221, and in the area portion of the site around BH203, which was a justification for citing a borehole at this location.

The northern portion of the site extends from the former sands and gravel processing area and is approximately 150 to 200m wide and 1400m long. The area has a rough access road extending along the majority of the site to the north. An expansive surface water body is located within the northern portion of the site associated with historical sand and gravel extraction.

110Kv power lines are carried on pylons across the site from the north to the south. The pylons are raised above the general level of the site on earth mounds approximately 7-10m higher than the surrounding lands.

2.1.3 Topographical Survey

A topographical survey was undertaken of the site by Six West Ltd in January 2015. The site was surveyed using unmanned aerial vehicles (UAV) to capture high resolution images during the predetermined flight path which are then processed to produce detailed geo-referenced orthomosaics. Presentation of the aerial photography is presented within Figure 3.

2.2 Site Geology

The following resources have been consulted in conjunction with a site walkover by a suitably qualified geologist:

- Published geological map (Geological Society of Northern Ireland(GSNI)), Londonderry Solid Sheet 11, Scale 1:50,000;
- British Geological Survey, GeoIndex Database consulted in March 2015;
- Soil classification map (Department of Agriculture Northern Ireland), Soil Map 7;
- A review of available borehole records within McLorinan Consulting Ltd Report Ref: P48-2, Landfill Closure Investigations & Associated Preliminary Risk Assessments, City Industrial Waste Ltd (May, 2009),
- A review of available borehole records within McLorinan Consulting Ltd Report Ref: P119-1, Hydrogeological risk Assessment, Non-Hazardous Landfill Site, Mobouy Road, Campsie, City Industrial Waste Ltd (August, 2010),
- A review of available trial pit and borehole records NIEA BHs (2012 & 2013);
- Geological field slips, Scale 1:10,000;
- Geological Survey of Northern Ireland Report – reference AD1, dated 23rd January 2015;
- Geological Survey of Northern Ireland, Aquifer Properties for Northern Ireland Groundwater Units, Groundwater Work Plan Item No. 3, dated September 2010;
- Characterisation of groundwater bodies within Northern Ireland, dated June 2012, Version No.1;
- GSNI. (2004) Geology of Northern Ireland, Our Natural Foundation, GSNI, DETI, 2nd Edition, Belfast.
- Robins, N, S. (1996) Hydrogeology of Northern Ireland, British Geological Survey, Environment and Heritage Service, NERC.

2.2.1 Made Ground

Exploratory hole data from the Northern Ireland Environment Agency (NIEA) 2012 and McLorinan Consulting Ltd 2009 and 2010 site investigations have been used to identify the site specific geology.

The maximum thickness (not proven) was of waste was identified at BHW2 (Mclorinan 2008). No waste is present on the eastern boundary of the City Waste site with an exposed quarry face present. No waste is identified at 2 No. boreholes (BH3R and BH4, McLorinan) in the centre of the northern area. No waste has been identified underneath the buildings in the south of the City Waste site.

No historical boreholes have been excavated in the Campsie S & G site. From evidence of landfilling activities at the site it is anticipated that Made Ground including construction and demolition waste and household waste is present.

2.2.2 Quantification of Suspected Waste Materials

Estimated quantities of the different waste material types have been calculated using available site investigation data including the geophysical survey (APEX Geophysical Survey, Appendix B), borehole logs, site reconnaissance visits and a topographical survey. Due to the heterogeneous nature of the material type and vertical and lateral distribution, the assessment considers 18 different zones which are referred to areas A to R. The location of areas A to R are presented within the Apex report (Appendix B).

- Area A – 2,870m^2. The geophysical survey has calculated a surface area of mixed organic/domestic/C&D wastes of 2,709m^2, comprising generally 4.5m in thickness, thus resulting in a calculated volume of 12,191m^3 of this waste type. In addition to this the geophysical survey identified an area of predominantly C&D waste measuring 161m^2 with an approximate thickness of 2m thus resulting in an additional calculated volume of 322m^3. The total waste volume in Area A on the basis of the geophysical survey and the site investigation is **12,513m^3**. This calculation takes into consideration the above ground level stockpile of waste in Area A, which has a height of between 2.0-4.5m derived from topographical data.

- Area B – 27,133m^2. The geophysical survey has calculated a surface area of mainly organic/metallic wastes of 16,417m^2, comprising generally 9.0m in thickness, thus resulting in a calculated volume of 147,753m^3. Mixed organic/domestic/C&D wastes were also identified spanning an area of 10,307m^2 generally reaching 10.0m in thickness, thus resulting in a calculated volume of 103,070m^3 of this waste type. In addition to this the geophysical survey also identified an area of predominantly C&D waste measuring 409m^2 with an approximate thickness of 3.0m thus resulting in a calculated volume of 1,227m^3. The total waste volume in Area B on the basis of the geophysical survey and the site investigation is **252,050m^3**.

- Area C – 21,160m^2. The geophysical survey has calculated a surface area of mainly organic/metallic wastes of 11,822m^2, comprising generally 6.5m in thickness, thus resulting in a calculated volume of 76,843m^3. Mixed organic/domestic/C&D wastes were also identified spanning an area of 8,811m^2 generally reaching 8.0m in thickness, thus resulting in a calculated volume of 70,488m^3 of this waste type. In addition to this the geophysical survey identified an area of predominantly C&D waste measuring 527m^2 with an approximate thickness of 4m thus calculating a volume of 2,108m^3. The total waste volume in Area C on the basis of the geophysical survey and the site investigation is **149,439m^3**. This calculation takes into consideration a small zone of C&D type waste along the western boundary which may only consist of clayey sand and gravel.

- Area D – 15,742m^2. The geophysical survey has calculated a surface area of mainly organic/metallic wastes is approximately 3,118m^2 generally reaching 6.0m in thickness, thus resulting in a calculated

volume of 18,708m^3. Mixed organic/domestic/C&D wastes are estimated to span an area of 11,218m^2 generally reaching 6.0m in thickness, thus resulting in a calculated volume of 67,308m^3 of this waste type. In addition to this an area of predominantly C&D waste measuring approximately 1,406m^2 with an approximate thickness of 3.5m, thus resulting in a calculated volume of 4,921m^3. The total waste volume in Area D on the basis of the available information is **90,937m^3**.

- Area E – 11,853m^2. The geophysical survey has calculated an area of mixed organic/domestic/C&D wastes of 4,511m^2 generally reaching 3.5m in thickness, thus resulting in a calculated volume of 15,789m^3 of this waste type. In addition to this the geophysical survey identified an area of predominantly C&D waste measuring 7,342m^2 with an approximate thickness of 1.5m, thus resulting in a calculated volume of 11,013m^3. The total waste volume in Area E on the basis of the available information is **26,802m^3**.

- Area F – 39,182m^2. The geophysical survey has calculated an area of mainly organic/metallic wastes of 3,268m^2 generally 2.4m in thickness, thus resulting in a calculated volume of 7,843m^3. Mixed organic/domestic/C&D wastes were also identified spanning an area of 23,355m^2 generally comprising 4.5m in thickness, thus resulting in a calculated volume of 105,098m^3 of this waste type. In addition to this the geophysical survey identified an area of predominantly C&D waste measuring 12,559m^2 with an approximate thickness of 4.5m, thus resulting in a calculated volume of 56,516m^3. The total waste volume in Area F on the basis of the available information is **169,457m^3**.

- Area G – 17,974m^2. The geophysical survey has calculated an area of mixed organic/domestic/C&D wastes of 2,539m^2 generally reaching 2.8m in thickness, thus resulting in a calculated volume of 7,109m^3 of this waste type. In addition to this the geophysical survey identified an area of predominantly C&D waste measuring 15,435m^2 with an approximate thickness of 4.0m, thus resulting in a calculated volume of 61,740m^3. The total waste volume in Area G on the basis of the geophysical survey and the site investigation is **68,849m^3**.

- Area H – 45,095m^2. The geophysical survey has calculated an area of mainly organic/metallic wastes of 1,165m^2 generally reaching 4.5m in thickness, thus resulting in a calculated volume of 5,243m^3. Mixed organic/domestic/C&D wastes were also identified spanning an area of 28,077m^2 generally 4.5m in thickness, thus resulting in a calculated volume of 126,347m^3 of this waste type. In addition to this the geophysical survey identified an area of predominantly C&D waste measuring 15,853m^2 with an approximate thickness of 4.5m, thus resulting in a calculated volume of 71,339m^3. The total waste volume in Area H on the basis of the available information is **202,929m^3**.

- Area I – 17,639m^2. This area was not covered by the geophysical survey due to the constraints. Information from one borehole, BH202, was used to estimate waste thickness in this area. The waste

is described as being domestic waste and was 7.0m in thickness thus calculating a total estimated volume of **123,473m^3** for this area.

- Area J – 31,137m^2. This area was not covered by the geophysical survey due to the access constraints. Information from one borehole, BH204, was used to estimate waste thickness in this area. No waste was encountered at BH204, therefore a total estimated waste volume of **0m^3** has been calculated for in Area J. There is a high level of uncertainty in this area, given the lack of available information. Future investigation in this area may permit verification / refinement of the calculated volume.

- Area K – 6,086m^2. This area was not covered by the geophysical survey due to the access constraints. As this area is under water there is no waste thickness information available, therefore a total estimated waste volume of **0m^3** has been calculated for in Area K. There is a high level of uncertainty in this area, given the lack of available information. Future investigation in this area may permit verification / refinement of the calculated volume.

- Area L – 49,368m^2. This area was not covered by the geophysical survey due to the ponded water. As this area is under water there is no waste thickness information available, therefore a total estimated waste volume of **0m^3** has been calculated for in Area L. There is a high level of uncertainty in this area, given the lack of available information. Future investigation in this area may permit verification / refinement of the calculated volume.

- Area M – 2,095m^2. This area was not covered by the geophysical survey due to the access constraints. Information from two boreholes, BH216 and BH217, was used to estimate waste thickness in this area. The waste is described as being C&D waste and was 6.0m in thickness at both locations, therefore a total estimated waste volume of **12,570m^3** has been calculated for Area M.

- Area N – 26,781m^2. This area was not covered by the geophysical survey due to the access constraints associated with the ponded water. As this area is under water there is no waste thickness information available, therefore a total estimated waste volume of **0m^3** has been calculated for in Area N. There is a high level of uncertainty in this area, given the lack of available information. Future investigation in this area may permit verification / refinement of the calculated volume.

- Area O – 4,542m^2. This area was not covered by the geophysical survey due to the access constraints. Information from one borehole, BH205, was used to estimate waste thickness in this area. The waste is described as being C&D waste and was 1.0m in thickness thus a total estimated volume of **4,542m^3** has been calculated for Area O.

- Area P – 6,901m^2. This area was not covered by the geophysical survey due to waste amterial present on the surface. The waste within this area consists of waste emplaced above ground level. Topographical site data gives an average height of this above ground waste of 7.0m, therefore, a total estimated volume of **48,307m^3** of waste has been calculated for Area P.

- Area Q – 26,761m^2. This area was not covered by the geophysical survey due to the reinforced concrete covering the ground surface. Information from one borehole, BH210, was used to estimate waste in this area. No waste was identified at BH210, therefore, a total estimated volume of **0m^3** of waste has been calculated for Area Q. There is a high level of uncertainty in this area, given the lack of available information. Future investigation in this area may permit verification / refinement of the calculated volume.

- Area R – 1,568m^2. This area was not covered by the geophysical survey due to the access constraints associated along the river bank. Information from one borehole, BH205, was used to estimate waste thickness in this area. The waste is described as being domestic waste and was 2.5m in thickness thus calculating a total estimated volume of **3,920m^3** for Area R.

Table 1 Waste Quantification Based on Geophysical Survey

Waste Type		Area A	Area B	Area C	Area D	Area E	Area F	Area G	Area H	Totals
	Area (m2)	2,870	27,133	21,160	15,742	11,853	39,182	17,974	45,095	181,009
Mainly Organic/Metallic Waste	Approx. Area(m2)		16,417	11,822	3,118		3,268		1,165	35,790
	Approx. Thickness(m)		9	6.5	6		2.4		4.5	
	Approx. Volume(m3)		147,753	76,843	18,708		7,843		5,243	256,390
Mixed Organic/Domestic/C & D Waste	Approx. Area(m2)	2,709	10,307	8,811	11,218	4,511	23,355	2,539	28,077	91,527
	Approx. Thickness(m)	4.5	10	8	6	3.5	4.5	2.8	4.5	
	Approx. Volume(m3)	12,191	103,070	70,488	67,308	15,789	105,098	7,109	126,347	507,398
Mainly C&D Waste	Approx. Area(m2)	161	409	527	1,406	7,342	12,559	15,435	15,853	53,692
	Approx. Thickness(m)	2	3	4	3.5	1.5	4.5	4	4.5	
	Approx. Volume(m3)	322	1227	2,108	4,921	11,013	56,516	61,740	71,339	209,185
	Total Waste Volume	**12,513**	**252,050**	**149,439**	**90,937**	**26,802**	**169,456**	**68,849**	**202,928**	**972,973**

Table 2 Waste Area Thicknesses (Additional WYG Derived Volumes)

		Area I	Area J	Area K	Area L	Area M	Area N	Area O	Area P	Area Q	Area R	Totals
	Area (m2)	17,639	31,137	6,086	49,368	2,095	26,781	4,542	6,901	26,761	1,568	-
	Constraint	Uneven ground and vegetation	Uneven ground, vegetation, surface water	Surface water	Surface water	Outside of geophysical survey area	Standing water	Outside geophysical survey area	Raised uneven ground	Buildings, concrete ground cover, and agoon	Cut off trench area	-
Waste	Approx.Thickness (m)	7	0	0	0	6	0	1	7	0	2.5	-
	Approx. Volume (m3)	123,473	0	0	0	12,570	0	4,542	48,307	0	3,920	192,182
	Interpretation of waste based on available logs	BH202 – 7m of domestic type waste	-	-	-	BH216, BH217 – 6m of C&D waste	-	BH205 – 1m of C&G waste	-	BH210 – no waste	BH208 – 2.5m of domestic waste	-
												192,182

2.2.3 Soil Cover

Soil cover across the site varies considerably. Given the disturbed nature of the site due to the sand and gravel and landfilling activity soil cover is absent in most places. For the purposes of this assessment and to provide an indication of the historical baseline soil conditions the mapped soil cover is described.

An examination of published the geological and soil maps, the results of a site walkover by a qualified geologist and the results of the recent drilling investigations carried on site were used to provide an idealised description of soil cover across the site (Table 2.1). A copy of the soil map is presented as Figure 6 and the soil profiles are discussed below.

Table 2.1 Mapped Soils

Location	Description of Location	Description of Mapped Soil cover
Area 1	Western site boundary along River Faughan corridor and as far east as the Mobuoy Road.	Alluvium
Area 2	Small isolated areas of limited extent with the central and northern portions of Campsie Sand & Gravel	Gravel derived Brown Earth
Area 3	Eastern site area, beyond the Mobuoy Road	Shallow Brown Earths

2.2.4 Drift Geology

An examination of the published geological map, the results of a site walkover by a qualified geologist and the results of the recent drilling investigations carried on site were used to provide an idealised description of the drift geology across the site (Table 2.2). A copy of the drift geology map is presented as Figure 7.

A large proportion of the study site is shown to be covered by glaciofluvial sheet deposits, consisting mostly of gravel, sand and silt. Smaller areas of alluvium and River Terrace deposits are mapped along the River Faughan which marks the western boundary of the site. Till (boulder clay) is mapped to the east on higher ground outside of the sites boundary.

Table 2.2 Mapped Superficial Geology

Location	Description of Location	Description of Mapped Superficial Geology
Area 1	Western site boundary along River Faughan corridor extending mid-way between the Faughan and Mobuoy Road.	Alluvium – Clay, silt, sand and gravel
Area 2	Small isolated deposits along River Faughan corridor, at the centre of the Campsie Sand & Gravel area. Largely confined to the inside bend of the River (depositional environment).	River Terrace Deposits – Clay, silt, sand and gravel
Area 3	Mapped from mid-way between the Faughan and Mobuoy Road further east, extending as far as the eastern site boundary.	Glaciofluvial Sheet Deposits – Sand and Gravel
Area 4	Small area along the north eastern site boundary.	Till (boulder clay)

2.2.5 Solid Geology

The published solid geology map was examined along with a review of the British Geological Survey (BGS) online Geo-Index database in an attempt to gain an understanding of the solid geology. A copy of the solid geology map is presented on Figure 4 and discussed below.

The study area is underlain by bedrock from the Dalradian Supergroup of Precambrian age and consists of mixed psammite and pelite, schistose hardrock. The rock unit form part of the Southern Highlands Group. The psammite and pelite, schistose rocks are known as the Londonderry Formation.

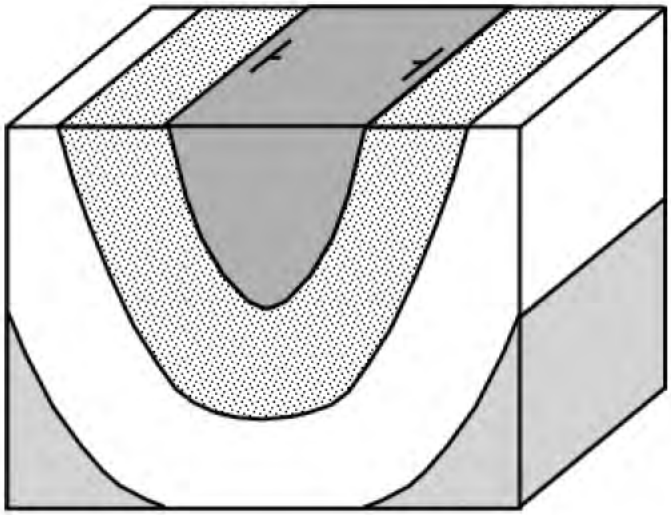
The rocks of the Londonderry Formation (mixed meta-schistose and psammite) were originally deposited as distal turbidites in an open water marine environment within a trough or basin which subsided gradually to accommodate the accumulating sediments, (Bazley, R.A.B., Brandon, A. and Arthurs, J.W. 1997. *Geology of the country around Limavady and Londonderry*. Geological Survey of Northern Ireland Technical Report GSNI/97/1.) The psammite rocks of the Londonderry Formation are characteristically pale green to mid grey in colour.

The River Faughan system is entirely underlain by a range of ancient (Dalradian) metamorphosed sediments. These rocks were deformed during a major mountain building phase some 465 million years ago. Rock types are dominated by psammites and pelites – altered sandstones and mudstones.

2.2.6 Geological Faults and Structural Geology

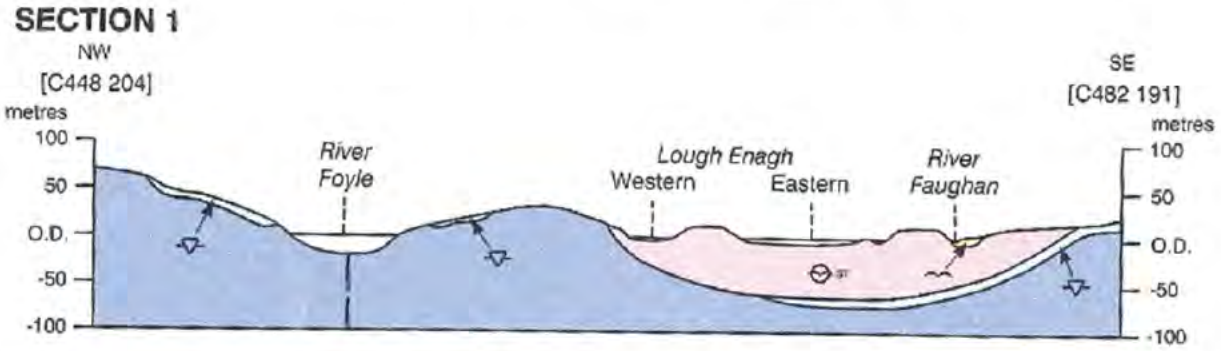
The site is located approximately 250m west of a large (NE-SW trending) Fault. The site sits at the centre of the Lough Foyle Syncline.

Inset 1 Schematic of Lough Foyle Syncline



Section 1 below is an extract taken from the published geological map (GSNI), Londonderry Solid Sheet 11, Scale 1:50,000. The cross-section runs from the NW to SE through Mobuoy Bridge, immediately north of the study site (circa 135m) and therefore the geology shown to the SE of the River Faughan on the inset below is expected to represent a good cross section through the site.

Horizontal exaggeration x 1.5 Vertical scale x 5



3 Ground Investigation Works

3.1 Scope of Works

The ground investigation was undertaken over a 4 week period with site works commencing on the 16th February and completion on the 16th March 2015.

Following completion of the initial PRA and geophysical survey the following works were completed:

- 18No. cable percussive boreholes for the purposes of groundwater monitoring
- 21No. cable percussive boreholes within waste type material.

Prior to the commencement of the site investigation WYG undertook a Joint Nature Conservation Committee (JNCC) Extended Phase 1 Habitat Survey and Protected Species Surveys at the City Waste and Campsie Sand & Gravel site in 2015. This included identification of ecological receptors, assessment of proposed impacts and design and implementation of appropriate mitigation measures. The assessments and findings are reporting within the WYG Report: Extended Phase 1 Habitat Report and Protected Species Surveys (presented within Appendix D of the WYG PRA, August 2015). Production of the WYG report allowed a Habitats Regulation Assessment to be undertaken by the NIEA prior to the site investigation works commencing. The main findings of the report were:

The site is located adjacent to River Faughan which is designated as an Area of Special Scientific Interest (ASSI) and a Special Area of Conservation (SAC). The following details the qualifying features of each designation.

ASSI – The River Faughan and Tributaries are designated as an ASSI because of the physical features of the river and its associated riverine flora and fauna. In total, the area encompasses approximately 60km of watercourse and is notable for the physical diversity and naturalness of the banks and channels, especially in the upper reaches, and the richness and naturalness of its plant and animal communities, in particular the population of Atlantic salmon, which is of international importance. Qualifying features include:

- Atlantic salmon (*Salmo salar*);
- Otter (*Lutra lutra*); and
- Sessile Oak woodland.

SAC – The River Faughan and Tributaries are designated as an SAC because of the physical features of the river and its associated riverine flora and fauna. Qualifying features include:

- Atlantic salmon (Salmo salar);
- Otter (Lutra lutra); and
- Old sessile oak woods with Ilex and Blechnum in the British Isles.

The River Faughan drains into Lough Foyle which is designated as an ASSI and a Special Protection Areas.

ASSI – Qualifying features are:

- Bar tailed Godwit, Great Cormorant, Curlew, Dunlin, Eider, Golden Plover, Great Crested Grebe, Greylag Goose, Knot, Lapwing, Light Bellied Brent Goose, Mallard, Oystercatcher, Red-breasted Merganser, Redshank, Shelduck, Teal, Whooper Swan, Wigeon, Mute Swan, Bewick's Swan, Waterbird Assemblage, Breeding Bird Assemblage and Invertebrate Assemblages.

SPA – Qualifying features area:

- Bar tailed Godwit, Bewicks Swan, Golden Plover, Light Bellied Brent Goose, Whooper Swan and Water bird assemblage.

The Site comprises a quarry and a waste disposal facility. A range of habitats were noted on site including wet woodland, scrub, marshy grassland, poor semi-improved grassland, standing water, marginal vegetation, tall ruderal and ephemeral/short perennial. Species-poor hedgerow form boundaries along the Mobuoy Road and along the perimeter of the large lagoon in the north-east of the site.

- The River Faughan forms the boundary on the west of the site. It is designated as a Special Area of Conservation (SAC) and Area of Special Scientific Interest (ASSI) for otter and Atlantic salmon.
- Species noted during the time of survey include badger, otter, a range of bird species including snipe, buzzard and sandmartin nests.

Recommendations from the recent WYG report included:

- **Watercourses**: A 10m buffer around any works is required along the River Faughan to acknowledge the protection required for a designated site (River Faughan SAC/ASSI). The River Faughan and its tributaries and all standing water on site should be protected from all potential contamination and sedimentation. All relevant Pollution Prevention Guidelines (PPGs) should be adhered to.

- **Hedgerows:** Hedgerows on site will be retained. If this decision changes and hedgerows are to be removed during the breeding bird season (1st March – August), a bird nest check survey will be required and a bat endoscope survey (of trees which have been deemed suitable for roosting bats) will be required, if the hedgerow has been deemed suitable for roosting bats. Hedgerow replacement may be required on site.

- **Bats**: The Bat Roost Potential Survey (BRP) highlighted certain hedgerows/treelines suitable for roosting bats. If proposed works plan to remove these identified hedgerows/treelines bat surveys (either an activity survey if between April - October, or an endoscope survey if between

November - March) will be required. An endoscope licence will be required if this type of survey is recommended.

- **Smooth newt**: A Senior Scientific Officer (SSO), Wildlife Team, NIEA was content the Site Investigation team stay vigilant and survey the immediate area around each borehole prior to drilling. They were required to keep a documented report detailing the presence/absence of any Smooth newts. Should Smooth newts be identified on site, all works were to cease and the project ecologist and the Senior Scientific Officer, NIEA notified.

- **Common lizard**: A Senior Scientific Officer (SSO), Wildlife Team, NIEA is content the Site Investigation team will stay vigilant and survey the immediate area around each borehole prior to drilling. They were required to keep a documented report detailing the presence/absence of any Common lizards. Should Common lizard be identified on site, all works were to cease and the project ecologist and the Senior Scientific Officer, NIEA notified.

- **Badger**: Acknowledgement of the badger sett on site and acknowledgement of the required 25m buffer. No works will be undertaken within this buffered area.

- **Otter:** Acknowledgement of the otter holt along the riverbank and acknowledgment of the required 30m buffer around each entrance hole. No works will be undertaken within this buffered area. This will ensure there is no direct disturbance to this species which is a qualifying feature of the River Faughan SAC / ASSI.

- **Atlantic salmon:** No in-stream works are proposed at this stage however if this is to change, ongoing discussions with NIEA/Loughs Agency will be held to ensure consultees are content with any proposed in-stream site investigation works. A Biological Assessment was carried out to determine if salmon were present in one of the tributaries flowing into the Faughan River. The Biological Assessment concluded no salmon are present in this tributary. Leachate Management will be implemented to control the leachate effluent in identified in this location. This management proposal will ensure there will be no degradation of water quality in the tributary which drains into the main River Faughan. This will ensure there will be no adverse impact on the qualifying features of the SPA / ASSI i.e. otter and Atlantic salmon.

- **Sea lamprey:** No in-stream works are proposed at this stage however if this is to change, ongoing discussions with NIEA/Loughs Agency will be held to ensure consultees are content with any proposed in-stream site investigation works. Further discussions will ensure that proposed works are considered and designed to ensure no adverse impact on the qualifying features of the River Faughan SAC / ASSI i.e. otter and Atlantic salmon.

- **Birds:** Sand martin nests have been located on site along the Mobuoy Road embankment in the north of the site. Snipe have been identified within long grassland within the east of the site. The proposed works are planned between February – March 2015. Sand martins typically nest in N. Ireland from mid-March onwards, and so recommendations will be to complete works in this area prior to the 1st March 2015 to ensure there will be no disturbance to this species. Snipe and their nests are also protected during the breeding bird season and so it was proposed to prioritise work in these areas initially to ensure there will be no disturbance to this species.

Japanese Knotweed: Proposed mitigation is to identify areas of Japanese Knotweed on the site and to notify all visitors to the site. It is proposed that a contractor is engaged to fence off the area(s) of Japanese Knotweed and to erect signage detailing this is invasive species issue. All personnel on site are to adhere to a 7m buffer around each stand and do not allow works within this buffered area.

3.2 Fieldworks

Cable percussive drilling was completed between 16th February 2015 and 16th March 2015 using two Dando 2000 light cable percussion boring rigs. All cable percussive boreholes were completed by the 16th March 2015.

3.3 General

The fieldwork was carried out in general accordance with BS 5930 (1999) as amended by Amendment No. 1 (2007) and Amendment No. 2 (2010). All Site Investigation operations were completed in accordance with WYG Standard Operating Procedures for ground investigations.

Prior to commencement of works exploratory holes were set out in accordance with pre-determined specification by means of a Global Positioning System (GPS).

Prior to boring or excavation of exploratory holes the surrounding area was cleared of services by means of a Cable Avoidance Tool (CAT) scan. A hand excavated inspection pit was then completed to 1.20m bgl prior to boring.

During drilling works limited environmental soil and water samples (ES & EW) were collected for subsequent environmental laboratory analysis.

Upon termination of all boreholes 50mm nominal internal diameter groundwater standpipes were installed to depths as specified by the Engineer. Full details of the geology encountered, samples taken, and groundwater installations within each exploratory hole are provided on the respective log within Appendix C.

Upon completion of the of the works all exploratory hole location was surveyed by GPS to Ordnance Datum. The exploratory hole location plans are presented within Figure 4.

3.4 Completed Works

The following investigation works were completed (as instructed by the Engineer).

- 38No. cable percussive boreholes to depths between 2.00m and 16.50m bgl.
- 38No. groundwater monitoring installations.

Exploratory hole records are presented in Appendix C.

4 Environmental Monitoring Works

4.1 Scope of Works

Following completion of the ground investigation, the following monitoring works were undertaken:

- Airlifting of all groundwater monitoring locations
- 6No. rounds of ground gas monitoring;
- 1No. round of gas sampling from selected locations;
- 5No. rounds of groundwater and leachate quality monitoring;
- 5No. Rounds of groundwater and leachate level monitoring;
- 5No. Round of surface water monitoring;
- Installation and monitoring of the hyporheic zone at select locations along the River Faughan.

4.2 Monitoring Schedule Overview

4.2.1 Ground Gas Monitoring

4.2.1.1 Methodology

Ground gas was monitored at all boreholes installed with a gas bung using a portable landfill gas analyser, specifically, a Geotech GA5000. Boreholes installed with a large diameter standpipe were not monitored for gas. The GAQ5000 has the capability to monitor/measure flow, CH_4, CO_2, O_2, CO, and H_2S. Each monitoring location was monitored until gas readings stabilised for up to 600 seconds. Each gas monitoring borehole was installed with bung with a gas sampling tap. At each monitoring location, a flow measurement was taken before analysing the gasses present. Data was manually recorded in the field at 30 second intervals, as well as electronically logged on the gas analyser. Ground gas monitoring locations are presented on Figure 4 – Borehole Location Plan.

4.2.1.2 Monitoring Round Detail

Table 4.1 Gas Monitoring Round Detail

Round	Dates
Round 1	28/04/2015 – 06/05/2015
Round 2	11/05/2015 – 14/05/2015
Round 3	14/05/2015 – 15/05/2015
Round 4	21/05/2015 – 22/05/2015
Round 5	25/05/2015 – 25/05/2015
Round 6	28/05/2015 – 28/05/2015

100mm diameter boreholes not fitted with gas bungs (BH220, BH207, and BH204) were not monitored for gas. Following monitoring round 1, BH211, BH214, and BH215 were not monitored due to strong gas flows.

4.2.1.3 Monitoring Results

The gas monitoring results are presented at Appendix D.

4.2.2 Ground Gas Sampling

4.2.2.1 Methodology

Bulk gas samples were collected from select sampling locations for analysis using pre-pressurised canisters which were analysed at a UKAS accredited laboratory. The pre-pressurised canisters and associated equipment required to collect the sample were provided by the laboratory. At each sampling location the gas sampling arrangement consisted of a pressurised canister, a pressure gauge, and a flow restrictor. The flow restrictor permits a maximum flow of 200ml/minute. As 450ml canisters were provided by the laboratory, each sample was collected over approximately 2 minutes.

4.2.2.2 Gas Sampling Detail

Table 4.2 Gas Sampling Detail

Date	Monitoring Location
06/06/2015	BH117, BH105, BH202

4.2.2.3 Monitoring Results

The ground gas sampling results are presented at Appendix E.

4.2.3 Groundwater and Leachate Quality Monitoring

4.2.3.1 Methodology

Sampling of groundwater and leachate monitoring locations was undertaken using a low flow sampling technique. The low flow sampling technique was carried out using a peristaltic pump and dedicated borehole tubing in order to eliminate the risk of cross-contamination between sampling locations. In advance of collecting the sample, field chemistry was monitored for a period of time as groundwater or leachate was pumped from the borehole through a flow cell containing the analytical probes. Field chemistry data was monitored during the pumping until the monitored parameters stabilised. Once the monitored parameters stabilised, it was considered appropriate to collect the sample. The parameters monitored in the field include pH, temperature, electrical conductivity, redox potential, and dissolved oxygen. In general, it took approximately 20-30 minutes for field parameters to stabilise at pumping rate between 0.1 and 0.5L per minute. During the pumping, water levels were monitored to ensure the monitored standing water level was not significantly drawn down. Where the standing water level was found to be being drawn down, the flow

rate was reduced accordingly with the objective of achieving a steady level. Groundwater and leachate sampling locations are presented on Figure 4 – Borehole Location Map.

4.2.3.2 Monitoring Results

The groundwater and leachate quality results are presented at Appendix F

Table 4.3 Groundwater and Leachate Quality Monitoring Round Detail

Round	Dates	Level of Testing
Round 1	28/04/2015 – 30/04/2015	Field parameters and laboratory analysis
Round 2	12/05/2015 – 14/05/2015	Field parameters and laboratory analysis
Round 3	24/11/2015 – 26/11/2016	Field parameters and laboratory analysis
Round 4	07/03/2016 – 10/03/2016	Field parameters and laboratory analysis
Round 5	22/06/2016 – 23/06/2016	Field parameters and laboratory analysis

4.2.4 Groundwater and Leachate Level Monitoring

4.2.4.1 Methodology

All groundwater and leachate measurements were taken using an electronic water level meter, which consists of a graduated tape with an electronic sensor at the end which activates an alarm when in contact with a liquid, such as groundwater or leachate. Measurement of the depth to water or leachate was initially taken in metres below datum, which was generally to the top of the borehole standpipe. These measurements were then converted to metres above ordnance datum (mAOD) using topographical survey data collected on 21st April 2015.

4.2.4.2 Monitoring Round Detail

Table 4.4 Groundwater and Leachate Level Monitoring Round Detail

Round	Dates
Round 1	28/04/2015 – 30/04/2015
Round 2	12/05/2015 – 14/05/2015
Round 3	24/11/2015 – 26/11/2016
Round 4	07/03/2016 – 10/03/2016
Round 5	22/06/2016 – 23/06/2016

4.2.4.3 Monitoring Results

Results of the groundwater and leachate level monitoring are presented at Appendix G.

4.2.5 Surface Water Quality Monitoring

4.2.5.1 Methodology

Surface water samples were collected from pre-determined sampling points presented on Figure 5. Surface water samples were analysed at a UKAS accredited laboratory using sampling vessels provided by the laboratory. In rivers and tributaries, samples were generally collected from centre point of the stream/tributary sampling location. In ponds/standing water, samples were collected at the maximum reach of the sampling pole (3m) from the edge of the water. All samples were directly collected in the sampling vessels provided by the laboratory using a sampling pole. Surface water monitoring locations are presented on Figure 5 – Surface Water Sampling Location Plan.

Table 4.5 Surface Water Quality Monitoring Round Detail

Round	Dates	Locations Monitored
Round 1	28/04/2015 – 30/04/2015	All SW monitoring Location
Round 2	12/05/2015 – 14/05/2015	SW6, SW7, and SW8
Round 3	24/11/2015 – 26/11/2016	
Round 4	07/03/2016 – 10/03/2016	
Round 5	22/06/2016 – 23/06/2016	All SW monitoring Location

4.2.5.2 Monitoring Results

Results of the surface water quality monitoring are presented at Appendix H.

4.2.6 Hyporheic Zone Quality Monitoring

4.2.6.1 Methodology

Three lines of selection across the River Faughan were selected and installed with mini-drive-point piezometers, which are designed to monitor groundwater base flow levels in the hyporheic zone of the River Faughan. The hyporheic zone is the zone of mixing which occurs at the interface between groundwater and surface water bodies. A total of 5No monitoring points were installed across each of the three lines of section, which are positioned adjacent to BH103 (Cross-section A), BH102 (Cross-section B), and BH101 (Cross-section C). The monitoring points were installed on 25th May 2015, and were monitored following the same sampling procedure as the groundwater and leachate monitoring boreholes.

4.2.6.2 Monitoring Round Detail

Table 4.6 Hyporheic Zone Quality Monitoring Round Detail

Round	Dates	Locations Monitored	Parameters Measured
	25th May 2014	Section A, Section B, Section C	Water level
	26th May 2015	Section A, Section B, Section C	Water level
Round 1	3rd June 2015	Section A, Section B, Section C	Water level and Quality Monitoring (Alkalinity, Dissolved Metals, Fluoride, Sulphate, Chloride, Nitrate, Nitrite, Ortho-Phosphate, Total Oxidised Nitrogen, Ammoniacal Nitrogen, pH)
Round 2	9th June 2015	Section A, Section B, Section C	Water level
Round 3	8th Sept 2015	Section A, Section B, Section C	Water level & chemical quality
Round 4	8th March 2016	Section A, Section B, Section C	Water level & chemical quality
Round 5	22nd June 2016	Section A, Section B, Section C	Water level & chemical quality

Samples were attempted to be collected from all hyporheic sampling points during monitoring however due to river level, access and limited recharge in some locations not all points were sampled during various monitoring rounds.

4.2.6.3 Monitoring Results

The results of the hyporheic zone level and quality results are presented at Appendix I.

4.3 Laboratory Results Summary

A summary of the environmental monitoring including groundwater, surface water, hyporheic quality monitoring is presented at Appendix J.

4.4 Site Constraints

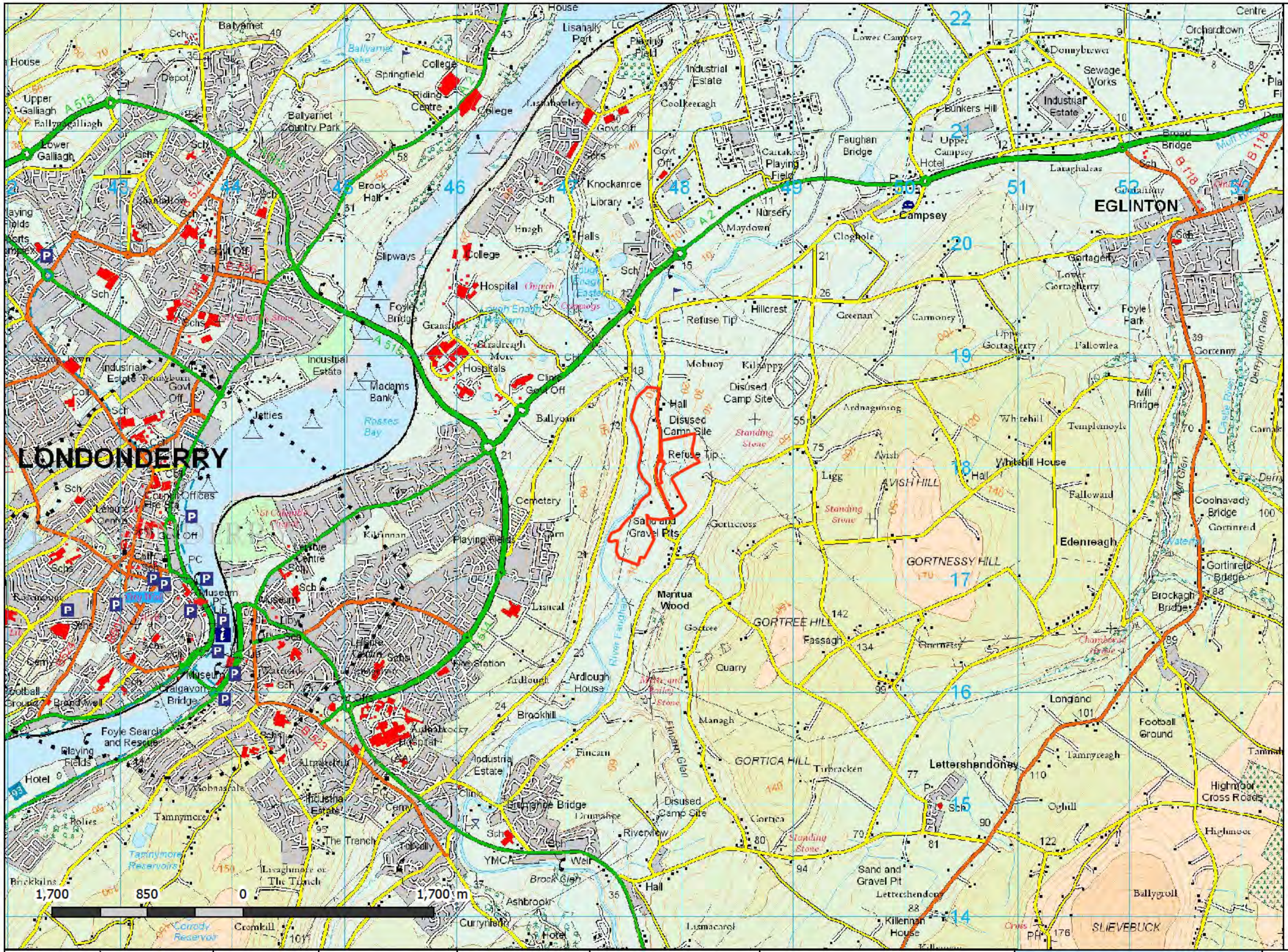
During the site investigation, monitoring and associated works the following constraints were encountered on site:

- Significant areas of ponded water
- Areas of uneven/inaccessible ground
- Electricity power cables
- Areas of surface 'mounded' surface waste
- Buildings limiting access to various areas on the City Industrial Waste site.
- The River Faughan & associated river banks. The river bed was only able to be accessed during low flow.
- Surface gas emissions required H&S procedures to be adhered to.

- Various ecological constrains as detailed within WYG Ecology Report (appendix D WYG PRA – July 2016)

Figures

Figure 1 – Site Location



Key

— Site Boundary

Based upon the Ordnance Survey of Northern Ireland 1:50 000 map with the permission of the Director & Chief Executive, © Crown copyright.

N

Project: A089594	Date: 01 May 2015	Drawn by: JN	Checked by: CJL	Verified by: MB	Absolute Scale @A3 1:37,000

Figure 1

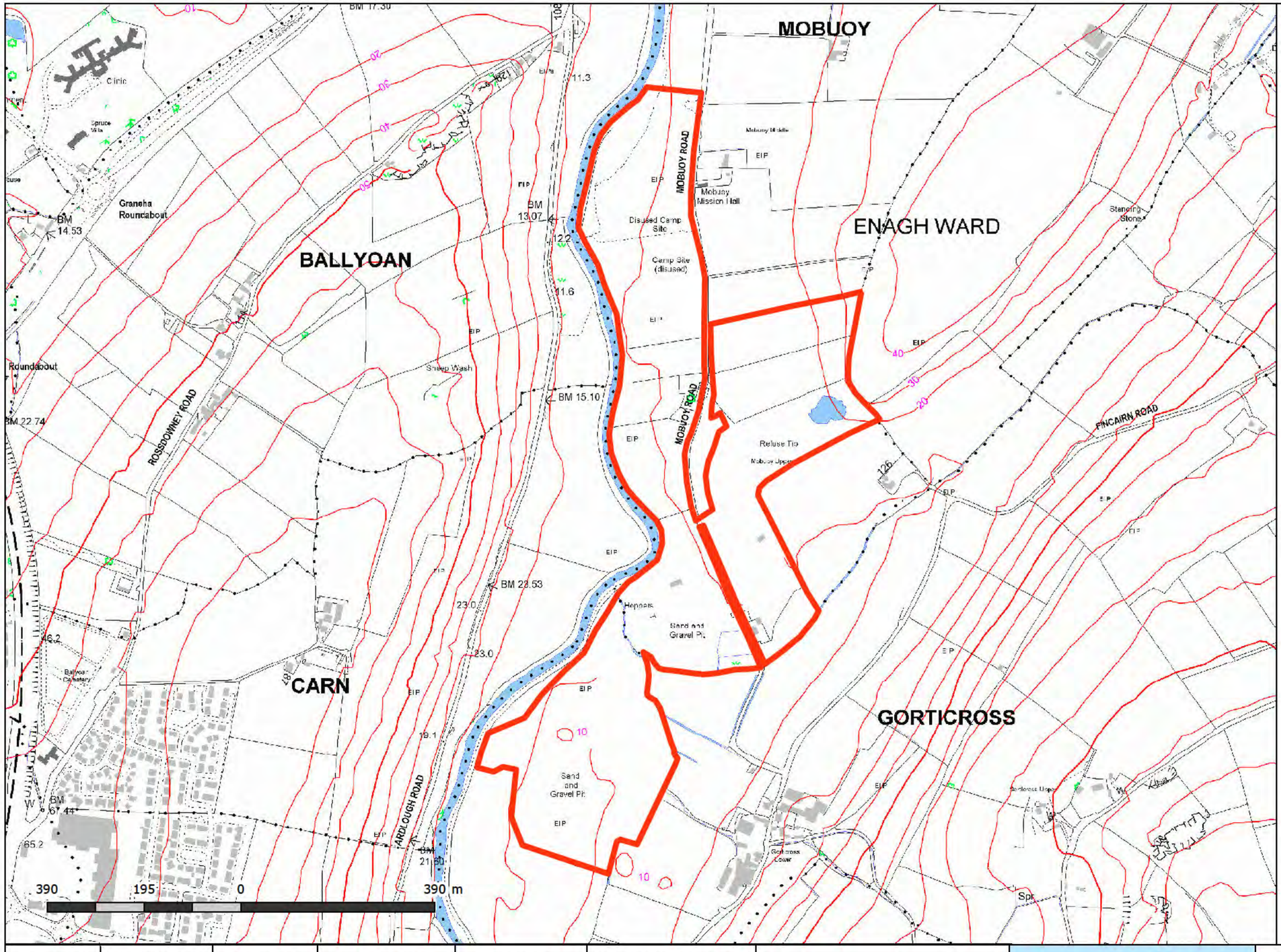
Site Location

Drawn using ESRI ArcMap 10

WYG
Locksley Business Park
Montgomery Road
BELFAST
BT6 9UP

Telephone: +44 (0)28 90706000
Email: belfast@wyg.com
Web: www.wyg.com

Figure 2 – Site Boundary



Key

Site Boundary

N

Project: A089594	Date: 01 May 2015	Drawn by: JN	Checked by: CJL	Verified by: MB	Absolute Scale @A3 1:8,296

Figure 2

Site Boundary

Drawn using ESRI ArcMap 10

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Web: www.wyg.com

Figure 3 – Topographical Survey, Aerial Photography

260 130 0 260 m

Key

Six West Aerial Photo

RGB

Red: Band_1

Green: Band_2

Blue: Band_3

Site Boundary

N

Project: A089594	Date: 01 May 2015	Drawn by: JN	Checked by: CJL	Verified by: MB	Absolute Scale @A3 1:5,500

Figure 3

Aerial Photo

Drawn using ESRI ArcMap 10

WYG
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Figure 4 – Borehole Location Plan

Key

Surveyed Borehole

- Leachate/Gas Monitoring Well
- Groundwater Borehole

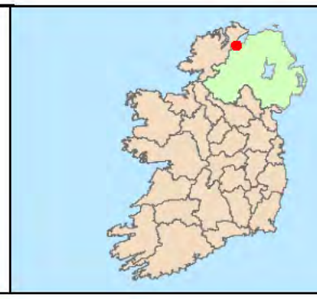
N

Project: A089594	Date: 15 May 2015	Drawn by: JN	Checked by: CJL	Verified by: MB	Absolute Scale @A3 1:5,976

Figure 4

City Waste - Borehole Location Map

Drawn using ESRI ArcMap 10



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Web: www.wyg.com

Figure 5 – Surface Water Monitoring Location Plan

Key

Site Boundary

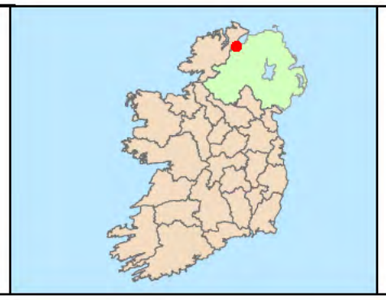
N

Project: A089594	Date: 04 August 2016	Drawn by: JN	Checked by: CJL	Verified by: MB	Absolute Scale @A3 1:5,500

Figure 5A

City Waste - Surface Water Sample Location Map

Drawn using ESRI ArcMap 10



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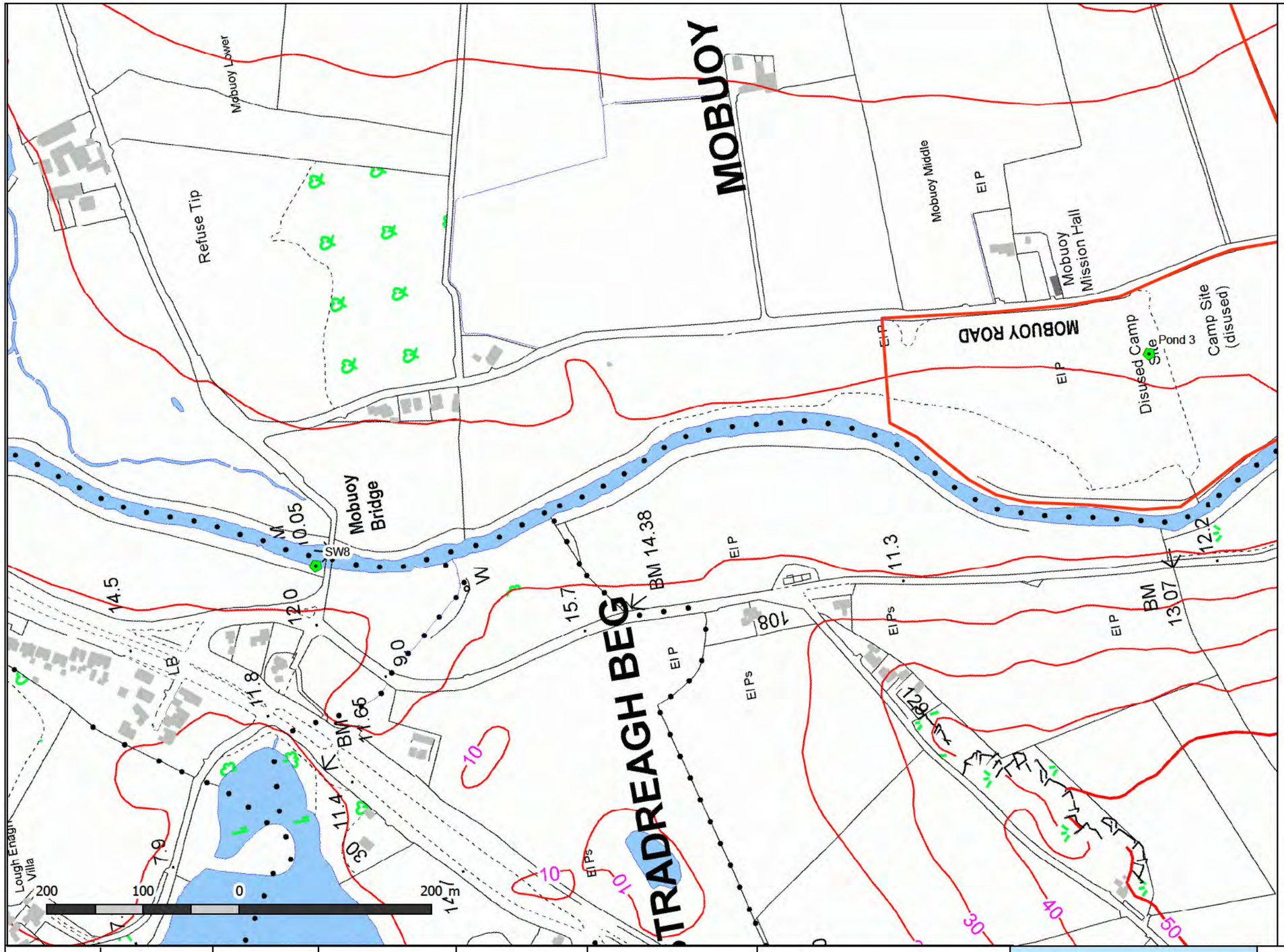

Key

Site Boundary

N

Project: A089594	Date: 04 August 2016	Drawn by: JN	Checked by: CJL	Verified by: MB	Absolute Scale @A3 1:4,300

Figure 5B

City Waste - Surface Water Sample Location Map

Drawn using ESRI ArcMap 10

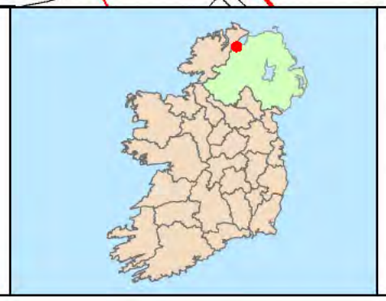

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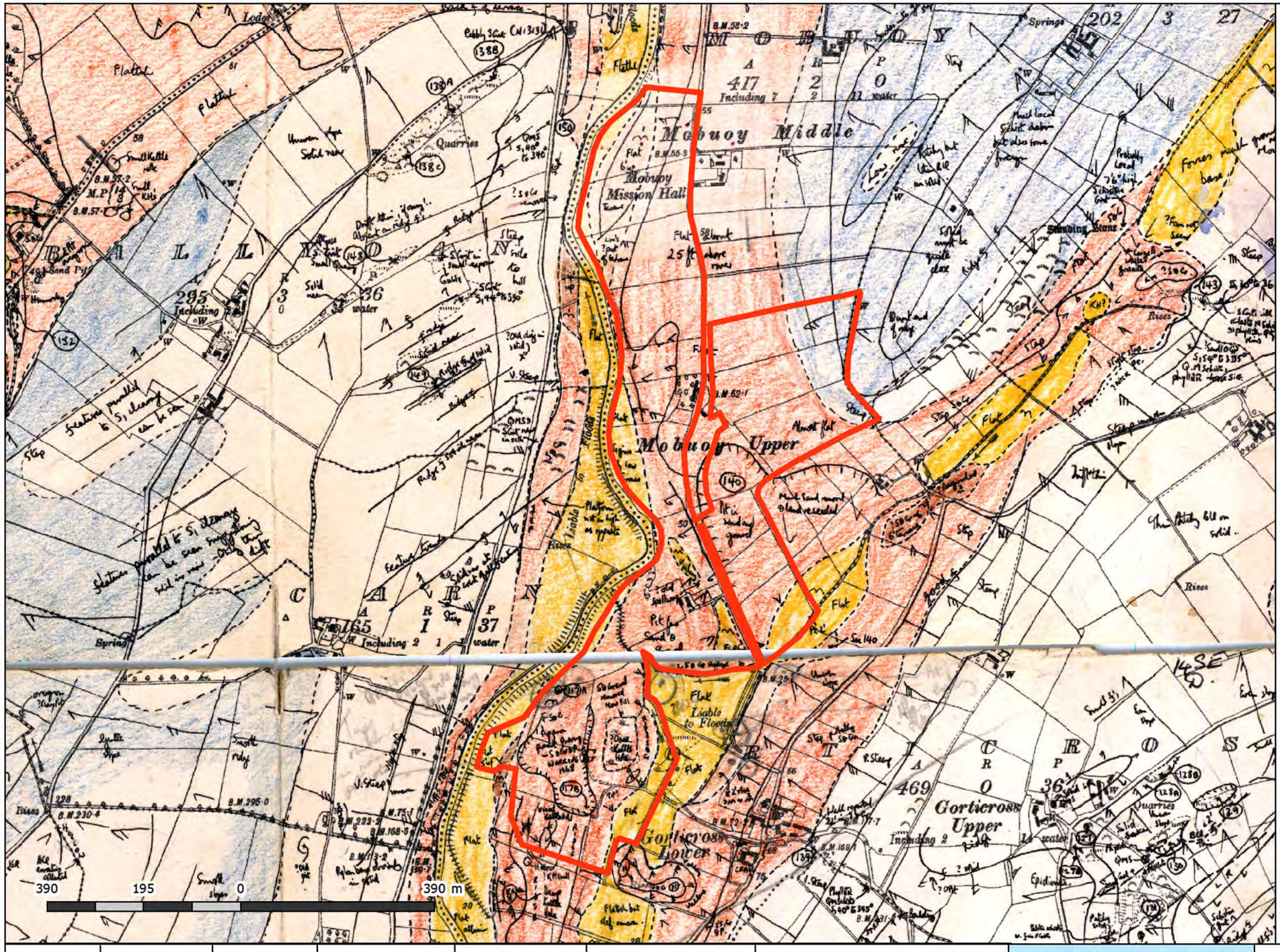
Figure 6 – Soil Map



Key

Site Boundary

N

Project: A089594	Date: 01 May 2015	Drawn by: JN	Checked by: CJL	Verified by: MB	Absolute Scale @A3 1:8,300

Figure 4

Soil Map

Drawn using ESRI ArcMap 10

WYG
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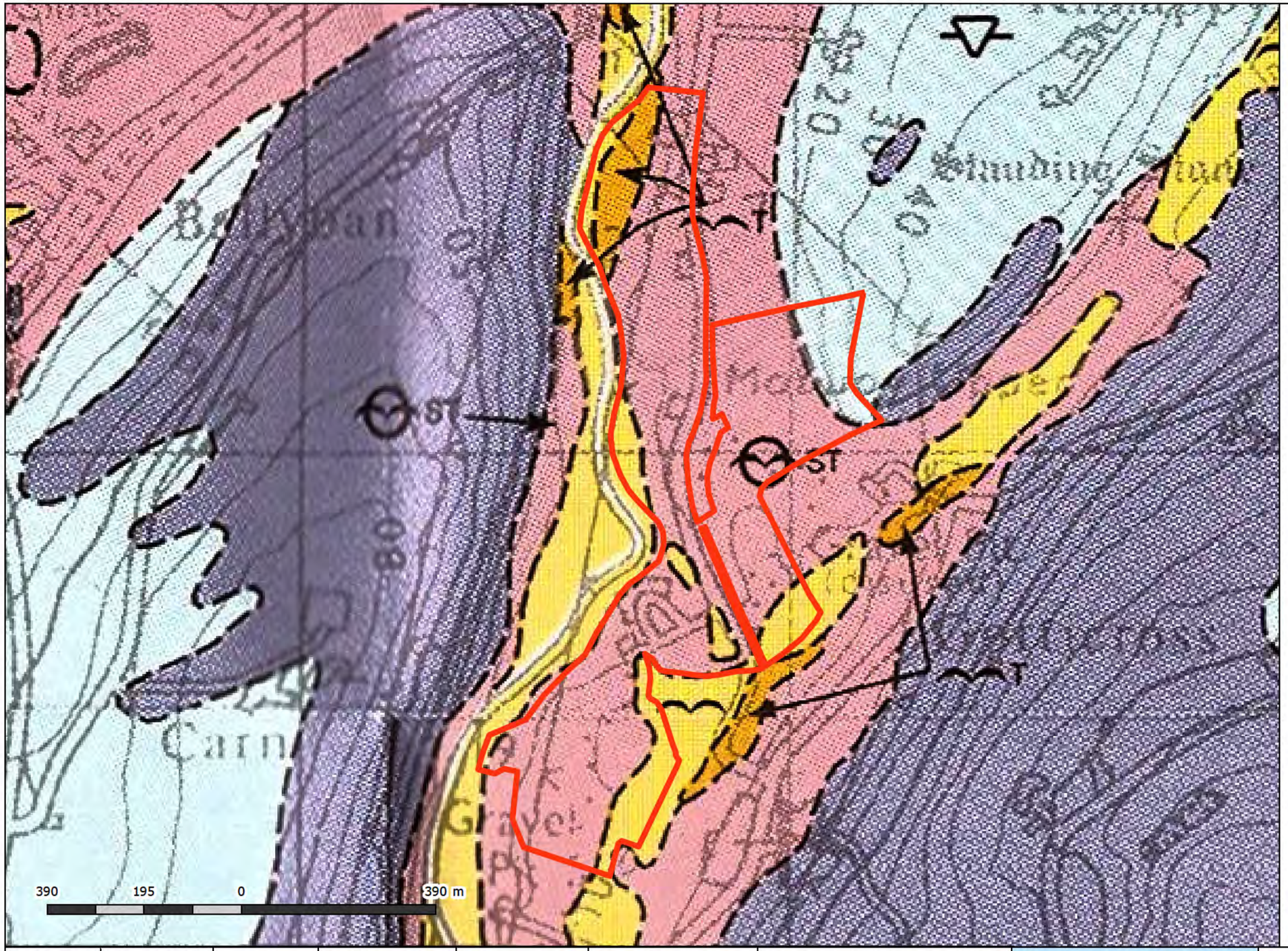
Figure 7 – Drift Geology Map



Key

Site Boundary

N

Project: A089594	Date: 01 May 2015	Drawn by: JN	Checked by: CJL	Verified by: MB	Absolute Scale @A3 1:8,300

Figure 5

Drift Geology Map

Drawn using ESRI ArcMap 10

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BT6 9UP

Telephone: +44 (0)28 90706000
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Appendices

Appendix A – Terms & Conditions

WYG Environmental & Planning (N.I.) Ltd

REPORT CONDITIONS

Ground Investigation – Factual Report
City Industrial Waste/ Campsie Sand & Gravel Environmental Support

This report is produced solely for the benefit of The NIEA and no liability is accepted for any reliance placed on it by any other party unless specifically agreed in writing otherwise.

This report is prepared for the proposed uses stated in the report and should not be used in a different context without reference to WYG. In time improved practices, fresh information or amended legislation may necessitate a re-assessment. Opinions and information provided in this report are on the basis of WYG using due skill and care in the preparation of the report.

This report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times.

This report is limited to those aspects reported on, within the scope and limits agreed with the client under our appointment. It is necessarily restricted and no liability is accepted for any other aspect. It is based on the information sources indicated in the report. Some of the opinions are based on unconfirmed data and information and are presented as the best obtained within the scope for this report.

Reliance has been placed on the documents and information supplied to WYG by others but no independent verification of these has been made and no warranty is given on them. No liability is accepted or warranty given in relation to the performance, reliability, standing etc of any products, services, organisations or companies referred to in this report.

Whilst skill and care have been used, no investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather related conditions.

Although care is taken to select monitoring and survey periods that are typical of the environmental conditions being measured, within the overall reporting programme constraints, measured conditions may not be fully representative of the actual conditions. Any predictive or modelling work, undertaken as part of the commission will be subject to limitations including the representativeness of data used by the model and the assumptions inherent within the approach used. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions.

The potential influence of our assessment and report on other aspects of any development or future planning requires evaluation by other involved parties.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. WYG accept no liability for issues with performance arising from such factors.

Appendix B – Geophysical Survey Report

AGL14275_02

REPORT ON THE GEOPHYSICAL SURVEY AT CITY WASTE / CAMPSIE SAND/GRAVEL LANDFILL FOR WHITE YOUNG GREEN

29TH APRIL 2015

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PRIVATE AND CONFIDENTIAL

THE FINDINGS OF THIS REPORT ARE THE RESULT OF A GEOPHYSICAL SURVEY USING NON-INVASIVE SURVEY TECHNIQUES CARRIED OUT AT THE GROUND SURFACE. INTERPRETATIONS CONTAINED IN THIS REPORT ARE DERIVED FROM A KNOWLEDGE OF THE GROUND CONDITIONS, THE GEOPHYSICAL RESPONSES OF GROUND MATERIALS AND THE EXPERIENCE OF THE AUTHOR. APEX GEOSERVICES LTD. HAS PREPARED THIS REPORT IN LINE WITH BEST CURRENT PRACTICE AND WITH ALL REASONABLE SKILL, CARE AND DILIGENCE IN CONSIDERATION OF THE LIMITS IMPOSED BY THE SURVEY TECHNIQUES USED AND THE RESOURCES DEVOTED TO IT BY AGREEMENT WITH THE CLIENT. THE INTERPRETATIVE BASIS OF THE CONCLUSIONS CONTAINED IN THIS REPORT SHOULD BE TAKEN INTO ACCOUNT IN ANY FUTURE USE OF THIS REPORT.

PROJECT NUMBER	AGL14275		
AUTHOR	**CHECKED**	**REPORT STATUS**	**DATE**
[redacted] P.GEO., M.SC (GEOPHYSICS)	[redacted] (GEOPHYSICS)	V.02	29TH APRIL 2015

CONTENTS

1. EXECUTIVE SUMMARY

APEX Geoservices Limited was requested by White Young Green to carry out a geophysical investigation to zone the waste at the illegal landfill located at the site of City Waste Ltd. and Campsie Sand & Gravel, Mobuoy Rd., Derry.

This second version of the report was written after the geophysical interpretation was updated after the completion of a series of boreholes which were drilled in February-March 2015, after the geophysical investigation.

The objectives of the survey were to identify the extent of the waste body and provide a volume calculation, to identify the thickness of the waste body and the presence of any anomalous features, to identify any possible leachate, to zone the site and to identify the type and thickness of the superficial deposits.

The investigation consisted of Conductivity Mapping, 2D Electrical Resistivity Tomography (ERT), Seismic Refraction Profiling and MASW Profiling (Multichannel Analysis of Surface Waves).

The site is some 46 Ha in area (including lakes/swamps) and has been subdivided into Areas A-H. Landfilling of waste has taken place in each area.

Waste has been subdivided into mixed organic/domestic/C & D waste; mainly organic/metallic waste; and mainly C & D waste.

Average waste thicknesses of 2.0-4.5m, 3.0-10.0m, 4.0-8.0m, 3.5-6.0m, 4.0-5.5m, 2.4-6.0m, 2.8-6.5m and 4.5-6.2m have been assigned to Area A-H respectively.

Waste volumes of 12513m^3, 252050m^3, 149439m^3, 90937m^3, 26802m^3, 169456m^3, 68849m^3 and 202928m^3 have been estimated for Areas A-H respectively.

This is divided into an estimated volume of 507398m^3 of mixed organic/domestic/C & D waste; 256390m^3 of mainly organic/metallic waste; and 209185m^3 of mainly C & D waste.

A total volume of 972973m^3 of waste has been estimated for the site.

The accessible river bank in the south-west of the site has been interpreted as not infiltrated by leachate, however some leachate has been interpreted to the west of the drain in the far south of the site.

2. INTRODUCTION

APEX Geoservices Limited was requested by White Young Green to carry out a geophysical investigation to zone the waste at the illegal landfill located at the site of City Waste Ltd., and Campsie Sand & Gravel, Mobuoy Rd., Derry.

This second version of the report was written after the geophysical interpretation was updated after the completion of a series of boreholes which were drilled in February-March 2015, after the geophysical investigation.

2.1 Survey Objectives

The objectives of the survey were to:

1. Identify the extent of the waste body and provide a volume calculation

2. Identify the thickness of the waste body and the presence of any anomalous features

3. Identify any possible leachate

4. Zone the site

5. Identify the type and thickness of the superficial deposits

2.2 Site Background

The site is located on both sides of the Mobuoy Road, which is c.5km east of Derry City. City Waste Ltd. was a waste recycling company which was located to the east of the road, at the southern end of the site. Campsie Sand and Gravel was a gravel aggregate company located to the west of the road and to the east, at the northern end. Both of these companies ceased operations approx. 2 years ago. The site has been divided into Areas A to G by the author for this report. The Faughan River runs along the western side of the site, with farmland surrounding the remainder of the site. Illegal dumping of what is believed to be mainly waste for recycling occurred at the site (on both sides of the road) for a number of years up to approx. 2 years ago.

Area A
This comprises the old City Waste site which is primarily covered in concrete and disused buildings and offices and a weighbridge, with a lagoon and some capped waste in the far south of the site. This total area covers c.2 Ha.

Area B
This area in the centre-east of the site comprises an area of stockpiled and levelled waste which has been capped with soil and is overgrown with grass, in an elongated field which is c.3.3 Ha in size. Steep banks are present at the northern and southern sides of this area due to the stockpiled waste/spoil.

Area C

This comprises what were two large fields in the north-east of the site, but are now covered with a large lake and levelled waste/spoil. A face of excavated bedrock is present along the eastern boundary of this area (Fig.2.1). Area C is approx. 12m lower in elevation than Area B.

Fig.2.1. Eastern side of Area C, showing a cut bedrock face.

Area D

This comprises the remainder of the site to the east of the road, to the west and south of Areas B and C, with an elevation on <19 mOD.

Area E

This comprises the area between the lake and the road, in the north-west of the site. A disused campsite is marked on the historical OSI map in the south of this area. This area is covered in capped waste and vegetation.

Area F

This comprises the large flat area (Fig.2.2) in the centre-west of the site, covered in made ground and capped waste, and is bounded by the river to the west and the road to the east, with embankments at these western and eastern sides. A large lake is located in the north-west of this area.

Area G

This comprises the area marked as Campsie Sand Gravel, and comprises a flat area of tar/made ground, with embankments along the east and south. Two lagoons are present

in the south of this area, with gravel extraction/grading machinery present in the west of this area.

Area H

This comprises the large area in the south-west of the site (Fig.2.3), and comprises mainly levelled and capped waste/vegetation, with some lagoons, swamps and drains. An agricultural drain runs along the east of this area, with the river along the west.

Fig.2.2. Area F, facing north.

Fig.2.3. Centre of Area H, facing north-west.

2.3 Geology

The GSNI 1:250k Bedrock Geology map for the area (Fig.2.4) indicates that the site is underlain by psammite and pelite of the Londonderry Formation.

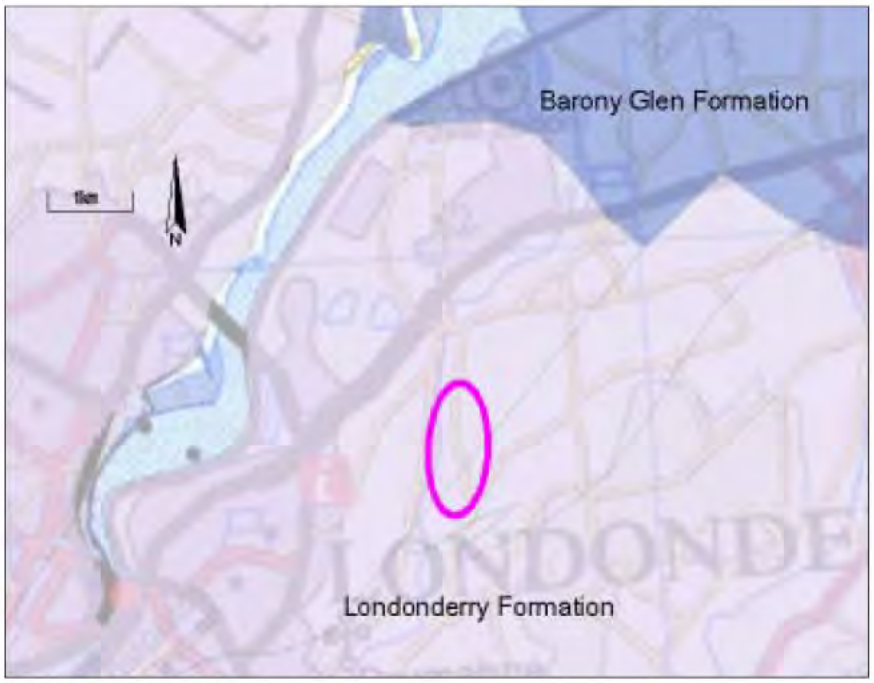


Fig.2.4. Geological map for the site.

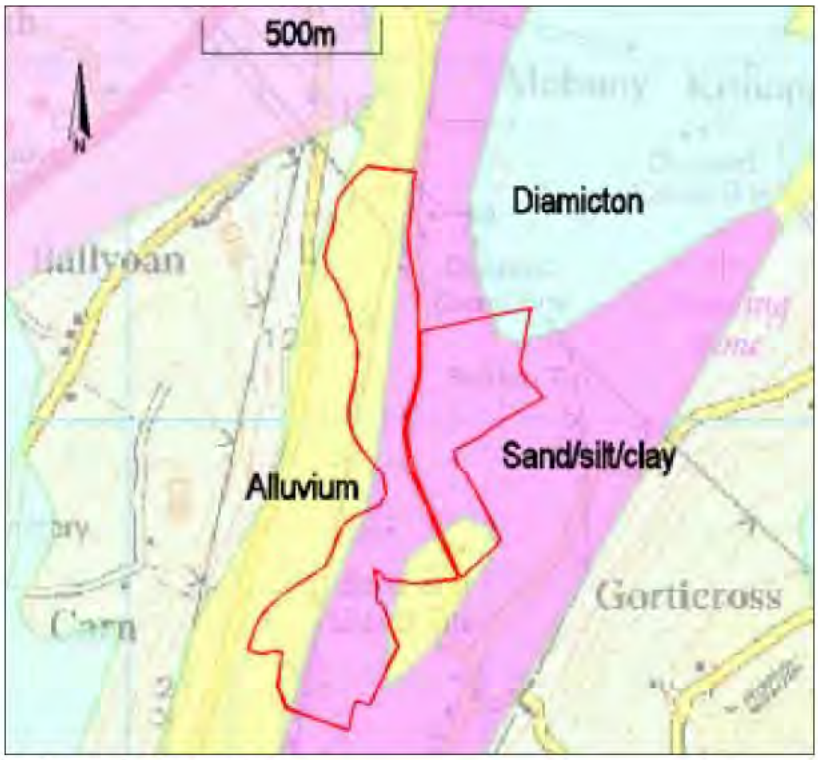


Fig.2.5. Soils map for the site.

2.4 Soils

The GSNI 1:250k Superficial Geology map for the area (Fig.2.5) indicates that the site is underlain by psammite and pelite of the Londonderry Formation.

2.5 Site Investigation

A large number of trial pits have been carried out at the site prior to the geophysical survey and the notes for these have been given to the author to assist with the interpretation of the geophysical results. The locations of most of these trial pits have been supplied to the author however it is not possible to locate some of them due to duplicate naming of trial pits.

These trial pits have been carried out from June 2012 to July 2013 and mainly report a thin (c.0.5m) layer of clay/soil overlying decomposing domestic refuse to a depth of 2-4m which comprises mainly plastics, paper, household material and food packaging as well as some C & D waste such as chipboard, textiles, wood and metal.

A summary of some boreholes which have been carried out in the east of the site has been provided and these indicate clay to 0.5m followed by waste which is 10-12m thick, followed by sand/gravel which is 1.8-17.5m thick.

39 no. boreholes were then completed after the geophysical survey and these mainly recorded topsoil/made ground/fll/C & D material followed by various types of waste of

varying thickness, followed by mainly gravelly sand/sandy gravel. The maximum thickness of waste recorded was to 14.5m bgl for BH211 which is in Area B.

2.6 Survey Rationale

Conductivity mapping is carried out using an EM31 Conductivity Meter, which is carried across the ground in set pattern, to provide conductivity values for the materials from 0 – 6.0m bgl. Materials such as waste and leachate will have a distinctively high conductivity, peat/silt/clay will have an intermediate conductivity and material with a low clay content such as limestone and sand/gravel will have a low conductivity. This method should allow us to zone the site into different types of waste, and will provide targets for the ERT profiles. The In-Phase data component will allow us to locate buried metal.

Electrical Resistivity Tomography (ERT) soundings will image the resistivity of the materials in the subsurface along a profile to produce a pseudo-section showing the variation in resistivity to 60m bgl, depending on the length of the profile. Each pseudo-section will be interpreted to determine the material type along the profile at increasing depth, based on the typical resistivities returned for Irish ground materials. This method works on the same principles as the conductivity method such that waste/leachate will have a very low resistivity.

Seismic Refraction Profiling measures the velocity of refracted seismic waves through the overburden and rock material and allows an assessment of the thickness and quality of the materials present to be made. Stiffer and stronger materials usually have higher seismic velocities while soft, loose or fractured materials have lower velocities. Readings are taken using geophones connected via multi-core cable to a seismograph. This method should allow us to profile the depth to the top of the bedrock, along profiles across the site.

The MASW method is used to estimate shear-wave (S-wave) velocities in the ground material to indicate possible soft zones. Overburden material with an S-wave velocity of <175 m/s is generally classified as soft. The depth of investigation for this method will depend on the source type and geophone spacing. In this survey an effective depth of investigation of 2-30m bgl was achieved. The S-wave velocities are also a good indicator of bedrock depth. This method was used on site for two of the seven seismic profiles acquired, due to the poor quality of seismic refraction data for two profiles (which often occurs in zone of thick waste).

3. RESULTS & INTERPRETATION

3.1 Conductivity Mapping

The conductivity results (Drawing AGL14275_02) are indicative of the bulk conductivity of the ground materials from 0-6.0m bgl and have been generally interpreted as follows:

Conductivity (mS/m)	Interpretation
0 - 30	> 4.5m of Mainly C & D Waste / Clayey SAND/GRAVEL /Material Affected by Leachate
30 - 75	> 4.5m of Mixed Organic / Domestic / C & D Waste/Leachate
75 - 150	> 4.5m of Mainly Organic / Metallic Waste

These results are discussed in Section 3.5.1 below.

The In-Phase results (Drawing AGL14275_03) are indicative of the presence of metal. The results indicate that values of >6 are concentrated in Areas B, C and D, which indicates that quantities of metal are present in the upper 6m in these areas. The red zone in the centre-east of the site (values of >40) is the central concreted area of City Waste, which is likely to contain metal rebar.

3.2 2D Electrical Resistivity Tomography (ERT)

ERT Profiles R1-R18 have been acquired across the site (Drawing AGL14275_01). The profiles have been interpreted on the following basis:

Resistivity (Ohm.m)	Interpretation
5 - 12	Mainly Organic / Metallic Waste
12 - 20	Mixed Organic Waste/Domestic/C& D Waste
20 - 167	Mainly C & D Waste / Capping / SILT / CLAY / Sandy Gravelly Clay Material Affected by Leachate
167 - 600	Clayey SAND/GRAVEL
120 - 167	Weathered Bedrock
167 - 3000	Psammite
45 - 167	Pelite

3.3 Seismic Refraction Profiling

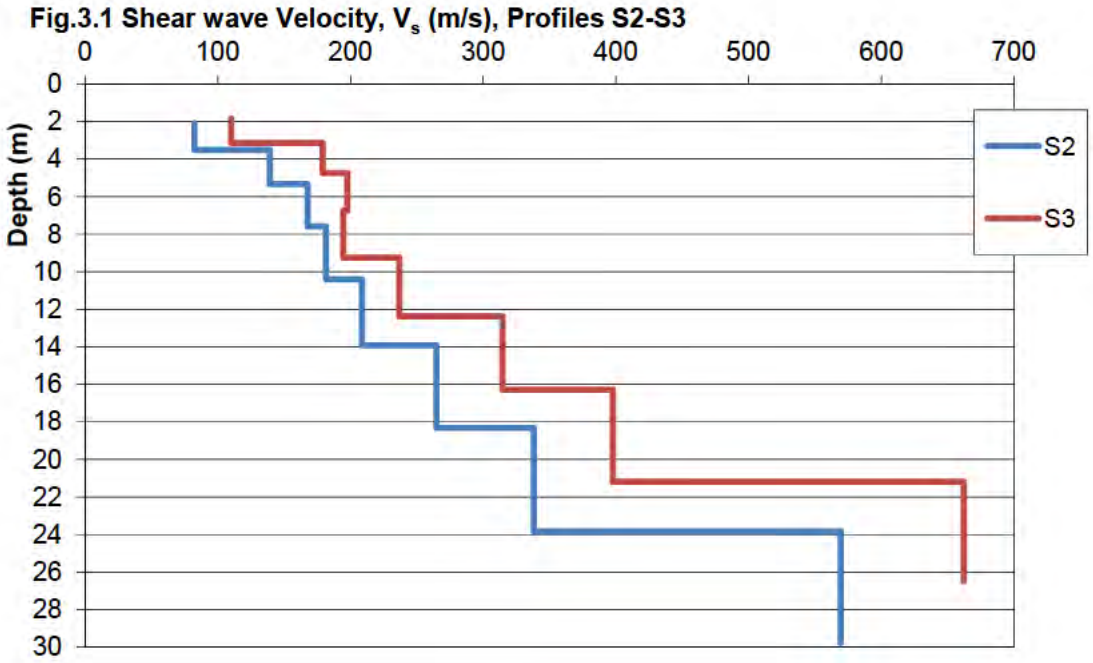
Five seismic refraction spreads (Profiles S1 and S4-S7) were recorded throughout the site. Profile S1 was 115m in length and Profiles S4-S7 were 69m in length. Due to the poor quality of P-waves (due to absorption in the presence of thick waste) for Profiles S2-S3, these profiles were processed for shear wave velocities only (MASW processing, see below).

The seismic data has outlined four velocity layers and has been generally interpreted on the following basis:

Layer	Seismic Velocity (m/s)	Average Seismic Velocity (m/s)	Interpretation	Stiffness/Rock Quality
1	187-542	303	Overburden/Waste	Soft/Loose
2	604-1258	868	Overburden/Waste	Firm-Stiff/Medium Dense-Dense
3	1332-2233	1652	Overburden/Waste	Stiff-very Stiff/Dense-very Dense
			Highly-Moderately Weathered Bedrock	Fair
4	3453-6211	4057	Slightly Weathered – Fresh Bedrock	Good

3.4 MASW Results

MASW processing has been carried out for Profiles S2-S3. The results for these are presented below (Fig.3.1), with the resulting shear wave velocities used to assist with the interpretation for Profiles R5-R6 (Drawing AGL14275_11). Fig.3.2 denotes the shear wave velocity and corresponding soil cohesion/bedrock quality.



Profiles S2 and S3 return values of <237 m/s to a depth of 13.9 & 12.4m respectively, which is further evidence for the presence of thick waste at these locations, since these low values would not normally be returned to these depths for natural materials.

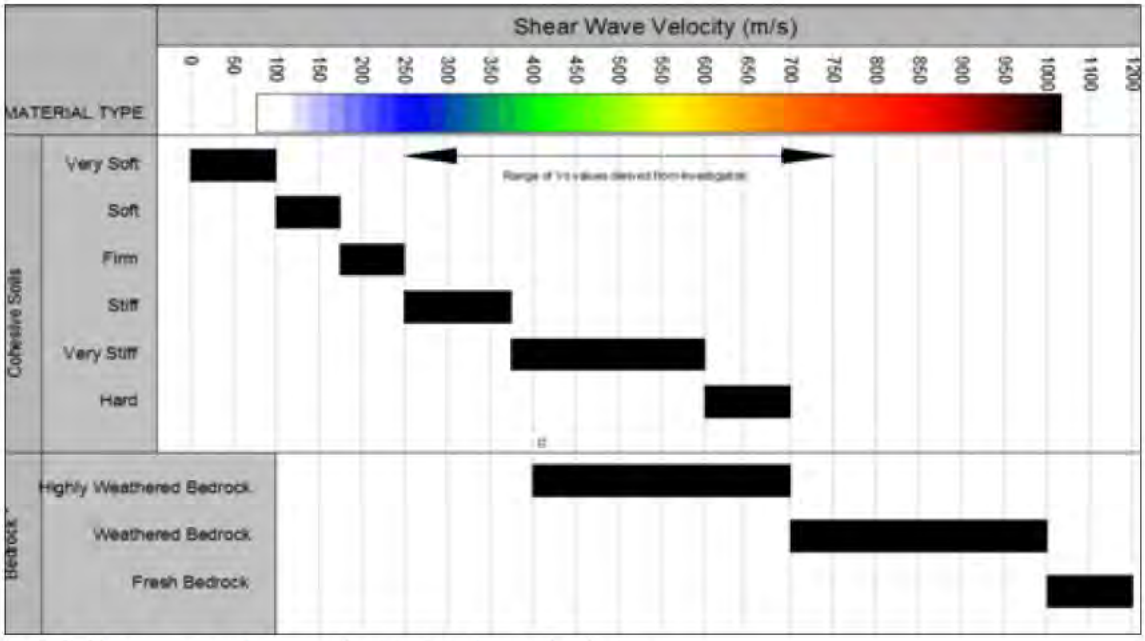


Fig.3.2. Shear-wave velocity and corresponding soil cohesion.

3.5 Summary & Waste Estimates

Drawing AGL14275_04 includes the interpretation of the conductivity results within Areas A to G. The combined geophysical and site investigation results are used to obtain the estimates of waste quantity and type for each of the Areas A to G (Table 3.1). The waste estimates are calculated to exclude a soil capping of c.0.5m thickness.

		Area A	Area B	Area C	Area D	Area E	Area F	Area G	Area H	Totals
Mainly Organic /Metallic Waste	Area ($m^{2)}$	2870	27133	21160	15742	11853	39182	17974	45095	181009
	Approx.Area(m^2)		16417	11822	3118		3268		1165	35790
	Approx.Thickness(m)		9.0	6.5	6.0		2.4		4.5	
	Approx.Volume(m^3)		147753	76843	18708		7843		5243	256390
Mixed Organic /Domestic /C & D Waste	Approx.Area(m^2)	2709	10307	8811	11218	4511	23355	2539	28077	91527
	Approx.Thickness(m)	4.5	10.0	8.0	6.0	3.5	4.5	2.8	4.5	
	Approx.Volume(m^3)	12191	103070	70488	67308	15789	105098	7109	126347	507398
Mainly C&D Waste	Approx.Area(m^2)	161	409	527	1406	7342	12559	15435	15853	53692
	Approx.Thickness(m)	2.0	3.0	4.0	3.5	1.5	4.5	4.0	4.5	
	Approx.Volume(m^3)	322	1227	2108	4921	11013	56516	61740	71339	209185
	Total Waste Volume	12513	252050	149439	90937	26802	169456	68849	202928	972973

Table 3.1. Estimation of Waste Volumes/Types.

For version 1 of the geophysical report, the base of waste has generally been interpreted as the 29 ohm-m contour (except in areas on interpreted mainly C & D waste), with the assistance of the seismic results.

With the completion of the site investigation, the base of the waste has generally been revised upwards to 20 ohm-m for version 2. The top of the sandy gravelly clay has also been generally revised upwards to 29 ohm-m. This leaves the material between the waste and the sandy gravelly clay, which has been interpreted as clayey sand/gravel which has generally been affected by leachate.

3.5.1 Area A

ERT Profiles R8-R9, Drawing AGL14275_12

BH208 is immediately south of the small lagoon and records municipal waste to 2.5m followed by gravelly sand. BH209 is drilled in the centre of the waste stockpile and records tarry waste to 4.0m.

An approx. volume of 12513m^3 of mainly mixed stockpiled waste is present in this south-eastern corner of the site.
A height of 2.0-4.5m has been assigned to this stockpile based on the supplied topography data, and the results for BH208.

A small lagoon is present to the west of Area A and Profile R8 shows an interpreted waste zone immediately south of the lagoon which is c.2.0m thick.

Profile R9 is carried out within the drain at the eastern edge of the stockpiled waste and shows a zone of interpreted leachate from 28-40m along the profile, at a depth of c.7-13m bgl.

3.5.2 Area B

ERT Profiles R5 & R13, Drawing AGL14275_11

BH211 is drilled at the northern side of Area B and records waste/suspected waste to 14.5m followed by gravelly sand.

An approx. volume of 252050m^3 of mainly organic/metallic waste has been estimated for this area. The In-Phase results indicate a high proportion of metal is present. The 19 mOD contour has been used to set the western boundary of this area.

A small zone of mainly C & D waste has been interpreted at the eastern boundary of this area but this may also comprise banked clayey sand/gravel. Note that access was not possible for conductivity surveying along the southern boundary of this area (at the base of the embankment).

3.5.3 Area C

ERT Profiles R6-R17, Drawing AGL14275_11

BH214 and BH215 have been drilled in the centre of this area. BH214 records domestic waste to 9.5m followed by sandy gravel, and BH215 records mainly plastic waste to 11.5m followed by clay.

An approx. volume of 149439m^3 of mainly organic/metallic and mixed waste has been estimated for this area. The average thickness of waste which as indicated by the ERT profiles (6.5-8.0m) suggests that a large volume of waste may also be present beneath the area of the lake (not included in the estimation).

A small zone of mainly C & D waste has again been interpreted at the western boundary of this area but again this may comprise clayey sand/gravel.

3.5.4 Area D

BH113 has recorded 13m of municipal waste followed by gravelly sand.

An approx. volume of 90937m^3 of mainly mixed waste has been estimated for this area. ERT profiling has not taken place in this area and the average thicknesses of waste assigned are approximate and based mainly on the supplied topography data, visual observation, and BH113.

3.5.5 Area E

ERT Profile R14, Drawing AGL14275_08

BH218 records waste to 2.5m followed by silty clay and gravelly sand.

An approx. volume of 26802m^3 of C & D and mixed waste has been estimated for this area. The extent of this area is drawn to mimic the waste boundary shown on a client-supplied drawing.

Profile R14 indicates that waste depth extends to c.8.3m bgl at the northern side of Area E.

3.5.6 Area F

ERT Profiles R4 & R10, Drawings AGL14275_09-10

BH106-BH108, BH206-BH270 & BH219-BH220 were drilled in Area F. BH106 records clay and sand to 7.0m, BH107 records waste to 6m followed by clay and sand, and BH108 records sand to 4m. BH206 records waste to 3.2m followed by gravel/sand and BH207 records waste to 5.5 followed by sand. BH219 records C & D rubble to 5.4m whilst BH220 records mainly plastic waste to 4.5m followed by sand.

An approx. volume of 169456m^3 of mainly C & D and mixed waste has been estimated for this area. The extent of this area is drawn to mimic the waste boundary shown on a client-supplied drawing.

Profile R4 straddles the western boundary of this area, with access to the riverbank only possible from 380-435m as shown. Interference due to an underground metal pipe may be present at 292m.

The In-Phase results show that a quantity of metal is presence within the interpreted northern zone of mainly organic/metallic waste in the north of Area F.

3.5.7 Area G

ERT Profiles R12 & R18, Drawing AGL14275_08

BH212 as recorded waste/suspected waste to 4.0m followed by sand.

An approx. volume of 68849m^3 of mainly C & D waste has been estimated for this area. The extent of this area is drawn to mimic the waste boundary shown on a client-supplied drawing, with a slight extension to the north due to the results for Profile R12.

The highest conductivities for Area G are recorded along the eastern side, in close proximity to the drain which is present. These high conductivities have been interpreted as due to mixed waste but they may also be due to a zone of leachate in the vicinity of the drain.

3.5.8 Area H

ERT Profiles R1-R3, R11 & R15-R17, Drawings AGL14275_05-07

BH201-BH203 has been a drilled in this area. BH201 records mainly sand to 7.5m, BH202 records domestic waste to 7.5m followed by sandy gravel and BH203 records waste to 4.0m followed by sand.

An approx. volume of 202928m^3 of mainly C & D and mixed waste has been estimated for this area. The extent of this area is drawn to mimic the waste boundary shown on a client-supplied drawing.

Profile R11 is characterised by large undulations in the interpreted base of the waste types, suggesting highly disorganised deposition of waste in this area.

Profiles R2 & R17 have been acquired alongside the drain to the east of Area F. Profile R2 exhibits resistivities of <29 ohm-m to depth of >12m bgl, which have been interpreted as material affected by leachate as shown. Note that these low resistivities may be due to thick silt/clay however since similar resistivities are not present for the adjoining Profile R17, nor for Profile R3 alongside the riverbank, these values are interpreted to be due to leachate.

Profile R3 has been acquired along the riverbank to the west of Area F and the results for this profile to not show the existence of leachate in this area.

4. RECOMMENDATIONS

Due to the large size of the site, it is recommended that additional ERT profiling is carried out within each of the Areas A-H, to provide further definition of the waste types and quantities which has been provided in this report.

ERT profiling could also be considered upon the lagoons/lake on site, since it is possible that a quantity of waste may be present beneath these bodies of water.

ERT profiling is also recommended inside/outside any areas of the site boundary upon which ERT has not taken place, such as the southern sides of Areas B, G and H, to locate any possible leachate in these areas.

A total of approx. 4000m of additional ERT is recommended due to the large size of the site.

5. REFERENCES

Bell F.G., 1993;

'Engineering Geology', Blackwell Scientific Press.

Campus Geophysical Instruments, 2000;

'RES2DINV ver. 3.4 Users Manual', Birmingham, England.

Hagedoorn, J.G., 1959;

'The plus - minus method of interpreting seismic refraction sections', Geophysical Prospecting, 7, 158 - 182.

Palmer, D., 1980;

'The Generalized Reciprocal Method of seismic refraction interpretation', SEG.

Redpath, B.B., 1973;

'Seismic refraction exploration for engineering site investigations', NTIS, U.S. Dept. of Commerce

Soske, J.L., 1959;

'The blind zone problem in engineering geophysics', Geophysics, 24, pp 359-365.

KGS, 2010, Surfseis v3 Users Manual, Kansas Geological Survey.

Park, C.B., Miller, R.D., and Xia, J., 1998;

Ground roll as a tool to image near-surface anomaly:SEG Expanded Extracts, 68th Annual Meeting, New Orleans, Louisiana, 874-877.

Park, C.B., Miller, R.D., and Xia, J., 1999;

Multi-channel analysis of surface waves (MASW): Geophysics, May-June issue.

6. APPENDIX A: DETAILED METHODOLOGY

6.1 Ground Conductivity Mapping

6.1.1 Principles

This is an electromagnetic technique used to investigate lateral variations in overburden material and to assist with the indication of the depth to bedrock.

This method operates on the principle of inducing currents in conductive substrata and measuring the resultant secondary electro-magnetic field. The strength of this secondary EM field is calibrated to give apparent ground conductivity in milliSiemens/metre (mS/m). Readings over material such as organic waste and peat give high conductivity values while readings over dry materials with a low clay mineral content such as gravels, limestone or quartzite give low readings.

The EM31 survey technique determines the apparent conductivity of the ground material from 0-6m bgl depending on the dipole mode used. Depending on the dipole mode used, the measured conductivity is a function of the different overburden layers and/or rock from 0 to 6m below ground level.

6.1.2 Data Collection

The EM31 equipment used was a GF CMD-4 conductivity meter equipped with data logger. This instrument features a real time graphic display of the previous 20 measurement points to monitor data quality and results. Conductivity and in-phase values were recorded throughout the site with a 20m line spacing. Local conditions and variations were recorded. The data was acquired on 19-20th January 2015.

6.1.3 Data Processing

The conductivity and inphase field readings were downloaded, contoured and plotted using the SURFER 8 program (Golden Software, 2008). Data which was affected by metallic objects was removed. Assignation of material types and possible anomaly sources was carried out, with cross-reference to other data. The contoured conductivity data and interpretation are displayed on Drawing AGL14275_02 and AGL14275_04.

6.1.4 Relocation

All data were referenced using a Garmin handheld system with sub 3m accuracy. All positions are given in Irish National Grid coordinates.

6.2 Electrical Resistivity Tomography (ERT)

6.2.1 Principles

This surveying technique makes use of the Wenner resistivity array. The 2D-resistivity profiling method records a large number of resistivity readings in order to map lateral and vertical changes in material types. The 2D-resistivity profiling method involves the

use of 1-101 electrodes connected to a resistivity meter, using computer software to control the process of data collection and storage.

6.2.2 Data Collection

Profiles R1-R18 were recorded using a ABEM resistivity meter, imaging software, two-four 20 takeout multicore cables and up to 101 stainless steel electrodes. Saline solution was used at the electrode\ground interface in order to gain a good electrical contact required for the technique to work effectively. The recorded data were processed and viewed immediately after the survey. The data was acquired on 19-23rd January 2015.

6.2.3 Data Processing

The field readings were stored in computer files and inverted using the RES2DINV package (Campus Geophysical Instruments, 1997) with up to 5 iterations of the measured data carried out for each profile to obtain a 2D-Depth model of the resistivities.

The inverted 2D-Resistivity models and corresponding interpreted geology are displayed on the accompanying drawings. Distance is indicated along the horizontal axis of the profiles. Profiles have been contoured using the same contour intervals and colour codes.

6.2.4 Relocation

All data were referenced using a Pro-XR Differential GPS system with c.20mm accuracy.

6.3 Seismic Refraction Profiling

6.3.1 Principles

The seismic refraction profiling method measures the velocity of refracted seismic waves through the overburden and rock material and allows an assessment of the thickness and quality of the materials present to be made. Stiffer and stronger materials usually have higher seismic velocities while soft, loose or fractured materials have lower velocities. Readings are taken using geophones connected via multi-core cable to a seismograph.

6.3.2 Data Collection

Seven seismic spreads were recorded on the 21-22nd January 2015 using a Geode high-resolution 24 channel digital seismograph with geophone spacings of 2m. The source of the seismic waves was a sledgehammer. Due to the poor quality of the data for Profiles S2-S3 (due to thickness of waste material) the seismic refraction data was not processed. These profiles were processed for shear wave velocities (Section 6.4).

6.3.3 Data Processing

The recorded data was interpreted using the ray-tracing and intercept time methods, to acquire depths to layer boundaries and the P-wave velocities of these layers, using the FIRSTPIX and GREMIX programs.

GREMIX interprets seismic refraction data as a laterally varying layered earth structure. It incorporates the slope-intercept method, parts of the Plus-Minus Method of Hagedoorn (1959), Time-Delay Method, and features the Generalized Reciprocal Method (GRM) of Palmer (1980). Up to four layers can be mapped, one deduced from direct arrivals and three deduced from refractions. Phantoming of all possible travel time pairs can be carried out by adjusting reciprocal times of off shots.

6.3.4 Relocation

All data were referenced using a Pro-XS Differential GPS system with c.20mm accuracy.

6.4 MASW

6.4.1 Principles

The Multi-channel Analysis of Surface Waves (MASW) (Park et al., 1998, 1999) utilizes Surface waves (Rayleigh waves) to determine the elastic properties of the shallow subsurface (<24m). Surface waves carry up to two/thirds of the seismic energy but are usually considered as noise in conventional body wave reflection and refraction seismic surveys.

The penetration depth of surface waves changes with wavelength, i.e. longer wavelengths penetrate deeper. When the elastic properties of near surface materials vary with depth, surface waves then become dispersive, i.e. propagation velocity changes with frequency. The propagation (or phase) velocity is determined by the average elastic property of the medium within the penetration depth. Therefore the dispersive nature of surface waves may be used to investigate changes in elastic properties of the shallow subsurface.

The MASW method employs the multi-channel recording and processing techniques (Sheriff and Geldart, 1982) that have similarities to those used in a seismic reflection survey and which allow better waveform analysis and noise elimination. To produce a shear wave velocity (Vs) profile and a stiffness profile of the subsurface using Surface waves the following basic procedure is followed:

(i) A point source (eg. a sledgehammer) is used to generate vertical ground motions,

(ii) The ground motions are measured using low frequency geophones, which are disposed along a straight line directed toward the source,

(iii) the ground motions are recorded using either a conventional seismograph, oscilloscope or spectrum analyzer,

(iv) a dispersion curve is produced from a spectral analysis of the data showing the variation of Surface wave velocity with wavelength,

(v) the dispersion curve in inverted using a modeling and least squares minimization process to produce a subsurface profile of the variation of Surface wave and shear wave velocity with depth,

(vi) a stiffness-depth profile (shear modulus, G) can be derived from elastic theory.

6.4.2 Data Collection

The recording equipment consisted of a Geode 24 channel digital seismograph, 24 no. 10HZ vertical geophones, hammer energy source with mounted trigger and a 24 take-out cable, with a 3m geophone spacing.

Surface waves were recorded for Profiles S2 and S3 and MASW processing was carried out for these profiles, due to the poor quality of the seismic refraction data (due to thickness of waste material).

6.4.3 Data Processing

MASW processing was carried out using the SURFSEIS processing package developed by Kansas Geological Survey (KGS, 2000). SURFSEIS is designed to generate a shear wave (Vs) velocity profile.

SURFSEIS data processing involves three steps:

(i) Preparation of the acquired multichannel record. This involves converting the data file into the processing format.
(ii) Production of a dispersion curve from a spectral analysis of the data showing the variation of Raleigh wave phase velocity with wavelength. Confidence in the dispersion curve can be estimated through a measure of signal to noise ratio (S/N) which is obtained from a coherency analysis. Noise includes both body waves and higher mode surface waves. To obtain an accurate dispersion curve the spectral content and phase velocity characteristics are examined through an overtone analysis of the data.
(iii) Inversion of the dispersion curve is then carried out to produce a subsurface profile of the variation of shear wave velocity with depth.

The shear wave velocities were then converted into shear modulus values using the formulae:

(1)

$$G = V_s^2 * \rho / 1000000$$

Where	G	=	Shear Modulus (MPa)
	V_s	=	Shear Wave Velocity (m/s)
	ρ	=	Density (kg/m^3)

The Vp velocities were combined with the shear wave velocity data to calculate Poissons ratio, dynamic Bulk modulus and Youngs Modulus for each of the layers outlined by the P-wave data analysis using the formulae in Davies & Schulteiss, 1980 as follows:

(2) $u=(Vp/Vs)^2-2 / 2((Vp/Vs)^2-2)$

(3) $E = 2V_s^2 \rho(1 +u)/1000$

where	E	=	Youngs Modulus (GPa)
	V_s	=	Shear Wave Velocity (m/s)

	ρ	=	Density (kg/m^3)
	u	=	Poisson's ratio

and

(4)	B	=	E/3(1-2 u)
where	B	=	Bulk Modulus (MPa)
	E	=	Youngs Modulus (MPa)
	u	=	Poisson's ratio

6.2.4 Relocation

All data were referenced using a Pro-XR Differential GPS system with c.20mm accuracy.

7. APPENDIX B: SEISMIC REFRACTION PLATES

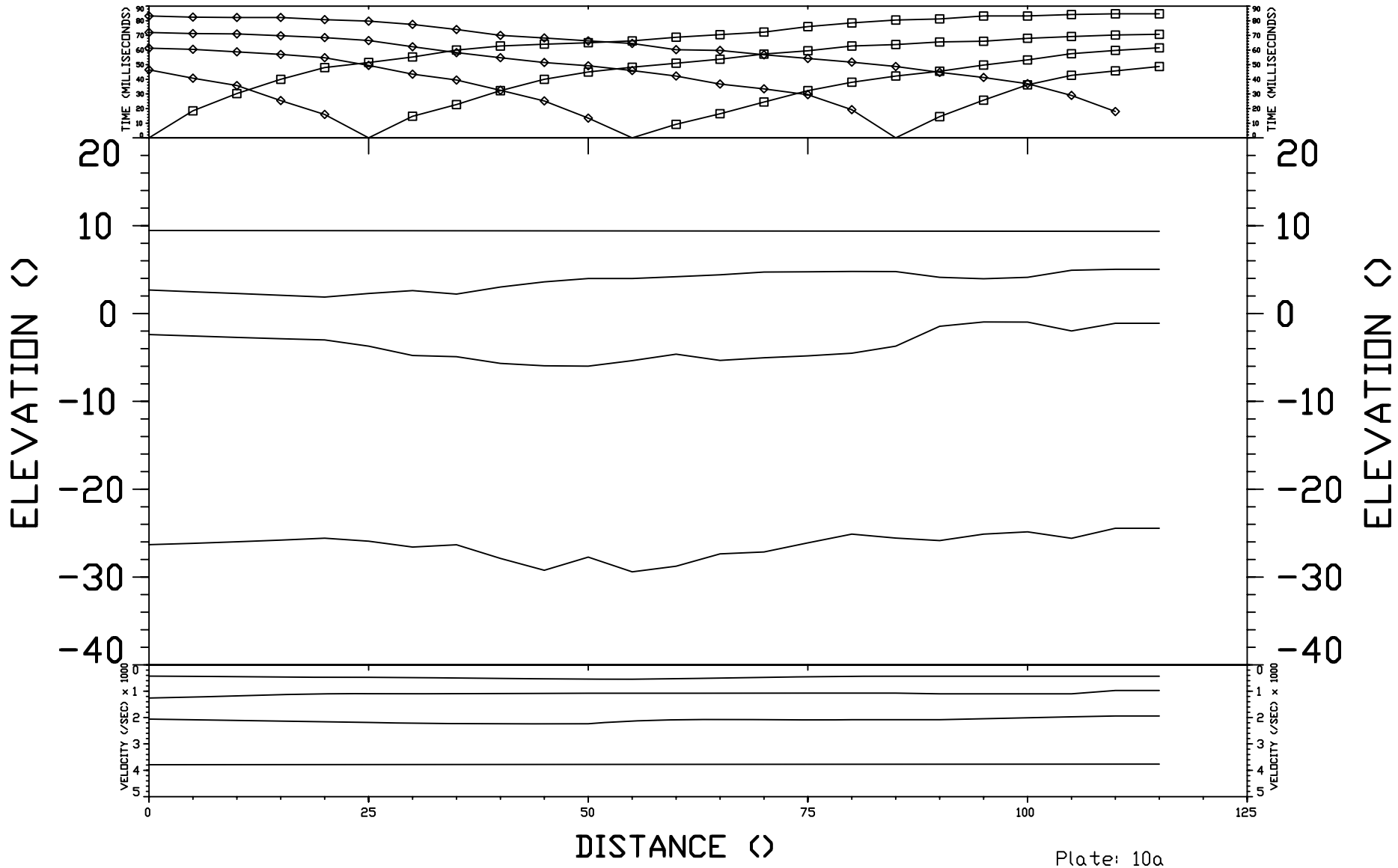
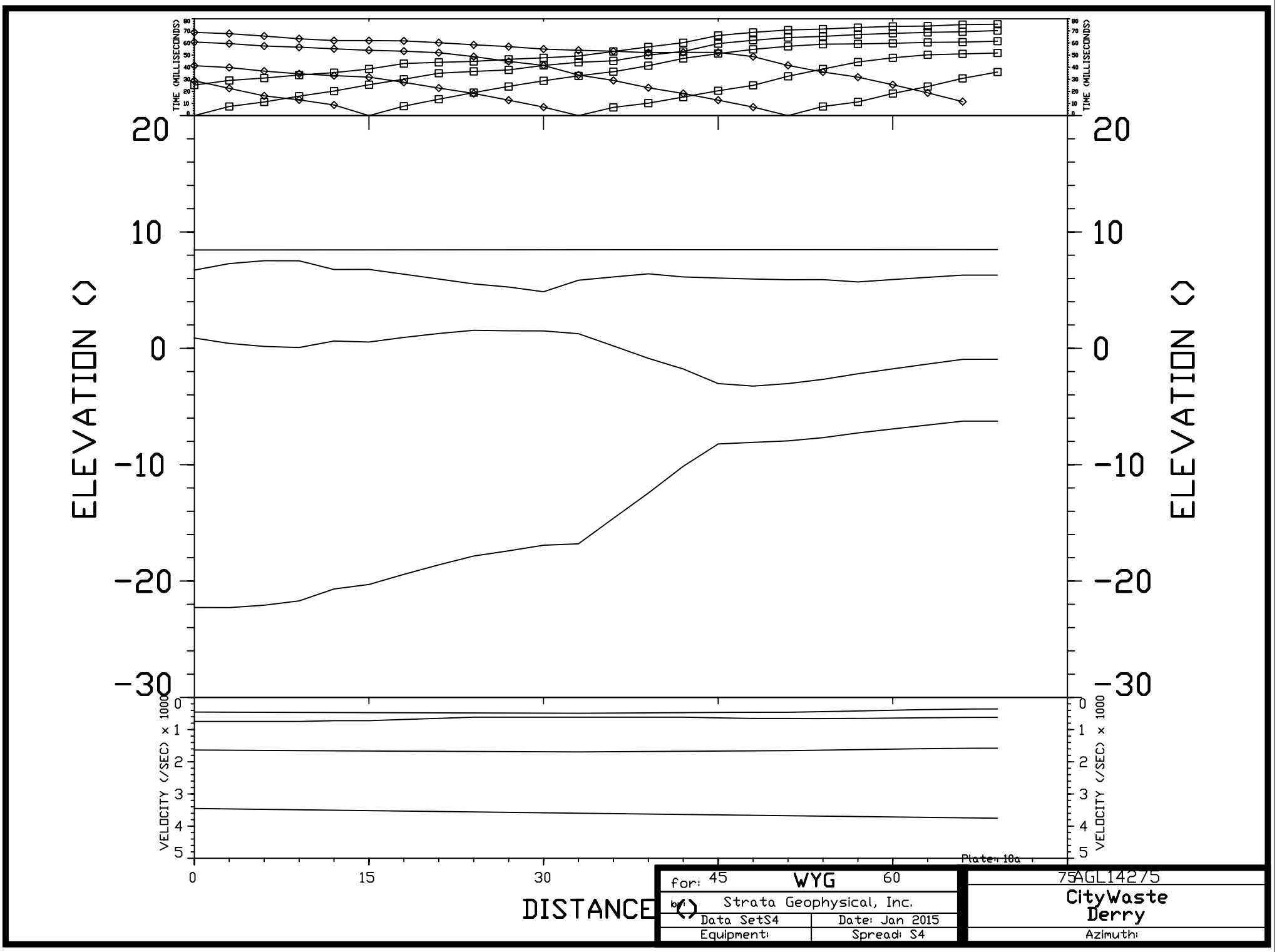


Plate: 10a

for: WYG	AGL14275
by: Strata Geophysical, Inc.	CityWaste Derry
Data SetS1 / Date: Jan 2015	
Equipment: / Spread: S1	Azimuth:


TIME (MILLISECONDS)
ELEVATION ()
VELOCITY (/SEC) x 1000
DISTANCE ()
Plate: 10a
for: WYG
by: Strata Geophysical, Inc.
Data Set: S4
Date: Jan 2015
Equipment:
Spread: S4
75AGL14275
CityWaste
Derry
Azimuth:

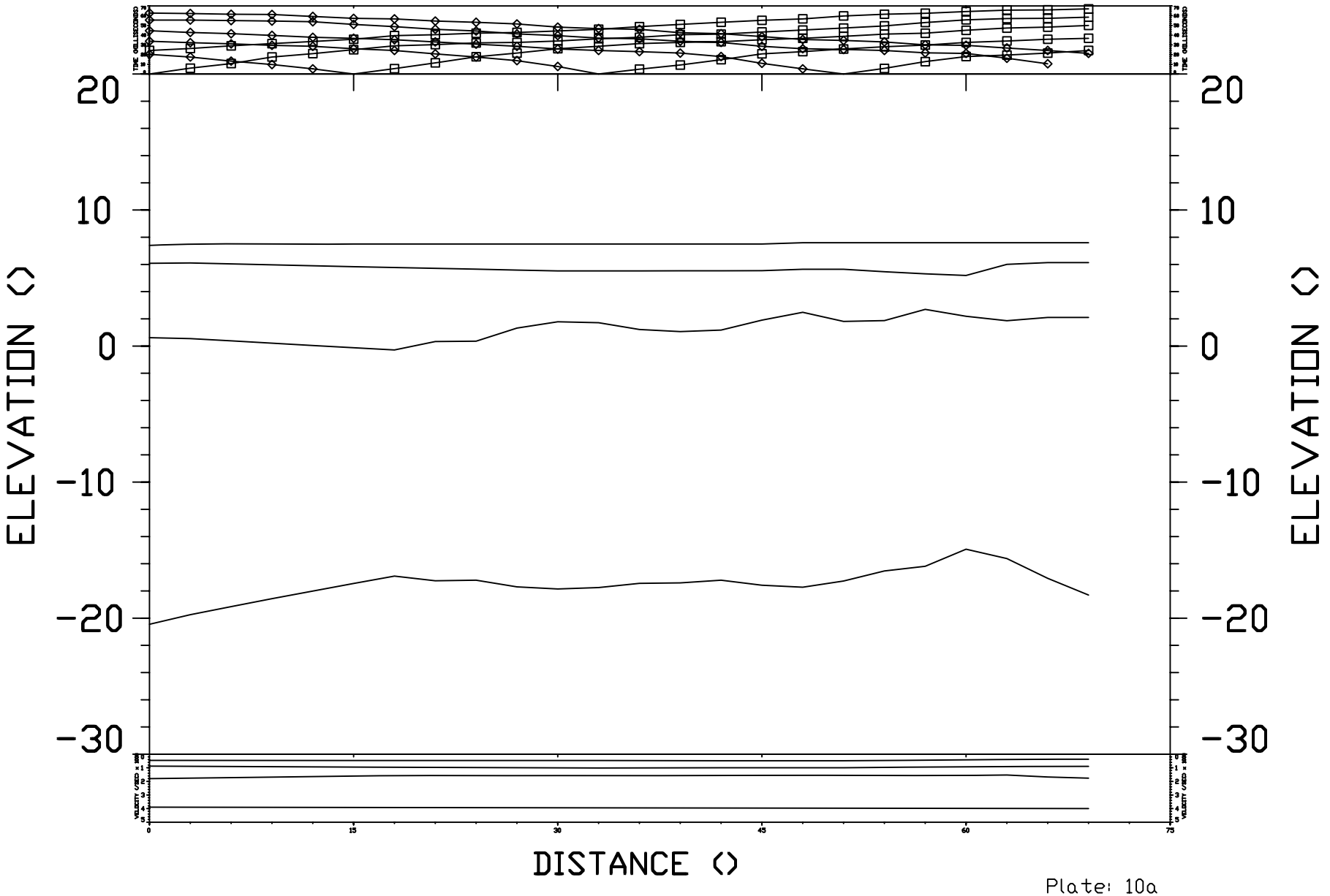
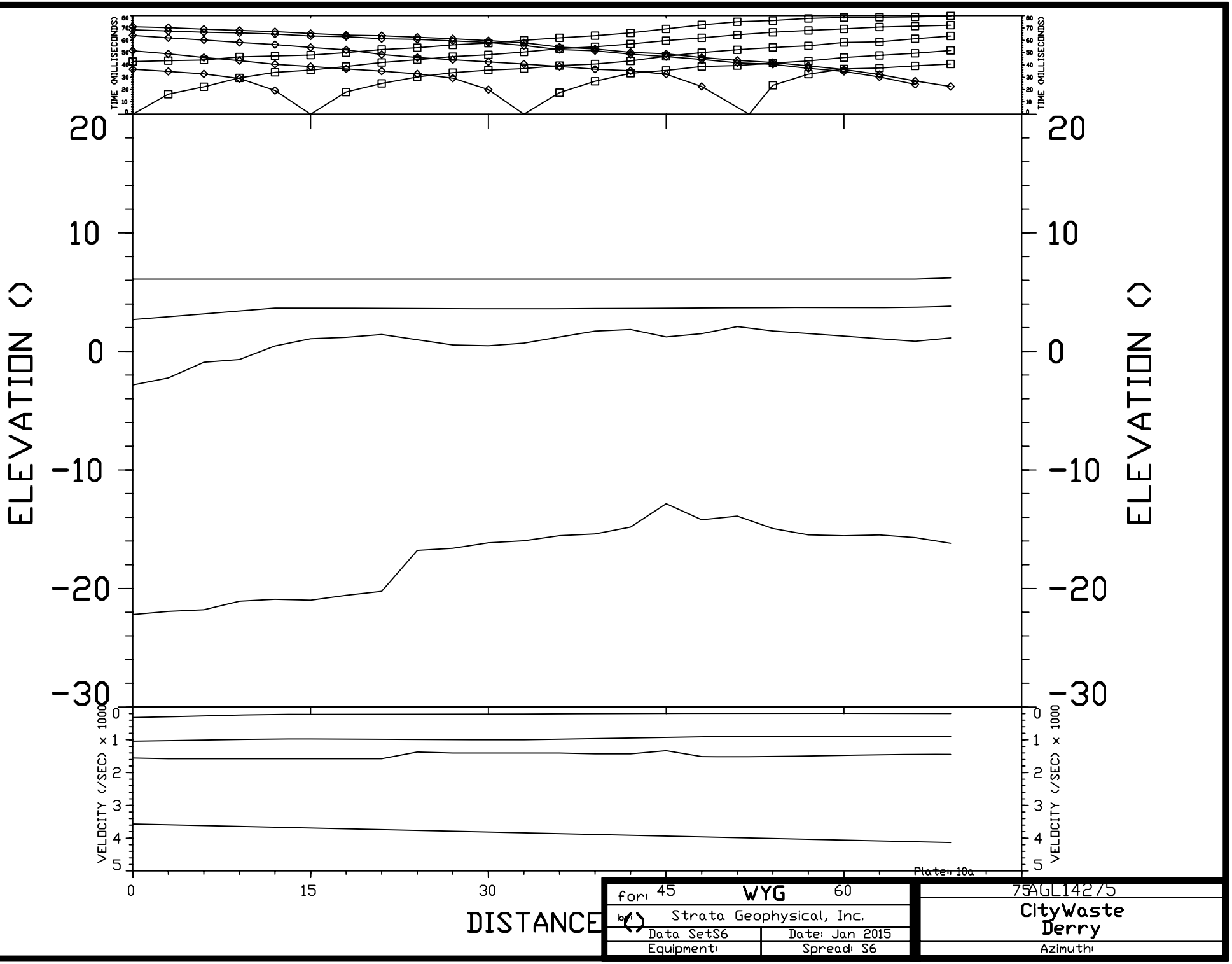
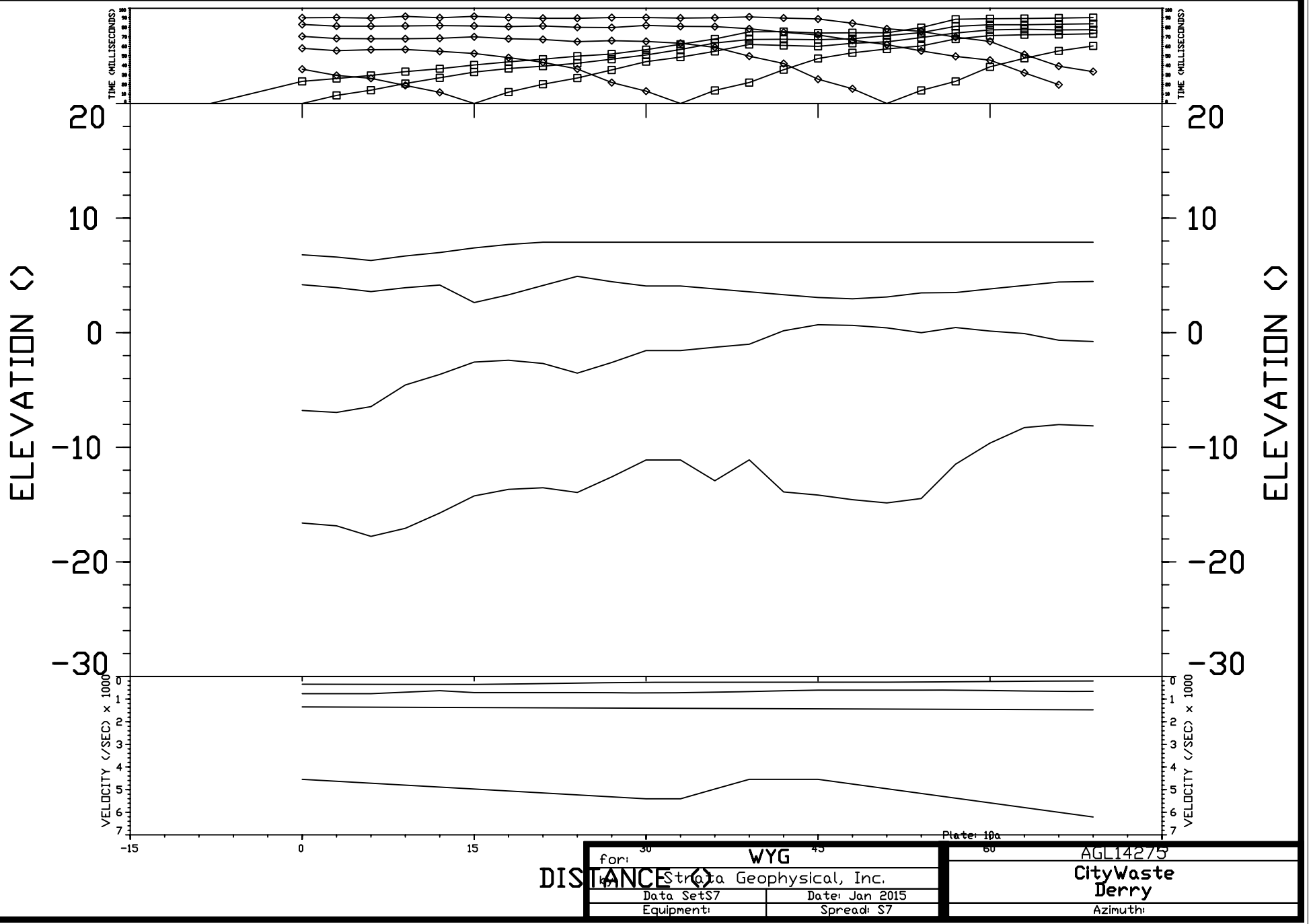


Plate: 10a

for: WYG	AGL14275
by: Strata Geophysical, Inc.	CityWaste Derry
Data SetS5 / Date: Jan 2015	
Equipment: / Spread: S5	Azimuth:

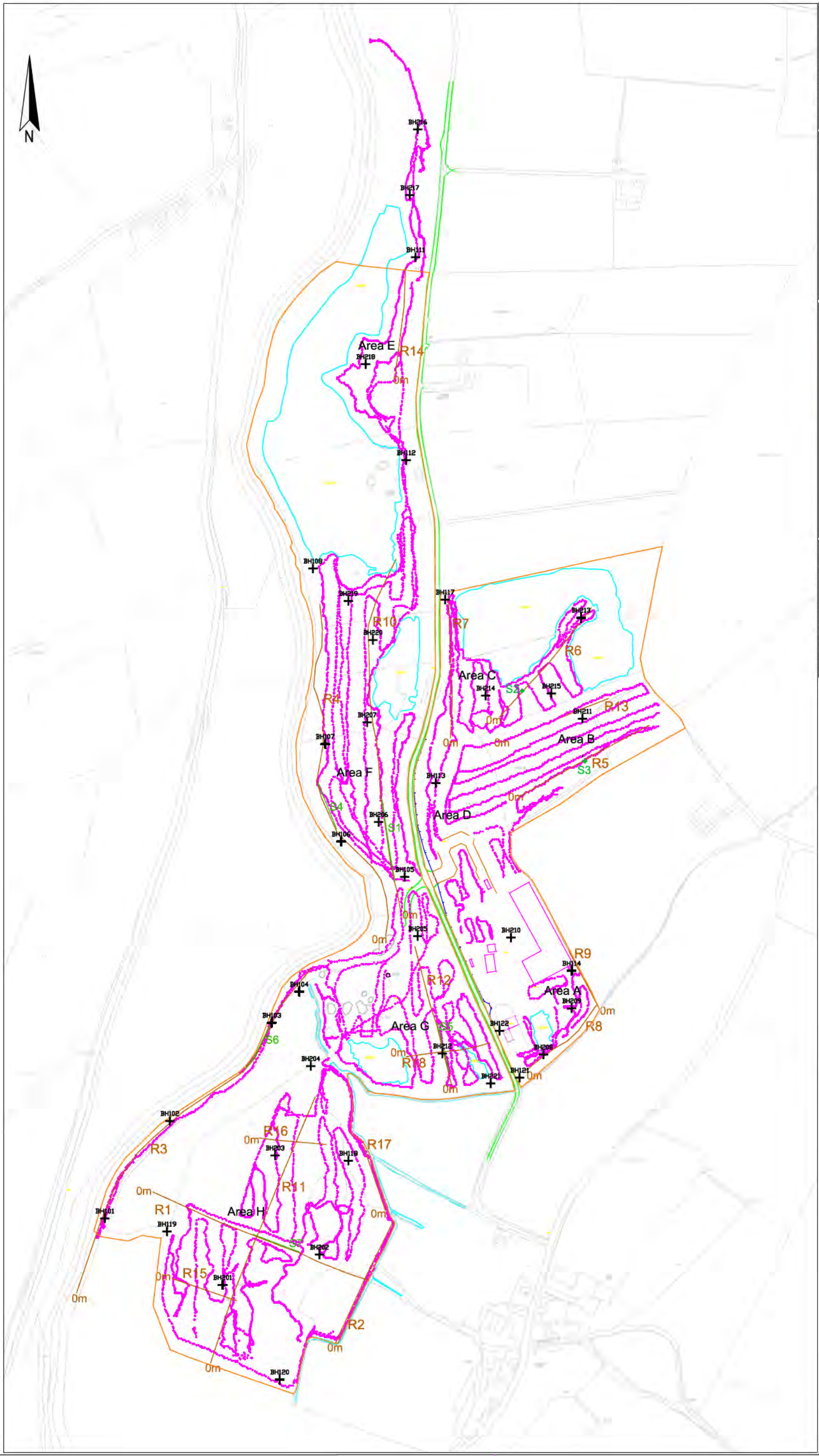

TIME (MILLISECONDS)
ELEVATION ()
VELOCITY (/SEC) x 1000
DISTANCE ()
Plate: 10a
for: WYG
by: Strata Geophysical, Inc.
Data Set: S6
Date: Jan 2015
Equipment:
Spread: S6
75AGL14275
CityWaste
Derry
Azimuth:


TIME (MILLISECONDS)
ELEVATION ()
VELOCITY (/SEC) x 1000
DISTANCE ()
Plate: 10a
for: WYG
Strata Geophysical, Inc.
Data Set: S7
Date: Jan 2015
Equipment:
Spread: S7
AGL14275
CityWaste
Derry
Azimuth:

8. APPENDIX C: DRAWINGS

The information derived from the geophysical investigation is presented in the following drawings:

AGL14275_01	Geophysical Location	1:5000	@ A3
AGL14275_02	Conductivity Results	1:5000	@ A3
AGL14275_03	In-Phase Results	1:5000	@ A3
AGL14275_04	Conductivity Interpretation & Summary	1:4000	@ A3
AGL14275_05	ERT Profiles R11 & R15-R17	1:1250	@ A3
AGL14275_06	ERT Profiles R1 & R2	1:1250	@ A3
AGL14275_07	ERT Profile R3	1:1250	@ A3
AGL14275_08	ERT Profiles R12, R14 & R18	1:1250	@ A3
AGL14275_09	ERT Profile R4	1:1250	@ A3
AGL14275_10	ERT Profile R10	1:1250	@ A3
AGL14275_11	ERT Profiles R5-R7 & R13	1:1250	@ A3
AGL14275_12	ERT Profiles R8-R9	1:1250	@ A4



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INDEX MAP:

LEGEND:

- Survey Area
- EM Conductivity Station
- 2D Resistivity Profile (R1)
- Seismic Refraction Profile (S1)
- 1D MASW Profile (S2)

PROJECT:	CITY WASTE GEOPHYSICAL SURVEY
DRAWING No.:	AGL14275_01 GEOPHYSICAL LOCATION
DATE:	29.01.15
CLIENT:	WHITE YOUNG GREEN
SCALE:	1:5000 @ A3

Version:	Date:	Drawn By:	Checked:
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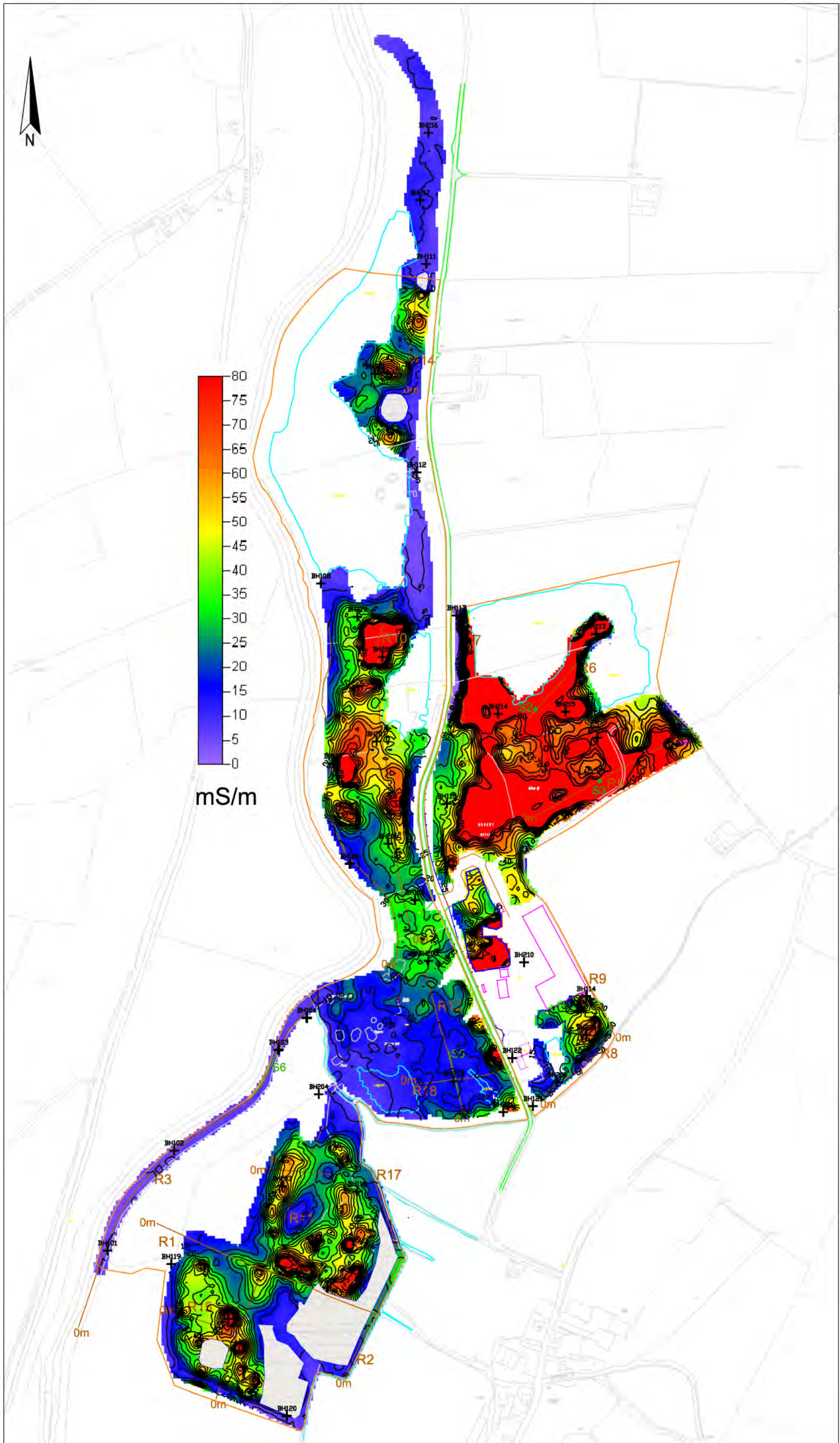
2	30.03.15	SOR	AT



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INDEX MAP:

LEGEND:

55 Conductivity (mS/m)

PROJECT:	CITY WASTE GEOPHYSICAL SURVEY
DRAWING No.:	AGL14275_02 CONDUCTIVITY RESULTS
DATE:	28.01.15
CLIENT:	WHITE YOUNG GREEN
SCALE:	1:5000 @ A3

Version:	Date:	Drawn By:	Checked:
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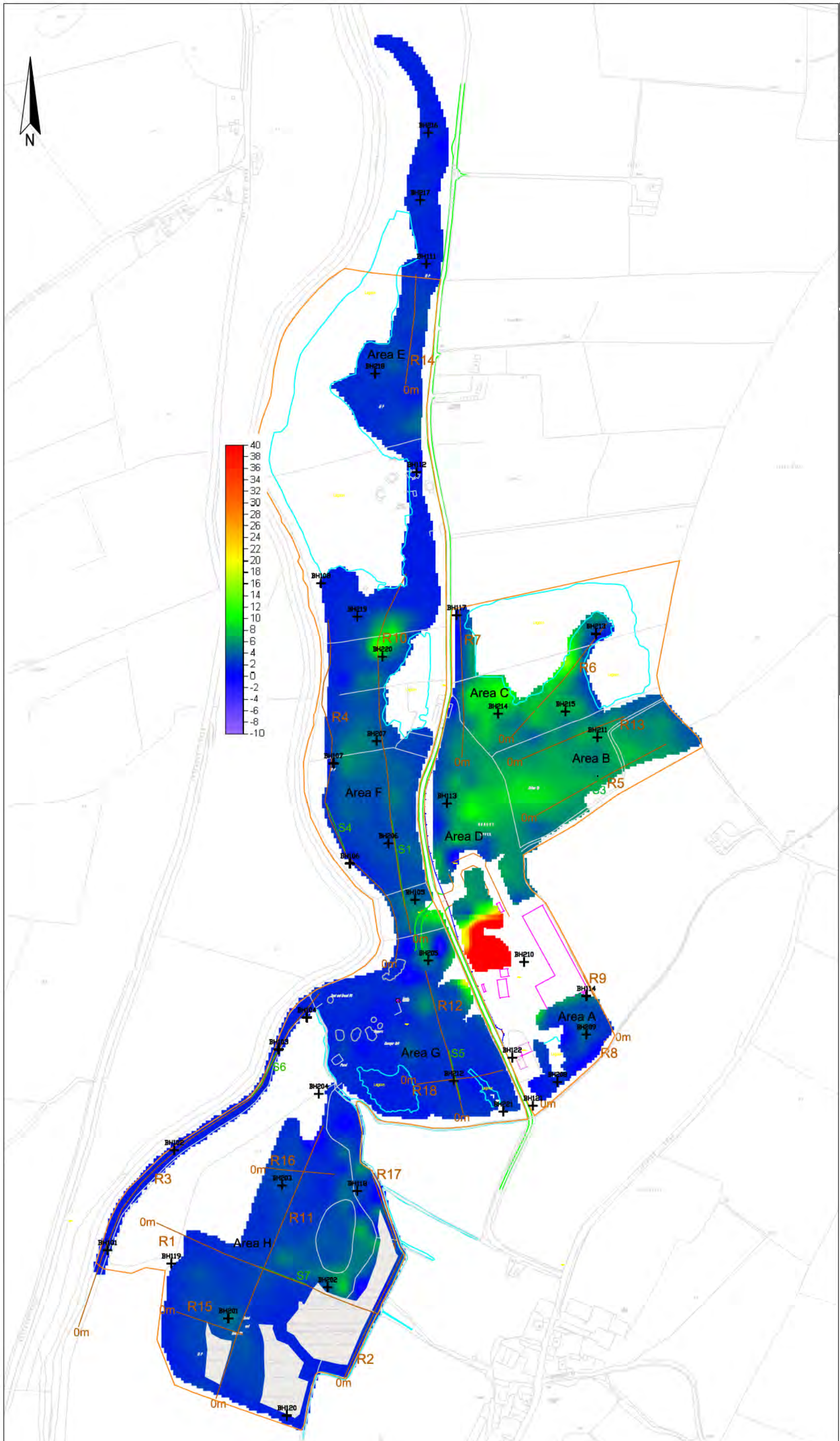
2	30.03.15	SOR	AT



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INDEX MAP:

LEGEND:

PROJECT:	CITY WASTE GEOPHYSICAL SURVEY
DRAWING No.:	AGL14275_03 IN-PHASE RESULTS
DATE:	28.01.15
CLIENT:	WHITE YOUNG GREEN
SCALE:	1:5000 @ A3

Version:	Date:	Drawn By:	Checked:
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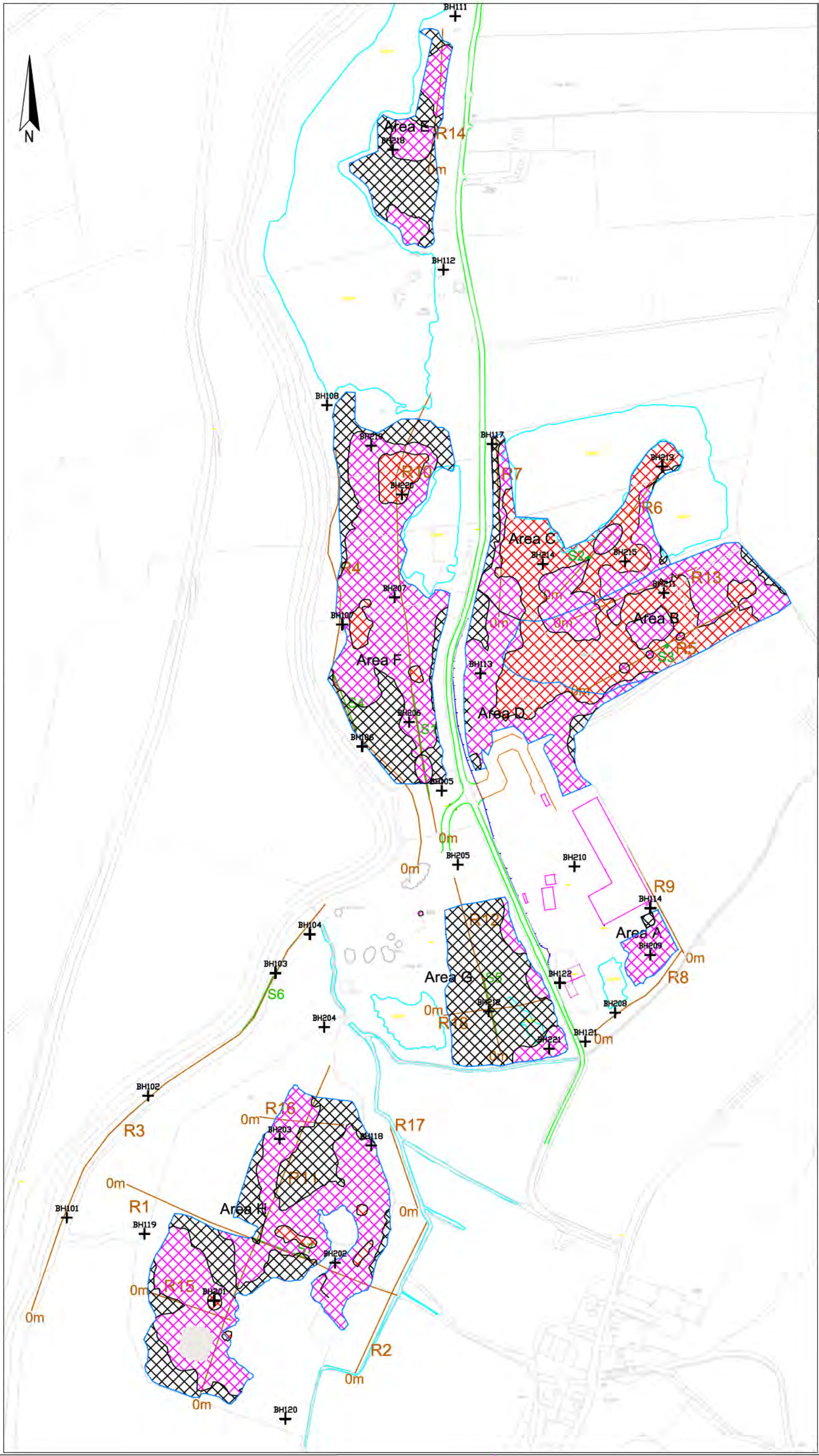
2	30.03.15	SOR	AT



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INDEX MAP:

LEGEND:

- Mixed Organic/Domestic/C & D Waste
- Mainly Organic/Metallic Waste
- Mainly C & D Waste
- Area Boundary

PROJECT: CITY WASTE
GEOPHYSICAL SURVEY

DRAWING No.: AGL14275_04 CONDUCTIVITY INTERPRETATION & SUMMARY

DATE: 0602.15

CLIENT: WHITE YOUNG GREEN

SCALE: 1:4000 @ A3

Version:	Date:	Drawn By:	Checked:
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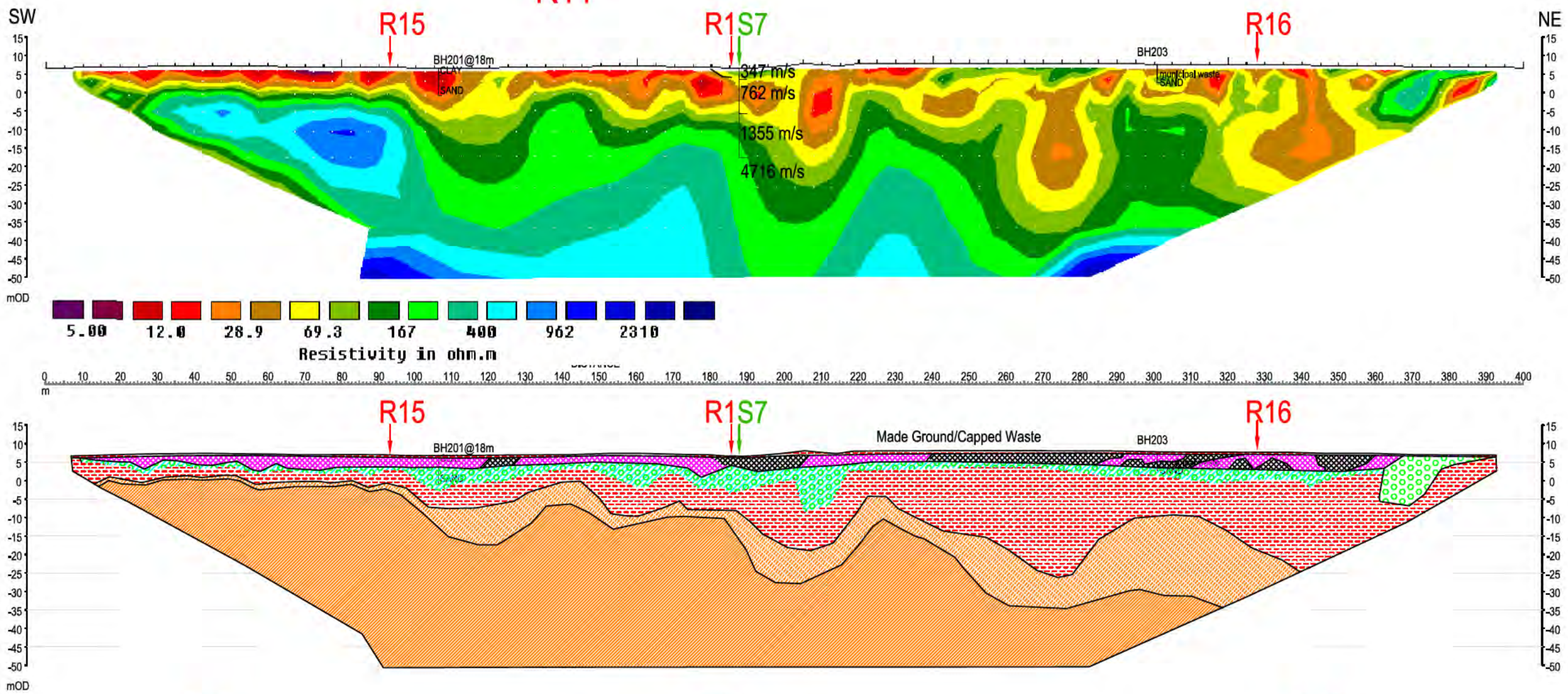
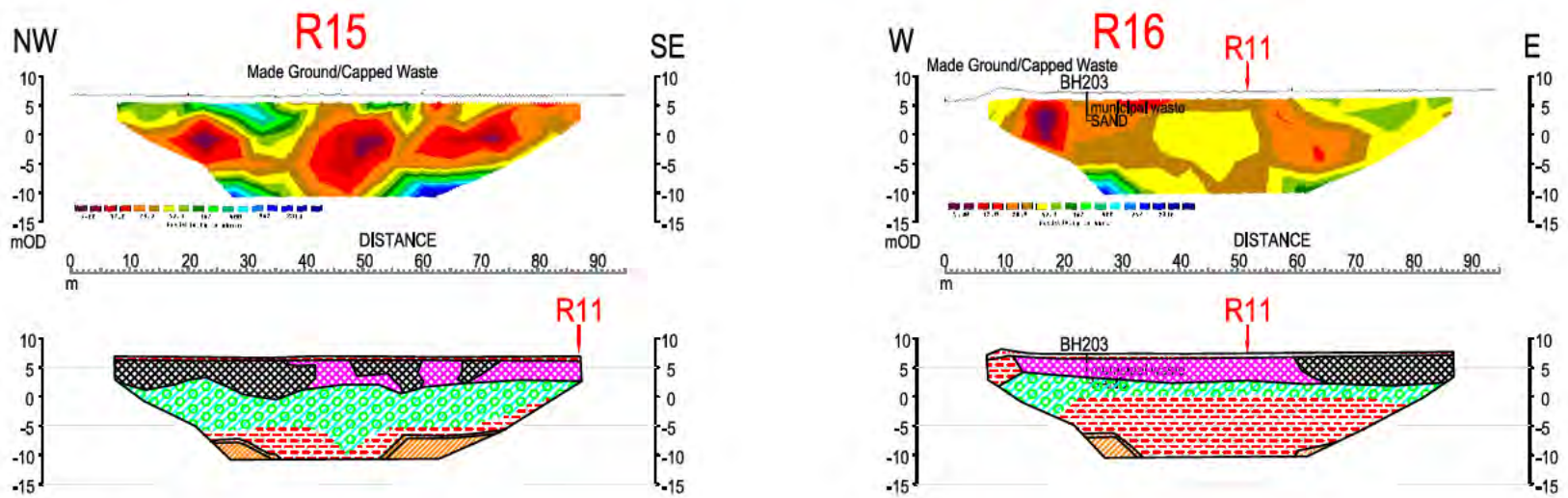
2	28.04.15	SOR	AT

R11





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INDEX MAP:scale 1:20000@A3

LEGEND:

- Material Affected by Leachate
- Mixed Organic/Domestic/C & D Waste
- Mainly Organic/Metallic Waste
- Mainly C & D Waste
- Made Ground
- SILT/CLAY/Sandy Gravelly CLAY/Capping
- Clayey SAND/GRAVEL
- Weathered Bedrock
- PSAMMITE
- PELITE
- Possible Fault
- 1332-1578 m/s Pwave velocity Layer

PROJECT:	CITY WASTE GEOPHYSICAL SURVEY
DRAWING No.:	AGL14275_05 ERT PROFILES R11 & R15-R17
DATE:	02.02.15
CLIENT:	WHITE YOUNG GREEN
SCALE:	1:1250 @ A3

Version:	Date:	Drawn By:	Checked:
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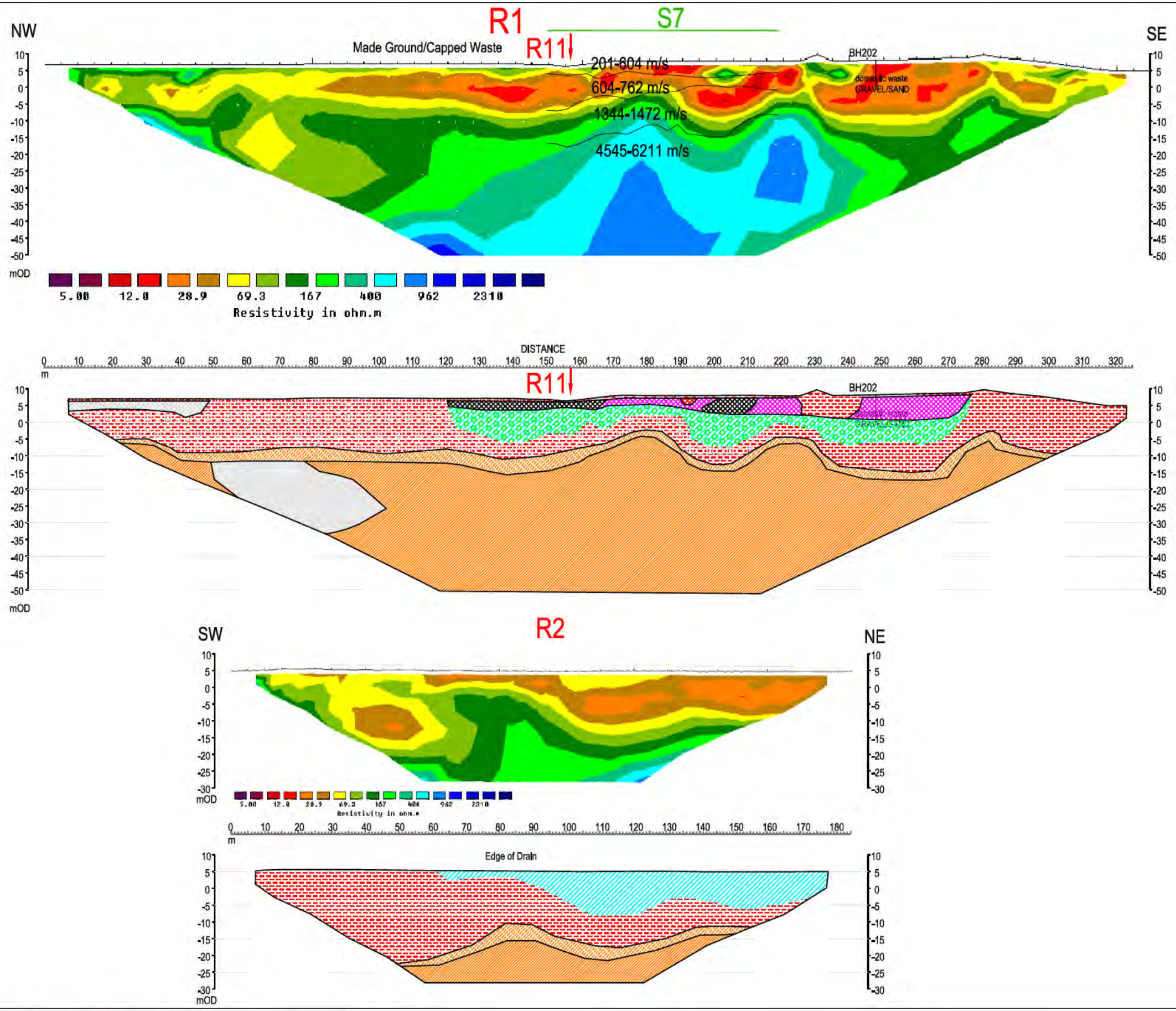
2	28.04.15	SOR	AT



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INDEX MAP:scale 1:20000@A3

LEGEND:

- Material Affected by Leachate
- Mixed Organic/Domestic/C & D Waste
- Mainly Organic/Metallic Waste
- Mainly C & D Waste
- Made Ground
- SILT/CLAY/Sandy Gravelly CLAY/Capping
- Clayey SAND/GRAVEL
- Weathered Bedrock
- PSAMMITE
- PELITE
- Possible Fault
- 1332-1578 m/s Pwave velocity Layer

PROJECT:	CITY WASTE GEOPHYSICAL SURVEY
DRAWING No.:	AGL14275_06 ERT PROFILES R1 & R2
DATE:	02.02.15
CLIENT:	WHITE YOUNG GREEN
SCALE:	1:1250 @ A3

Version:	Date:	Drawn By:	Checked:
1	02.02.15	SOR	POC
2	28.04.15	SOR	AT

SW

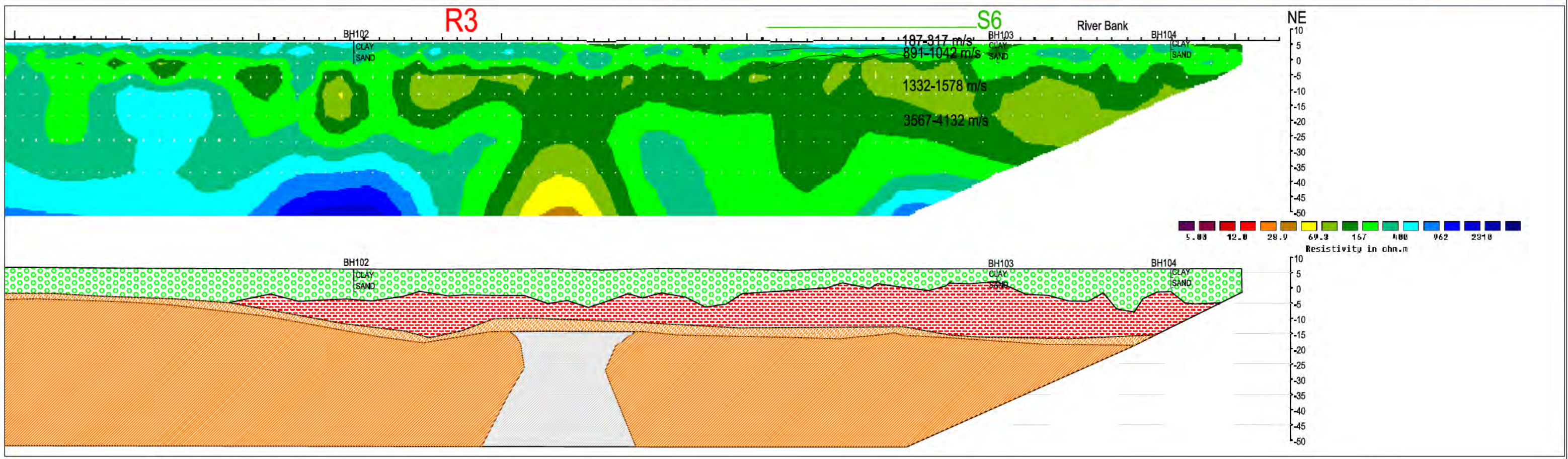
River Bank

R3

BH101
SAND
GRAVEL

BH102
CLAY
SAND

10 5 0 -5 -10 -15 -20 -25 -30 -35 -40 -45 -50



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INDEX MAP:scale 1:20000@A3

LEGEND:

- Material Affected by Leachate
- Mixed Organic/Domestic/C & D Waste
- Mainly Organic/Metallic Waste
- Mainly C & D Waste
- Made Ground
- SILT/CLAY/Sandy Gravelly CLAY/Capping
- Clayey SAND/GRAVEL
- Weathered Bedrock
- PSAMMITE
- PELITE
- Possible Fault
- 1332-1578 m/s Pwave velocity Layer

PROJECT:	CITY WASTE GEOPHYSICAL SURVEY
DRAWING No.:	AGL14275_07 ERT PROFILE R3
DATE:	02.02.15
CLIENT:	WHITE YOUNG GREEN
SCALE:	1:1250 @ A3

Version:	Date:	Drawn By:	Checked:
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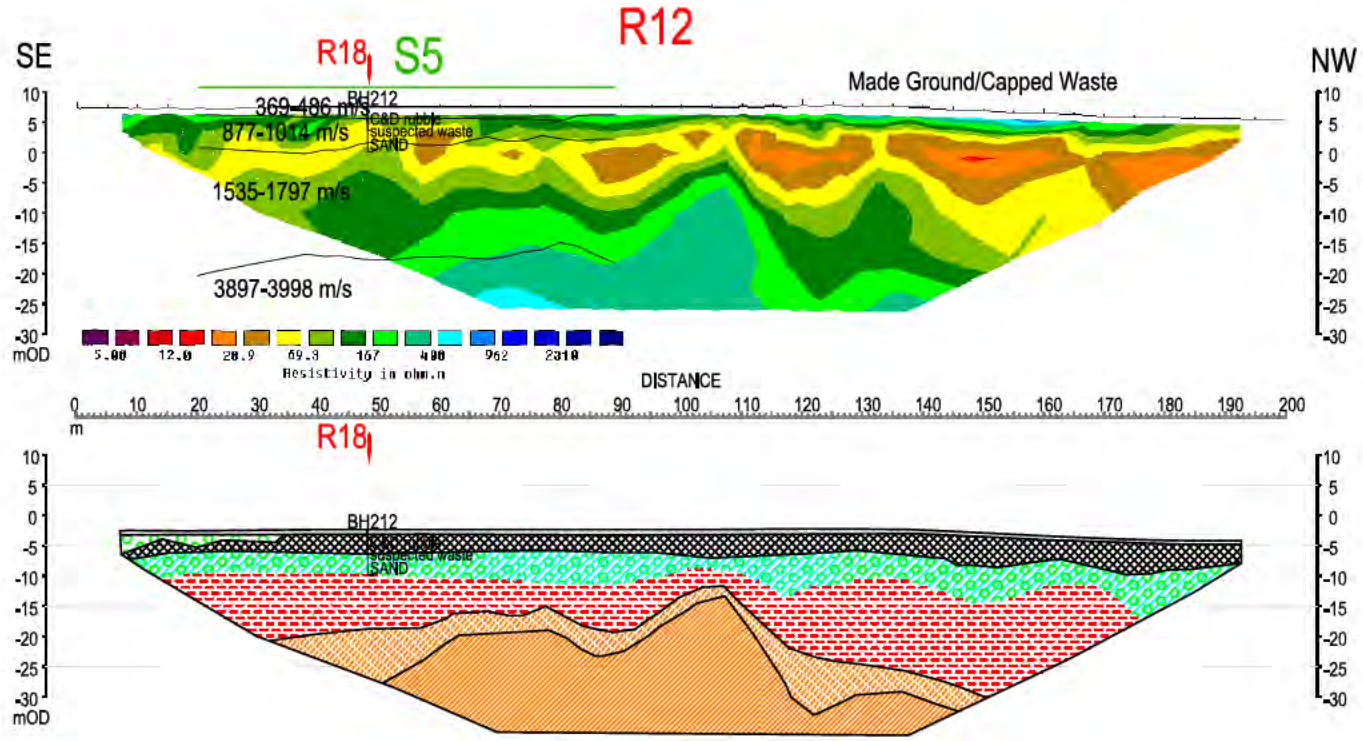
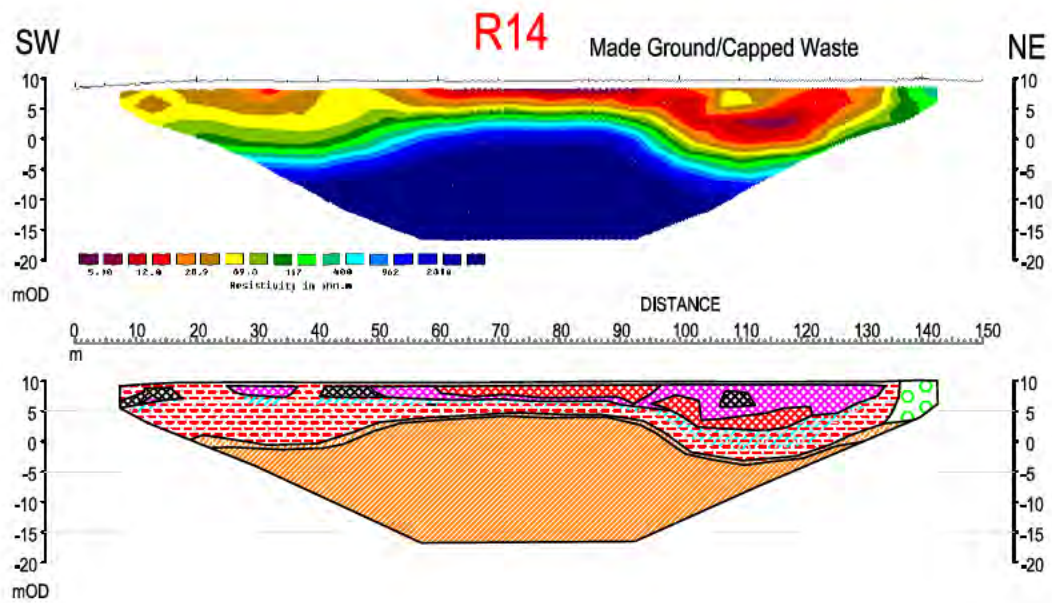
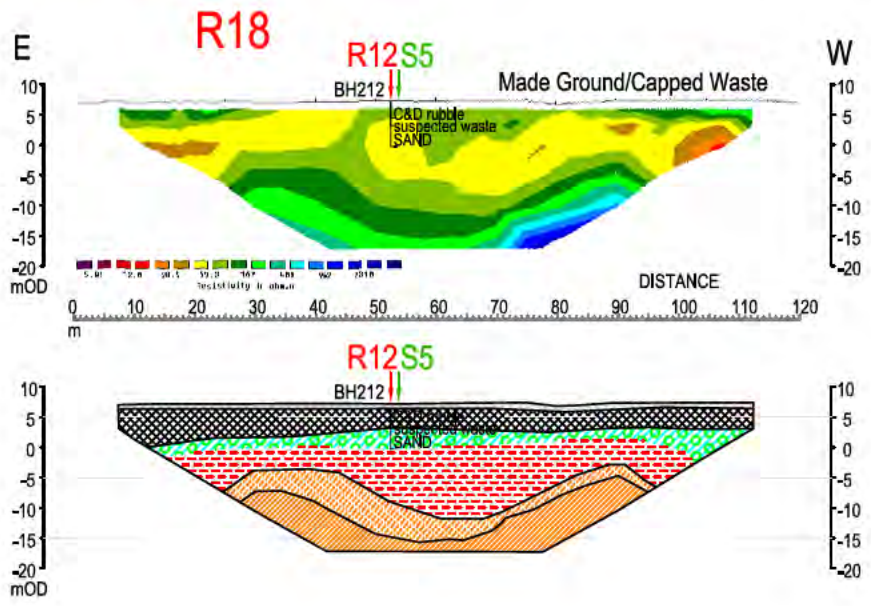
2	28.04.15	SOR	AT







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INDEX MAP:scale 1:20000@A3

LEGEND:

- Material Affected by Leachate
- Mixed Organic/Domestic/C & D Waste
- Mainly Organic/Metallic Waste
- Mainly C & D Waste
- Made Ground
- SILT/CLAY/Sandy Gravelly CLAY/Capping
- Clayey SAND/GRAVEL
- Weathered Bedrock
- PSAMMITE
- PELITE
- Possible Fault
- 1332-1578 m/s Pwave velocity Layer

PROJECT:	CITY WASTE GEOPHYSICAL SURVEY
DRAWING No.:	AGL14275_08 ERT PROFILES R12, R14 & R18
DATE:	02.02.15
CLIENT:	WHITE YOUNG GREEN
SCALE:	1:1250 @ A3

Version:	Date:	Drawn By:	Checked:
1	02.02.15	SOR	POC
2	28.04.15	SOR	AT

R4

S4

S

N

Made Ground/Capped Waste

BH106

clayey SAND

BH107

Made Ground/Capped Waste

River Bank

Made Ground/Capped Waste

358-613 m/s

613-748 m/s

1577-1693 m/s

3453-3755 m/s

mOD

Interpreted Interference due to possible metal pipe

5.00 12.0 28.9 69.3 167 400 962 2310

Resistivity in ohm.m

DISTANCE

m

BH106

BH107

mOD

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www.apexgeoservices.co.uk

INDEX MAP:scale 1:20000@A3

LEGEND:

- Material Affected by Leachate
- Mixed Organic/Domestic/C & D Waste
- Mainly Organic/Metallic Waste
- Mainly C & D Waste
- Made Ground
- SILT/CLAY/Sandy Gravelly CLAY/Capping
- Clayey SAND/GRAVEL
- Weathered Bedrock
- PSAMMITE
- PELITE
- Possible Fault

PROJECT:	CITY WASTE GEOPHYSICAL SURVEY
DRAWING No.:	AGL14275_09 ERT PROFILE R4
DATE:	02.02.15
CLIENT:	WHITE YOUNG GREEN
SCALE:	1:1250 @ A3

Version:	Date:	Drawn By:	Checked:
1	02.02.15	SOR	POC
2	28.04.15	SOR	AT

R10

S1

S

N

Made Ground/Capped Waste

Made Ground/Capped Waste

BH105

BH206

BH207

BH220

426-542 m/s

971-1258 m/s

1938-2233 m/s

3765-3787 m/s

mOD

5.00 12.0 28.9 69.3 167 400 962 2310

Resistivity in ohm.m

DISTANCE

m

BH105

BH206

BH207

BH220

mOD

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www.apexgeoservices.co.uk

INDEX MAP:scale 1:20000@A3

LEGEND:

- Material Affected by Leachate
- Mixed Organic/Domestic/C & D Waste
- Mainly Organic/Metallic Waste
- Mainly C & D Waste
- Made Ground
- SILT/CLAY/Sandy Gravelly CLAY/Capping
- Clayey SAND/GRAVEL
- Weathered Bedrock
- PSAMMITE
- PELITE
- Possible Fault
- 1332-1578 m/s Pwave velocity Layer

PROJECT:	CITY WASTE GEOPHYSICAL SURVEY
DRAWING No.:	AGL14275_10 ERT PROFILE R10
DATE:	02.02.15
CLIENT:	WHITE YOUNG GREEN
SCALE:	1:1250 @ A3

Version	Date	Drawn By:	Checked:
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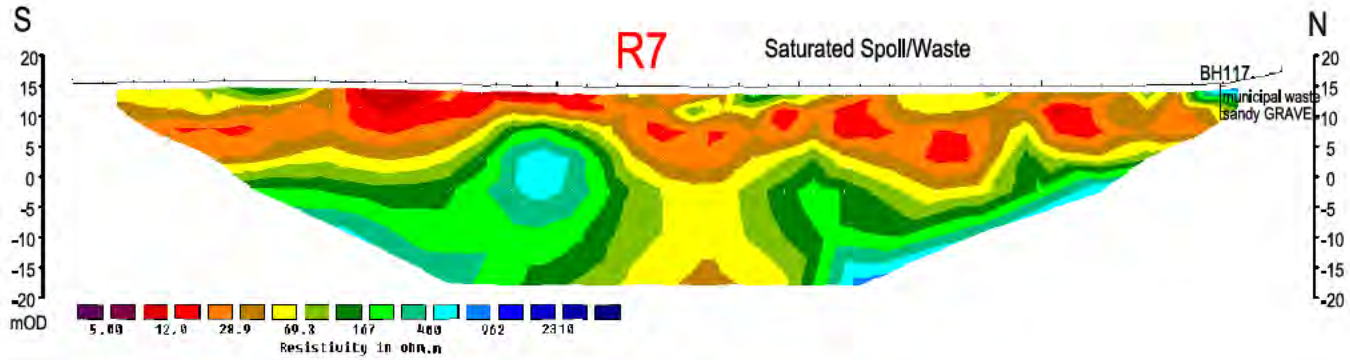
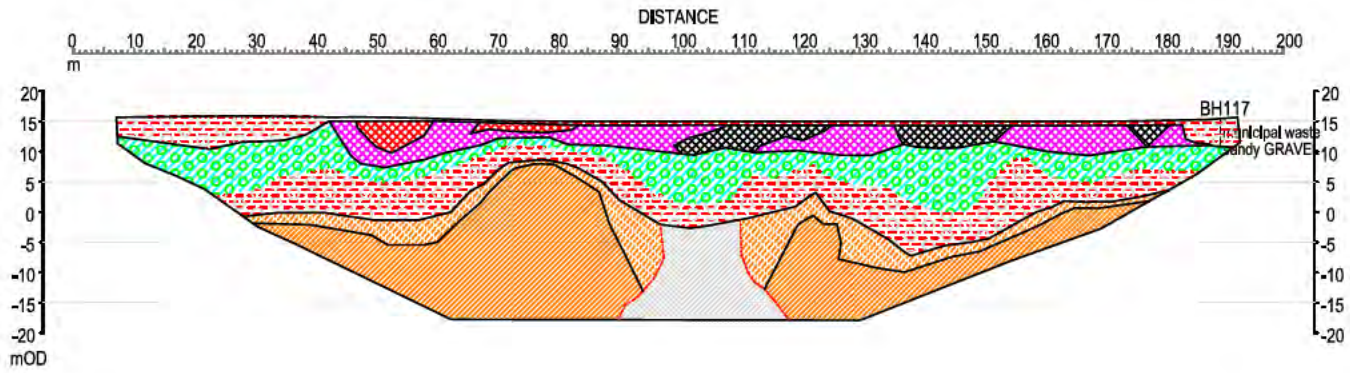
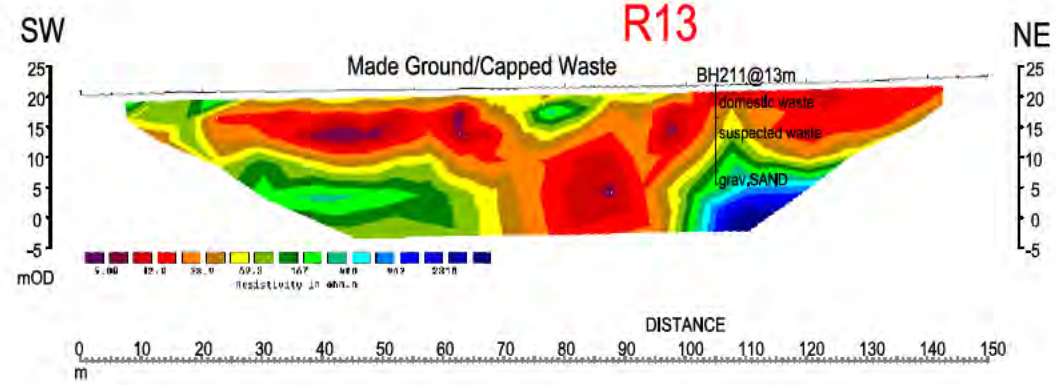
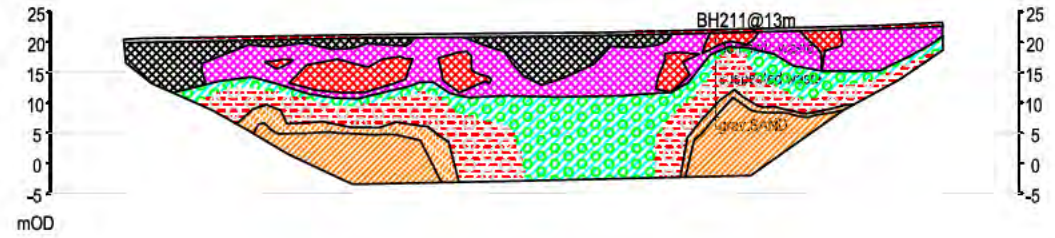
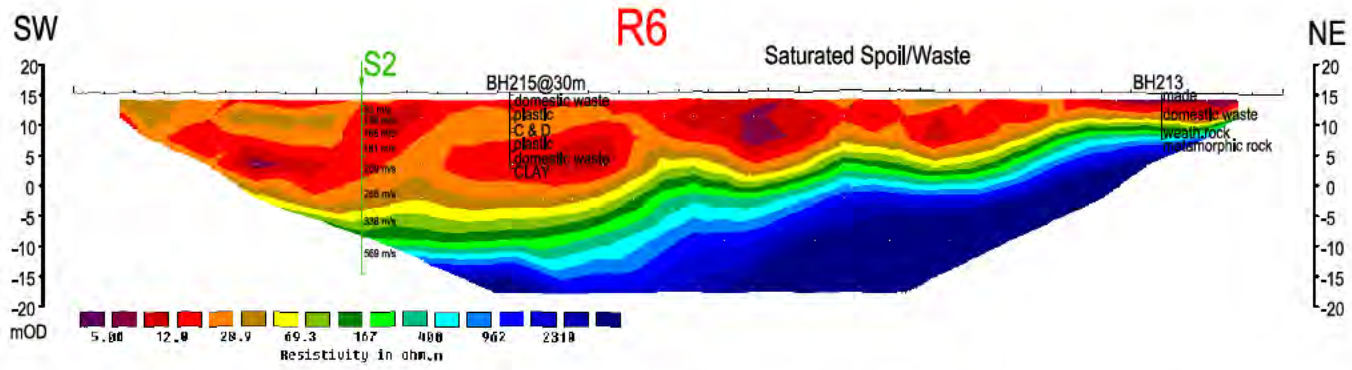
2	28.04.15	SOR	AT

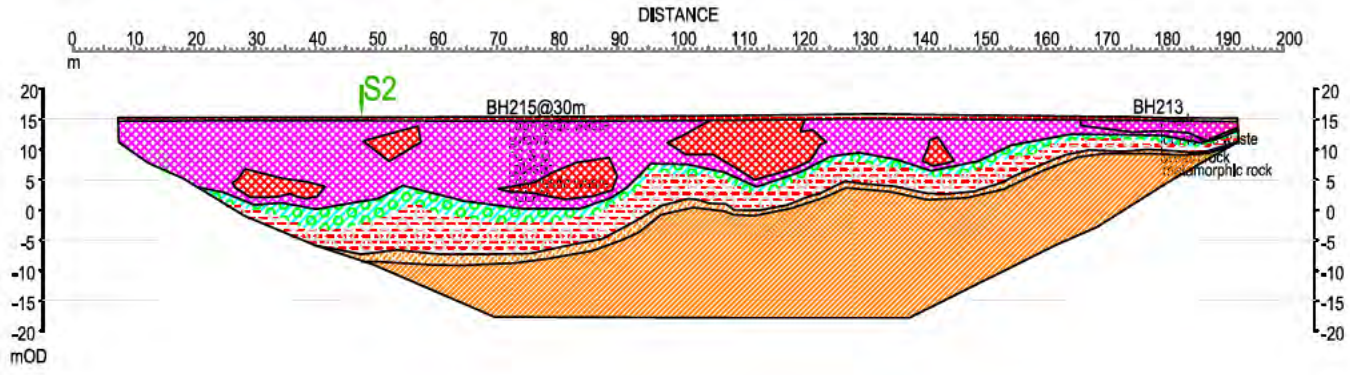


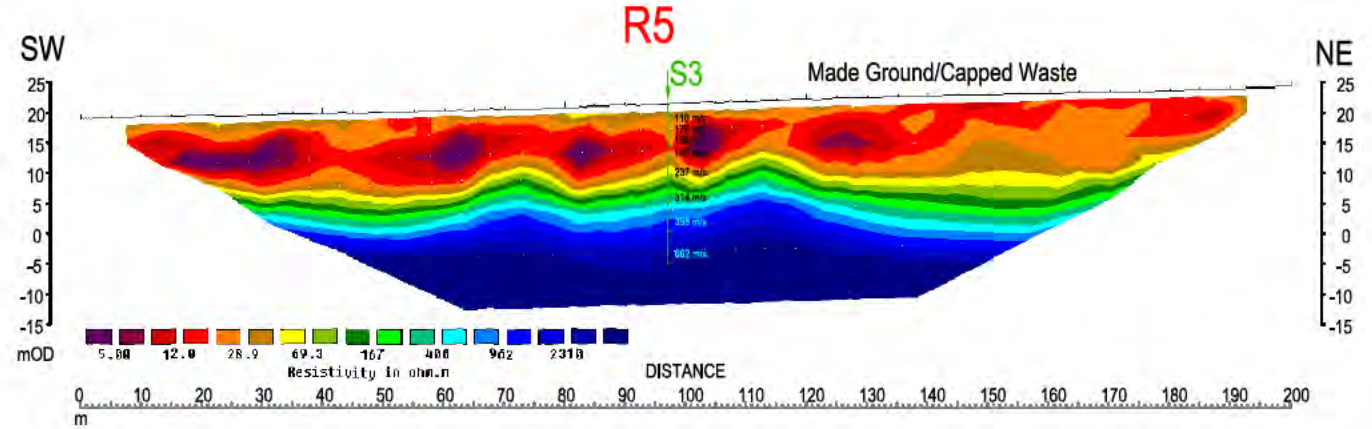


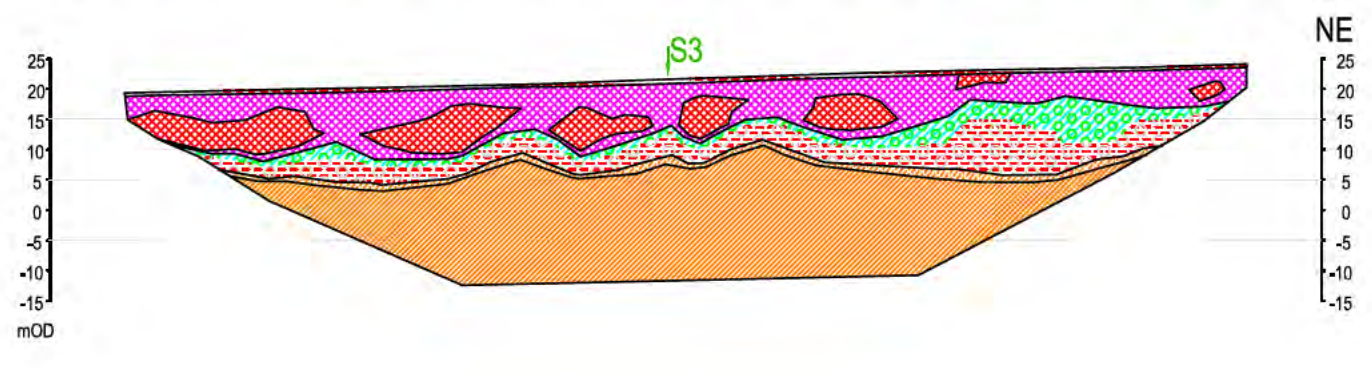












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INDEX MAP:scale 1:20000@A3

LEGEND:

- Material Affected by Leachate
- Mixed Organic/Domestic/C & D Waste
- Mainly Organic/Metallic Waste
- Mainly C & D Waste
- Made Ground
- SILT/CLAY/Sandy Gravelly CLAY/Capping
- Clayey SAND/GRAVEL
- Weathered Bedrock
- PSAMMITE
- PELITE
- Possible Fault
- 1332-1578 m/s Pwave velocity Layer

PROJECT:	CITY WASTE GEOPHYSICAL SURVEY
DRAWING No.:	AGL14275_11 ERT PROFILES R5-R7 & R13
DATE:	02.02.15
CLIENT:	WHITE YOUNG GREEN
SCALE:	1:1250 @ A3

Version:	Date:	Drawn By:	Checked:
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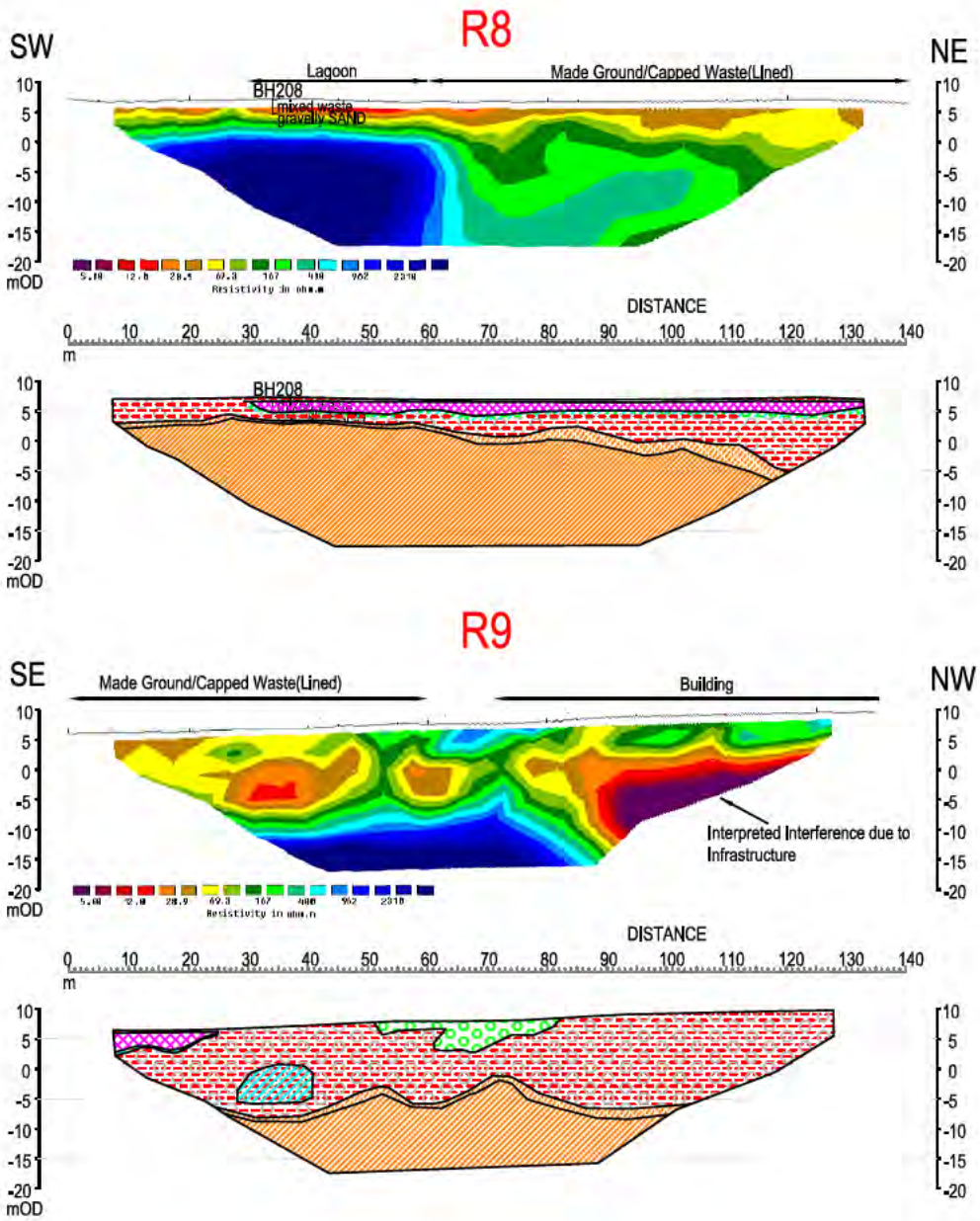
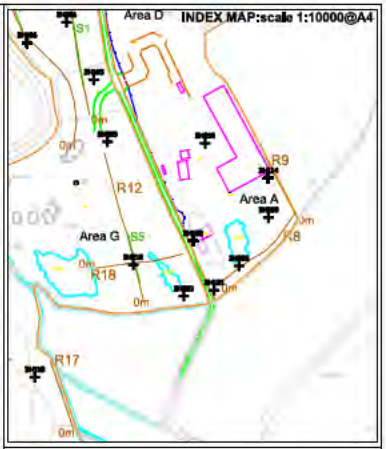
2	28.04.15	SOR	AT





LEGEND:

- Material Affected by Leachate
- Mixed Organic/Domestic/C & D Waste
- Mainly Organic/Metallic Waste
- Mainly C & D Waste
- Made Ground
- SILT/CLAY/Sandy Gravelly CLAY/Capping
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- PSAMMITE
- PELITE
- Possible Fault

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PROJECT:	CITY WASTE GEOPHYSICAL SURVEY
DRAWING No.:	AGL14275_12 ERT PROFILES R8-R9
DATE:	02.02.15
CLIENT:	WHITE YOUNG GREEN
SCALE:	1:1250 @ A4

Version	Date:	Drawn By	Checked
1	02.02.15	SOR	POC
2	28.04.15	SOR	AT

Appendix C – Borehole Logs

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH101
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	04-03-15 04-03-15	6.19	E 247,362.9 N 417,349.0	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
						(4.50)	Brown, gravelly SAND. Gravel is angular to rounded, fine to coarse of psammite and semi pelitic schist.		
			1	1.69		4.50			
			2	1.19		(0.50) 5.00	Grey clayey soft SILT.		
						(3.50)	Greenish grey sandy GRAVEL. Sand is fine to medium. Gravel is angular to sub angular, fine to coarse of psammite and semi pelitic schist..		
				2.31		8.50			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:59.375	Client NIEA	Method/ Plant Used Shell & Auger	Logged By JN

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH102
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	06-03-15 07-03-15	5.96	E 247,441.2 N 417,502.3	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
						(4.00)	Soft to firm, slightly sandy, silty brown CLAY. Sand is fine to coarse.		
			1	1.96		4.00			
						(3.50)	Brown gravelly SAND. Gravel is angular to sub angular, fine to medium. Sand is fine to coarse of psammite and semi pelitic schist.		
				1.54		7.50			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:53.125	Client NIEA	Method/ Plant Used Shell & Auger	Logged By JN

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH103
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	05-03-15 06-03-15	5.79	E 247,587.7 N 417,656.6	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
						(4.00)	Brown, slightly sandy, silty, CLAY. Sand is fine to medium.		
			1	1.79		4.00			
						(3.50)	Brown, gravelly fine to coarse SAND. Gravel is angular to sub angular, fine to coarse of psammite and semi pelitic schist.		
				1.71		7.50			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:53.125	Client NIEA	Method/ Plant Used Shell & Auger	Logged By JN/MP/KP

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH104
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	06-03-15 06-03-15	6.69	E 247,633.5 N 417,712.6	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
						(3.00)	Soft, brown sandy CLAY. Sand is fine.		
			1	3.69		3.00			
						(3.30)	Brown gravelly fine to coarse SAND. Gravel is fine to medium, angular to sub angular of psammite and semi pelitic schist.		
				0.39		6.30			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:45.625	Client NIEA	Method/ Plant Used Shell & Auger	Logged By JN

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH105
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	18-02-15 19-02-15	9.25	E 247,765.5 N 417,844.3	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
				8.75		(0.50) 0.50	MADEGROUND: Grey slightly sandy, CLAY. Sand is fine to coarse.		
						(7.50)	MADEGROUND: Slightly clayey brown to black, sandy angular to subropunded, fine to coarse polystyrene, paper, metal, wood and plastic GRAVEL SIZED FRAGEMNTS with low cobble content. Cobble sized fragemnts are angular to rounded of polystyrene, metal, wood, plastic and clay aggregates.		
				1.25		8.00			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:56.25	Client NIEA	Method/ Plant Used Shell & Auger	Logged By JN

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH106
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	19-02-15 23-02-15	7.97	E 247,680.2 N 417,894.8	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION		
				7.77		0.20	Brown, clayey, SAND. Sand is fine to coarse.		
						(4.90)	Soft Brown mottled grey, slightly sandy, slightly gravelly CLAY with low cobble content. Gravel is angluar to subangular, fine to coarse. Cobbles are fine to coarse, angluar to subangluar. Gravel & cobbles comprise of psammite and semi pelitic schist.		
				2.87		5.10			
						(1.90)	Clayey fine to medium brown SAND.		
				0.97		7.00			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:50	Client NIEA	Method/ Plant Used Shell & Auger	Logged By MP

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH107
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	23-02-15 24-02-15	8.10	E 247,667.9 N 418,016.6	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION		
						(6.00)	MADEGROUND: Clayey, slightly sandy angular to rounded, fine to coarse plastic, glass, rubber, concrete aggregate and clay aggregate GRAVEL SIZED FRAGMENTS. Sand sized fragemnts are fine to coarse.		
				2.10		6.00			
				1.60		(0.50) 6.50	Firm to stiff brown CLAY with occ. Fine to coarse sands and fin eto coarse sub angular to sub rounded gravels		
						(1.50)	Brown mottled grey, clayey, fine SAND.		
				0.10		8.00			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:56.25	Client NIEA	Method/ Plant Used Shell & Auger	Logged By JN

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH108
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	24-02-15 24-02-15	4.31	E 247,637.3 N 418,280.0	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
			1			(4.00)	Brown fine to medium SAND.		
				0.31		4.00			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:31.25	Client NIEA	Method/ Plant Used Shell & Auger	Logged By JN

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH111
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	25-02-15 26-02-15	8.49	E 247,780.9 N 418,699.5	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
						(6.00)	Brown, gravelly, fine to corase SAND. Gravel is angular to sub angular fine to medium of psammite and semi pelitic schist..		
			1	2.49		6.00			
						(4.50)	Green soft to firm silty SAND with clay		
				2.01		10.50			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:71.875	Client NIEA	Method/ Plant Used Shell & Auger	Logged By JN

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH112
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	25-02-15 25-02-15	5.32	E 247,764.1 N 418,435.4	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
						(5.60)	Brown fine to medium SAND.		
			1						
				0.28		5.60			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:41.25	Client NIEA	Method/ Plant Used Shell & Auger	Logged By JN

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH113
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	23-02-15 23-02-15	17.09	E 247,818.3 N 418,036.1	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
						(7.00)	MADEGROUND: Municipal Waste (paper and plastic).		
				10.09		7.00			
				9.69		7.40	MADEGROUND: Firm to stiff brown CLAY.		
						(5.60)	MADEGROUND: Municipal Waste (paper and plastic).		
				4.09		13.00			
						(3.00)	Grey, gravelly SAND. Sand is fine to medium. Gravel is angluar to sub angluar.		
				1.09		16.00			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:106.25	Client NIEA	Method/ Plant Used Shell & Auger	Logged By JN

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH114
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	17-02-15 18-02-15	7.60	E 248,000.6 N 417,721.2	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
						(1.50)	MADEGROUND: Brown to black very angular to sub angular fine to coarse plastic sheet and nail GRAVEL SIZED FRAGMENTS.		
				6.10		1.50			
						(1.80)	Soft to firm, brown, sandy, gravelly CLAY with low cobble content. Sand is fine to coarse. Gravel is angular to sub angular, fine to coarse. Cobbles are angular to sub angular (Poor recovery from window sampler due to presence of cobbles). Gravel and cobbles comprise of psammite and semi pelitic schist.		
			1	4.30		3.30			
						(1.90)	Brown mottled grey, soft to firm, slightly sandy, slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to sub angular, fine to medium of psammite and semi pelitic schist.		
			2	2.40		5.20			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:37.5	Client NIEA	Method/ Plant Used Shell & Auger	Logged By KP

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH117
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	06-03-15 06-03-15	14.88	E 247,821.4 N 418,215.5	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
				14.58		0.30	MADEGROUND: Firm to stiff, brown CLAY.		
						(4.20)	MADEGROUND: Municipal Waste (paper and plastic).		
			1	10.38		4.50			
				9.18		(1.20) 5.70	Brown, sandy, angular to subangular, fine to coarse GRAVEL. Sand is fine to coarse of psammite and semi pelitic schist.		

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:41.875	Client NIEA	Method/ Plant Used Shell & Auger	Logged By JN

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH118
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	26-02-15 27-02-15	4.90	E 247,714.2 N 417,453.8	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
				4.70		0.20	Soft brown silty CLAY.		
							Dark brown mottled black, ORGANIC PEAT with occasional partially decomposed plant rootlets and wood fragments.		
						(2.00)			
				2.70		2.20			
				2.50		2.40	Firm grey silty CLAY.		
							Dark brown mottled blacksoft to firm PEAT containing frequent fibrous organics.		
						(5.90)			
				3.40		8.30			
				3.50		8.40	Slightly sandy, gravelly soft to firm PEAT with frequent fibrous organics. Sand is fine to coarse. Gravel is angular to sub angluar, fine to coarse of psammite and semi pelitic schist.		
						(1.40)	Brown, gravelly fine to coarse SAND. Gravel is fine to medium, angular to sub angular of psammite and semi pelitic schist.		
				4.90		9.80			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:67.5	Client NIEA	Method/ Plant Used Shell & Auger	Logged By MP

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH119
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	04-03-15 05-03-15	5.86	E 247,435.3 N 417,338.8	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION		
						(4.00)	Clayey, sandy angular to subangular, fine to coarse GRAVEL. Sand is fine to coarse of psammite and semi pelitic schist.		
				1.86		4.00			
			1			(3.90)	Greenish grey, sandy angular to sub angular, fine to coarse GRAVEL. Sand is fine to coarse of psammite and semi pelitic schist.		
				2.04		7.90			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:55.625	Client NIEA	Method/ Plant Used Shell & Auger	Logged By JN

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				**BH120**
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	03-03-15 04-03-15	6.14	E 247,578.6 N 417,143.8	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
						(0.50)	Soft, slightly silty, slightly sandy, gravelly CLAY. Sand is fine to coarse. Gravel is angluar to sub angluar fine to coarse of psammite and semi pelitic schist.		
			▼	5.64		0.50			
							Brown, gravelly fine to coarse SAND. Gravel is angular to sub angular, fine to coarse of psammite and semi pelitic schist.		
						(4.50)			
				1.14		5.00			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:37.5	Client NIEA	Method/ Plant Used Shell & Auger	Logged By MP

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH121
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	18-02-15 18-02-15	6.96	E 247,934.1 N 417,574.6	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION		
				6.86		0.10	Soft grey sandy CLAY. Sand is fine to coarse.		
						(2.70)	Soft grey silty CLAY.		
				4.16		2.80			
			1			(1.70)	Brown mottled grey clayey, gravelly fine to coarse SAND with low cobble content. Gravel is angluar to sub angluar, fine to coarse of psammite and semi pelitic schist.		
				2.46		4.50			
						(0.50)	Grey, gravelly fine to coarse SAND. Gravel is angluar to sub angluar, fine to coarse.		
				1.96		5.00			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:37.5	Client NIEA	Method/ Plant Used Shell & Auger	Logged By KP

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH122
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	16-02-15 19-02-15	8.00	E 247,974.3 N 417,657.6	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
				7.90		0.10	MADEGROUND: Concrete		
							Brown mottled grey, gravelly, fine to coarse SAND. Gravel is angluar to sub angluar, fine to coarse of psammite and semi pelitic schist.		
						(10.90)			
			▼1						
				3.00		11.00			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:75	Client NIEA	Method/ Plant Used Shell & Auger	Logged By KP

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH201
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	25-02-15 25-02-15	7.36	E 247,532.6 N 417,295.2	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION		
						(1.20)	Brown mottled grey, slightly clayey, fine to coarse SAND.		
				6.16		1.20			
						(0.70)	Firm, brown mottled grey, sandy CLAY. Sand is fine to coarse.		
				5.46		1.90			
				5.26		2.10	Soft to firm, grey mottled black, slightly gravelly ORGANIC CLAY. Gravel is angular to sub rounded, fine to coarse of blackened vegetation, plant rootlets and wood fragments.		
			1			(0.90)	Grey, silty, sandy angular to sub angular, fine to coarse GRAVEL. Sand is fine to coarse of psammite and semi pelitic schist.		
				4.36		3.00			
						(3.50)	Greenish grey, gravelly fine to coarse SAND. Gravel is angluar to sub angluar, fine to coarse of psammite and semi pelitic schist.		
				0.86		6.50			
						(1.00)	Reddish brown, fine to coarse SAND.		
				0.14		7.50			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:53.125	Client NIEA	Method/ Plant Used Shell & Auger	Logged By MP

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH202
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	26-02-15 26-02-15	8.82	E 247,660.5 N 417,320.0	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
				8.32		(0.50) 0.50	MADEGROUND: C&D Rubble (frequent red bricks angular sub angular)		
						(3.00)	MADEGROUND: Domestic Waste (plastics, paper, wood)		
			▼	5.32		3.50			
						(4.00)	MADEGROUND: Domestic Waste (piece of timber driven by cutting tool, poor recovery)		
				1.32		7.50			
				0.22		(1.10) 8.60	Grey sandy, angular to subangular, fine to coarse GRAVEL of psammite and semi pelitic schist. Sand is fine to coarse.		
				0.18		9.00	Brown mottled grey, fine to coarse SAND.		

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:62.5	Client NIEA	Method/ Plant Used Shell & Auger	Logged By MP

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH203
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	06-03-15 06-03-15	7.55	E 247,597.9 N 417,456.6	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
				7.05		(0.50) 0.50	MADEGROUND: C&D waste with clay		
						(3.50)	MADEGROUND: C&D Waste (concrete, plastics, wood, pottery, cobbles and clay)		
				3.55		4.00			
						(1.00)	Green, fine to coarse SAND.		
				2.55		5.00			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:37.5	Client NIEA	Method/ Plant Used Shell & Auger	Logged By JN

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH204
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	04-03-15 04-03-15	6.45	E 247,646.2 N 417,585.3	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
				6.15		0.30	Brown, clayey fine to coarse SAND.		
						(2.40)	Brown fine to coarse SAND.		
				3.75		2.70			
			▼1			(1.60)	Grey angular to subangular, fine to coarse GRAVEL with low cobble content. Cobbles sub rounded of psammite and semi pelitic schist.		
				2.15		4.30			
						(1.20)	Greenish grey, sandy, angular to subangular, fine to coarse GRAVEL of psammite and semi pelitic schist. Sand is fine to coarse.		
				0.95		5.50			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:40.625	Client NIEA	Method/ Plant Used Shell & Auger	Logged By JN

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH205
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	18-02-15 19-02-15	9.97	E 247,787.8 N 417,759.7	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
				7.47		(2.50) 2.50	MADEGROUND: Soft to firm, brown, gravelly CLAY. Gravel sized fragments are angluar to sub angluar, fine to coarse.		
				6.47		(1.00) 3.50	MADEGROUND: C&D Waste (rubber and steel)		
			▼1	2.37		(4.10) 7.60	Grey, gravelly fine to coarse SAND. Gravel is fine to coarse, angluar to sub angluar.		

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:53.75	Client NIEA	Method/ Plant Used Shell & Auger	Logged By MP

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH206
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	19-02-15 19-02-15	8.71	E 247,728.9 N 417,920.2	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
						(3.20)	Grey very clayey, fine to coarse SAND with low boulder content. Boulders are sub rounded of psammite and semi pelitic schist.		
				5.51		3.20			
			▼			(2.80)	Grey mottled brown, sandy angular to sub angular, fine to coarse sandy GRAVEL with occassional cobbles. Sand is fine to coarse. Cobbles are sub rounded to rounded of psammite and semi pelitic schist.		
				2.71		6.00			
						(1.00)	Grey, fine to coarse SAND.		
				1.71		7.00			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:50	Client NIEA	Method/ Plant Used Shell & Auger	Logged By JN

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH207
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	23-02-15 23-02-15	6.84	E 247,710.0 N 418,063.1	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
						(5.50)	MADEGROUND: Domestic Waste (Shredded material consisting of paper, plastic film, plastic packaging, plastic labels, and plastic wrap)		
				1.34		5.50			
						(3.50)	Grey, gravelly, silty fine to coarse SAND, Sand is fine to coarse. Gravel is angluar to sub angluar, fine to coarse of psammite and semi pelitic schist.		
				2.16		9.00			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:62.5	Client NIEA	Method/ Plant Used Shell & Auger	Logged By JN

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH208
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	18-02-15 18-02-15	6.83	E 247,944.9 N 417,584.5	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
				6.53		(0.30) 0.30	MADEGROUND: Brown very clayey, fine to coarse SMAD SIZED FRAGMENTS.		
				6.33		(0.20) 0.50	MADEGROUND: Municipal Waste (metal, paper, and shredded plastics)		
						(2.00)	MADEGROUND: Waste (shredded plastics mixed with clay)		
				4.33		2.50			
			▼	4.13		(0.20) 2.70	Grey, gravelly, fine to coarse SAND with medium cobble content. Gravel is angluar to sub angular, fine to coarse. Cobbles are sub rounded to rounded. Gravel and cobbles comprise of psammite and semi pelitic schist.		

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:23.125	Client NIEA	Method/ Plant Used Shell & Auger	Logged By JN

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH209
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	17-02-15 18-02-15	8.02	E 247,974.9 N 417,654.8	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION		
				7.92		0.10	MADEGROUND: Grey to black very clayey fine to coarse SAND SIZED FRAGMENTS.		
						(0.40)	MADEGROUND: Mixed Municipal Waste (paper and plastic) and Tarry Waste (distilled waste)		
				7.52		0.50			
						(2.50)	MADEGROUND: Grey mottled Black clay with Tarry Waste (distilled waste)		
				5.02		3.00			
						(1.00)	MADEGROUND: Brown clay with Tarry Waste (distilled waste)		
				4.02		4.00			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:31.25	Client NIEA	Method/ Plant Used Shell & Auger	Logged By JN

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH210
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	16-02-15 17-02-15	7.70	E 247,910.8 N 417,760.0	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
				7.40		(0.30) 0.30	MADEGROUND: Concrete hardstanding.		
						(2.30)	Grey sandy angular to subangular, fine to coarse GRAVEL with low cobble content. Sand is fine to coarse. Cobbles are angluar to sub angluar. Gravels and cobbles comprise of psammite and semi pelitic schist.		
				5.10		2.60			
						(1.40)	Grey gravelly fine to coarse SAND. Gravel is angular to subangular, fine to coarse of psammite and semi pelitic schist.		
				3.70		4.00			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:31.25	Client NIEA	Method/ Plant Used Shell & Auger	Logged By JN

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH211
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	12-03-15 16-03-15	7.69	E 247,815.7 N 417,605.3	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
				7.49		0.20	MADEGROUND: Soft, brown CLAY.		
							MADEGROUND: Domestic Waste (plastics, paper, wood, glass and gravel)		
						(5.30)			
				2.19		5.50			
				1.89		5.80	MADEGROUND: Firm to stiff, brown CLAY. (suspected original landfill cap)		
							MADEGROUND: Domestic Waste waste comprised of paper, rope, glass, wood, glass (all fragments) no mixing with soil or gravel		
						(8.70)			
				6.81		14.50			
						(2.00)	Grey, gravelly, fine to coarse SAND with low cobble content. Gravel is angluar to sub angluar, fine to coarse. Cobbles are sub rounded to rounded. Gravel and cobbles comprise of psammite and semi pelitic schist.		
				8.81		16.50			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:109.375	Client NIEA	Method/ Plant Used Shell & Auger	Logged By MP

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH212
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	05-03-15 05-03-15	20.52	E 247,919.3 N 417,974.7	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
						(2.80)	MADEGROUND: C&D Rubble (bricks/stones, timber and clay)		
				17.72		2.80			
						(1.20)	MADEGROUND: Suspected hard Waste (Driller was chiselling)		
				16.52		4.00			
						(3.50)	Green, fine to coarse SAND.		
				13.02		7.50			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:53.125	Client NIEA	Method/ Plant Used Shell & Auger	Logged By JN

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH213
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	11-03-15 12-03-15	15.68	E 248,005.6 N 418,208.4	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION		
				14.68		(1.00) 1.00	MADEGROUND: Grey, clayey, angular, fine to coarse GRAVEL SIZED FRAGMENTS with low cobble content. Cobble sized fragments are sub rounded to rounded. Gravel and cobbles comprise of psammite and semi pelitic schist.		
				9.68		(5.00) 6.00	MADEGROUND: Domestic Waste (shredded plastic with occasional paper and fine to coarse gravel to cobble sized pockets of gravelly sand)		
				8.18		(1.50) 7.50	Grey, silty, sandy angular, fine to coarse GRAVEL (possible weathered bedrock) of psammite and semi pelitic schist. Sand is fine to coarse.		
			1	7.98		7.70	Fine Grained Metamorphic Rock (Competent bedrock).		

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:54.375	Client NIEA	Method/ Plant Used Shell & Auger	Logged By MP

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Te ephone: 02890706000

BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH214
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	12-03-15 13-03-15	15.25	E 247,876.4 N 418,097.8	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
						(9.50)	MADEGROUND: Domestic Waste clean RDF shredded waste consisting of paper and plastic film		
				5.75		9.50			
						(1.50)	Light brown, silty, sandy, angular to subangular, fine to coarse GRAVEL of psammite and semi pelitic schist. Sand is fine to coarse.		
				4.25		11.00			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:75	Client NIEA	Method/ Plant Used Shell & Auger	Logged By MP

WYG
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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH215
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	10-03-15 11-03-15	16.02	E 247,955.0 N 418,102.8	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
				15.72		0.30	MADEGROUND: Light brown, clayey, fine to medium SAND SIZED FRAGMENTS.		
						(1.70)	MADEGROUND: Domestic Waste (shredded plastic mixed with black clay). (Gas Encountered).		
				14.02		2.00			
				13.52		2.50	MADEGROUND: Firm, light brown, sandy CLAY. Sand is fine to coarse.		
						(1.50)	MADEGROUND: Shredded Plastic (Gas Encountered).		
				12.02		4.00			
				11.62		4.40	MADEGROUND: Light brown, sandy CLAY. Sand sized fragments are fine to coarse.		
						(1.40)	MADEGROUND: Domestic Waste (Shredded Plastic)		
				10.22		5.80			
				9.52		(0.70) 6.50	MADEGROUND: C&D Waste.		
			▼1			(3.00)	MADEGROUND: Domestic Waste (Shredded Plastic)		
				6.52		9.50			
				6.32		9.70	MADEGROUND: Orangeish yellow slightly gravelly CLAY. Gravel is angular, fine to coarse of psammite and semi pelitic schist. Underlain by a black plastic wrap (0.01m thickness).		
						(1.80)	MADEGROUND: Domestic Waste (fine papaer and plastics with thin to thick inter laminations of 'black soil')		
				4.52		11.50			
				3.52		(1.00) 12.50	Soft, brown mottled grey sandy, gravelly, CLAY. Sand is fine to coarse. Gravel is angular, fine to coarse of psammite and semi pelitic schist.		

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:84.375	Client NIEA	Method/ Plant Used Shell & Auger	Logged By MP

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH216
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	03-03-15 03-03-15	4.79	E 247,782.3 N 418,878.7	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
						(6.00)	MADEGROUND: Grey to Black, soft to firm clay with freq. timber, plastic and glass		
			1	1.21		6.00			
						(2.00)	Green, fine to medium SAND.		
				3.21		8.00			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:56.25	Client NIEA	Method/ Plant Used Shell & Auger	Logged By MP

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH217
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	02-03-15 02-03-15	5.00	E 247,770.0 N 418,786.8	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
						(6.00)	MADEGROUND: C&D Rubble (bricks, glass, timber and clay)		
				1.00		6.00			
						(2.00)	Grey sandy, angular to subangular, fine to coarse GRAVEL. Sand is fine to coarse.		
				3.00		8.00			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:56.25	Client NIEA	Method/ Plant Used Shell & Auger	Logged By JN

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH218
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	26-02-15 26-02-15	9.01	E 247,729.5 N 418,559.6	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
				8.71		0.30	MADEGROUND: Soft, brown CLAY with occ. fine to coarse sand and sub angular to sub rounded gravel		
				6.51		(2.20) 2.50	MADEGROUND: Waste (Plastic piping, plastic bottles, wood fragments mixed with a black, soft, silty, clay).		
			▼	4.01		(2.50) 5.00	Grey, slightly gravelly, silty CLAY. Gravel is sub angular to rounded, fine to coarse of plant rootlets.		
				3.01		(1.00) 6.00	Grey, gravelly, fine to coarse SAND. Gravel is angluar to sub angluar, fine to coarse of psammite and semi pelitic schist.		

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:43.75	Client NIEA	Method/ Plant Used Shell & Auger	Logged By MP

WYG
1 Locks ey Bus ness Park
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Te ephone: 02890706000

BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH219
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	24-02-15 24-02-15	7.06	E 247,709.4 N 418,227.6	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
						(5.40)	MADEGROUND: C&D Rubble (frequent cobbles of ang sub angular red bricks and tarmac)		
				1.66		5.40			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:40	Client NIEA	Method/ Plant Used Shell & Auger	Logged By JN

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH220
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	23-02-15 24-02-15	7.19	E 247,721.2 N 418,172.4	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
				6.69		(0.50) 0.50	MADEGROUND: Very clayey, fine to coarse SAND SIZED FRAGMENTS.		
				2.69		(4.00) 4.50	MADEGROUND: C&D Waste (plastics, cables and black clay)		
				2.19		(0.50) 5.00	Grey, gravelly, fine to coarse SAND. Gravel is angluar to sub angluar fine to coarse of psammite and semi pelitic schist.		

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:37.5	Client NIEA	Method/ Plant Used Shell & Auger	Logged By JN

AGS3 UK BH ES GPJ G N S D AGS 3 1 GD 18/5/15

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BOREHOLE LOG

Project				BOREHOLE No
City Industrial Waste & Campsie Sand & Gravels				BH221
Job No	Date	Ground Level (m)	Co Ordinates ()	
A089594	19-02-15 20-02-15	7.19	E 247,877.8 N 417,563.8	
Contractor				Sheet
Causeway Geotech				1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick ness)	DESCRIPTION		
				7.09		0.10	MADEGROUND: Grey, angular, fine to coarse GRAVEL (Igneous ballast).		
						(2.00)	Grey, gravelly fine to coarse SAND. Gravel is angluar to sub angluar, fine to coarse of psammite and semi pelitic schist.		
			▼1	5.09		2.10			
						(3.70)	Grey sandy angular to sub angular, fine to coarse GRAVEL of psammite and semi pelitic schist. Sand is fine to coarse.		
				1.39		5.80			
						(0.80)	Dark brown mottled black ORGANIC PEAT.		
				0.59		6.60			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	

All dimensions in metres Scale 1:47.5	Client NIEA	Method/ Plant Used Shell & Auger	Logged By MP

Appendix D – Ground Gas Monitoring Results

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH205						General Site comments							
DATE:	29 ~April 2015			..... of										
OPERATOR(S):	P.L.													
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	0_2 (%v/v)	P D (ppm)								
Before Monitoring		1003					EQU PMENT							
After Monitoring							Instrument / Model Type		Serial Number				Comments	
Atmospheric Pressure Trend:														
Ground Conditions:														
Weather Conditions:														

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower Explosive	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
BH205		0.1													
BH205	30	0.1		0.7	1.8	17.1	0.7	13	1	0					
BH205	60	0.1		0.7	1.8	16.8	0.7	13	1	0					
BH205	90	0.1		0.7	2.1	16.6	0.7	14	2	0					
BH205	120	0.1		0.8	2.2	16.4	0.8	15	0	0					
BH205	180	0.1		0.8	2.3	16.1	0.9	17	3	0					
BH205	240	0.1		0.9	2.4	15.9	0.9	17	3	0					
BH205	300	0.1		1.1	3	15	1.1	21	3	0					
BH205	400	0.1		1.2	3.6	14	1.3	25	4	0					
BH205	500	0.1		1.5	4.4	12.8	1.5	30	1	0					
BH205	600	0.1		1.7	5	11.9	1.8	35	1	0					

5

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)		Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
							Eh	EC	pH	DO	Temp			
BH205	5.29	7.7												

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH211					
DATE:	29-Apr-15			..... of		
OPERATOR(S):						

General Site comments

Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	0_2 (%v/v)	P D (ppm)
Before Monitoring		1001				
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:						
Weather Conditions:						

EQU PMENT						
Instrument / Model Type		Serial Number				Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure (mb)	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower Explosive Limit	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
BH211		3.1													
BH211	30			62.7	35.2	0	62.9		0	29					
BH211	60			62.7	35.2	0	62.9		0	31					
BH211		90		62.8	35.3	0	62.9		0	33					
BH211		120		62.9	35.2	0	62.9		0	33					
BH211		180		62.7	35.2	0	63		0	30					
BH211		240		63.1	35.1	0	63.2		0.2	30					
		300		63.1	35.1	0	63.2		0	29					

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)		Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
							Eh	EC	pH	DO	Temp			
BH211	14	14.82												

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH213					
DATE:	29-Apr-15			..... of		
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	0_2 (%v/v)	PID (ppm)
Before Monitoring		1002				
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:						
Weather Conditions:						

General Site comments

EQUIPMENT

Instrument / Model Type			Serial Number			Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure (mb)	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower Explosive Limit	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
BH213		4.1													
	30			63.1	35.6	0	63.1		11	2					
	60			62.9	35.8	0	63.2		15	2					
	90			62.9	35.8	0	63.2		16	2					
	120			62.9	35.7	0	63.2		21	2					
	180			63.3	35.8	0	63.4		23	3					
	240			63.2	35.8	0	63.4		26	3					
	300			63.1	35.8	0	63.4		25	3					
	400			63.2	35.8	0	63.4		28	3					
	500			63.2	35.7	0	63.4		29	3					

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)		Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
							Eh	EC	pH	DO	Temp			
BH213	1.86	6.37												

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH215						General Site comments							
DATE:	29-Apr-15			..... of										
OPERATOR(S):														
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	0_2 (%v/v)	P D (ppm)								
Before Monitoring		1001					EQU PMENT							
After Monitoring							Instrument / Model Type		Serial Number				Comments	
Atmospheric Pressure Trend:														
Ground Conditions:														
Weather Conditions:														

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure (mb)	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower Explosive Limit	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
BH215															
	30			61.8	37	0	61.8		12	21					
	60			61.8	37.1	0	61.8		17	21					
	90			61.7	37.1	0	61.9		17	22					
	120			61.6	37	0	61.8		18	22					
	180			61.9	37	0	61.8		22	22					
	240			61.8	37	0	61.8		21	22					
	300			61.8	37	0	61.8		19	22					

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)		Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
							Eh	EC	pH	DO	Temp			
BH215	4.52	10.7												

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH214						General Site comments							
DATE:	29-Apr-15			……... of ……										
OPERATOR(S):														
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	0_2 (%v/v)	PID (ppm)								
Before Monitoring							EQUIPMENT							
After Monitoring							Instrument / Model Type			Serial Number			Comments	
Atmospheric Pressure Trend:														
Ground Conditions:														
Weather Conditions:														

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure (mb)	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower Explosive Limit	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
BH214	30			62.1	36.5	0	62.2		17	11					
BH214	60			62.1	36.7	0	62.2		19	11					
BH214	90			62.1	36.7	0	62.2		23	12					
BH214	120			62	36.7	0	62.2		25	12					
BH214	180			62.2	36.8	0	62.3		25	12					
BH214	240			62.2	36.8	0	62.3		27	12					
BH214	300			62.1	36.8	0	62.3		30	12					

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)		Free Phase DNAPL Thickness (m)	Water Quality Indicators						Well Volume (l)	Purge Volume (l)	Comments (samples)
							Eh	EC	pH	DO	Temp			
BH214	3.4	9.68												

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

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GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH210						General Site comments							
DATE:	29-Aug-14			……... of ……										
OPERATOR(S):														
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	0_2 (%v/v)	PID (ppm)								
Before Monitoring							EQUIPMENT							
After Monitoring							Instrument / Model Type			Serial Number			Comments	
Atmospheric Pressure Trend:														
Ground Conditions:														
Weather Conditions:														

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure (mb)	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower Explosive Limit	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
BH210	60			0	4.4	8.4	0	0	0	0	87.3				
BH210	120			0	4.5	7.5	0	0	0	0	87.9				
BH210	180			0	4.5	7.4	0	0	0	0	88				
BH210	240			0	4.5	7.4	0	0	0	0	88				
BH210	300			0	4.5	7.3	0	0	0	0	88.1				

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)		Free Phase DNAPL Thickness (m)	Water Quality Indicators						Well Volume (l)	Purge Volume (l)	Comments (samples)
							Eh	EC	pH	DO	Temp			
BH210	2.27	4.37												

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH114					
DATE:	29-Apr-15			…….. of ……		
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	0_2 (%v/v)	PID (ppm)
Before Monitoring		1002				
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:						
Weather Conditions:						

General Site comments				

EQUIPMENT						
Instrument / Model Type			Serial Number			Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure (mb)	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower Explosive Limit	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
BH114		0													
BH114	30	0		0	0.9	20.1	0	0	0	0					
BH114	60	0		0	0.9	20.3	0	0	0	0					
BH114	90	0		0	0.9	20.3	0	0	0	0					
BH114	120	0		0	0.9	20.3	0	0	0	0					
BH114	180	0		0	0.9	20.3	0	0	0	0					

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)		Free Phase DNAPL Thickness (m)	Water Quality Indicators						Well Volume (l)	Purge Volume (l)	Comments (samples)
							Eh	EC	pH	DO	Temp			
BH114	2.2	5.42												

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH209						General Site comments							
DATE:	29-Apr-15			……... of ……										
OPERATOR(S):														
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	0_2 (%v/v)	PID (ppm)								
Before Monitoring		1002					EQUIPMENT							
After Monitoring							Instrument / Model Type			Serial Number			Comments	
Atmospheric Pressure Trend:														
Ground Conditions:														
Weather Conditions:														

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure (mb)	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower Explosive Limit	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
BH209		10.7													
BH209	30			72.5	25	0.5	72.6		0	1					
BH209	60			72.5	25.1	0	72.6		0	22					
BH209	90			72.5	25.1	0	72.6		0	3					
BH209	120			72.5	25	0	72.7		0	3					
BH209	180			72.7	25	0	72.7		0	5					
BH209	240			72.5	25.2	0	72.8		0	7					
BH209	300			72.2	25.1	0	72.8		0	12					
BH209	400			72.3	25.2	0	72.8		0	17					
BH209	500			72.3	25.2	0	72.8		0	18					

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)		Free Phase DNAPL Thickness (m)	Water Quality Indicators						Well Volume (l)	Purge Volume (l)	Comments (samples)
							Eh	EC	pH	DO	Temp			
BH209	2.15	4.77												

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH208						General Site comments
DATE:	29-Apr-15			……. of ……			
OPERATOR(S):							
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	0_2 (%v/v)	PID (ppm)	
Before Monitoring							EQUIPMENT
After Monitoring							Instrument / Model Type / Serial Number / Comments
Atmospheric Pressure Trend:							
Ground Conditions:							
Weather Conditions:							

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure (mb)	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower Explosive Limit	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
BH208		0.2													
BH208	30			53.2	43.4	0	53.3		0	0					
BH208	60			53.2	44	0	53.3		4	0					
BH208	90			53.2	44.1	0	53.3		5	0					
BH208	120			53.2	44.1	0	53.3		8	0					
BH208	180			53.2	44.2	0	53.3		10	1					
BH208	240			53.2	44.2	0	53.3		11	8					
BH208	300			53.2	44.2	0	53.4		10	26					
BH208	400			53.3	44.3	0	53.4		12	43					
BH208	500			53.4	44.1	0	53.4		12	61					
BH209	600			53.4	44.2	0	53.4		10	71					

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)		Free Phase DNAPL Thickness (m)	Water Quality Indicators						Well Volume (l)	Purge Volume (l)	Comments (samples)
							Eh	EC	pH	DO	Temp			
BH208	1.8	3.23												

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH121					
DATE:	29-Apr-15			…….. of ……		
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	0_2 (%v/v)	PID (ppm)
Before Monitoring						
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:						
Weather Conditions:						

General Site comments				

EQUIPMENT						
Instrument / Model Type			Serial Number			Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure (mb)	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower Explosive Limit	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
		0.7													
BH121	30			0.2	1.4	19.8	0.9	4	2	0					
BH121	60			0.2	1.4	19.9	0.9	4	0	0					
BH121	90			0.2	1.4	19.9	0.9	4	0	0					
BH121	120			0.2	1.4	19.9	0.9	4	0	0					
BH121	180			0.2	1.4	19.9	0.9	4	0	0					

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)		Free Phase DNAPL Thickness (m)	Water Quality Indicators						Well Volume (l)	Purge Volume (l)	Comments (samples)
							Eh	EC	pH	DO	Temp			
BH121	1.98	5.26												

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH122						General Site comments							
DATE:	29-Apr-15			..... of										
OPERATOR(S):														
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	0_2 (%v/v)	PID (ppm)								
Before Monitoring							EQUIPMENT							
After Monitoring							Instrument / Model Type			Serial Number			Comments	
Atmospheric Pressure Trend:														
Ground Conditions:														
Weather Conditions:														

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure (mb)	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower Explosive Limit	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
BH122		0													
BH122	30			0	0.7	20	0	0	0	0					
BH122	60			0	0.5	20.2	0	0	0	0					
BH122	90			0	0.5	20.3	0	0	0	0					
BH122	120			0	0.5	20.2	0	0	0	0					
BH122	180			0	0.4	20.2	0	0	0	0					

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)		Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
							Eh	EC	pH	DO	Temp			
BH122	3.6	11.25												

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH113					General Site comments	
DATE:	30-Apr-15			…….. of ……			
OPERATOR(S):	MP, JW						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	0_2 (%v/v)	PID (ppm)	
Before Monitoring		1010					EQUIPMENT
After Monitoring						Instrument / Model Type	Serial Number
Atmospheric Pressure Trend:							
Ground Conditions:							
Weather Conditions:							

Comments			

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure (mb)	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower Explosive Limit	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
BH113		0.1													
BH113	30			0.3	0.6	20.5	0.3	6	0	0					
BH113	60			0.3	0.5	20.5	0.3	4	0	0					
BH113	90			0.2	0.4	20.5	0.3	3	1	0					
BH113	120			0.2	0.3	20.5	0.3	3	0	0					
BH113	180			0.1	0.3	20.6	0.3	2	0	0					

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)		Free Phase DNAPL Thickness (m)	Water Quality Indicators						Well Volume (l)	Purge Volume (l)	Comments (samples)
							Eh	EC	pH	DO	Temp			
BH113	12.34	15.78												

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH118						General Site comments							
DATE:	30-Apr-15			……... of ……										
OPERATOR(S):														
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	0_2 (%v/v)	PID (ppm)								
Before Monitoring		1012					EQUIPMENT							
After Monitoring							Instrument / Model Type			Serial Number			Comments	
Atmospheric Pressure Trend:														
Ground Conditions:														
Weather Conditions:														

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure (mb)	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower Explosive Limit	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
BH118		0.1													
BH118	30			0	0	20.6	0	0	0	0					
BH118	60			0	0	20.6	0	0	0	0					
BH118	90			0	0	20.6	0	0	0	0					
BH118	120			0	0	20.6	0	0	0	0					

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GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH113					
DATE:	11-May-15			..... of		
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1003				
After Monitoring		1003	0	0	20	
Atmospheric Pressure Trend:						
Ground Conditions:		Dry				
Weather Conditions:		Dry, sunny				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
		+0.2													
113	30			2.1	1.4	20.1	2.3		2	0					
113	60			2.2	1.4	20.0	2.3		2	0					
113	90			1.7	1.2	20.2	2.3		1	0					
113	120			1.5	1.1	20.3	2.3		2	0					
113	150			1.3	1.0	20.3	2.3		1	0					
113	180			1.2	1.0	20.4	2.3		1	0					

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
113	11.95	15.73										

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH117					
DATE:	11-May-15			..... of		
OPERATOR(S):						

Ambient Conditions:	Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring	1003				
After Monitoring	1003	0	0	20	
Atmospheric Pressure Trend:					
Ground Conditions:	Dry				
Weather Conditions:	Dry, sunny				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
		0													
117	30			24.2	27.6	0.4			2	0					
117	60			24.2	27.7	0.1			2	0					
117	90			24.2	27.7	0.1			2	0					
117	120			24.2	27.8	0.1			2	0					
117	150			24.3	27.8	0.1			2	0					
117	180			24.2	27.8	0.1			2	0					

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
117	-	5.96										

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH211					
DATE:	11-May-15			..... of		
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1003				
After Monitoring		1003	0	0	20	
Atmospheric Pressure Trend:						
Ground Conditions:		Dry				
Weather Conditions:		Dry, sunny				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
		+0.5													
211	30			65.1	35.8	0.2			3	12					
211	60			65.1	35.9	0.2			3	13					
211	90			65.1	35.8	0.1			2	14					
211	120			65.1	35.9	0.1			2	13					
211	150			65.1	35.9	0.1			2	14					
211	180			65.7	35.4	0.1			2	11					
211	240			65.6	35.5	0.1			3	11					
211	300			65.4	35.5	0.1			2	12					

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
211	-	13.82	14.86									

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH210					
DATE:	11-May-15			..... of		
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1003				
After Monitoring		1003	0	0	20	
Atmospheric Pressure Trend:						
Ground Conditions:		Dry				
Weather Conditions:		Dry, sunny				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
		0.1													
210	30			0	4.0	7.8			1	0					
210	60			0	4.2	7.1			2	0					
210	90			0	4.3	6.5			2	0					
210	120			0	4.3	6.3			2	0					
210	180			0	4.1	6.0			2	0					

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
210	2.18	4.36										

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH121					
DATE:	11-May-15			..... of		
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1003				
After Monitoring		1003	0	0	20	
Atmospheric Pressure Trend:						
Ground Conditions:		Dry				
Weather Conditions:		Dry, sunny				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
		4.2													
121	30			0	0.2	20.8			1	0					
121	60			0	0.3	20.8			2	0					
121	90			0	0.3	20.8			2	0					
121	120			0	0.4	20.8			1	0					
121	150			0.1	0.5	20.8			2	0					
121	180			0	0.6	20.7			2	0					
121	260			0.2	1.4	20.2			3	0					

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
121	1.90	5.37										

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH208					
DATE:	11-May-15			..... of		
OPERATOR(S):						

Ambient Conditions:	Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring	1003				
After Monitoring	1003	0	0	20	
Atmospheric Pressure Trend:					
Ground Conditions:	Dry				
Weather Conditions:	Dry, sunny				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
		0													
208	0			52.1	45.5	0.1			6	0					
208	30			52.1	45.3	0.2			7	0					
208	90			50.9	44.0	0.7			7	0					
208	150			50.1	43.3	1.0			8	0					
208	180			49.7	43.0	1.1			8	0					
208	210			49.5	42.8	1.3			8	0					
208	240			49.1	42.5	1.4			8	0					
208	270			48.9	42.2	1.6			6	0					

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
208	1.56	3.24										

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH209					
DATE:	11-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1005				
After Monitoring		1005	0	0	20	
Atmospheric Pressure Trend:						
Ground Conditions:		Dry				
Weather Conditions:		Dry, sunny				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
		0.1													
209	0			43.0	25.3	6.1			4	3					
209	50			43.2	25.7	6.0			4	4					
209	100			45.8	26.8	5.3			4	5					
209	150			47.4	27.5	4.8			4	6					
209	210			49.1	28.1	4.0			4	6					
209	240			50.7	29.4	3.8			4	8					
209	270			53.5	30.7	2.9			5	8					
209	310			55.0	31.5	2.5			4	7					
209	340			58.2	33.2	1.3			5	8					
209	370			59.4	33.1	1.6			4	8					

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
209	2.29	4.75										

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH114					
DATE:	11-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1005				
After Monitoring		1005	0	0	20	
Atmospheric Pressure Trend:						
Ground Conditions:		Dry				
Weather Conditions:		Dry, sunny				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
		0.1													
114	0														
114	60														
114	120														
114	280			0	0.1	21.1			2	0					
114	310			0	0.1	21.1			2	0					
114	340			0	0.1	21.1			3	0					
114	370			0	0.1	21.1			2	0					

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
114	2.18	5.42										

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH117					
DATE:	14-May-15		..... of			
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1011				
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:		Wet				
Weather Conditions:		Sunny				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
117	30	0	-0.49	20.4	30.0	2.7	20.4	N/A	0	0	47.2				
117	60	0		20.6	32.3	2.1	20.8	N/A	7	0	45.9				
117	90	0		20.4	31.3	1.7	20.8	N/A	2	1	46.3				
117	120	0		21.4	31.8	0.7	21.7	N/A	0	0	44.3				
117	180	0		22.3	33.3	0.2	22.3	N/A	1	0	44.2				
117	240	0		22.4	33.7	0.2	22.5	N/A	0	0	43.4				
117	300	0		22.5	33.9	0.1	22.5	N/A	0	0	43.5				
117	360	0		22.7	33.9	0.1	22.8	N/A	1	0	43.2				

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
117	Dry	5.96										

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH113					
DATE:	14-May-15		..... of			
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1010	0	1.4	18.9	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:		Wet				
Weather Conditions:		Sunny				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
113	30	0.1	-0.26	7.8	4.9	16.7	7.9	N/A	0	0	70.7				
113	60	0.1		7.2	4.4	16.9	7.9	N/A	0	0	71.6				
113	90	0.1		6.9	4.3	16.9	7.9	N/A	3	0	72.2				
113	120	0.1		5.6	3.6	17.3	7.9	N/A	2	0	73.6				
113	180	0.1		4.9	3.3	17.6	7.9	N/A	8	0	74.2				
113	240	0.1		4.3	2.9	17.8	7.9	N/A	3	0	75.1				
113	300	0.1		3.4	2.5	18.1	7.9	N/A	0	0	76.0				
113	360	0.1		3.0	2.2	18.3	7.9	N/A	0	1	76.5				

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
113	12.42	15.73										

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH221					
DATE:	11-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1005				
After Monitoring		1005	0	0	20	
Atmospheric Pressure Trend:						
Ground Conditions:		Dry				
Weather Conditions:		Dry, sunny				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
		0													
221	0			14.2	2.0	16.4			1	0					
221	30			11.4	1.6	17.6			2	0					
221	60			6.6	1.1	19.1			2	0					
221	100			2.8	0.7	20.5			2	0					
221	140			0.1	0.1	21.5			2	0					
221	170			0.1	0.1	21.5			1	0					
221	200			0.1	0.1	21.5			2	0					
221	230			0.0	0.1	21.4			2	0					
221	260			0.0	0.1	21.4			2	0					

Groundwater

Borehole ID	Standing Water Level (mbgl)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
221	1.61	6.16										

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH118					
DATE:	22-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1024	0	0.1	20.8	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:		Wet				
Weather Conditions:		Calm, overcast, near 12°C				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
118	30	0.2	-0.34	0	0.7	20.7	0	N/A	2	0	78.7				
118	60	0.2	-0.34	0	0.7	20.6	0	N/A	3	0	78.7				
118	90	0.2	-0.34	0	0.7	20.6	0	N/A	3	0	78.7				
118	150		-0.34	0	0.7	20.6	0	N/A	2	0	78.7				
				Pump cut off due to water pumping up.											

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
118	0.53											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH203					
DATE:	22-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1022	0	0.1	21.3	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:		Wet				
Weather Conditions:		Showers				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
203	30	13.8	29.17	66.7	30.2	0.3	69.8	N/A	2	10	0				
203	60	13.8	29.17	69.8	30.8	0.2	69.8	N/A	2	12	0				
203	90	13.8	29.17	69.8	30.8	0.1	69.9	N/A	2	13	0				
203	150	13.9	29.17	69.9	30.7	0.1	66.0	N/A	3	14	0				
203	210	13.9	29.17	69.9	30.8	0.1	69.9	N/A	2	13	0				
203	270	13.9	29.17	69.8	30.7	0.1	69.9	N/A	3	14	0				
203	330	13.9	29.17	69.9	30.7	0.1	69.9	N/A	3	14	0				
203	390	13.9	29.17	69.9	30.7	0.1	69.9	N/A	3	14	0.0				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
203	3.67											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH202					
DATE:	22-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1022	0	0.1	21.2	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:		Wet				
Weather Conditions:		Showers				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments
GA 5000		

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
202	30	0.2	-0.29	12.3	6.4	15.7	16.3	N/A	2	0	67.5				
202	60	0.2	-0.29	10.4	5.5	16.4	16.3	N/A	2	0	67.7				
202	90	0.2	-0.29	9.4	5.1	17.0	16.3	N/A	2	0	68.6				
202	150	0.2	-0.29	6.8	3.9	18.0	16.3	N/A	2	0	71.5				
202	210	0.2	-0.29	5.9	3.3	18.4	16.3	N/A	2	0	72.4				
202	270	0.2	-0.29	5.0	3.6	18.8	16.3	N/A	2	0	73.3				
202	330	0.2	-0.29	4.7	2.9	18.9	16.3	N/A	2	0	73.7				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
202	4.34											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH201					
DATE:	22-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1023	0	0.1	21.1	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:		Wet				
Weather Conditions:		Showers				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
201	30	0.2	-0.22	57.7	22.4	4.6	67.8	N/A	3	0	21.2				
201	60	0.2	-0.22	42.5	17.5	8.2	67.8	N/A	2	0	35.0				
201	90	0.2	-0.22	39.5	16.3	8.9	67.8	N/A	3	0	36.7				
201	150	0.2	-0.22	32.5	13.7	10.9	67.8	N/A	2	0	42.3				
201	210	0.2	-0.22	27.8	11.9	12.4	67.8	N/A	2	0	40.1				
201	270	0.2	-0.22	26.6	11.3	12.9	67.8	N/A	2	0	49.0				
201	300	0.2	-0.22	26.1	10.9	12.9	67.8	N/A	2	0	49.9				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
201	3.23											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH119					
DATE:	22-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1025	0	0.1	21.1	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:		Wet				
Weather Conditions:		Showers				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
119	30	0.1	-0.14	0.3	0.7	20.8	0.7	N/A	2	0	78.3				
119	60	0.1	-0.14	0.2	0.6	20.8	0.7	N/A	3	0	78.4				
119	90	0.1	-0.14	0.2	0.3	20.9	0.7	N/A	2	0	78.5				
119	150	0.1	-0.14	0.1	0.3	21.0	0.7	N/A	2	0	78.6				
119	210	0.1	-0.14	0	0.2	21.1	0.7	N/A	1	0	78.7				
119	270	0.1	-0.14	0	0.1	21.1	0.7	N/A	2	0	78.8				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
119	1.88											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH101					
DATE:	22-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1025	0	0.1	21.1	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:		Wet				
Weather Conditions:		Showers				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments
GA 5000		

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
101	30	0.3	-0.05	0	0.5	20.7	0.3	N/A	2	0	78.9				
101	60	0.3	-0.05	0	0.5	20.6	0.3	N/A	2	0	78.9				
101	90	0.3	-0.05	0	0.4	20.7	0.3	N/A	3	0	78.9				
101	150	0.3	-0.05	0	0.4	20.8	0.3	N/A	2	0	78.9				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
101	2.36											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH120					
DATE:	22-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1013	0	0.1	21.0	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:		Wet				
Weather Conditions:		Showers				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
120	30	0.3	-0.10	0	0.2	20.9	0.2	N/A	2	0	78.9				
120	60	0.3	-0.10	0	0.2	20.9	0.2	N/A	3	0	78.9				
120	90	0.3	-0.10	0	0.2	20.9	0.2	N/A	3	0	78.9				
120	150	0.3	-0.10	0	0.1	21.0	0.2	N/A	3	0	78.9				
120	210	0.3	-0.10	0	0.1	21.0	0.2	N/A	3	0	78.9				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
120	1.64											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH205					
DATE:	21-May-15			..... of		
OPERATOR(S):						

Ambient Conditions:	Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring	1019	0	0.1	20.2	
After Monitoring					
Atmospheric Pressure Trend:					
Ground Conditions:	Dry				
Weather Conditions:	Sunny, windy, 12°c				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
205	30	0	-0.55	0.4	0.8	19.6	0.4	N/A	1	0	77.2				
205	60	0	-0.55	0.4	1.0	19.3	0.4	N/A	1	6	79.5				
205	90	0	-0.55	0.5	1.1	19.1	0.5	N/A	1	0	79.3				
205	150	0	-0.55	0.5	1.4	18.8	0.6	N/A	1	0	79.3				
205	210	0	-0.55	0.6	1.7	18.4	0.7	N/A	1	0	79.3				
205	270	0	-0.55	0.8	2.0	17.9	0.8	N/A	1	0	79.3				
205	330	0	-0.55	0.8	2.2	17.7	0.8	N/A	1	0	79.3				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
205	5.28	7.66										

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH216					
DATE:	21-May-15			..... of		
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1019	0	0.1	20.2	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:		Dry				
Weather Conditions:		Sunny, windy, 12°c				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
216	30	0.1	-0.40	0	0.1	20.8	0	N/A	1	0	79.1				
216	60	0	-0.40	0	0.1	20.8	0	N/A	1	0	79.1				
216	90	0	-0.40	0	0.1	20.8	0	N/A	1	0	79.1				
216	150	0	-0.40	0	0.1	20.8	0	N/A	1	0	79.1				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
216	1.25											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH217					
DATE:	21-May-15			..... of		
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1021	0	0.1	20.9	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:		Dry				
Weather Conditions:		Sunny, windy, 12°c				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
217	30	-0.1	-0.34	61.20	3.0	10.5	61.2	N/A	1	0	31.0				
217	60	-0.1	-0.34	56.50	2.8	5.5	61.2	N/A	2	0	39.0				
217	90	-0.1	-0.34	41.40	2.2	9.1	61.2	N/A	1	0	47.0				
217	150	-0.1	-0.34	33.00	1.7	11.5	61.2	N/A	1	0	54.7				
217	210	-0.1	-0.34	27.10	1.4	13.3	61.2	N/A	1	0	58.7				
217	270	-0.1	-0.34	24.00	1.3	14.2	61.2	N/A	1	0	60.6				
217	300	-0.1	-0.34	220.00	1.1	14.8	61.2	N/A	1	0	62.3				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
217	1.64											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH111					
DATE:	21-May-15			..... of		
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1023	0	0.1	20.8	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:		Dry				
Weather Conditions:		Sunny, windy, 12°c				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
111	30	0	-0.22	0	0.2	18.3	0.9	N/A	1	0	81.6				
111	60	0	-0.22	0	0.2	18.2	0.9	N/A	1	0	81.6				
111	90	0	-0.22	0	0.2	18.2	0.9	N/A	1	0	81.6				
111	120	0	-0.22	0	0.2	18.1	0.9	N/A	1	0	81.7				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
111	4.57											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH218					
DATE:	21-May-15			..... of		
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1023	0	0.1	20.8	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:		Dry				
Weather Conditions:		Sunny, windy, 12°c				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
218	30	0.1	-0.19	69.3	25.7	1.1	69.5	N/A	2	0	3.8				
218	60	0.1	-0.19	70.0	20.1	0.5	70.1	N/A	2	0	3.3				
218	90	0.1	-0.19	70.4	26.2	0.4	70.5	N/A	2	0	3.0				
218	150	0.1	-0.19	70.7	26.3	0.3	70.8	N/A	2	0	2.7				
218	210	0.1	-0.19	70.9	26.3	0.2	71.0	N/A	2.3	0	2.4				
218	270	0.1	-0.19	71.1	26.3	0.2	71.3	N/A	2	0	2.2				
218	300	0.1	-0.19	71.2	26.3	0.1	71.3	N/A	2	0	2.2				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
218	1.86											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH112					
DATE:	21-May-15			..... of		
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1023	0.1	0.1	21.1	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:		Dry				
Weather Conditions:		Sunny, windy, 12°c				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
112	30	0.1	-0.21	0.1	0.7	21	2.0	N/A	1	0	78.3				
112	60	0.2	-0.21	0.0	0.5	21.1	2.0	N/A	2	0	78.4				
112	90	0.1	-0.21	0.0	0.3	21.1	2.0	N/A	2	0	78.5				
112	150	0.1	-0.21	0.0	0.2	21.2	2.0	N/A	2	0	78.6				
112	210			0.0	0.1	21.2	2.0	N/A	1	0	78.6				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
112	0.52											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH219					
DATE:	21-May-15			..... of		
OPERATOR(S):						

Ambient Conditions:	Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring	1022	0	0.1	21.4	
After Monitoring					
Atmospheric Pressure Trend:					
Ground Conditions:	Dry				
Weather Conditions:	Sunny, windy, 12°c				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
219	30	0.1	-0.21	2.2	2.3	18.9	3.1	N/A	1	0	76.8				
219	60	0.1	-0.21	1.5	1.7	19.6	3.1	N/A	1	0	77.3				
219	90	0.2	-0.21	1.0	1.1	20.3	3.1	N/A	1	0	77.8				
219	150	0.1	-0.21	0.7	0.9	20.5	3.1	N/A	1	0	77.9				
219	210	0.1	-0.21	0.5	0.6	20.7	3.1	N/A	1	0	78.1				
219	270	0.1	-0.21	0.5	0.5	20.8	3.1	N/A	1	0	78.2				
219	300	0.1	-0.21	0.4	0.5	20.9	3.1	N/A	1	0	78.2				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
219	3.49											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH108					
DATE:	21-May-15			..... of		
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1024	0	0.1	21.3	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:		Dry				
Weather Conditions:		Sunny, windy, 12°c				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
108	30	0.1	-0.14	0	0.1	21.2	0.4	N/A	2	0	78.7				
108	60	0.2	-0.14	0	0.1	21.3	0.4	N/A	2	0	78.6				
108	90	0.2	-0.14	0	0.1	21.3	0.4	N/A	1	0	78.6				
108	150	0.2	-0.14	0	0.1	21.3	0.4	N/A	1	0	78.6				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
108	1.25											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH207					
DATE:	21-May-15			..... of		
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1024	0	0.1	21.3	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:		Dry				
Weather Conditions:		Sunny, windy, 12°c				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
207	30	0.3	-0.17	62.7	34.1	1.0	64.3	N/A	3	0	2.6				
207	60	0.4	-0.17	61.7	33.9	1.1	64.3	N/A	3	0	3.3				
207	90	0.3	-0.17	61.5	33.8	1.1	64.3	N/A	3	0	3.5				
207	150	0.4	-0.17	61.4	33.1	1.2	64.3	N/A	3	0	3.9				
207	200		-0.17	60.9	33.5	1.3	64.3	N/A	3	0	4.5				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
207	2.06											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH107					
DATE:	21-May-15			..... of		
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1024	0	0.1	21.5	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:		Dry				
Weather Conditions:		Sunny, windy, 12°c				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
107	30	0.1	-0.19	0.3	0.7	21.4	2.1	N/A	2	0	77.8				
107	60	0.1	-0.19	0.1	0.5	21.5	2.1	N/A	2	0	78.0				
107	90	0.1	-0.19	0.0	0.3	21.6	2.1	N/A	2	0	78.1				
107	150	0.1	-0.19	0.0	0.2	21.6	2.1	N/A	1	0	78.2				
107	200	0.1	-0.19	0.0	0.2	21.6	2.1	N/A	1	0	78.2				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mbgl)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
107	5.00											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH112					
DATE:	25-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1019	0	0	21.2	
After Monitoring		1019	0	0	21.2	
Atmospheric Pressure Trend:						
Ground Conditions:						
Weather Conditions:		Dry				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
112	30	-0.01	+000.15	0	0.2	21.2	0	0	0	0	78.6				
112	60	-0.01	+000.15	0	0.1	21.3	0	0	0	0	78.6				
112	90	-0.01	+000.15	0	0.1	21.3	0	0	0	0	78.6				
112	150	-0.01													
112	210	-0.01													
112	270	-0.01													
112	330														
112	390														
112	450														
112	510														

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
112	0.58	5.26										

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH218					
DATE:	25-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1019	0	0	21.2	
After Monitoring		1019	0	0	21.2	
Atmospheric Pressure Trend:						
Ground Conditions:						
Weather Conditions:		Dry				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
218	30	-0.01	+000.13	70.2	27.1	0.6	70.6	>	0	0	1.5				
218	60	-0.01	+000.13	70.8	27.4	0.2	70.8	>	0	0	1.6				
218	90	-0.01	+000.13	70.9	27.4	0.1	71.0	>	0	0	1.6				
218	150	-0.01	+000.13	71.0	27.4	0.1	71.0	>	0	0	1.5				
218	210	-0.01													
218	270	-0.01													
218	330														
218	390														
218	450														
218	510														

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
218	1.85	3.42										

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH111					
DATE:	25-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1020	0	0	21.3	
After Monitoring		1020	0	0	21.3	
Atmospheric Pressure Trend:						
Ground Conditions:						
Weather Conditions:		Dry				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
111	30	-0.01	+0.15	0	0.1	16.8	0.8	0	0	0	83.1				
111	60	-0.01	+0.15	0	0.1	16.6	0.8	0	0	0	83.3				
111	90	-0.01	+0.15	0	0.1	16.5	0.8	0	0	0	83.5				
111	150	-0.01	+0.15	0	0.1	16.5	0.8	0	0	0	83.5				
111	210	-0.01													
111	270	-0.01													
111	330	-0.01													
111	390														
111	450														
111	510														

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
111	4.62	9.52										

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH217					
DATE:	25-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1020	0	0	21.2	
After Monitoring		1020	0	0	21.2	
Atmospheric Pressure Trend:						
Ground Conditions:						
Weather Conditions:		Dry				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
217	30	5.3	+0.14	86.7	3.0	0.7	87	>	0	0	9.7				
217	60	5.0	+0.14	87.0	3.0	0.3	87	>	0	0	10.0				
217	90	4.7	+0.14	86.5	2.8	0.2	87	>	0	0	10.2				
217	150	4.1	+0.14	86.8	2.7	0.3	87	>	0	0	10.0				
217	210	4.0	+0.14	86.2	2.5	0.5	87	>	0	0	11.1				
217	270	3.8	+0.14	85.1	2.5	0.7	87	>	0	0	11.9				
217	330	2.7	+0.14	83.8	2.3	0.9	87	>	0	0	13.2				
217	390	2.4	+0.14	82.3	2.1	1.2	87	>	0	0	14.8				
217	450	2.0	+0.14	78.6	1.7	2.1	87	>	0	0	18.3				
217	510	1.6	+0.14	75.5	1.5	3.0	87	>	0	0	21.8				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
217	1.72	5.75										

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH216					
DATE:	25-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1020	0	0	21.1	
After Monitoring		1020	0	0	21.1	
Atmospheric Pressure Trend:						
Ground Conditions:						
Weather Conditions:		Dry				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
216	30	-0.01	+0.14	0.5	0.1	20.9	0.9	19	0	0	78.0				
216	60	-0.01	+0.20	1.2	0.2	20.7	1.3	27	0	0	77.8				
216	90	-0.01	+0.20	1.5	0.3	20.5	1.5	31	0	0	77.6				
216	150	-0.01	+0.23	1.8	0.3	20.4	1.8	36	0	0	77.5				
216	210	-0.01	+0.23	2.1	0.4	20.2	2.1	42	0	0	77.3				
216	270	-0.01	+0.23	2.1	0.4	20.2	2.1	36	0	0	77.3				
216	330	-0.01													
216	390	-0.01													
216	450	-0.01													
216	510	-0.01													

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
216	1.25	5.91										

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH207					
DATE:	25-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1020	0	0	21.1	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:						
Weather Conditions:		Dry				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
207	30	0	+0.16	0	0	21.2	0.3	0	0	0	78.8				
207	60	0		0	0	21.2	0.3	0	0	0	78.8				
207	90	0		0	0	21.2	0.3	0	0	0	78.8				
207	150	0		0	0	21.3	0.3	0	0	0	78.7				
207	210	0		0	0	21.3	0.3	0	0	0	78.7				
207	270	0													
207	330	0													
207	390	0													
207	450	0													
207	510	0													

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
207	2.16	6.30										

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH201					
DATE:	25-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1020	0	0	21.2	
After Monitoring		1020	0	0	21.2	
Atmospheric Pressure Trend:						
Ground Conditions:						
Weather Conditions:		Dry				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
201	30	+0.01	+0.15	0	0	21.3	0	0	0	0	78.7				
201	60	+0.01	+0.15	0	0	21.3	0	0	0	0	78.7				
201	90	+0.01	+0.15	0	0	21.3	0	0	0	0	78.7				
201	150	+0.01	+0.15	0	0	21.3	0	0	0	0	78.7				
201	210	+0.01													
201	270	+0.01													
201	330	+0.01													
201	390														
201	450														
201	510														

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
201	3.30											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH119					
DATE:	25-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1020	0	0	21.2	
After Monitoring		1020	0	0	21.2	
Atmospheric Pressure Trend:						
Ground Conditions:						
Weather Conditions:		Dry				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
119	30	+0.01	+5.28	0.3	0.6	20.9	0.3	4	0	0	78.3				
119	60	+0.01	+5.28	0.2	0.5	20.9	0.3	4	0	0	78.5				
119	90	+0.01	+5.28	0.2	0.4	21.0	0.3	4	0	0	78.5				
119	150	+0.01	+5.28	0.2	0.4	21.0	0.3	4	0	0	78.5				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
119												

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH101					
DATE:	25-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1020	0	0	21.1	
After Monitoring		1020	0	0	21.1	
Atmospheric Pressure Trend:						
Ground Conditions:						
Weather Conditions:		Dry				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
101	30	-0.01	+0.14	0	0.3	20.8	0	0	0	0	78.8				
101	60	-0.01	+0.14	0	0.3	20.8	0	0	0	0	78.8				
101	90	-0.01	+0.14	0	0.3	20.8	0	0	0	0	78.8				
101	150	-0.01	+0.14	0	0.3	20.8	0	0	0	0	78.8				
101	210	-0.01	+0.14	0	0.3	20.8	0	0	0	0	78.8				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
101	2.45											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH203					
DATE:	25-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1019	0	0	21.1	
After Monitoring		1019	0	0	21.1	
Atmospheric Pressure Trend:						
Ground Conditions:						
Weather Conditions:		Dry				

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
203	30	-0.01	+0.14	0	0.3	20.8	0	0	0	0	78.8				
203	60	-0.01	+0.14	0	0.3	20.8	0	0	0	0	78.8				
203	90	-0.01	+0.14	0	0.3	20.8	0	0	0	0	78.8				
203	150	-0.01	+0.14	0	0.3	20.8	0	0	0	0	78.8				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
203	Too gasy to dip.											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH104					
DATE:	25-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1021	0	0	21.1	
After Monitoring		1021	0	0	21.1	
Atmospheric Pressure Trend:						
Ground Conditions:						
Weather Conditions:		Dry				

General Site comments
Valve off. Had to reinstall valve and remove when finished.

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
104	30	-0.01	+0.09	0	0	21.2	0	0	0	0	78.8				
104	60	-0.01	+0.09	0	0	21.2	0	0	0	0	78.8				
104	90	-0.01	+0.09	0	0	21.2	0	0	0	0	78.8				
104	150	-0.01	+0.09	0	0	21.2	0	0	0	0	78.8				
104	210	-0.01	+0.09	0	0	21.2	0	0	0	0	78.8				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
104	3.30											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH207					
DATE:	28-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1009	0.0	0.2	20.3	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:						
Weather Conditions:						

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
207	30	0.2		0.4	0.3	21.2	0.5	3	0	0	78.1				
207	60	0.4		0.4	0.2	21.3	0.6	3	0	0	78.2				
207	90	0.2		6.4	0.2	21.3	0.7	3	0	0	78.0				
207	150	0.4		10.6	0.1	21.3	0.7	3	0	0	78.4				
207	210	0.1		0.2	0.1	21.4	0.7	4	0	0	78.2				
207	270	0.3		0.2	0.1	21.3	0.7	3	0	0	78.0				
207	330	0.2		0.4	0.2	21.3	1.0	2	0	0	78.3				
207	390	0.1		0.2	0.1	21.4	1.0	4	0	0	78.3				
207	450	0.3		0.1	0.2	21.3	1.0	7	0	0	78.3				
207	510			0.3	0.2	21.3	1.0	3	0	0	78.3				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
207												

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH112					
DATE:	28-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1009	0.0	0.0	21.2	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:						
Weather Conditions:						

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
112	30	0	-0.12	0	0.2	21.2	0	0	0	0	78.6				
112	60	0	-0.12	0	0.2	21.2	0	0	0	0	78.6				
112	90	0	-0.12	0	0.2	21.2	0	0	0	0	78.6				
112	150	0	-0.12	0	0.1	21.4	0	0	0	0	78.6				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
112	0.55											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH111					
DATE:	28-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1009	0.0	0.0	21.6	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:						
Weather Conditions:						

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
111	30	0.0	-0.17	0	0.1	17.4	0	0	0	0	83.2				
111	60	0.2	-0.17	0	0.1	16.5	0	0	0	0	83.4				
111	90	0.1	-0.17	0	0.1	16.4	0	0	0	0	83.5				
111	150	0.1	-0.17	0	0.1	16.5	0	0	0	0	83.4				
111	210	0.2													

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
111	4.64											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH217					
DATE:	28-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1009	0.0	0.0	21.3	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:						
Weather Conditions:						

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
217	30	0.0	0.2	83.6	2.0	2.2	83.9	>>>			18.3				
217	60	0.0	0.2	68.4	1.7	4.3	83.9	>>>			30.6				
217	90	0.0	0.2	55.0	1.5	7.0	83.9	>>>			38.9				
217	150	0.0	0.2	47.2	1.2	9.2	83.9	>>>			46.6				
217	210	0.0	0.2	35.6	0.9	12.1	83.9	>>>			53.0				
217	270	0.0	0.2	30.6	0.0	13.4	83.9	>>>			56.2				
217	330	0.0	0.2	25.4	0.7	14.9	83.9	>>>			60.0				
217	390	0.0	0.2	22.0	0.6	15.7	83.9	>>>			61.5				
217	450	0.0	0.2	20.1	0.5	16.4	83.9	>>>			63.8				
217	510	0.0	0.2	16.7	0.4	17.3	83.9	>>>			66.1				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
217	1.75											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH216					
DATE:	28-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1009	0.1	0.0	21.3	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:						
Weather Conditions:						

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
216	30	1.2		20.4	2.2	14.1	20.5	>>>	0	0	63.3				
217	60	1.6		20.2	2.1	13.1	20.5	>>>	0	0	64.7				
217	90	1.7		19.9	2.1	13.2	20.5	>>>	0	0	64.9				
217	150	1.7		19.8	2.1	13.1	20.5	>>>	0	0	64.9				
217	210	1.8		18.9	2.0	13.6	20.5	>>>	0	0	65.8				
217	270	1.8													
217	330	1.7													

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
217	1.37											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH218					
DATE:	28-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1009	0.7	0.3	19.8	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:						
Weather Conditions:						

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
218	30	0.1	0.16	71.1	26.6	0.7	71.1	>>>	0	0	1.0				
218	60	0.1		71.3	26.7	0.1	71.3	>>>	0	0	2.2				
218	90	0.1		71.3	26.7	0.1	71.3	>>>	0	0	1.9				
218	150	0.1		71.4	26.7	0.0	71.4	>>>	0	0	1.9				
218	210	0.1		71.4	26.7	0.0	71.4	>>>	0	0	1.9				
218	270	0.1		71.6	26.8	0.0	71.6	>>>	0	0	1.7				
218	330	0.1		71.5	26.7	0.0	71.6	>>>	0	0	2.1				
218	390	0.1		71.5	26.7	0.0	71.6	>>>	0	0	2.1				
218	450	0.1		71.5	26.7	0.0	71.6	>>>	0	0	2.0				
218	510	0.1		71.5	26.7	0.6	71.6	>>>	0	0	1.9				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
218	1.82											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH201					
DATE:	28-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1010	0.3	0.4	20.1	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:						
Weather Conditions:						

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
201	30	0.4	0.1	38.2	15.1	9.3	42.1	>>>	0	0	45.0				
201	60	0.3		29.5	11.8	11.9	42.1	>>>	0	0	47.0				
201	90	0.2		28.1	10.4	14.9	42.1	>>>	0	0	48.8				
201	150	0.0		26.0	10.2	13.3	42.1	>>>	0	0	51.2				
201	210	0.2		24.1	9.5	13.7	42.1	>>>	0	0	52.8				
201	270	0.0		21.8	8.6	14.4	42.1	>>>	0	0	59.9				
201	330	0.0		19.8	7.9	15.0	42.1	>>>	0	0	57.3				
201	390	0.0		17.4	6.8	15.7	42.1	>>>	0	0	59.9				
201	450	0.0		16.5	6.6	15.9	42.1	>>>	0	0	60.8				
201	510	0.0		15.1	5.7	16.6	42.1	>>>	0	0	62.7				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
201	3.30											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH120					
DATE:	28-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1010	0.1	0.1	20.3	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:						
Weather Conditions:						

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
120	30	0.0	0.14	0.0	0.0	20.9	0.3	0	0	0	79.1				
120	60	0.1		0.0	0.0	20.9	0.3	0	0	0	79.1				
120	90	0.1		0.0	0.0	20.9	0.3	0	0	0	79.6				
120	150	0.1		0.0	0.0	20.9	0.3	0	0	0	79.6				
120	210	0.1		0.0	0.0	20.9	0.3	0	0	0	79.6				
120	270			0.0	0.0	20.9	0.3	0	0	0	79.6				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
120	1.81											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH119					
DATE:	28-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1010	0.1	0.1	21.5	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:						
Weather Conditions:						

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
119	30	0.7	0.10	0.1	0.5	21.4	0.2	0	0	0	78.0				
119	60	0.7		0.1	0.1	21.6	0.2	0	0	0	78.1				
119	90	0.8		0.1	0.1	21.7	0.2	0	0	0	78.1				
119	150	0.2		0.1	0.1	21.7	0.2	0	0	0	78.1				
119	210	0.8		0.1	0.1	21.6	0.2	0	0	0	78.1				
119	270	0.7													
119	330	0.8													

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
119	1.97											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH101					
DATE:	28-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1010	0.0	0.0	21.9	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:						
Weather Conditions:						

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
101	30	0.0	0.6	0.0	0.6	21.2	0.1	1	0	0	78.1				
101	60	0.0		0.0	0.6	21.2	0.1	0	0	0	78.3				
101	90	0.0		0.0	0.5	21.2	0.1	0	0	0	78.3				
101	150	0.0		0.0	0.5	21.2	0.1	0	0	0	78.3				
101	210	0.0		0.0	0.5	21.2	0.1	0	0	0	78.3				
101	270	0.0		0.0	0.5	21.2	0.1	0	0	0	78.3				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
101	2.38											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

White Young Green Environmental

GROUND GAS AND GROUNDWATER MONITORING RESULTS

SITE/REF:	BH211					
DATE:	28-May-15	..... of				
OPERATOR(S):						
Ambient Conditions:		Barometric Pressure (mb)	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	PID (ppm)
Before Monitoring		1010	0.0	0.0	21.9	
After Monitoring						
Atmospheric Pressure Trend:						
Ground Conditions:						
Weather Conditions:						

General Site comments

EQUIPMENT		
Instrument / Model Type	Serial Number	Comments

Ground Gas Note: "0" readings to be recorded as instrument detection limit

Borehole ID	Time	Flow (l/hr)	Relative Pressure	Steady CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	% of Lower	CO (ppm)	H_2S (ppm)	Balance (%)	PID (ppm)	Response Zone		Response Strata
													From (mbgl)	To (mbgl)	
211	30	3.1	0.3	65.0	35.7	0.4	65.1	>>>	0	0.2	0				
211	60	3.3		65.1	35.9	0.1	65.1	>>>	0	0.2	0				
211	90	3.6		65.1	35.9	0.1	65.1	>>>	0	0.2	0				
211	150	3.9		65.2	35.9	0.0	65.2	>>>	0	0.2	0				
211	210	4.2		65.2	35.9	0.0	65.2	>>>	0	0.3	0				
211	270	4.2		65.2	35.9	0.0	65.2	>>>	0	0.3	0				

Groundwater

Borehole ID	Standing Water Level (mTOC)	Installation Base Dip (mTOC)	Free Phase LNAPL Thickness (m)	Free Phase DNAPL Thickness (m)	Water Quality Indicators					Well Volume (l)	Purge Volume (l)	Comments (samples)
					Eh	EC	pH	DO	Temp			
211	13.88											

Well volume (l) = (3.14 x (hole diameter (m)/2)^2 x (base dip (m) - standing water level (m)))x1000

%v/v - Percentage volume by total volume; mbgl - metres below ground level; ppm - parts per million; mb - milibars; l/hr - litres per hour; wv - water vial; gb - 1l glass bottle; pb - 1l plastic bottle

Appendix E – Ground Gas Sampling Results and Laboratory Certificates

DIGITAL APPENDIX

Appendix F – Groundwater and Leachate Quality Results

Groundwater Boreholes

Final City Waste Screening - Grounwater Wells

Jones Environmental Laboratory

Report: Liquid
JE Job No: 15/6896
Client: WYG
Client ref: Citywaste
Location: Citywaste
Contact [redacted]

	Sample ID											BH101	BH101	BH101	BH101	BH101	BH101	BH101	BH102	BH102	BH102	BH102	BH102	BH102	BH103	BH103	BH103	BH103	BH103	BH103	BH103	BH104	BH104	BH104	
	Depth																																		
	COC No / misc																																		
	Containers											V H P G		H P	V P BOD G	V P G	V H N P G	V H HN P G	V H P G		H P	V P BOD G	V P G	V H N P G	V H P G		H P	V P BOD G	V P G	V H N P G	V H HN P G	V H P G		V P BOD G	
	Sample Type											Ground Water		Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water		Ground Water	Ground Water	Ground Water	Ground Water	Ground Water		Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water		Ground Water	
	Sampled Date											30/04/2015		03/06/2015	26/08/2015	24/11/2015	10/03/2016	22/06/2016	30/04/2015		03/06/2015	26/08/2015	24/11/2015	08/03/2016	30/04/2015		03/06/2015	26/08/2015	24/11/2015	08/03/2016	15/06/2016	30/04/2015		26/08/2015	
	Sample Received Date											06/05/2015	13/05/15	05/06/2015	28/08/2015	27/11/2015	11/03/2016	25/06/2016	06/05/2015	14/05/2015	05/06/2015	28/08/2015	27/11/2015	11/03/2016	06/05/2015	14/05/15	05/06/2015	28/08/2015	27/11/2015	11/03/2016	21/06/2016	06/05/2015	14/05/15	28/08/2015	
	J E Sample No											212 218		53 54	1 6	1 4	1 7	229 234	149 155		51 52	7 12	5 10	1 8	142 148		49 50	13 18	11 16	9 16	37 42	135 141		19 24	
	Batch Number											2		1	1	1	1	6	2		1	1	1	1	2		1	1	1	1	1	2		1	
CAS Number	Test	Units	LOD	EQS	MAX	MIN	MEAN	No. Samples	No. >EQS	% >EQS	Magnitude of exceedance																								
	Total Alkalinity as CaCO3	mg/l	<1		944 00	42 00	276 95	59	0			90		132	118	144	116		216		240	246	288	258	94		92	112	108	120		166		164	
	Metals																																		
7429 90 5	Dissolved Aluminium	ug/l	<20	150	133 50	1 50	22 46	46	0	0%	0 89	< 20		< 1 5		< 20		< 1 5	< 20		< 1 5		< 20		< 20		< 1 5		< 20		20 7	< 20			<
7440 38 2	Dissolved Arsenic	ug/l	<2 5	10	29 00	0 90	4 82	46	7	15%	2 90	4 5		< 0 9		< 2 5		< 0 9	4 7		< 0 9		< 2 5		3 4		< 0 9		< 2 5		12	3 7			<
7440 43 9	Dissolved Cadmium	ug/l	<0 5	0 08	2 70	0 03	0 47	72	11	15%	33 75	< 0 5		0 06	< 0 5	< 0 5	< 0 5	< 0 03	< 0 5		0 54	0 5	0 7	< 0 5	< 0 5		0 18	< 0 5	< 0 5	< 0 5	< 0 03	< 0 5		< 0 5	<
7440 47 3	Total Dissolved Chromium	ug/l	<1 5	4 7	6 70	0 20	1 51	72	1	1%	1 43	< 1 5		< 0 2	< 1 5	< 1 5	< 1 5	0 4	< 1 5		6 7	< 1 5	< 1 5	< 1 5	< 1 5		0 3	< 1 5	< 1 5	< 1 5	0 3	< 1 5		< 1 5	<
7440 50 8	Dissolved Copper	ug/l	<7	1	54 00	3 00	8 64	72	9	13%	54 00	< 7		< 3	< 7	< 7	< 7	< 3	< 7		< 3	< 7	< 7	< 7	< 7		< 3	< 7	< 7	< 7	6	< 7		< 7	<
7439 89 6	Total Dissolved Iron	ug/l	<20	200	133100 00	4 70	6895 70	72	26	36%	665 50	< 20		3386	2008	42	< 20	1835	< 20		< 4 7	< 20	< 20	< 20	< 20		61 6	< 20	< 20	48	18350	< 20		5738	<
7439 92 1	Dissolved Lead	ug/l	<5	7 2	8 00	0 40	4 21	72	1	1%	1 11	5		4 1	< 5	< 5	< 5	< 0 4	< 5		2	< 5	< 5	< 5	< 5		1 3	< 5	< 5	< 5	< 0 4	< 5		< 5	<
7440 02 0	Dissolved Nickel	ug/l	<2	20	58 00	0 20	9 00	46	6	13%	2 90	2		1 4		3		1 6	7		7 2		11		< 2		1 1		< 2		0 9	6			
7782 49 2	Dissolved Selenium	ug/l	<3	10	20 00	1 20	3 30	46	2	4%	2 00	< 3		< 1 2		4		< 1 2	< 3		< 1 2		13		< 3		< 1 2		7		< 1 2	< 3			
7440 66 6	Dissolved Zinc	ug/l	<3	8	88 00	1 50	9 83	72	22	31%	11 00	37		6 8	9	6	7	4 2	3		4	5	4	6	4		< 1 5	4	< 3	< 3	3 4	8		12	
7439 97 6	Mercury Dissolved by CVAF	ug/l	<0 01	0 05	0 07	0 01	0 02	46	5	11%	1 40	< 0 01		< 0 01		< 0 01		< 0 01	< 0 01		< 0 01		< 0 01		< 0 01		< 0 01		< 0 01		< 0 01	< 0 01			<
	PAH MS																																		
83 32 9	Acenaphthene	ug/l	<0 013		8 12	0 01	0 46	63	0			< 0 013			< 0 013	< 0 013	< 0 013		< 0 013			< 0 013	< 0 013	< 0 013	< 0 013			< 0 013	< 0 013	< 0 013		< 0 013		< 0 013	<
208 96 8	Acenaphthylene	ug/l	<0 013		16 55	0 01	0 61	63	0			< 0 013			< 0 013	< 0 013	< 0 013		< 0 013			0 02	< 0 013	< 0 013	< 0 013			< 0 013	< 0 013	< 0 013		< 0 013		< 0 013	<
120 12 7	Anthracene	ug/l	<0 013	0 1	0 09	0 01	0 02	63	0	0%	0 90	< 0 013			< 0 013	< 0 013	< 0 013		< 0 013			< 0 013	< 0 013	< 0 013	< 0 013			< 0 013	< 0 013	< 0 013		< 0 013		< 0 013	<
56 55 3	Benzo(a)anthracene	ug/l	<0 015		0 05	0 02	0 02	63	0			< 0 015			< 0 015	< 0 015	< 0 015		< 0 015			< 0 015	< 0 015	< 0 015	< 0 015			< 0 015	< 0 015	< 0 015		< 0 015		< 0 015	<
50 32 8	Benzo(a)pyrene	ug/l	<0 016	0 01	0 04	0 02	0 02	63	1	2%	4 00	< 0 016			< 0 016	< 0 016	< 0 016		< 0 016			< 0 016	< 0 016	< 0 016	< 0 016			< 0 016	< 0 016	< 0 016		< 0 016		< 0 016	<
205 99 2	Benzo(b)fluoranthene	ug/l	<0 01	0 03	0 05	0 01	0 01	63	1	2%	1 67	< 0 01			< 0 01	< 0 01	< 0 01		< 0 01			< 0 01	< 0 01	< 0 01	< 0 01			< 0 01	< 0 01	< 0 01		< 0 01		< 0 01	<
191 24 2	Benzo(gh)perylene	ug/l	<0 011	0 002	0 02	0 01	0 01	63	1	2%	10 00	< 0 011			< 0 011	< 0 011	< 0 011		< 0 011			< 0 011	< 0 011	< 0 011	< 0 011			< 0 011	< 0 011	< 0 011		< 0 011		< 0 011	<
207 08 9	Benzo(k)fluoranthene	ug/l	<0 01	0 03	0 02	0 01	0 01	63	0	0%	0 67	< 0 01			< 0 01	< 0 01	< 0 01		< 0 01			< 0 01	< 0 01	< 0 01	< 0 01			< 0 01	< 0 01	< 0 01		< 0 01		< 0 01	<
218 01 9	Chrysene	ug/l	<0 011		0 06	0 01	0 01	63	0			< 0 011			< 0 011	< 0 011	< 0 011		< 0 011			< 0 011	< 0 011	< 0 011	< 0 011			< 0 011	< 0 011	< 0 011		< 0 011		< 0 011	<
53 70 3	Dibenzo(ah)anthracene	ug/l	<0 01		0 01	0 01	0 01	63	0			< 0 01			< 0 01	< 0 01	< 0 01		< 0 01			< 0 01	< 0 01	< 0 01	< 0 01			< 0 01	< 0 01	< 0 01		< 0 01		< 0 01	<
206 44 0	Fluoranthene	ug/l	<0 012	0 1	0 22	0 01	0 02	63	2	3%	2 20	< 0 012			< 0 012	< 0 012	< 0 012		< 0 012			< 0 012	< 0 012	< 0 012	< 0 012			< 0 012	< 0 012	< 0 012		< 0 012		< 0 012	<
86 73 7	Fluorene	ug/l	<0 014		0 63	0 01	0 06	63	0			< 0 014			< 0 014	< 0 014	< 0 014		0 02			0 02	< 0 014	< 0 014	< 0 014			< 0 014	< 0 014	< 0 014		< 0 014		< 0 014	<
193 39 5	Indeno(123cd)pyrene	ug/l	<0 011	0 002	0 02	0 01	0 01	63	1	2%	10 00	< 0 011			< 0 011	< 0 011	< 0 011		< 0 011			< 0 011	< 0 011	< 0 011	< 0 011			< 0 011	< 0 011	< 0 011		< 0 011		< 0 011	<
91 20 3	Naphthalene	ug/l	<0 014	2 4	757 10	0 01	15 76	63	5	8%	315 46	0 03			0 02	< 0 1	< 0 1		< 0 014			< 0 014	< 0 1	< 0 1	< 0 014			< 0 014	< 0 1	< 0 1		< 0 014		< 0 014	<
85 01 8	Phenanthrene	ug/l	<0 011		0 47	0 01	0 04	63	0			0 02			< 0 011	< 0 011	< 0 011		< 0 011			< 0 011	< 0 011	< 0 011	< 0 011			< 0 011	< 0 011	< 0 011		< 0 011		< 0 011	<
129 00 0	Pyrene	ug/l	<0 013		0 18	0 01	0 02	63	0			< 0 013			< 0 013	< 0 013	< 0 013		< 0 013			< 0 013	< 0 013	< 0 013	< 0 013			< 0 013	< 0 013	< 0 013		< 0 013		< 0 013	<
	PAH 16 Total	ug/l	<0 195		782 35	0 20	17 00	63	0			< 0 195			< 0 195	< 0 195	< 0 195		< 0 195			< 0 195	< 0 195	< 0 195	< 0 195			< 0 195	< 0 195	< 0 195		< 0 195		< 0 195	<
	PAH Surrogate % Recovery	%	<0		116 00	70 00	82 98	63	0			101			72	76	80		102			72	77	75	98			75	77	75		94		70	
	Benzo(bk)fluoranthene	ug/l	<0 018		0 07	0 02	0 02	63	0			< 0 018			< 0 018	< 0 018	< 0 018		< 0 018			< 0 018	< 0 018	< 0 018	< 0 018			< 0 018	< 0 018	< 0 018		< 0 018		< 0 018	<
	TPH CWG																																		
	Aliphatics																																		
	>C5 C6	ug/l	<5		31 00	5 00	5 68	63	0			< 5			< 5	< 5	< 5		< 5			< 5	< 5	< 5	< 5			< 5	< 5	< 5		< 5		< 5	<
	>C6 C8	ug/l	<5		750 00	5 00	20 97	63	0			< 5			< 5	< 5	< 5		< 5			< 5	< 5	< 5	< 5			< 5	< 5	< 5		< 5		< 5	<
	>C8 C10	ug/l	<5		115 00	5 00	9 63	63	0			< 5			< 5	< 5	< 5		< 5			< 5	< 5	< 5	< 5			< 5	< 5	< 5		< 5		< 5	<
	>C10 C12	ug/l	<5		5 00	5 00	5 00	63	0			< 5			< 5	< 5	< 5		< 5			< 5	< 5	< 5	< 5			< 5	< 5	< 5		< 5		< 5	<
	>C12 C16	ug/l	<10		10 00	10 00	10 00	63	0			< 10			< 10	< 10	< 10		< 10			< 10	< 10	< 10	< 10			< 10	< 10	< 10		< 10		< 10	<
	>C16 C21	ug/l	<10		10 00	10 00	10 00	63	0			< 10			< 10	< 10	< 10		< 10			< 10	< 10	< 10	< 10			< 10	< 10	< 10		< 10		< 10	<
	>C21 C35	ug/l	<10		1130 00	10 00	40 32	63	0			< 10			< 10	< 10	< 10		< 10			< 10	< 10	< 10	< 10			< 10	< 10	< 10		< 10		< 10	<
	Total aliphatics C5 35	ug/l	<10		1130 00	10 00	61 92	63	0			< 10			< 10	< 10	< 10		< 10			< 10	< 10	< 10	< 10			< 10	< 10	< 10		< 10		< 10	<
	Aromatics																																		
	>C5 EC7	ug/l	<5		3428 00	5 00	73 27	63	0			< 5			< 5	< 5	< 5		< 5			< 5	< 5	< 5	< 5			< 5	< 5	< 5		< 5		< 5	<
	>EC7 EC8	ug/l	<5		441 00	5 00	13 32	63	0			< 5			< 5	< 5	< 5		< 5			< 5	< 5	< 5	< 5			< 5	< 5	< 5		< 5		< 5	<
	>EC8 EC10	ug/l	<5		539 00	5 00	15 89	63	0			< 5			< 5	< 5	< 5		< 5			< 5	< 5	< 5	< 5			< 5	< 5	< 5		< 5		< 5	<
	>EC10 EC12	ug/l	<5		687 00	5 00	20 63	63	0			< 5			< 5	< 5	< 5		< 5			< 5	< 5	< 5	< 5			< 5	< 5	< 5		< 5		< 5	<
	>EC12 EC16	ug/l	<10		110 00	10 00	12 54	63	0			< 10			< 10	< 10	< 10		< 10			< 10	< 10	< 10	< 10			< 10	< 10	< 10		< 10		< 10	<
	>EC16 EC21	ug/l	<10		20 00	10 00	10 16	63	0			< 10			< 10	< 10	< 10		< 10			< 10	< 10	< 10	< 10			< 10	< 10	< 10		< 10		< 10	<
	>EC21 EC35	ug/l	<10		260 00	10 00	14 76	63	0			< 10			< 10	< 10	< 10		< 10			< 10	< 10	< 10	< 10			< 10	< 10	< 10		< 10		< 10	<
	Total aromatics C5 35	ug/l	<10		5125 00	10 00	121 46	63	0			< 10			< 10	< 10	< 10		< 10			< 10	< 10	< 10	< 10			< 10	< 10	< 10		< 10		< 10	<
	Total aliphatics and aromatics(C5 35)	ug/l	<10	10	5990 00	10 00	174 81	63	9	14%	599 00	< 10			< 10	< 10	< 10		< 10			< 10	< 10	< 10	< 10			< 10	< 10	< 10		< 10		< 10	<
	BTEX/MTBE MS																																		
1634 04 4	Methyl Tertiary Butyl Ether	ug/l	<0 1	30	5 00	0 10	3 17	55	0	0%	0 17	< 0 1				< 5	< 5		< 0 1				< 5	< 5	< 0 1				< 5	< 5		< 0 1			<
71 43 2	Benzene	ug/l	<0 5	1	3428 00	0 50	81 77	55	5	9%	3428 00	< 0 5				< 5	< 5		< 0 5				< 5	< 5	< 0 5				< 5	< 5		< 0 5			<
108 88 3	Toluene	ug/l	<0 5	50	441 00	0 50	13 09	55	2	4%	8 82	< 0 5				< 5	< 5		< 0 5				< 5	< 5	< 0 5				< 5	< 5		< 0 5			<
100 41 4	Ethylbenzene	ug/l	<0 5	20	203 00	0 50	8 30	55	3	5%	10 15	< 0 5				< 5	< 5		< 0 5				< 5	< 5	< 0 5				< 5	< 5		< 0 5			<
	p/m Xylene	ug/l	<1	30	19 00	1 00	3 75	55	0	0%	0 63	< 1				< 5	< 5		< 1				< 5	< 5	< 1				< 5	< 5		< 1			<
95 47 6	o Xylene	ug/l	<0 5	30	317 00	0 50	9 90	55	2	4%	10 57	< 0 5				< 5	< 5		< 0 5				< 5	< 5	< 0 5				< 5	< 5		< 0 5			<
2037 26 5	Surrogate Recovery Toluene D8	%	<0		109 00	91 00	102 48	21	0			106							103						104							103			
460 00 4	Surrogate Recovery 4 Bromofluorobenzene	%	<0		109 00	90 00	102 48	21	0			108							107						108							109			
7440 70 2	Dissolved Calcium	mg/l	<0 2		774 60	26 50	114 32	73	0			31 2		35 5	34 4	36 9	35 8	33 9	63 2		69 2	68 9	74 8	71 2	35 2		44 8	42	45	47 1		47		49 5	
7439 95 4	Dissolved Magnesium	mg/l	<0 1		103 80	3 10	19 00	73	0			7 5		6 9	7 6	8	8	7 6	12 6		14	14 3	15 9	15	7 2		8 9	7 8	9 3	9 4		10 7		13 5	
7439 96 5	Dissolved Manganese	ug/l	<2	50	70290 00	2 00	9493 18	70	65	93%	1405 80	7325			3341	3240	3255	2300	10310			14720	17820	16680	13630			14270	14280	12610		13230		8349	
7723 14 0	Dissolved Phosphorus	ug/l	<5		202 50	4 00	27 18	44	0			< 5				< 5		17 8	< 5				8		< 5				< 5			< 5			<
07/09/7440	Dissolved Potassium	mg/l	<0 1		62 40	1 20	10 83	73	0			3 3		4 4	4 1	4 9	3 9	3 7	3 3		3 5	3 4	3 6	3 4	2 1		2 5	2 6	2 9	3 2		4 9		4 5	
7440 23 5	Dissolved Sodium	mg/l	<0 1	200	604 40	10 70	67 34	73	4	5%	3 02	13 6		10 8	10 9	10 9	11 1	11 7	20 3		21 1	21 6	23 9	24 6	15 1		16 4	15 2	15 4	16 5		42 6		41 9	
7723 14 0	Total Phosphorus	ug/l	<5		930 00	23 00	184 61	44	0			48				118		59 9	162				48		23				109			135			
	Total Phenols HPLC	mg/l	<0 1		0 10	0 10	0 10	26	0						< 0 1		< 0 1					< 0 1		< 0 1				< 0 1		< 0 1				< 0 1	
	VOC MS																																		
75 71 8	Dichlorodifluoromethane	ug/l	<2		2 00	2 00	2 00	21	0			< 2							< 2						< 2							< 2			
1634 04 4	Methyl Tertiary Butyl Ether	ug/l	<0 1		5 00	0 10	1 40	28	0			< 0 1			< 5				< 0 1			< 5			< 0 1			< 5				< 0 1		< 5	
74 87 3	Chloromethane	ug/l	<3		3 00	3 00	3 00	21	0			< 3							< 3						< 3							< 3			
75 01 4	Vinyl Chloride	ug/l	<0 1	0 5	0 10	0 10	0 10	21	0	0%	0 20	< 0 1							< 0 1						< 0 1							< 0 1			
74 83 9	Bromomethane	ug/l	<1		1 00	1 00	1 00	21	0			< 1							< 1						< 1							< 1			
75 00 3	Chloroethane	ug/l	<3		3 00	3 00	3 00	21	0			< 3							< 3						< 3							< 3			
75 69 4	Trichlorofluoromethane	ug/l	<3		3 00	3 00	3 00	21	0			< 3							< 3						< 3							< 3			
75 35 4	1,1 Dichloroethene (1,1 DCE)	ug/l	<3		3 00	3 00	3 00	21	0			< 3							< 3						< 3							< 3			
75 09 2	Dichloromethane (DCM)	ug/l	<3	20	3 00	3 00	3 00	21	0	0%	0 15	< 3							< 3						< 3							< 3			
156 60 5	trans 1 2 Dichloroethene	ug/l	<3		3 00	3 00	3 00	21	0			< 3							< 3						< 3							< 3			
75 34 3	1,1 Dichloroethane	ug/l	<3	3	3 00	3 00	3 00	21	0	0%	1 00	< 3							< 3						< 3							< 3			
156 59 2	cis 1 2 Dichloroethene	ug/l	<3		3 00	3 00	3 00	21	0			< 3							< 3						< 3							< 3			
594 20 7	2,2 Dichloropropane	ug/l	<1		1 00	1 00	1 00	21	0			< 1							< 1						< 1							< 1			
74 97 5	Bromochloromethane	ug/l	<2		2 00	2 00	2 00	21	0			< 2							< 2						< 2							< 2			
67 66 3	Chloroform	ug/l	<2		2 00	2 00	2 00	21	0			< 2							< 2						< 2							< 2			
71 55 6	1,1,1 Trichloroethane	ug/l	<2	100	2 00	2 00	2 00	21	0	0%	0 02	< 2							< 2						< 2							< 2			
563 58 6	1,1 Dichloropropene	ug/l	<3		3 00	3 00	3 00	21	0			< 3							< 3						< 3							< 3			
56 23 5	Carbon tetrachloride	ug/l	<2	12	2 00	2 00	2 00	21	0	0%	0 17	< 2							< 2						< 2							< 2			
107 06 2	1,2 Dichloroethane	ug/l	<2		2 00	2 00	2 00	21	0			< 2							< 2						< 2							< 2			
71 43 2	Benzene	ug/l	<0 5	1	73 40	0 50	4 37	27	1	4%	73 40	< 0 5			< 5				< 0 5			< 5			< 0 5			< 5				< 0 5		< 5	
79 01 6	Trichloroethene (TCE)	ug/l	<3		3 00	3 00	3 00	21	0			< 3							< 3						< 3							< 3			
78 87 5	1,2 Dichloropropane	ug/l	<2		2 00	2 00	2 00	21	0			< 2							< 2						< 2							< 2			
74 95 3	Dibromomethane	ug/l	<3		3 00	3 00	3 00	21	0			< 3							< 3						< 3							< 3			
75 27 4	Bromodichloromethane	ug/l	<2		2 00	2 00	2 00	21	0			< 2							< 2						< 2							< 2			
10061 01 5	cis 1 3 Dichloropropene	ug/l	<2		2 00	2 00	2 00	21	0			< 2							< 2						< 2							< 2			
108 88 3	Toluene	ug/l	<0 5	50	30 90	0 50	2 94	28	0	0%	0 62	< 0 5			< 5				< 0 5			< 5			< 0 5			< 5				< 0 5		< 5	
10061 02 6	trans 1 3 Dichloropropene	ug/l	<2		2 00	2 00	2 00	21	0			< 2							< 2						< 2							< 2			
79 00 5	1,1,2 Trichloroethane	ug/l	<2	400	2 00	2 00	2 00	21	0	0%	0 01	< 2							< 2						< 2							< 2			

Final City Waste Screening - Grounwater Wells

Report: Liquid
JE Job No: 15/6896
Client: WYG
Client ref: Citywaste
Location: Citywaste
Contact: [redacted]

												BH101	BH101	BH101	BH101	BH101	BH101	BH101	BH102	BH102	BH102	BH102	BH102	BH102	BH103	BH103	BH103	BH103	BH103	BH103	BH103	BH104	BH104	BH104
												Sample ID																						
												Depth																						
												COC No / misc																						
												Containers																						
												Sample Type																						
												Sampled Date																						
												Sample Received Date																						
												J E Sample No																						
												Batch Number																						
												V H P G		H P	V P B O D G	V P G	V H N P G	V H H N P G	V H P G		H P	V P B O D G	V P G	V H N P G	V H P G		H P	V P B O D G	V P G	V H N P G	V H H N P G	V H P G		V P B O D G
												Ground Water		Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water		Ground Water	Ground Water	Ground Water	Ground Water	Ground Water		Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water		Ground Water
												30/04/2015		03/06/2015	28/08/2015	24/11/2015	08/03/2016	15/05/2016	30/04/2015		03/06/2015	28/08/2015	24/11/2015	08/03/2016	30/04/2015		03/06/2015	28/08/2015	24/11/2015	08/03/2016	15/05/2016	30/04/2015		25/08/2015
												06/05/2015	13/05/15	05/06/2015	28/08/2015	27/11/2015	11/03/2016	21/06/2016	06/05/2015	14/05/2015	05/06/2015	28/08/2015	27/11/2015	11/03/2016	06/05/2015	14/05/15	05/06/2015	28/08/2015	27/11/2015	11/03/2016	21/06/2016	06/05/2015	14/05/15	28/08/2015
												212 218		53 54	1 6	1 4	1 7	229 234	149 155		51 52	7 12	5 10	1 8	142 148		49 50	13 18	11 16	9 15	37 42	135 141		19 24
												2		1	1	1	1	1	2		1	1	1	1	2		1	1	1	1	1	2		1
127 18 4	Tetrachloroethene (PCE)	ug/l	<3	10	3 00	3 00	3 00	21	0	0%	0 30	< 3							< 3						< 3							< 3		
142 28 9	1,3 Dichloropropane	ug/l	<2		2 00	2 00	2 00	21	0			< 2							< 2						< 2							< 2		
124 48 1	Dibromochloromethane	ug/l	<2		2 00	2 00	2 00	21	0			< 2							< 2						< 2							< 2		
106 93 4	1,2 Dibromoethane	ug/l	<2		2 00	2 00	2 00	21	0			< 2							< 2						< 2							< 2		
108 90 7	Chlorobenzene	ug/l	<2		2 00	2 00	2 00	21	0			< 2							< 2						< 2							< 2		
630 20 6	1,1,1,2 Tetrachloroethane	ug/l	<2		2 00	2 00	2 00	21	0			< 2							< 2						< 2							< 2		
100 41 4	Ethylbenzene	ug/l	<0 5	70	5 00	0 50	1 80	28	0	0%	0 25	< 0 5			< 5				< 0 5			< 5			< 0 5			< 5				< 0 5		< 5
	p/m Xylene	ug/l	<1	30	5 00	1 00	2 00	28	0	0%	0 17	< 1			< 5				< 1			< 5			< 1			< 5				< 1		< 5
95 47 6	o Xylene	ug/l	<0 5	30	5 00	0 50	1 65	28	0	0%	0 17	< 0 5			< 5				< 0 5			< 5			< 0 5			< 5				< 0 5		< 5
100 42 5	Styrene	ug/l	<2	50	2 00	2 00	2 00	21	0	0%	0 04	< 2							< 2						< 2							< 2		
75 25 2	Bromoform	ug/l	<2	100	2 00	2 00	2 00	21	0	0%	0 02	< 2							< 2						< 2							< 2		
98 82 8	Isopropylbenzene	ug/l	<3		3 00	3 00	3 00	21	0			< 3							< 3						< 3							< 3		
79 34 5	1,1,2,2 Tetrachloroethane	ug/l	<4		4 00	4 00	4 00	21	0			< 4							< 4						< 4							< 4		
108 86 1	Bromobenzene	ug/l	<2		2 00	2 00	2 00	21	0			< 2							< 2						< 2							< 2		
96 18 4	1,2,3 Trichloropropane	ug/l	<3		3 00	3 00	3 00	21	0			< 3							< 3						< 3							< 3		
103 65 1	Propylbenzene	ug/l	<3		3 00	3 00	3 00	21	0			< 3							< 3						< 3							< 3		
95 49 8	2 Chlorotoluene	ug/l	<3		3 00	3 00	3 00	21	0			< 3							< 3						< 3							< 3		
108 67 8	1,3,5 Trimethylbenzene	ug/l	<3		3 00	3 00	3 00	21	0			< 3							< 3						< 3							< 3		
106 43 4	4 Chlorotoluene	ug/l	<3		3 00	3 00	3 00	21	0			< 3							< 3						< 3							< 3		
98 06 6	tert Buty benzene	ug/l	<3		3 00	3 00	3 00	21	0			< 3							< 3						< 3							< 3		
95 63 6	1,2,4 Trimethylbenzene	ug/l	<3		3 00	3 00	3 00	21	0			< 3							< 3						< 3							< 3		
135 98 8	sec Butylbenzene	ug/l	<3		3 00	3 00	3 00	21	0			< 3							< 3						< 3							< 3		
99 87 6	4 Isopropyltoluene	ug/l	<3		3 00	3 00	3 00	21	0			< 3							< 3						< 3							< 3		
541 73 1	1,3 Dichlorobenzene	ug/l	<3		3 00	3 00	3 00	21	0			< 3							< 3						< 3							< 3		
106 46 7	1,4 Dichlorobenzene	ug/l	<3		3 00	3 00	3 00	21	0			< 3							< 3						< 3							< 3		
104 51 8	n Butylbenzene	ug/l	<3		3 00	3 00	3 00	21	0			< 3							< 3						< 3							< 3		
95 50 1	1,2 Dichlorobenzene	ug/l	<3	1000	3 00	3 00	3 00	21	0	0%	0 00	< 3							< 3						< 3							< 3		
96 12 8	1,2 Dibromo 3 chloropropane	ug/l	<2		2 00	2 00	2 00	21	0			< 2							< 2						< 2							< 2		
120 82 1	1,2,4 Trichlorobenzene	ug/l	<3	0 4	3 00	3 00	3 00	21	0	0%	7 50	< 3							< 3						< 3							< 3		
87 68 3	Hexachlorobutadiene	ug/l	<3	0 1	3 00	3 00	3 00	21	0	0%	30 00	< 3							< 3						< 3							< 3		
87 61 6	1,2,3 Trichlorobenzene	ug/l	<3		3 00	3 00	3 00	21	0			< 3							< 3						< 3							< 3		
2037 26 5	Surrogate Recovery Toluene D8	%	<0		109 00	91 00	102 48	21	0			105							103						104							103		
460 00 4	Surrogate Recovery 4 Bromofluorobenzene	%	<0		109 00	90 00	102 48	21	0			108							107						108							109		
	SVOC MS																																	
	Phenols																																	
95 57 8	2 Chlorophenol	ug/l	<1	50	1 00	1 00	1 00	21	0	0%	0 02	< 1							< 1						< 1							< 1		
95 48 7	2 Methylphenol	ug/l	<0 5	500	1 50	0 50	0 55	21	0	0%	0 02	< 0 5							< 0 5						< 0 5							< 0 5		
88 75 5	2 Nitrophenol	ug/l	<0 5		0 50	0 50	0 50	21	0			< 0 5							< 0 5						< 0 5							< 0 5		
120 83 2	2,4 Dichlorophenol	ug/l	<0 5	20	0 50	0 50	0 50	21	0	0%	0 03	< 0 5							< 0 5						< 0 5							< 0 5		
105 67 9	2,4 Dimethylphenol	ug/l	<1	100	1 00	1 00	1 00	21	0	0%	0 01	< 1							< 1						< 1							< 1		
95 95 4	2,4,5 Trichlorophenol	ug/l	<0 5		0 50	0 50	0 50	21	0			< 0 5							< 0 5						< 0 5							< 0 5		
88 06 2	2,4,6 Trichlorophenol	ug/l	<1	200	1 00	1 00	1 00	21	0	0%	0 01	< 1							< 1						< 1							< 1		
59 50 7	4 Chloro 3 methylphenol	ug/l	<0 5	40	0 50	0 50	0 50	21	0	0%	0 01	< 0 5							< 0 5						< 0 5							< 0 5		
106 44 5	4 Methylphenol	ug/l	<1	100	68 00	1 00	4 19	21	0	0%	0 68	< 1							< 1						< 1							< 1		
100 02 7	4 Nitrophenol	ug/l	<10		10 00	10 00	10 00	21	0			< 10							< 10						< 10							< 10		
87 86 5	Pentachlorophenol	ug/l	<1	2	1 00	1 00	1 00	21	0	0%	0 50	< 1							< 1						< 1							< 1		
108 95 2	Phenol	ug/l	<1	77	4 00	1 00	1 14	21	0	0%	0 52	< 1							< 1						< 1							< 1		
	PAHs																																	
91 58 7	2 Chloronaphthalene	ug/l	<1		1 00	1 00	1 00	21	0			< 1							< 1						< 1							< 1		
91 57 6	2 Methylnaphthalene	ug/l	<1		3 00	1 00	1 10	21	0			< 1							< 1						< 1							< 1		
	Phthalates																																	
117 81 7	Bis(2 ethy hexyl) phthalate	ug/l	<5	6	5 00	5 00	5 00	21	0	0%	0 63	< 5							< 5						< 5							< 5		
85 68 7	Butylbenzyl phthalate	ug/l	<1		1 00	1 00	1 00	21	0			< 1							< 1						< 1							< 1		
84 74 2	Di n butyl phthalate	ug/l	<1 5		1 50	1 50	1 50	21	0			< 1 5							< 1 5						< 1 5							< 1 5		
117 84 0	Di n Octyl phthalate	ug/l	<1		1 00	1 00	1 00	21	0			< 1							< 1						< 1							< 1		
84 66 2	Diethyl phthalate	ug/l	<1	200	1 00	1 00	1 00	21	0	0%	0 01	< 1							< 1						< 1							< 1		
131 11 3	Dimethyl phthalate	ug/l	<1	200	1 00	1 00	1 00	21	0	0%	0 00	< 1							< 1						< 1							< 1		
	Other SVOCs																																	
95 50 1	1,2 Dichlorobenzene	ug/l	<1	1000	1 00	1 00	1 00	21	0	0%	0 00	< 1							< 1						< 1							< 1		
120 82 1	1,2,4 Trichlorobenzene	ug/l	<1	0 4	1 00	1 00	1 00	21	0	0%	2 50	< 1							< 1						< 1							< 1		
541 73 1	1,3 Dichlorobenzene	ug/l	<1		1 00	1 00	1 00	21	0			< 1							< 1						< 1							< 1		
106 46 7	1,4 Dichlorobenzene	ug/l	<1	300	1 00	1 00	1 00	21	0	0%	0 00	< 1							< 1						< 1							< 1		
88 74 4	2 Nitroaniline	ug/l	<1		1 00	1 00	1 00	21	0			< 1							< 1						< 1							< 1		
121 14 2	2,4 Dinitrotoluene	ug/l	<0 5		0 50	0 50	0 50	21	0			< 0 5							< 0 5						< 0 5							< 0 5		
606 20 2	2,6 Dinitrotoluene	ug/l	<1		1 00	1 00	1 00	21	0			< 1							< 1						< 1							< 1		
99 09 2	3 Nitroaniline	ug/l	<1		1 00	1 00	1 00	21	0			< 1							< 1						< 1							< 1		
101 55 3	4 Bromophenylphenylether	ug/l	<1		1 00	1 00	1 00	21	0			< 1							< 1						< 1							< 1		
106 47 8	4 Chloroaniline	ug/l	<1		1 00	1 00	1 00	21	0			< 1							< 1						< 1							< 1		
7005 72 3	4 Chlorophenylphenylether	ug/l	<1		1 00	1 00	1 00	21	0			< 1							< 1						< 1							< 1		
100 01 6	4 Nitroaniline	ug/l	<0 5		0 50	0 50	0 50	21	0			< 0 5							< 0 5						< 0 5							< 0 5		
103 33 3	Azobenzene	ug/l	<0 5		0 50	0 50	0 50	21	0			< 0 5							< 0 5						< 0 5							< 0 5		
111 91 1	Bis(2 chloroethoxy)methane	ug/l	<0 5		0 50	0 50	0 50	21	0			< 0 5							< 0 5						< 0 5							< 0 5		
111 44 4	Bis(2 chloroethyl)ether	ug/l	<1		1 00	1 00	1 00	21	0			< 1							< 1						< 1							< 1		
86 74 8	Carbazole	ug/l	<0 5		0 50	0 50	0 50	21	0			< 0 5							< 0 5						< 0 5							< 0 5		
132 64 9	Dibenzofuran	ug/l	<0 5		0 50	0 50	0 50	21	0			< 0 5							< 0 5						< 0 5							< 0 5		
118 74 1	Hexachlorobenzene	ug/l	<1	0 01	1 00	1 00	1 00	21	0	0%	100 00	< 1							< 1						< 1							< 1		
87 68 3	Hexachlorobutadiene	ug/l	<1	0 1	1 00	1 00	1 00	21	0	0%	10 00	< 1							< 1						< 1							< 1		
77 47 4	Hexachlorocyclopentadiene	ug/l	<1		1 00	1 00	1 00	21	0			< 1							< 1						< 1							< 1		
67 72 1	Hexachloroethane	ug/l	<1		1 00	1 00	1 00	21	0			< 1							< 1						< 1							< 1		
78 59 1	Isophorone	ug/l	<0 5		0 50	0 50	0 50	21	0			< 0 5							< 0 5						< 0 5							< 0 5		
621 64 7	N nitrosodi n propylamine	ug/l	<0 5		0 50	0 50	0 50	21	0			< 0 5							< 0 5						< 0 5							< 0 5		
98 95 3	Nitrobenzene	ug/l	<1		1 00	1 00	1 00	21	0			< 1							< 1						< 1							< 1		
	Pesticides MS																																	
	Organochlorine Pesticides																																	
309 00 2	Aldrin	ug/l	<0 01	0 03	0 01	0 01	0 01	21	0	0%	0 33	< 0 01							< 0 01						< 0 01							< 0 01		
319 84 6	Alpha HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01		
319 85 7	Beta HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01		
1897 45 6	Chlorothalonil	ug/l	<0 01	1	0 01	0 01	0 01	21	0	0%	0 10	< 0 01							< 0 01						< 0 01							< 0 01		
5103 71 9	cis Chlordane	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01		
319 86 8	Delta HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01		
60 57 1	Dieldrin	ug/l	<0 01	0 03	0 01	0 01	0 01	21	0	0%	0 33	< 0 01							< 0 01						< 0 01							< 0 01		
959 98 8	Endosulphan I	ug/l	<0 01	0 005	0 01	0 01	0 01	21	0	0%	2 00	< 0 01							< 0 01						< 0 01							< 0 01		
33213 65 9	Endosulphan II	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01		

Final City Waste Screening - Grounwater Wells

Report: Liquid
JE Job No: 15/6896
Client: WYG
Client ref: Citywaste
Location: Citywaste
Contact [redacted]

			Sample ID									BH101	BH101	BH101	BH101	BH101	BH101	BH101	BH102	BH102	BH102	BH102	BH102	BH102	BH103	BH103	BH103	BH103	BH103	BH103	BH103	BH104	BH104	BH104	
			Depth																																
			COC No / misc																																
			Containers									V H P G		H P	V P BOD G	V P G	V H N P G	V H HN P G	V H P G		H P	V P BOD G	V P G	V H N P G	V H P G		H P	V P BOD G	V P G	V H N P G	V H HN P G	V H P G		V P BOD G	
			Sample Type									Ground Water		Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water		Ground Water	Ground Water	Ground Water	Ground Water	Ground Water		Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water		Ground Water	
			Sampled Date									30/04/2015		03/06/2015	26/08/2015	24/11/2015	10/03/2016	22/06/2016	30/04/2015		03/06/2015	26/08/2015	24/11/2015	08/03/2016	30/04/2015		03/06/2015	26/08/2015	24/11/2015	08/03/2016	15/06/2016	30/04/2015		26/08/2015	
			Sample Received Date									06/05/2015	13/05/15	05/06/2015	28/08/2015	27/11/2015	11/03/2016	25/06/2016	06/05/2015	14/05/2015	05/06/2015	28/08/2015	27/11/2015	11/03/2016	06/05/2015	14/05/15	05/06/2015	28/08/2015	27/11/2015	11/03/2016	21/06/2016	06/05/2015	14/05/15	28/08/2015	
			J E Sample No									212 218		53 54	1 6	1 4	1 7	229 234	149 155		51 52	7 12	5 10	1 8	142 148		49 50	13 18	11 16	9 16	37 42	135 141		19 24	
			Batch Number									2		1	1	1	1	6	2		1	1	1	1	2		1	1	1	1	1	2		1	
1031 07 8	Endosulphan sulphate	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
72 20 8	Endrin	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
58 89 9	Gamma HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
76 44 8	Heptachlor	ug/l	<0 01	0 03	0 01	0 01	0 01	21	0	0%	0 33	< 0 01							< 0 01						< 0 01							< 0 01			
1024 57 3	Heptachlor Epoxide	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
118 74 1	Hexachlorobenzene	ug/l	<0 01	0 01	0 02	0 01	0 01	21	3	14%	2 00	< 0 01							< 0 01						< 0 01							< 0 01			
465 73 6	Isodrin	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
3424 82 6	o,p' DDE	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
789 02 6	o,p' DDT	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
30667 99 3	o,p' Methoxychlor	ug/l	<0 01	20	0 01	0 01	0 01	21	0	0%	0 00	< 0 01							< 0 01						< 0 01							< 0 01			
53 19 0	o,p' TDE	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
72 55 9	p,p' DDE	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
50 29 3	p,p' DDT	ug/l	<0 01	0 01	0 01	0 01	0 01	21	0	0%	1 00	< 0 01							< 0 01						< 0 01							< 0 01			
72 43 5	p,p' Methoxychlor	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
72 54 8	p,p' TDE	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
40487 42 1	Pendimetha in	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
61949 76 6	Permethrin I	ug/l	<0 01	0 01	0 01	0 01	0 01	21	0	0%	1 00	< 0 01							< 0 01						< 0 01							< 0 01			
61949 77 7	Permethrin II	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
82 68 8	Quintozene (PCNB)	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
117 18 0	Tecnazene	ug/l	<0 01	1	0 01	0 01	0 01	21	0	0%	0 01	< 0 01							< 0 01						< 0 01							< 0 01			
297 78 9	Telodrin	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
5103 74 2	trans Chlordane	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
43121 43 3	Triadimefon	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
2303 17 5	Triallate	ug/l	<0 01	0 25	0 01	0 01	0 01	21	0	0%	0 04	< 0 01							< 0 01						< 0 01							< 0 01			
1582 09 8	Trifluralin	ug/l	<0 01	0 03	0 01	0 01	0 01	21	0	0%	0 33	< 0 01							< 0 01						< 0 01							< 0 01			
	Organophosphorus Pesticides																																		
2642 71 9	Azinphos ethyl	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
86 50 0	Azinphos methyl	ug/l	<0 01	0 01	0 01	0 01	0 01	21	0	0%	1 00	< 0 01							< 0 01						< 0 01							< 0 01			
786 19 6	Carbophenothion	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
470 90 6	Chlorfenvinphos	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
2921 88 2	Chlorpyr fos	ug/l	<0 01	0 03	0 01	0 01	0 01	21	0	0%	0 33	< 0 01							< 0 01						< 0 01							< 0 01			
5598 13 0	Chlorpyr fos methyl	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
333 41 5	Diazinon	ug/l	<0 01	0 01	0 01	0 01	0 01	21	0	0%	1 00	< 0 01							< 0 01						< 0 01							< 0 01			
62 73 7	Dichlorvos	ug/l	<0 01	0 001	0 01	0 01	0 01	21	0	0%	10 00	< 0 01							< 0 01						< 0 01							< 0 01			
298 04 4	Disulfoton	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
60 51 5	Dimethoate	ug/l	<0 01	0 48	0 01	0 01	0 01	21	0	0%	0 02	< 0 01							< 0 01						< 0 01							< 0 01			
563 12 2	Ethion	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
56 38 2	Ethyl Parathion (Parathion)	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
38260 54 7	Etrimphos	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
122 14 5	Fenitrothion	ug/l	<0 01	0 01	0 01	0 01	0 01	21	0	0%	1 00	< 0 01							< 0 01						< 0 01							< 0 01			
55 38 9	Fenthion	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
121 75 5	Malathion	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
298 00 0	Methyl Parathion	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
7786 34 7	Mevinphos	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
2310 17 0	Phosalone	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
29232 93 7	Pirimiphos Methyl	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
31218 83 4	Propetamphos	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
24017 47 8	Triazophos	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01							< 0 01						< 0 01							< 0 01			
06/05/3813	Benazolin	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
25057 89 0	Bentazone	ug/l	<0 1	500	0 10	0 10	0 10	21	0	0%	0 00	< 0 1							< 0 1						< 0 1							< 0 1			
1689 84 5	Bromoxynil	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
1702 17 6	Clopyralid	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
122 88 3	4 CPA	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
94 75 7	2,4 D	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
94 80 4	2,4 DB	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
1918 00 9	Dicamba	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
120 36 5	Dichloroprop	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
40843 25 2	Diclofop	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
93 72 1	Fenoprop	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
58667 63 3	Flamprop	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
52756 22 6	Flamprop isopropyl	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
1689 83 4	Ioxynil	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
94 74 6	MCPA	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
94 81 5	MCPB	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
7085 19 0	Mecoprop	ug/l	<0 1	18	0 10	0 10	0 10	21	0	0%	0 01	< 0 1							< 0 1						< 0 1							< 0 1			
01/02/1918	Picloram	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
87 86 5	Pentachlorophenol	ug/l	<0 1	0 4	0 10	0 10	0 10	21	0	0%	0 25	< 0 1							< 0 1						< 0 1							< 0 1			
93 76 5	2,4,5 T	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
50 31 7	2,3,6 TBA	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
55335 06 3	Triclopyr	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
1912 24 9	Atrazine	ug/l	<1	0 6	1 00	1 00	1 00	21	0	0%	1 67	< 1							< 1						< 1							< 1			
122 34 9	Simazine	ug/l	<1	1	1 00	1 00	1 00	21	0	0%	1 00	< 1							< 1						< 1							< 1			
32598 13 3	PCB 77	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
70362 50 4	PCB 81	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
32598 14 4	PCB 105	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
74472 37 0	PCB 114	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
31508 00 6	PCB 118	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
65510 44 3	PCB 123	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
57465 28 8	PCB 126	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
38380 08 4	PCB 156	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
69782 90 7	PCB 157	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
52663 72 6	PCB 167	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
32774 16 6	PCB 169	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
39635 31 9	PCB 189	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1							< 0 1						< 0 1							< 0 1			
	Total 12 PCBs	ug/l	<1 2		1 20	1 20	1 20	21	0			< 1 2							< 1 2						< 1 2							< 1 2			
16984 48 8	Fluoride	mg/l	<0 3	1 5	0 40	0 30	0 30	34	0	0%	0 27	< 0 3		< 0 3		< 0 3			< 0 3		< 0 3		< 0 3		< 0 3		< 0 3		< 0 3			< 0 3			<
95 57 8	2 Chlorophenol	ug/l	<0 5	50	0 50	0 50	0 50	21	0	0%	0 01	< 0 5							< 0 5						< 0 5							< 0 5			
95 48 7	2 Methylphenol	ug/l	<0 5	100	1 40	0 50	0 54	21	0	0%	0 01	< 0 5							< 0 5						< 0 5							< 0 5			
88 75 5	2 Nitrophenol	ug/l	<0 5		0 50	0 50	0 50	21	0			< 0 5							< 0 5						< 0 5							< 0 5			

Final City Waste Screening - Grounwater Wells

Report: **Liquid**
JE Job No: 15/6896
Client: WYG
Client ref: Citywaste
Location: Citywaste
Contact [redacted]

120 83 2	2,4 Dichlorophenol	ug/l	<0 5	20	0 50	0 50	0 50	21	0	0%	0 03
105 67 9	2,4 Dimethylphenol	ug/l	<0 5	100	0 50	0 50	0 50	21	0	0%	0 01
95 95 4	2,4,5 Trichlorophenol	ug/l	<0 5		0 50	0 50	0 50	21	0		
88 06 2	2,4,6 Trichlorophenol	ug/l	<0 5	200	0 50	0 50	0 50	21	0	0%	0 00
59 50 7	4 Chloro 3 methylphenol	ug/l	<0 5	40	0 50	0 50	0 50	21	0	0%	0 01
106 44 5	4 Methylphenol	ug/l	<0 5	100	96 00	0 50	5 16	21	0	0%	0 96
100 02 7	4 Nitrophenol	ug/l	<0 5		0 50	0 50	0 50	21	0		
87 86 5	Pentachlorophenol	ug/l	<0 5	2	0 50	0 50	0 50	21	0	0%	0 25
108 95 2	Phenol	ug/l	<0 5	7 7	0 50	0 50	0 50	21	0	0%	0 06
	Total Speciated Phenols MS	ug/l	<6		97 00	6 00	10 33	21	0		
	Sulphate	mg/l	<0 05	250	279 44	0 65	37 96	72	1	1%	1 12
16887 00 6	Chloride	mg/l	<0 3	250	1993 80	16 60	154 23	72	7	10%	7 98
14797 55 8	Nitrate as NO3	mg/l	<0 2	25	84 40	0 20	6 17	72	7	10%	3 38
14797 65 0	Nitrite as NO2	mg/l	<0 02	0 1	1 12	0 02	0 07	72	8	11%	11 20
	Ortho Phosphate as P	mg/l	<0 03		0 15	0 03	0 04	46	0		
	Total Oxidised Nitrogen as N	mg/l	<0 2	1	19 10	0 20	1 49	72	21	29%	19 10
57 12 5	Total Cyanide	mg/l	<0 01	0 001	0 01	0 01	0 01	31	1	3%	10 00
	Ammoniacal Nitrogen as N	mg/l	<0 03	0 39	92 05	0 03	7 31	72	55	76%	236 70
	Ammoniacal Nitrogen as NH3	mg/l			111 92	0 03	12 92	38	0		
	Ammoniacal Nitrogen as NH4	mg/l		0 39	118 55	0 00	8 00	77	14	18%	303 97
64 19 7	Acetic Acid	mg/l	<1		10 00	10 00	10 00	31	0		
79 09 4	Propanoic Acid	mg/l	<1		5 00	1 00	1 23	31	0		
79 31 2 / 107 92 6	2 methyl propanoic acid / Butanoic acid	mg/l	<1		8 00	1 00	1 29	31	0		
503 74 2	3 methyl butanoic acid	mg/l	<0 5		1 00	0 50	0 52	31	0		
109 52 4	Pentanoic acid	mg/l	<0 5		2 40	0 50	0 57	31	0		
646 07 1	4 methyl pentanoic acid	mg/l	<0 5		0 50	0 50	0 50	31	0		
142 62 1	Hexanoic acid	mg/l	<0 5		2 80	0 50	0 59	31	0		
111 14 8	Heptanoic acid	mg/l	<0 5		0 50	0 50	0 50	31	0		
	Electrical Conductivity @25C	uS/cm	<2		6546 00	293 00	972 44	57	0		
	pH	pH units	<0 01		7 42	3 57	6 71	60	0		
	Total Organic Carbon	mg/l	<2		68 00	2 00	11 16	57	0		
	Total Cations	mmolc/l	<0 00		69 77	2 54	9 53	60	0		
	Total Anions	mmolc/l	<0 00		73 78	2 92	10 39	59	0		
	BOD (Settled)$^{\#}$				22 00	1 00	8 45	11	0		
	BOD (Settled)$^{\#}$				22 00	1 00	6 57	7	0		
	COD (Settled)$^{\#}$				148 00	7 00	40 56	18	0		
	Total Suspended Solids$^{\#}$				504 00	10 00	90 68	37	0		
	Dissolved Oxygen	%			8 00	1 00	4 50	26	0		

Sample ID	BH101	BH101	BH101	BH101	BH101	BH101	BH101
Depth							
COC No / misc							
Containers	V H P G		H P	V P BOD G	V P G	V H N P G	V H HN P G
Sample Type	Ground Water		Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Sampled Date	30/04/2015		03/06/2015	26/08/2015	24/11/2015	10/03/2016	22/06/2016
Sample Received Date	06/05/2015	13/05/15	05/06/2015	28/08/2015	27/11/2015	11/03/2016	25/06/2016
J E Sample No	212 218		53 54	1 6	1 4	1 7	229 234
Batch Number	2		1	1	1	1	6
2,4 Dichlorophenol	< 0 5						
2,4 Dimethylphenol	< 0 5						
2,4,5 Trichlorophenol	< 0 5						
2,4,6 Trichlorophenol	< 0 5						
4 Chloro 3 methylphenol	< 0 5						
4 Methylphenol	< 0 5						
4 Nitrophenol	< 0 5						
Pentachlorophenol	< 0 5						
Phenol	< 0 5						
Total Speciated Phenols MS	< 6						
Sulphate	11 94		12 18	16 1	8 34	16 87	14 67
Chloride	30 4		29 8	29 7	29 6	31 1	28 5
Nitrate as NO3	0 6		2 5	3 1	< 0 2	4 6	10 1
Nitrite as NO2	0 04		0 1	0 1	< 0 02	0 05	0 09
Ortho Phosphate as P	< 0 03		< 0 06		< 0 03		< 0 06
Total Oxidised Nitrogen as N	< 0 2		0 6	0 7	< 0 2	1	2 3
Total Cyanide	< 0 01				< 0 01		
Ammoniacal Nitrogen as N	0 64		0 89	0 38	0 86	0 36	0 13
Ammoniacal Nitrogen as NH3				0 46		0 44	0 16
Ammoniacal Nitrogen as NH4	0 82			0 49		0 47	0 17
Acetic Acid	< 10				< 10		
Propanoic Acid	< 1				< 1		
2 methyl propanoic acid / Butanoic acid	< 1				< 1		
3 methyl butanoic acid	< 0 5				< 0 5		
Pentanoic acid	< 0 5				< 0 5		
4 methyl pentanoic acid	< 0 5				< 0 5		
Hexanoic acid	< 0 5				< 0 5		
Heptanoic acid	< 0 5				< 0 5		
Electrical Conductivity @25C	329			329	317	328	
pH	6 52		6 45	6 37	6 53	6 46	
Total Organic Carbon	3			< 2	< 2	< 2	
Total Cations	2 85		2 92	2 92	3 1	3 03	
Total Anions	2 92		3 77	3 58	3 89	3 62	
BOD (Settled)$^{\#}$					< 1		
BOD (Settled)$^{\#}$				2			
COD (Settled)$^{\#}$				< 7	9		
Total Suspended Solids$^{\#}$				44	94	20	
Dissolved Oxygen				4		3	

Sample ID	BH102	BH102	BH102	BH102	BH102	BH102
Depth						
COC No / misc						
Containers	V H P G		H P	V P BOD G	V P G	V H N P G
Sample Type	Ground Water		Ground Water	Ground Water	Ground Water	Ground Water
Sampled Date	30/04/2015		03/06/2015	26/08/2015	24/11/2015	08/03/2016
Sample Received Date	06/05/2015	14/05/2015	05/06/2015	28/08/2015	27/11/2015	11/03/2016
J E Sample No	149 155		51 52	7 12	5 10	1 8
Batch Number	2		1	1	1	1
2,4 Dichlorophenol	< 0 5					
2,4 Dimethylphenol	< 0 5					
2,4,5 Trichlorophenol	< 0 5					
2,4,6 Trichlorophenol	< 0 5					
4 Chloro 3 methylphenol	< 0 5					
4 Methylphenol	< 0 5					
4 Nitrophenol	< 0 5					
Pentachlorophenol	< 0 5					
Phenol	< 0 5					
Total Speciated Phenols MS	< 6					
Sulphate	23 36		21 45	25 25	22 93	25 57
Chloride	32 1		30 9	38 7	44	42 5
Nitrate as NO3	< 0 2		0 4	< 0 2	< 0 2	0 4
Nitrite as NO2	< 0 02		< 0 02	< 0 02	0 02	< 0 02
Ortho Phosphate as P	< 0 03		< 0 06		< 0 03	
Total Oxidised Nitrogen as N	< 0 2		< 0 2	< 0 2	< 0 2	< 0 2
Total Cyanide	< 0 01				< 0 01	
Ammoniacal Nitrogen as N	0 92		0 93	0 75	0 96	0 97
Ammoniacal Nitrogen as NH3				0 92		1 18
Ammoniacal Nitrogen as NH4	0 00 1 18			0 97		1 25
Acetic Acid	< 10				< 10	
Propanoic Acid	< 1				< 1	
2 methyl propanoic acid / Butanoic acid	< 1				< 1	
3 methyl butanoic acid	< 0 5				< 0 5	
Pentanoic acid	< 0 5				< 0 5	
4 methyl pentanoic acid	< 0 5				< 0 5	
Hexanoic acid	< 0 5				< 0 5	
Heptanoic acid	< 0 5				< 0 5	
Electrical Conductivity @25C	533			610	593	590
pH	6 7		6 78	6 62	6 83	6 86
Total Organic Carbon	3			4	< 2	5
Total Cations	5 16		5 61	5 64	6 17	5 94
Total Anions	5 71		6 12	6 54	7 48	6 9
BOD (Settled)$^{\#}$					2	
BOD (Settled)$^{\#}$				3		
COD (Settled)$^{\#}$				24	34	
Total Suspended Solids$^{\#}$				< 10	13	< 10
Dissolved Oxygen				5		6

Sample ID	BH103	BH103	BH103	BH103	BH103	BH103	BH103
Depth							
COC No / misc							
Containers	V H P G		H P	V P BOD G	V P G	V H N P G	V H HN P G
Sample Type	Ground Water		Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Sampled Date	30/04/2015		03/06/2015	26/08/2015	24/11/2015	08/03/2016	15/06/2016
Sample Received Date	06/05/2015	14/05/15	05/06/2015	28/08/2015	27/11/2015	11/03/2016	21/06/2016
J E Sample No	142 148		49 50	13 18	11 16	9 16	37 42
Batch Number	2		1	1	1	1	1
2,4 Dichlorophenol	< 0 5						
2,4 Dimethylphenol	< 0 5						
2,4,5 Trichlorophenol	< 0 5						
2,4,6 Trichlorophenol	< 0 5						
4 Chloro 3 methylphenol	< 0 5						
4 Methylphenol	< 0 5						
4 Nitrophenol	< 0 5						
Pentachlorophenol	< 0 5						
Phenol	< 0 5						
Total Speciated Phenols MS	< 6						
Sulphate	43 79		99 55	69 31	89 78	89 52	63 65
Chloride	20 7		19 8	23 1	24 6	23 5	20 3
Nitrate as NO3	< 0 2		0 3	< 0 2	< 0 2	0 3	0 4
Nitrite as NO2	< 0 02		< 0 02	< 0 02	< 0 02	< 0 02	0 05
Ortho Phosphate as P	< 0 03		< 0 06		< 0 03		0 15
Total Oxidised Nitrogen as N	< 0 2		< 0 2	< 0 2	< 0 2	< 0 2	< 0 2
Total Cyanide	< 0 01				< 0 01		
Ammoniacal Nitrogen as N	0 98		1 09	1 3	1 15	1 13	1 28
Ammoniacal Nitrogen as NH3				1 59		1 37	1 56
Ammoniacal Nitrogen as NH4	0 00 1 26			1 68		1 45	1 65
Acetic Acid	< 10				< 10		
Propanoic Acid	< 1				< 1		
2 methyl propanoic acid / Butanoic acid	< 1				< 1		
3 methyl butanoic acid	< 0 5				< 0 5		
Pentanoic acid	< 0 5				< 0 5		
4 methyl pentanoic acid	< 0 5				< 0 5		
Hexanoic acid	< 0 5				< 0 5		
Heptanoic acid	< 0 5				< 0 5		
Electrical Conductivity @25C	353			399	425	453	
pH	6 78		6 52	6 47	6 53	6 69	
Total Organic Carbon	4			4	2	4	
Total Cations	3 06		3 75	3 47	3 76	3 92	
Total Anions	3 38		4 48	4 33	4 72	4 93	
BOD (Settled)$^{\#}$					1		
BOD (Settled)$^{\#}$				3			
COD (Settled)$^{\#}$				25	24		
Total Suspended Solids$^{\#}$				13	60	148	
Dissolved Oxygen				5		3	

Sample ID	BH104	BH104	BH104	
Depth				
COC No / misc				
Containers	V H P G		V P BOD G	
Sample Type	Ground Water		Ground Water	
Sampled Date	30/04/2015		26/08/2015	
Sample Received Date	06/05/2015	14/05/15	28/08/2015	
J E Sample No	135 141		19 24	
Batch Number	2		1	
2,4 Dichlorophenol	< 0 5			
2,4 Dimethylphenol	< 0 5			
2,4,5 Trichlorophenol	< 0 5			
2,4,6 Trichlorophenol	< 0 5			
4 Chloro 3 methylphenol	< 0 5			
4 Methylphenol	< 0 5			
4 Nitrophenol	< 0 5			
Pentachlorophenol	< 0 5			
Phenol	< 0 5			
Total Speciated Phenols MS	< 6			
Sulphate	33 26		33 67	
Chloride	66 9		85 9	
Nitrate as NO3	4 2		1 7	<
Nitrite as NO2	< 0 02		< 0 02	
Ortho Phosphate as P	< 0 03			<
Total Oxidised Nitrogen as N	0 9		0 4	<
Total Cyanide	< 0 01			<
Ammoniacal Nitrogen as N	2 61		1 23	
Ammoniacal Nitrogen as NH3			1 5	
Ammoniacal Nitrogen as NH4	0 00 3 36		1 59	
Acetic Acid	< 10			<
Propanoic Acid	5			<
2 methyl propanoic acid / Butanoic acid	8			<
3 methyl butanoic acid	< 1			<
Pentanoic acid	2 4			<
4 methyl pentanoic acid	< 0 5			<
Hexanoic acid	2 8			<
Heptanoic acid	< 0 5			<
Electrical Conductivity @25C	575		618	
pH	6 61		6 47	
Total Organic Carbon	4		3	<
Total Cations	5 2		5 52	
Total Anions	5 97		6 43	
BOD (Settled)$^{\#}$				
BOD (Settled)$^{\#}$			3	
COD (Settled)$^{\#}$			24	
Total Suspended Solids$^{\#}$			32	
Dissolved Oxygen			4	

EQS

1 The Water Framework Directive (Priority Substances and Classification) Regulations (Northern Ireland) 2011 Inland waters
2 Groundwater Drinking Water Protected Areas The River Basin Districts Typology, Standards and Groundwater threshold values (Water Framework Directive) (England and Wales) Directions 2010
3 Freshwater EQS (AA)

DWS

1 Council Directive on the quality of water intended for human consumption (Drinking Water Directive)
2 The Water Supply (Water Quality) Regulations (Northern Ireland) 2007 (as amended)

Final City Waste Screening - Grounwater Wells

Jones Environmental Laboratory

Report: Liquid
JE Job No: 15/6896
Client: WYG
Client ref: Citywaste
Location: Citywaste
Contact [redacted]

Sample ID												BH104	BH104	BH104	BH106B	BH106B	BH106 DEEP	BH106b	BH106	BH107	BH107	BH107	BH107	BH107	BH108	BH108	BH108	BH108	BH108	BH108	BH111	BH111	BH111	BH111
Depth																								5 00						1 7				6 0
COC No / misc																																		
Containers												V P G	V H N P G	V H HN P G	V H P G		V P BOD G	V P G	V H HN P G	V P G		V P BOD G	V P G	V H HN P G	V P G	V P BOD G		V P G	V H N P G	V H HN P G	V P G		V H N P G	V H HN P G
Sample Type												Ground Water	Ground Water	Ground Water	Liquid		Ground Water	Ground Water	Ground Water	Liquid		Ground Water	Ground Water	Ground Water	Liquid	Ground Water		Ground Water	Ground Water	Ground Water	Liquid		Ground Water	Ground Water
Sampled Date												24/11/2015	08/03/2016	15/06/2016	29/04/2015		26/08/2015	24/11/2015	14/06/2016	28/04/2015		26/08/2015	24/11/2015	14/06/2016	28/04/2015	26/08/2015		24/11/2015	09/03/2016	14/06/2016	28/04/2015		09/03/2016	14/06/2016
Sample Received Date												27/11/2015	11/03/2016	21/06/2016	02/05/2015	13/05/15	28/08/2015	27/11/2015	21/06/2016	02/05/2015	13/05/15	28/08/2015	27/11/2015	21/06/2016	02/05/2015	28/08/2015	13/05/15	27/11/2015	12/03/2016	16/06/2016	02/05/2015	13/05/15	12/03/2016	16/06/2016
J E Sample No												17 21	17 24	31 36	122 127		25 29	22 27	13 18	46 50		30 34	28 33	7 12	36 40	35 39		34 39	208 214	19 24	11 15		187 193	37 42
Batch Number												1	1	1	1		1	1	1	1		1	1	1	1	1		1	2	1	1		2	1
CAS Number	Test	Units	LOD	EQS	MAX	MIN	MEAN	No. Samples	No. >EQS	% >EQS	Magnitude of exceedance																							
	Total Alkalinity as CaCO3	mg/l	<1		944 00	42 00	276 95	59	0			200	160		388		290	302		170		58			122	134		150	124		102		134	
	Metals																																	
7429 90 5	Dissolved Aluminium	ug/l	<20	150	133 50	1 50	22 46	46	0	0%	0 89	20		4	< 20			< 20	133 5	34			42	17 4	< 20			< 20			< 20			
7440 38 2	Dissolved Arsenic	ug/l	<2 5	10	29 00	0 90	4 82	46	7	15%	2 90	2 5		< 0 9	5 5			< 2 5	29	3 4			< 2 5	< 0 9	< 2 5			< 2 5			2 5			
7440 43 9	Dissolved Cadmium	ug/l	<0 5	0 08	2 70	0 03	0 47	72	11	15%	33 75	0 5	< 0 5	< 0 03	< 0 5		< 0 5	< 0 5	< 0 03	< 0 5		< 0 5	0 8	< 0 03	< 0 5	< 0 5		< 0 5	< 0 5		< 0 5		< 0 5	
7440 47 3	Total Dissolved Chromium	ug/l	<1 5	4 7	6 70	0 20	1 51	72	1	1%	1 43	1 5	< 1 5	< 0 2	< 1 5		< 1 5	< 1 5	0 8	< 1 5		< 1 5	< 1 5	2 3	< 1 5	< 1 5		< 1 5	< 1 5		< 1 5		< 1 5	
7440 50 8	Dissolved Copper	ug/l	<7	1	54 00	3 00	8 64	72	9	13%	54 00	7	< 7	< 3	< 7		< 7	< 7	54	9		10	12	< 3	< 7	8		< 7	< 7		< 7		< 7	
7439 89 6	Total Dissolved Iron	ug/l	<20	200	133100 00	4 70	6895 70	72	26	36%	665 50	20	1204	4577	146		6467	< 20	133100	50980		42720	13780	6484	95	< 20		< 20	< 20		< 20		< 20	
7439 92 1	Dissolved Lead	ug/l	<5	7 2	8 00	0 40	4 21	72	1	1%	1 11	5	< 5	< 0 4	< 5		< 5	< 5	< 0 4	5		< 5	< 5	< 0 4	< 5	< 5		< 5	< 5		< 5		< 5	
7440 02 0	Dissolved Nickel	ug/l	<2	20	58 00	0 20	9 00	46	6	13%	2 90	5		2 7	9			7	11 9	20			14	28 7	4			3			< 2			
7782 49 2	Dissolved Selenium	ug/l	<3	10	20 00	1 20	3 30	46	2	4%	2 00	7		< 1 2	< 3			4	< 1 2	< 3			7	< 1 2	< 3			< 3			< 3			
7440 66 6	Dissolved Zinc	ug/l	<3	8	88 00	1 50	9 83	72	22	31%	11 00	8	5	6 4	10		10	< 3	23 5	20		36	50	14 4	< 3	< 3		4	< 3		< 3		< 3	
7439 97 6	Mercury Dissolved by CVAF	ug/l	<0 01	0 05	0 07	0 01	0 02	46	5	11%	1 40	0 01		< 0 01	0 05			< 0 01	< 0 01	0 02			< 0 01	0 01	< 0 01			< 0 01			< 0 01			
	PAH MS																																	
83 32 9	Acenaphthene	ug/l	<0 013		8 12	0 01	0 46	63	0			0 013	< 0 013	< 0 013	0 28		0 16	0 08	0 23	0 06		< 0 013	< 0 013		< 0 013	< 0 013		< 0 013	< 0 013		< 0 013		< 0 013	
208 96 8	Acenaphthylene	ug/l	<0 013		16 55	0 01	0 61	63	0			0 013	< 0 013	0 02	0 08		0 04	0 02	0 33	0 03		< 0 013	< 0 013		< 0 013	< 0 013		< 0 013	< 0 013		< 0 013		< 0 013	
120 12 7	Anthracene	ug/l	<0 013	0 1	0 09	0 01	0 02	63	0	0%	0 90	0 013	< 0 013	< 0 013	0 09		0 05	< 0 013	< 0 013	< 0 013		< 0 013	< 0 013		< 0 013	< 0 013		< 0 013	< 0 013		< 0 013		< 0 013	
56 55 3	Benzo(a)anthracene	ug/l	<0 015		0 05	0 02	0 02	63	0			0 015	< 0 015	< 0 015	0 05		< 0 015	< 0 015	< 0 015	< 0 015		< 0 015	< 0 015		< 0 015	< 0 015		< 0 015	< 0 015		< 0 015		< 0 015	
50 32 8	Benzo(a)pyrene	ug/l	<0 016	0 01	0 04	0 02	0 02	63	1	2%	4 00	0 016	< 0 016	< 0 016	< 0 016		< 0 016	< 0 016	< 0 016	< 0 016		< 0 016	< 0 016		< 0 016	< 0 016		< 0 016	< 0 016		< 0 016		< 0 016	
205 99 2	Benzo(b)fluoranthene	ug/l	<0 01	0 03	0 05	0 01	0 01	63	1	2%	1 67	0 01	< 0 01	< 0 01	< 0 01		< 0 01	< 0 01	< 0 01	< 0 01		< 0 01	< 0 01		< 0 01	< 0 01		< 0 01	< 0 01		< 0 01		< 0 01	
191 24 2	Benzo(gh)perylene	ug/l	<0 011	0 002	0 02	0 01	0 01	63	1	2%	10 00	0 011	< 0 011	< 0 011	< 0 011		< 0 011	< 0 011	< 0 011	< 0 011		< 0 011	< 0 011		< 0 011	< 0 011		< 0 011	< 0 011		< 0 011		< 0 011	
207 08 9	Benzo(k)fluoranthene	ug/l	<0 01	0 03	0 02	0 01	0 01	63	0	0%	0 67	0 01	< 0 01	< 0 01	< 0 01		< 0 01	< 0 01	< 0 01	< 0 01		< 0 01	< 0 01		< 0 01	< 0 01		< 0 01	< 0 01		< 0 01		< 0 01	
218 01 9	Chrysene	ug/l	<0 011		0 06	0 01	0 01	63	0			0 011	< 0 011	< 0 011	0 03		< 0 011	< 0 011	< 0 011	< 0 011		< 0 011	< 0 011		< 0 011	< 0 011		< 0 011	< 0 011		< 0 011		< 0 011	
53 70 3	Dibenzo(ah)anthracene	ug/l	<0 01		0 01	0 01	0 01	63	0			0 01	< 0 01	< 0 01	< 0 01		< 0 01	< 0 01	< 0 01	< 0 01		< 0 01	< 0 01		< 0 01	< 0 01		< 0 01	< 0 01		< 0 01		< 0 01	
206 44 0	Fluoranthene	ug/l	<0 012	0 1	0 22	0 01	0 02	63	2	3%	2 20	0 012	< 0 012	< 0 012	0 22		0 08	0 03	< 0 012	< 0 012		< 0 012	< 0 012		< 0 012	< 0 012		< 0 012	< 0 012		< 0 012		< 0 012	
86 73 7	Fluorene	ug/l	<0 014		0 63	0 01	0 06	63	0			0 014	< 0 014	< 0 014	0 19		0 1	0 03	0 05	0 02		< 0 014	< 0 014		< 0 014	< 0 014		< 0 014	< 0 014		< 0 014		< 0 014	
193 39 5	Indeno(123cd)pyrene	ug/l	<0 011	0 002	0 02	0 01	0 01	63	1	2%	10 00	0 011	< 0 011	< 0 011	< 0 011		< 0 011	< 0 011	< 0 011	< 0 011		< 0 011	< 0 011		< 0 011	< 0 011		< 0 011	< 0 011		< 0 011		< 0 011	
91 20 3	Naphthalene	ug/l	<0 014	2 4	757 10	0 01	15 76	63	5	8%	315 46	0 1	< 0 1	0 6	0 6		0 04	< 0 1	9 9	0 2		0 05	< 0 1		< 0 014	0 02		< 0 1	< 0 1		< 0 014		< 0 1	
85 01 8	Phenanthrene	ug/l	<0 011		0 47	0 01	0 04	63	0			0 011	< 0 011	< 0 011	0 47		0 2	0 05	< 0 011	0 05		0 02	< 0 011		< 0 011	< 0 011		< 0 011	< 0 011		< 0 011		< 0 011	
129 00 0	Pyrene	ug/l	<0 013		0 18	0 01	0 02	63	0			0 013	< 0 013	< 0 013	0 18		0 05	0 02	< 0 013	0 03		< 0 013	< 0 013		< 0 013	< 0 013		< 0 013	< 0 013		< 0 013		< 0 013	
	PAH 16 Total	ug/l	<0 195		782 35	0 20	17 00	63	0			0 195	< 0 195	0 62	2 19		0 72	0 23	10 51	0 39		< 0 195	< 0 195		< 0 195	< 0 195		< 0 195	< 0 195		< 0 195		< 0 195	
	PAH Surrogate % Recovery	%	<0		116 00	70 00	82 98	63	0			73	72	70	100		75	72	70	98		75	74		101	73		71	86		105		78	
	Benzo(bk)fluoranthene	ug/l	<0 018		0 07	0 02	0 02	63	0			0 018	< 0 018	< 0 018	< 0 018		< 0 018	< 0 018	< 0 018	< 0 018		< 0 018	< 0 018		< 0 018	< 0 018		< 0 018	< 0 018		< 0 018		< 0 018	
	TPH CWG																																	
	Aliphatics																																	
	>C5 C6	ug/l	<5		31 00	5 00	5 68	63	0			5	< 5	< 5	< 5		< 5	< 5	< 5	< 5		< 5	< 5	< 5	< 5	< 5		< 5	< 5		< 5		< 5	
	>C6 C8	ug/l	<5		750 00	5 00	20 97	63	0			5	< 5	< 5	11		< 5	< 5	11	< 5		< 5	< 5	< 5	< 5	< 5		< 5	< 5		< 5		< 5	
	>C8 C10	ug/l	<5		115 00	5 00	9 63	63	0			5	< 5	< 5	90		< 5	< 5	< 5	< 5		< 5	< 5	< 5	< 5	< 5		< 5	< 5		< 5		< 5	
	>C10 C12	ug/l	<5		5 00	5 00	5 00	63	0			5	< 5	< 5	< 5		< 5	< 5	< 5	< 5		< 5	< 5	< 5	< 5	< 5		< 5	< 5		< 5		< 5	
	>C12 C16	ug/l	<10		10 00	10 00	10 00	63	0			10	< 10	< 10	< 10		< 10	< 10	< 10	< 10		< 10	< 10	< 10	< 10	< 10		< 10	< 10		< 10		< 10	
	>C16 C21	ug/l	<10		10 00	10 00	10 00	63	0			10	< 10	< 10	< 10		< 10	< 10	< 10	< 10		< 10	< 10	< 10	< 10	< 10		< 10	< 10		< 10		< 10	
	>C21 C35	ug/l	<10		1130 00	10 00	40 32	63	0			10	< 10	< 10	110		< 10	< 10	< 10	1130		< 10	< 10	< 10	< 10	< 10		< 10	< 10		< 10		< 10	
	Total aliphatics C5 35	ug/l	<10		1130 00	10 00	61 92	63	0			10	< 10	< 10	211		< 10	< 10	11	1130		< 10	< 10	< 10	< 10	< 10		< 10	< 10		< 10		< 10	
	Aromatics																																	
	>C5 EC7	ug/l	<5		3428 00	5 00	73 27	63	0			5	< 5	< 5	< 5		< 5	< 5	26	< 5		< 5	< 5	< 5	< 5	< 5		< 5	< 5		< 5		< 5	
	>EC7 EC8	ug/l	<5		441 00	5 00	13 32	63	0			5	< 5	< 5	< 5		< 5	< 5	< 5	< 5		< 5	< 5	< 5	< 5	< 5		< 5	< 5		< 5		< 5	
	>EC8 EC10	ug/l	<5		539 00	5 00	15 89	63	0			5	< 5	< 5	< 5		< 5	< 5	9	< 5		< 5	< 5	< 5	< 5	< 5		< 5	< 5		< 5		< 5	
	>EC10 EC12	ug/l	<5		687 00	5 00	20 63	63	0			5	< 5	< 5	< 5		< 5	< 5	< 5	< 5		< 5	< 5	< 5	< 5	< 5		< 5	< 5		< 5		< 5	
	>EC12 EC16	ug/l	<10		110 00	10 00	12 54	63	0			10	< 10	< 10	< 10		< 10	< 10	< 10	< 10		< 10	< 10	< 10	< 10	< 10		< 10	< 10		< 10		< 10	
	>EC16 EC21	ug/l	<10		20 00	10 00	10 16	63	0			10	< 10	< 10	20		< 10	< 10	< 10	< 10		< 10	< 10	< 10	< 10	< 10		< 10	< 10		< 10		< 10	
	>EC21 EC35	ug/l	<10		260 00	10 00	14 76	63	0			10	< 10	< 10	60		< 10	< 10	< 10	260		< 10	< 10	< 10	< 10	< 10		< 10	< 10		< 10		< 10	
	Total aromatics C5 35	ug/l	<10		5125 00	10 00	121 46	63	0			10	< 10	< 10	80		< 10	< 10	35	260		< 10	< 10	< 10	< 10	< 10		< 10	< 10		< 10		< 10	
	Total aliphatics and aromatics(C5 35)	ug/l	<10	10	5990 00	10 00	174 81	63	9	14%	599 00	10	< 10	< 10	291		< 10	< 10	46	1390		< 10	< 10	< 10	< 10	< 10		< 10	< 10		< 10		< 10	
	BTEX/MTBE MS																																	
1634 04 4	Methyl Tertiary Butyl Ether	ug/l	<0 1	30	5 00	0 10	3 17	55	0	0%	0 17	5	< 5	< 5	< 0 1			< 5	< 5	< 0 1			< 5	< 5	< 0 1			< 5	< 5		< 0 1		< 5	
71 43 2	Benzene	ug/l	<0 5	1	3428 00	0 50	81 77	55	5	9%	3428 00	5	< 5	< 5	< 0 5			< 5	26	< 0 5			< 5	< 5	< 0 5			< 5	< 5		< 0 5		< 5	
108 88 3	Toluene	ug/l	<0 5	50	441 00	0 50	13 09	55	2	4%	8 82	5	< 5	< 5	< 0 5			< 5	< 5	< 0 5			< 5	< 5	< 0 5			< 5	< 5		< 0 5		< 5	
100 41 4	Ethylbenzene	ug/l	<0 5	20	203 00	0 50	8 30	55	3	5%	10 15	5	< 5	< 5	< 0 5			< 5	< 5	< 0 5			< 5	< 5	< 0 5			< 5	< 5		< 0 5		< 5	
	p/m Xylene	ug/l	<1	30	19 00	1 00	3 75	55	0	0%	0 63	5	< 5	< 5	< 1			< 5	< 5	< 1			< 5	< 5	< 1			< 5	< 5		< 1		< 5	
95 47 6	o Xylene	ug/l	<0 5	30	317 00	0 50	9 90	55	2	4%	10 57	5	< 5	< 5	< 0 5			< 5	< 5	1 3			< 5	< 5	< 0 5			< 5	< 5		< 0 5		< 5	
2037 26 5	Surrogate Recovery Toluene D8	%	<0		109 00	91 00	102 48	21	0						101					100					99						98			
460 00 4	Surrogate Recovery 4 Bromofluorobenzene	%	<0		109 00	90 00	102 48	21	0						90					101					102						100			
7440 70 2	Dissolved Calcium	mg/l	<0 2		774 60	26 50	114 32	73	0			54 8	46 8	184 5	95 9		70 5	61 8	39 4	71 2		76 9	64 2	241 7	47 8	37 4		36 4	35 3	39 7	42 2		52 8	
7439 95 4	Dissolved Magnesium	mg/l	<0 1		103 80	3 10	19 00	73	0			15 6	13 3	18	19 5		14 5	12 1	8 4	18 3		21 8	23 2	59 1	7	6 6		7 4	6 5	6 9	3 1		3 8	
7439 96 5	Dissolved Manganese	ug/l	<2	50	70290 00	2 00	9493 18	70	65	93%	1405 80	8552	5410	5623	15610		14830	14700	13410	23800		18200	16710	70290	1487	1297		947	1001	1209	9		< 2	
7723 14 0	Dissolved Phosphorus	ug/l	<5		202 50	4 00	27 18	44	0			5		5 5	45			< 5	120 7	< 5			< 5	33	16			5		23 2	16			
07/09/7440	Dissolved Potassium	mg/l	<0 1		62 40	1 20	10 83	73	0			5	4 4	12 1	3 6		2 3	2	1 4	4 7		2 4	1 2	5 7	10 4	7 5		6 8	6 7	8 4	8 6		10	
7440 23 5	Dissolved Sodium	mg/l	<0 1	200	604 40	10 70	67 34	73	4	5%	3 02	47	29 2	73 6	72 9		44 3	39 2	41 8	39 6		71 6	90 9	137 2	25 2	20		19 9	19 4	19 7	14		11 6	
7723 14 0	Total Phosphorus	ug/l	<5		930 00	23 00	184 61	44	0			105		125 9	377			254	180	639			733	138 2	104			192		69 5	43			
	Total Phenols HPLC	mg/l	<0 1		0 10	0 10	0 10	26	0				< 0 1				< 0 1					< 0 1				< 0 1			< 0 1				< 0 1	
	VOC MS																																	
75 71 8	Dichlorodifluoromethane	ug/l	<2		2 00	2 00	2 00	21	0						< 2					< 2					< 2						< 2			
1634 04 4	Methyl Tertiary Butyl Ether	ug/l	<0 1		5 00	0 10	1 40	28	0						< 0 1		< 5			< 0 1		< 5			< 0 1	< 5					< 0 1			
74 87 3	Chloromethane	ug/l	<3		3 00	3 00	3 00	21	0						< 3					< 3					< 3						< 3			
75 01 4	Vinyl Chloride	ug/l	<0 1	0 5	0 10	0 10	0 10	21	0	0%	0 20				< 0 1					< 0 1					< 0 1						< 0 1			
74 83 9	Bromomethane	ug/l	<1		1 00	1 00	1 00	21	0						< 1					< 1					< 1						< 1			
75 00 3	Chloroethane	ug/l	<3		3 00	3 00	3 00	21	0						< 3					< 3					< 3						< 3			
75 69 4	Trichlorofluoromethane	ug/l	<3		3 00	3 00	3 00	21	0						< 3					< 3					< 3						< 3			
75 35 4	1,1 Dichloroethene (1,1 DCE)	ug/l	<3		3 00	3 00	3 00	21	0						< 3					< 3					< 3						< 3			
75 09 2	Dichloromethane (DCM)	ug/l	<3	20	3 00	3 00	3 00	21	0	0%	0 15				< 3					< 3					< 3						< 3			
156 60 5	trans 1 2 Dichloroethene	ug/l	<3		3 00	3 00	3 00	21	0						< 3					< 3					< 3						< 3			
75 34 3	1,1 Dichloroethane	ug/l	<3	3	3 00	3 00	3 00	21	0	0%	1 00				< 3					< 3					< 3						< 3			
156 59 2	cis 1 2 Dichloroethene	ug/l	<3		3 00	3 00	3 00	21	0						< 3					< 3					< 3						< 3			
594 20 7	2,2 Dichloropropane	ug/l	<1		1 00	1 00	1 00	21	0						< 1					< 1					< 1						< 1			
74 97 5	Bromochloromethane	ug/l	<2		2 00	2 00	2 00	21	0						< 2					< 2					< 2						< 2			
67 66 3	Chloroform	ug/l	<2		2 00	2 00	2 00	21	0						< 2					< 2					< 2						< 2			
71 55 6	1,1,1 Trichloroethane	ug/l	<2	100	2 00	2 00	2 00	21	0	0%	0 02				< 2					< 2					< 2						< 2			
563 58 6	1,1 Dichloropropene	ug/l	<3		3 00	3 00	3 00	21	0						< 3					< 3					< 3						< 3			
56 23 5	Carbon tetrachloride	ug/l	<2	12	2 00	2 00	2 00	21	0	0%	0 17				< 2					< 2					< 2						< 2			
107 06 2	1,2 Dichloroethane	ug/l	<2		2 00	2 00	2 00	21	0						< 2					< 2					< 2						< 2			
71 43 2	Benzene	ug/l	<0 5	1	73 40	0 50	4 37	27	1	4%	73 40				< 0 5		< 5			< 0 5		< 5			< 0 5	< 5					< 0 5			
79 01 6	Trichloroethene (TCE)	ug/l	<3		3 00	3 00	3 00	21	0						< 3					< 3					< 3						< 3			
78 87 5	1,2 Dichloropropane	ug/l	<2		2 00	2 00	2 00	21	0						< 2					< 2					< 2						< 2			
74 95 3	Dibromomethane	ug/l	<3		3 00	3 00	3 00	21	0						< 3					< 3					< 3						< 3			
75 27 4	Bromodichloromethane	ug/l	<2		2 00	2 00	2 00	21	0						< 2					< 2					< 2						< 2			
10061 01 5	cis 1 3 Dichloropropene	ug/l	<2		2 00	2 00	2 00	21	0						< 2					< 2					< 2						< 2			
108 88 3	Toluene	ug/l	<0 5	50	30 90	0 50	2 94	28	0	0%	0 62				< 0 5		< 5			< 0 5		< 5			< 0 5	< 5					< 0 5			
10061 02 6	trans 1 3 Dichloropropene	ug/l	<2		2 00	2 00	2 00	21	0						< 2					< 2					< 2						< 2			
79 00 5	1,1,2 Trichloroethane	ug/l	<2	400	2 00	2 00	2 00	21	0	0%	0 01				< 2					< 2					< 2						< 2			

Final City Waste Screening - Grounwater Wells

Report: Liquid
JE Job No: 15/6896
Client: WYG
Client ref: Citywaste
Location: Citywaste
Contact [redacted]

	Sample ID											BH104	BH104	BH104	BH106B	BH106B	BH106 DEEP	BH106b	BH106	BH107	BH107	BH107	BH107	BH107	BH108	BH108	BH108	BH108	BH108	BH108	BH111	BH111	BH111	BH111
	Depth																							5 00						1 7				6 0
	COC No / misc																																	
	Containers											V P G	V H N P G	V H HN P G	V H P G		V P BOD G	V P G	V H HN P G	V P G		V P BOD G	V P G	V H HN P G	V P G	V P BOD G		V P G	V H N P G	V H HN P G	V P G		V H N P G	V H HN P G
	Sample Type											Ground Water	Ground Water	Ground Water	Liquid		Ground Water	Ground Water	Ground Water	Liquid		Ground Water	Ground Water	Ground Water	Liquid	Ground Water		Ground Water	Ground Water	Ground Water	Liquid		Ground Water	Ground Water
	Sampled Date											24/11/2015	08/03/2016	15/06/2016	29/04/2015		26/08/2015	24/11/2015	14/06/2016	28/04/2015		26/08/2015	24/11/2015	14/06/2016	28/04/2015	26/08/2015		24/11/2015	09/03/2016	14/06/2016	28/04/2015		09/03/2016	14/06/2016
	Sample Received Date											27/11/2015	11/03/2016	21/06/2016	02/05/2015	13/05/15	28/08/2015	27/11/2015	21/06/2016	02/05/2015	13/05/15	28/08/2015	27/11/2015	21/06/2016	02/05/2015	28/08/2015	13/05/15	27/11/2015	12/03/2016	16/06/2016	02/05/2015	13/05/15	12/03/2016	16/06/2016
	J E Sample No											17 21	17 24	31 36	122 127		25 29	22 27	13 18	46 50		30 34	28 33	7 12	36 40	35 39		34 39	208 214	19 24	11 15		187 193	37 42
	Batch Number											1	1	1	1		1	1	1	1		1	1	1	1	1		1	2	1	1		2	1
127 18 4	Tetrachloroethene (PCE)	ug/l	<3	10	3 00	3 00	3 00	21	0	0%	0 30				< 3					< 3					< 3						< 3			
142 28 9	1,3 Dichloropropane	ug/l	<2		2 00	2 00	2 00	21	0						< 2					< 2					< 2						< 2			
124 48 1	Dibromochloromethane	ug/l	<2		2 00	2 00	2 00	21	0						< 2					< 2					< 2						< 2			
106 93 4	1,2 Dibromoethane	ug/l	<2		2 00	2 00	2 00	21	0						< 2					< 2					< 2						< 2			
108 90 7	Chlorobenzene	ug/l	<2		2 00	2 00	2 00	21	0						< 2					< 2					< 2						< 2			
630 20 6	1,1,1,2 Tetrachloroethane	ug/l	<2		2 00	2 00	2 00	21	0						< 2					< 2					< 2						< 2			
100 41 4	Ethylbenzene	ug/l	<0 5	20	5 00	0 50	1 80	28	0	0%	0 25				< 0 5		< 5			< 0 5		< 5			< 0 5	< 5					< 0 5			
	p/m Xylene	ug/l	<1	30	5 00	1 00	2 00	28	0	0%	0 17				< 1		< 5			< 1		< 5			< 1	< 5					< 1			
95 47 6	o Xylene	ug/l	<0 5	30	5 00	0 50	1 65	28	0	0%	0 17				< 0 5		< 5			1 3		< 5			< 0 5	< 5					< 0 5			
100 42 5	Styrene	ug/l	<2	50	2 00	2 00	2 00	21	0	0%	0 04				< 2					< 2					< 2						< 2			
75 25 2	Bromoform	ug/l	<2	100	2 00	2 00	2 00	21	0	0%	0 02				< 2					< 2					< 2						< 2			
98 82 8	Isopropylbenzene	ug/l	<3		3 00	3 00	3 00	21	0						< 3					< 3					< 3						< 3			
79 34 5	1,1,2,2 Tetrachloroethane	ug/l	<4		4 00	4 00	4 00	21	0						< 4					< 4					< 4						< 4			
108 86 1	Bromobenzene	ug/l	<2		2 00	2 00	2 00	21	0						< 2					< 2					< 2						< 2			
96 18 4	1,2,3 Trichloropropane	ug/l	<3		3 00	3 00	3 00	21	0						< 3					< 3					< 3						< 3			
103 65 1	Propylbenzene	ug/l	<3		3 00	3 00	3 00	21	0						< 3					< 3					< 3						< 3			
95 49 8	2 Chlorotoluene	ug/l	<3		3 00	3 00	3 00	21	0						< 3					< 3					< 3						< 3			
108 67 8	1,3,5 Trimethylbenzene	ug/l	<3		3 00	3 00	3 00	21	0						< 3					< 3					< 3						< 3			
106 43 4	4 Chlorotoluene	ug/l	<3		3 00	3 00	3 00	21	0						< 3					< 3					< 3						< 3			
98 06 6	tert Buty benzene	ug/l	<3		3 00	3 00	3 00	21	0						< 3					< 3					< 3						< 3			
95 63 6	1,2,4 Trimethylbenzene	ug/l	<3		3 00	3 00	3 00	21	0						< 3					< 3					< 3						< 3			
135 98 8	sec Butylbenzene	ug/l	<3		3 00	3 00	3 00	21	0						< 3					< 3					< 3						< 3			
99 87 6	4 Isopropyltoluene	ug/l	<3		3 00	3 00	3 00	21	0						< 3					< 3					< 3						< 3			
541 73 1	1,3 Dichlorobenzene	ug/l	<3		3 00	3 00	3 00	21	0						< 3					< 3					< 3						< 3			
106 46 7	1,4 Dichlorobenzene	ug/l	<3		3 00	3 00	3 00	21	0						< 3					< 3					< 3						< 3			
104 51 8	n Butylbenzene	ug/l	<3		3 00	3 00	3 00	21	0						< 3					< 3					< 3						< 3			
95 50 1	1,2 Dichlorobenzene	ug/l	<3	1000	3 00	3 00	3 00	21	0	0%	0 00				< 3					< 3					< 3						< 3			
96 12 8	1,2 Dibromo 3 chloropropane	ug/l	<2		2 00	2 00	2 00	21	0						< 2					< 2					< 2						< 2			
120 82 1	1,2,4 Trichlorobenzene	ug/l	<3	0 4	3 00	3 00	3 00	21	0	0%	7 50				< 3					< 3					< 3						< 3			
87 68 3	Hexachlorobutadiene	ug/l	<3	0 1	3 00	3 00	3 00	21	0	0%	30 00				< 3					< 3					< 3						< 3			
87 61 6	1,2,3 Trichlorobenzene	ug/l	<3		3 00	3 00	3 00	21	0						< 3					< 3					< 3						< 3			
2037 26 5	Surrogate Recovery Toluene D8	%	<0		109 00	91 00	102 48	21	0						101					100					99						98			
460 00 4	Surrogate Recovery 4 Bromofluorobenzene	%	<0		109 00	90 00	102 48	21	0						90					101					102						100			
	SVOC MS																																	
	Phenols																																	
95 57 8	2 Chlorophenol	ug/l	<1	50	1 00	1 00	1 00	21	0	0%	0 02				< 1					< 1					< 1						< 1			
95 48 7	2 Methylphenol	ug/l	<0 5	100	1 50	0 50	0 55	21	0	0%	0 02				< 0 5					< 0 5					< 0 5						< 0 5			
88 75 5	2 Nitrophenol	ug/l	<0 5		0 50	0 50	0 50	21	0						< 0 5					< 0 5					< 0 5						< 0 5			
120 83 2	2,4 Dichlorophenol	ug/l	<0 5	20	0 50	0 50	0 50	21	0	0%	0 03				< 0 5					< 0 5					< 0 5						< 0 5			
105 67 9	2,4 Dimethylphenol	ug/l	<1	100	1 00	1 00	1 00	21	0	0%	0 01				< 1					< 1					< 1						< 1			
95 95 4	2,4,5 Trichlorophenol	ug/l	<0 5		0 50	0 50	0 50	21	0						< 0 5					< 0 5					< 0 5						< 0 5			
88 06 2	2,4,6 Trichlorophenol	ug/l	<1	200	1 00	1 00	1 00	21	0	0%	0 01				< 1					< 1					< 1						< 1			
59 50 7	4 Chloro 3 methylphenol	ug/l	<0 5	40	0 50	0 50	0 50	21	0	0%	0 01				< 0 5					< 0 5					< 0 5						< 0 5			
106 44 5	4 Methylphenol	ug/l	<1	100	68 00	1 00	4 19	21	0	0%	0 68				< 1					< 1					< 1						< 1			
100 02 7	4 Nitrophenol	ug/l	<10		10 00	10 00	10 00	21	0						< 10					< 10					< 10						< 10			
87 86 5	Pentachlorophenol	ug/l	<1	2	1 00	1 00	1 00	21	0	0%	0 50				< 1					< 1					< 1						< 1			
108 95 2	Phenol	ug/l	<1	7 7	4 00	1 00	1 14	21	0	0%	0 52				< 1					< 1					< 1						< 1			
	PAHs																																	
91 58 7	2 Chloronaphthalene	ug/l	<1		1 00	1 00	1 00	21	0						< 1					< 1					< 1						< 1			
91 57 6	2 Methylnaphthalene	ug/l	<1		3 00	1 00	1 10	21	0						< 1					< 1					< 1						< 1			
	Phthalates																																	
117 81 7	Bis(2 ethy hexyl) phthalate	ug/l	<5	8	5 00	5 00	5 00	21	0	0%	0 63				< 5					< 5					< 5						< 5			
85 68 7	Butylbenzyl phthalate	ug/l	<1		1 00	1 00	1 00	21	0						< 1					< 1					< 1						< 1			
84 74 2	Di n butyl phthalate	ug/l	<1 5		1 50	1 50	1 50	21	0						< 1 5					< 1 5					< 1 5						< 1 5			
117 84 0	Di n Octyl phthalate	ug/l	<1		1 00	1 00	1 00	21	0						< 1					< 1					< 1						< 1			
84 66 2	Diethyl phthalate	ug/l	<1	200	1 00	1 00	1 00	21	0	0%	0 01				< 1					< 1					< 1						< 1			
131 11 3	Dimethyl phthalate	ug/l	<1	800	1 00	1 00	1 00	21	0	0%	0 00				< 1					< 1					< 1						< 1			
	Other SVOCs																																	
95 50 1	1,2 Dichlorobenzene	ug/l	<1	1000	1 00	1 00	1 00	21	0	0%	0 00				< 1					< 1					< 1						< 1			
120 82 1	1,2,4 Trichlorobenzene	ug/l	<1	0 4	1 00	1 00	1 00	21	0	0%	2 50				< 1					< 1					< 1						< 1			
541 73 1	1,3 Dichlorobenzene	ug/l	<1		1 00	1 00	1 00	21	0						< 1					< 1					< 1						< 1			
106 46 7	1,4 Dichlorobenzene	ug/l	<1	300	1 00	1 00	1 00	21	0	0%	0 00				< 1					< 1					< 1						< 1			
88 74 4	2 Nitroaniline	ug/l	<1		1 00	1 00	1 00	21	0						< 1					< 1					< 1						< 1			
121 14 2	2,4 Dinitrotoluene	ug/l	<0 5		0 50	0 50	0 50	21	0						< 0 5					< 0 5					< 0 5						< 0 5			
606 20 2	2,6 Dinitrotoluene	ug/l	<1		1 00	1 00	1 00	21	0						< 1					< 1					< 1						< 1			
99 09 2	3 Nitroaniline	ug/l	<1		1 00	1 00	1 00	21	0						< 1					< 1					< 1						< 1			
101 55 3	4 Bromophenylphenylether	ug/l	<1		1 00	1 00	1 00	21	0						< 1					< 1					< 1						< 1			
106 47 8	4 Chloroaniline	ug/l	<1		1 00	1 00	1 00	21	0						< 1					< 1					< 1						< 1			
7005 72 3	4 Chlorophenylphenylether	ug/l	<1		1 00	1 00	1 00	21	0						< 1					< 1					< 1						< 1			
100 01 6	4 Nitroaniline	ug/l	<0 5		0 50	0 50	0 50	21	0						< 0 5					< 0 5					< 0 5						< 0 5			
103 33 3	Azobenzene	ug/l	<0 5		0 50	0 50	0 50	21	0						< 0 5					< 0 5					< 0 5						< 0 5			
111 91 1	Bis(2 chloroethoxy)methane	ug/l	<0 5		0 50	0 50	0 50	21	0						< 0 5					< 0 5					< 0 5						< 0 5			
111 44 4	Bis(2 chloroethyl)ether	ug/l	<1		1 00	1 00	1 00	21	0						< 1					< 1					< 1						< 1			
86 74 8	Carbazole	ug/l	<0 5		0 50	0 50	0 50	21	0						< 0 5					< 0 5					< 0 5						< 0 5			
132 64 9	Dibenzofuran	ug/l	<0 5		0 50	0 50	0 50	21	0						< 0 5					< 0 5					< 0 5						< 0 5			
118 74 1	Hexachlorobenzene	ug/l	<1	0 01	1 00	1 00	1 00	21	0	0%	100 00				< 1					< 1					< 1						< 1			
87 68 3	Hexachlorobutadiene	ug/l	<1	0 1	1 00	1 00	1 00	21	0	0%	10 00				< 1					< 1					< 1						< 1			
77 47 4	Hexachlorocyclopentadiene	ug/l	<1		1 00	1 00	1 00	21	0						< 1					< 1					< 1						< 1			
67 72 1	Hexachloroethane	ug/l	<1		1 00	1 00	1 00	21	0						< 1					< 1					< 1						< 1			
78 59 1	Isophorone	ug/l	<0 5		0 50	0 50	0 50	21	0						< 0 5					< 0 5					< 0 5						< 0 5			
621 64 7	N nitrosodi n propylamine	ug/l	<0 5		0 50	0 50	0 50	21	0						< 0 5					< 0 5					< 0 5						< 0 5			
98 95 3	Nitrobenzene	ug/l	<1		1 00	1 00	1 00	21	0						< 1					< 1					< 1						< 1			
	Pesticides MS																																	
	Organochlorine Pesticides																																	
309 00 2	Aldrin	ug/l	<0 01	0 03	0 01	0 01	0 01	21	0	0%	0 33				< 0 01					< 0 01					< 0 01						< 0 01			
319 84 6	Alpha HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
319 85 7	Beta HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
1897 45 6	Chlorothalonil	ug/l	<0 01	0 1	0 01	0 01	0 01	21	0	0%	0 10				< 0 01					< 0 01					< 0 01						< 0 01			
5103 71 9	cis Chlordane	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
319 86 8	Delta HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
60 57 1	Dieldrin	ug/l	<0 01	0 03	0 01	0 01	0 01	21	0	0%	0 33				< 0 01					< 0 01					< 0 01						< 0 01			
959 98 8	Endosulphan I	ug/l	<0 01	0 005	0 01	0 01	0 01	21	0	0%	2 00				< 0 01					< 0 01					< 0 01						< 0 01			
33213 65 9	Endosulphan II	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			

Final City Waste Screening - Grounwater Wells

Report: Liquid
JE Job No: 15/6896
Client: WYG
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Location: Citywaste
Contact [redacted]

			Sample ID									BH104	BH104	BH104	BH106B	BH106B	BH106 DEEP	BH106b	BH106	BH107	BH107	BH107	BH107	BH107	BH108	BH108	BH108	BH108	BH108	BH108	BH111	BH111	BH111	BH111
			Depth																					5 00						1 7				6 0
			COC No / misc																															
			Containers									V P G	V H N P G	V H HN P G	V H P G		V P BOD G	V P G	V H HN P G	V P G		V P BOD G	V P G	V H HN P G	V P G	V P BOD G		V P G	V H N P G	V H HN P G	V P G		V H N P G	V H HN P G
			Sample Type									Ground Water	Ground Water	Ground Water	Liquid		Ground Water	Ground Water	Ground Water	Liquid		Ground Water	Ground Water	Ground Water	Liquid	Ground Water		Ground Water	Ground Water	Ground Water	Liquid		Ground Water	Ground Water
			Sampled Date									24/11/2015	08/03/2016	15/06/2016	29/04/2015		26/08/2015	24/11/2015	14/06/2016	28/04/2015		26/08/2015	24/11/2015	14/06/2016	28/04/2015	26/08/2015		24/11/2015	09/03/2016	14/06/2016	28/04/2015		09/03/2016	14/06/2016
			Sample Received Date									27/11/2015	11/03/2016	21/06/2016	02/05/2015	13/05/15	28/08/2015	27/11/2015	21/06/2016	02/05/2015	13/05/15	28/08/2015	27/11/2015	21/06/2016	02/05/2015	28/08/2015	13/05/15	27/11/2015	12/03/2016	16/06/2016	02/05/2015	13/05/15	12/03/2016	16/06/2016
			J E Sample No									17 21	17 24	31 36	122 127		25 29	22 27	13 18	46 50		30 34	28 33	7 12	36 40	35 39		34 39	208 214	19 24	11 15		187 193	37 42
			Batch Number									1	1	1	1		1	1	1	1		1	1	1	1	1		1	2	1	1		2	1
1031 07 8	Endosulphan sulphate	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
72 20 8	Endrin	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
58 89 9	Gamma HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
76 44 8	Heptachlor	ug/l	<0 01	0 03	0 01	0 01	0 01	21	0	0%	0 33				< 0 01					< 0 01					< 0 01						< 0 01			
1024 57 3	Heptachlor Epoxide	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
118 74 1	Hexachlorobenzene	ug/l	<0 01	0 01	0 02	0 01	0 01	21	3	14%	2 00				< 0 01					< 0 01					0 01						< 0 01			
465 73 6	Isodrin	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
3424 82 6	o,p' DDE	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
789 02 6	o,p' DDT	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
30667 99 3	o,p' Methoxychlor	ug/l	<0 01	20	0 01	0 01	0 01	21	0	0%	0 00				< 0 01					< 0 01					< 0 01						< 0 01			
53 19 0	o,p' TDE	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
72 55 9	p,p' DDE	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
50 29 3	p,p' DDT	ug/l	<0 01	0 01	0 01	0 01	0 01	21	0	0%	1 00				< 0 01					< 0 01					< 0 01						< 0 01			
72 43 5	p,p' Methoxychlor	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
72 54 8	p,p' TDE	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
40487 42 1	Pendimetha in	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
61949 76 6	Permethrin I	ug/l	<0 01	0 01	0 01	0 01	0 01	21	0	0%	1 00				< 0 01					< 0 01					< 0 01						< 0 01			
61949 77 7	Permethrin II	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
82 68 8	Quintozene (PCNB)	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
117 18 0	Tecnazene	ug/l	<0 01	1	0 01	0 01	0 01	21	0	0%	0 01				< 0 01					< 0 01					< 0 01						< 0 01			
297 78 9	Telodrin	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
5103 74 2	trans Chlordane	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
43121 43 3	Triadimefon	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
2303 17 5	Triallate	ug/l	<0 01	0 25	0 01	0 01	0 01	21	0	0%	0 04				< 0 01					< 0 01					< 0 01						< 0 01			
1582 09 8	Trifluralin	ug/l	<0 01	0 03	0 01	0 01	0 01	21	0	0%	0 33				< 0 01					< 0 01					< 0 01						< 0 01			
	Organophosphorus Pesticides																																	
2642 71 9	Azinphos ethyl	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
86 50 0	Azinphos methyl	ug/l	<0 01	0 01	0 01	0 01	0 01	21	0	0%	1 00				< 0 01					< 0 01					< 0 01						< 0 01			
786 19 6	Carbophenothion	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
470 90 6	Chlorfenvinphos	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
2921 88 2	Chlorpyr fos	ug/l	<0 01	0 03	0 01	0 01	0 01	21	0	0%	0 33				< 0 01					< 0 01					< 0 01						< 0 01			
5598 13 0	Chlorpyr fos methyl	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
333 41 5	Diazinon	ug/l	<0 01	0 01	0 01	0 01	0 01	21	0	0%	1 00				< 0 01					< 0 01					< 0 01						< 0 01			
62 73 7	Dichlorvos	ug/l	<0 01	0 001	0 01	0 01	0 01	21	0	0%	10 00				< 0 01					< 0 01					< 0 01						< 0 01			
298 04 4	Disulfoton	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
60 51 5	Dimethoate	ug/l	<0 01	0 48	0 01	0 01	0 01	21	0	0%	0 02				< 0 01					< 0 01					< 0 01						< 0 01			
563 12 2	Ethion	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
56 38 2	Ethyl Parathion (Parathion)	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
38260 54 7	Etrimphos	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
122 14 5	Fenitrothion	ug/l	<0 01	0 01	0 01	0 01	0 01	21	0	0%	1 00				< 0 01					< 0 01					< 0 01						< 0 01			
55 38 9	Fenthion	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
121 75 5	Malathion	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
298 00 0	Methyl Parathion	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
7786 34 7	Mevinphos	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
2310 17 0	Phosalone	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
29232 93 7	Pirimiphos Methyl	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
31218 83 4	Propetamphos	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
24017 47 8	Triazophos	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01					< 0 01					< 0 01						< 0 01			
06/05/3813	Benazolin	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
25057 89 0	Bentazone	ug/l	<0 1	500	0 10	0 10	0 10	21	0	0%	0 00				< 0 1					< 0 1					< 0 1						< 0 1			
1689 84 5	Bromoxynil	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
1702 17 6	Clopyralid	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
122 88 3	4 CPA	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
94 75 7	2,4 D	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
94 80 4	2,4 DB	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
1918 00 9	Dicamba	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
120 36 5	Dichloroprop	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
40843 25 2	Diclofop	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
93 72 1	Fenoprop	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
58667 63 3	Flamprop	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
52756 22 6	Flamprop isopropyl	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
1689 83 4	Ioxynil	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
94 74 6	MCPA	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
94 81 5	MCPB	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
7085 19 0	Mecoprop	ug/l	<0 1	18	0 10	0 10	0 10	21	0	0%	0 01				< 0 1					< 0 1					< 0 1						< 0 1			
01/02/1918	Picloram	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
87 86 5	Pentachlorophenol	ug/l	<0 1	0 4	0 10	0 10	0 10	21	0	0%	0 25				< 0 1					< 0 1					< 0 1						< 0 1			
93 76 5	2,4,5 T	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
50 31 7	2,3,6 TBA	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
55335 06 3	Triclopyr	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
1912 24 9	Atrazine	ug/l	<1	0 6	1 00	1 00	1 00	21	0	0%	1 67				< 1					< 1					< 1						< 1			
122 34 9	Simazine	ug/l	<1	1	1 00	1 00	1 00	21	0	0%	1 00				< 1					< 1					< 1						< 1			
32598 13 3	PCB 77	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
70362 50 4	PCB 81	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
32598 14 4	PCB 105	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
74472 37 0	PCB 114	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
31508 00 6	PCB 118	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
65510 44 3	PCB 123	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
57465 28 8	PCB 126	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
38380 08 4	PCB 156	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
69782 90 7	PCB 157	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
52663 72 6	PCB 167	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
32774 16 6	PCB 169	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
39635 31 9	PCB 189	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1					< 0 1					< 0 1						< 0 1			
	Total 12 PCBs	ug/l	<1 2		1 20	1 20	1 20	21	0						< 1 2					< 1 2					< 1 2						< 1 2			
16984 48 8	Fluoride	mg/l	<0 3	1 5	0 40	0 30	0 30	34	0	0%	0 27	0 3			< 0 3			< 0 3		< 0 3			< 0 3		< 0 3			< 0 3			< 0 3			
95 57 8	2 Chlorophenol	ug/l	<0 5	50	0 50	0 50	0 50	21	0	0%	0 01				< 0 5					< 0 5					< 0 5						< 0 5			
95 48 7	2 Methylphenol	ug/l	<0 5	100	1 40	0 50	0 54	21	0	0%	0 01				< 0 5					< 0 5					< 0 5						< 0 5			
88 75 5	2 Nitrophenol	ug/l	<0 5		0 50	0 50	0 50	21	0						< 0 5					< 0 5					< 0 5						< 0 5			

Final City Waste Screening - Grounwater Wells

Report: Liquid
JE Job No: 15/6896
Client: WYG
Client ref: Citywaste
Location: Citywaste
Contact [redacted]

				Sample ID	BH104	BH104	BH104	BH106B	BH106B	BH106 DEEP	BH106b
				Depth							
				COC No / misc							
				Containers	V P G	V H N P G	V H HN P G	V H P G		V P BOD G	V P G
				Sample Type	Ground Water	Ground Water	Ground Water	Liquid		Ground Water	Ground Water
				Sampled Date	24/11/2015	08/03/2016	15/06/2016	29/04/2015		26/08/2015	24/11/2015
				Sample Received Date	27/11/2015	11/03/2016	21/06/2016	02/05/2015	13/05/15	28/08/2015	27/11/2015
				J E Sample No	17 21	17 24	31 36	122 127		25 29	22 27
				Batch Number	1	1	1	1		1	1
120 83 2	2,4 Dichlorophenol	ug/l	<0 5	20	0 50	0 50	0 50	21	0	0%	0 03
105 67 9	2,4 Dimethylphenol	ug/l	<0 5	100	0 50	0 50	0 50	21	0	0%	0 01
95 95 4	2,4,5 Trichlorophenol	ug/l	<0 5		0 50	0 50	0 50	21	0		
88 06 2	2,4,6 Trichlorophenol	ug/l	<0 5	200	0 50	0 50	0 50	21	0	0%	0 00
59 50 7	4 Chloro 3 methylphenol	ug/l	<0 5	40	0 50	0 50	0 50	21	0	0%	0 01
106 44 5	4 Methylphenol	ug/l	<0 5	100	96 00	0 50	5 16	21	0	0%	0 96
100 02 7	4 Nitrophenol	ug/l	<0 5		0 50	0 50	0 50	21	0		
87 86 5	Pentachlorophenol	ug/l	<0 5	2	0 50	0 50	0 50	21	0	0%	0 25
108 95 2	Phenol	ug/l	<0 5	7 7	0 50	0 50	0 50	21	0	0%	0 06
	Total Speciated Phenols MS	ug/l	<6		97 00	6 00	10 33	21	0		
	Sulphate	mg/l	<0 05	250	279 44	0 65	37 96	72	1	1%	1 12
16887 00 6	Chloride	mg/l	<0 3	250	1993 80	16 60	154 23	72	7	10%	7 98
14797 55 8	Nitrate as NO3	mg/l	<0 2	25	84 40	0 20	6 17	72	7	10%	3 38
14797 65 0	Nitrite as NO2	mg/l	<0 02	0 1	1 12	0 02	0 07	72	8	11%	11 20
	Ortho Phosphate as P	mg/l	<0 03		0 15	0 03	0 04	46	0		
	Total Oxidised Nitrogen as N	mg/l	<0 2	1	19 10	0 20	1 49	72	21	29%	19 10
57 12 5	Total Cyanide	mg/l	<0 01	0 001	0 01	0 01	0 01	31	1	3%	10 00
	Ammoniacal Nitrogen as N	mg/l	<0 03	0 39	92 05	0 03	7 31	72	55	76%	236 70
	Ammoniacal Nitrogen as NH3	mg/l			111 92	0 03	12 92	38	0		
	Ammoniacal Nitrogen as NH4	mg/l		0 39	118 55	0 00	8 00	77	14	18%	303 97
64 19 7	Acetic Acid	mg/l	<1		10 00	10 00	10 00	31	0		
79 09 4	Propanoic Acid	mg/l	<1		5 00	1 00	1 23	31	0		
79 31 2 / 107 92 6	2 methyl propanoic acid / Butanoic acid	mg/l	<1		8 00	1 00	1 29	31	0		
503 74 2	3 methyl butanoic acid	mg/l	<0 5		1 00	0 50	0 52	31	0		
109 52 4	Pentanoic acid	mg/l	<0 5		2 40	0 50	0 57	31	0		
646 07 1	4 methyl pentanoic acid	mg/l	<0 5		0 50	0 50	0 50	31	0		
142 62 1	Hexanoic acid	mg/l	<0 5		2 80	0 50	0 59	31	0		
111 14 8	Heptanoic acid	mg/l	<0 5		0 50	0 50	0 50	31	0		
	Electrical Conductivity @25C	uS/cm	<2		6546 00	293 00	972 44	57	0		
	pH	pH un ts	<0 01		7 42	3 57	6 71	60	0		
	Total Organic Carbon	mg/l	<2		68 00	2 00	11 16	57	0		
	Total Cations	mmolc/l	<0 00		69 77	2 54	9 53	60	0		
	Total Anions	mmolc/l	<0 00		73 78	2 92	10 39	59	0		
	BOD (Settled) #				22 00	1 00	8 45	11	0		
	BOD (Settled) #				22 00	1 00	6 57	7	0		
	COD (Settled) #				148 00	7 00	40 56	18	0		
	Total Suspended Solids #				504 00	10 00	90 68	37	0		
	Dissolved Oxygen	%			8 00	1 00	4 50	26	0		

				Sample ID	BH107	BH107	BH107	BH107	BH107	BH108	BH108
				Depth					5 00		
				COC No / misc							
				Containers	V P G		V P BOD G	V P G	V H HN P G	V P G	V P BOD G
				Sample Type	Liquid		Ground Water	Ground Water	Ground Water	Liquid	Ground Water
				Sampled Date	28/04/2015		26/08/2015	24/11/2015	14/06/2016	28/04/2015	26/08/2015
				Sample Received Date	02/05/2015	13/05/15	28/08/2015	27/11/2015	21/06/2016	02/05/2015	28/08/2015
				J E Sample No	46 50		30 34	28 33	7 12	36 40	35 39
				Batch Number	1		1	1	1	1	1
120 83 2	2,4 Dichlorophenol	ug/l	<0 5	20	< 0 5					< 0 5	
105 67 9	2,4 Dimethylphenol	ug/l	<0 5	100	< 0 5					< 0 5	
95 95 4	2,4,5 Trichlorophenol	ug/l	<0 5		< 0 5					< 0 5	
88 06 2	2,4,6 Trichlorophenol	ug/l	<0 5	200	< 0 5					< 0 5	
59 50 7	4 Chloro 3 methylphenol	ug/l	<0 5	40	< 0 5					< 0 5	
106 44 5	4 Methylphenol	ug/l	<0 5	100	< 0 5					< 0 5	
100 02 7	4 Nitrophenol	ug/l	<0 5		< 0 5					< 0 5	
87 86 5	Pentachlorophenol	ug/l	<0 5	2	< 0 5					< 0 5	
108 95 2	Phenol	ug/l	<0 5	7 7	< 0 5					< 0 5	
	Total Speciated Phenols MS	ug/l	<6		< 6					< 6	
	Sulphate	mg/l	<0 05	250	4 38		4 73	3 36	25 42	20 31	12 04
16887 00 6	Chloride	mg/l	<0 3	250	224 7		343 8	365 8	629 8	33 4	32 9
14797 55 8	Nitrate as NO3	mg/l	<0 2	25	< 0 2	< 0 2	< 0 2	< 0 2	< 0 2	1 3	< 0 2
14797 65 0	Nitrite as NO2	mg/l	<0 02	0 1	< 0 02	< 0 02	< 0 02	< 0 02	< 0 02	< 0 02	< 0 02
	Ortho Phosphate as P	mg/l	<0 03		< 0 03			< 0 03	< 0 06	< 0 03	
	Total Oxidised Nitrogen as N	mg/l	<0 2	1	< 0 2	< 0 2	< 0 2	< 0 2	< 0 2	0 3	< 0 2
57 12 5	Total Cyanide	mg/l	<0 01	0 001	< 0 01		< 0 01			< 0 01	
	Ammoniacal Nitrogen as N	mg/l	<0 03	0 39	4 53		5 01	4 08	0 54	0 12	0 16
	Ammoniacal Nitrogen as NH3	mg/l					6 09		0 65		0 19
	Ammoniacal Nitrogen as NH4	mg/l		0 39	0 00 5 82		6 45		0 69	0 00 0 15	0 2
64 19 7	Acetic Acid	mg/l	<1		< 10			< 10		< 10	
79 09 4	Propanoic Acid	mg/l	<1		< 1			< 1		< 1	
79 31 2 / 107 92 6	2 methyl propanoic acid / Butanoic acid	mg/l	<1		< 1			< 1		< 1	
503 74 2	3 methyl butanoic acid	mg/l	<0 5		< 0 5			< 0 5		< 0 5	
109 52 4	Pentanoic acid	mg/l	<0 5		< 0 5			< 0 5		< 0 5	
646 07 1	4 methyl pentanoic acid	mg/l	<0 5		< 0 5			< 0 5		< 0 5	
142 62 1	Hexanoic acid	mg/l	<0 5		< 0 5			< 0 5		< 0 5	
111 14 8	Heptanoic acid	mg/l	<0 5		< 0 5			< 0 5		< 0 5	
	Electrical Conductivity @25C	uS/cm	<2		983		1161	1206		383	378
	pH	pH un ts	<0 01		6 2		5 43	3 57		7 42	6 93
	Total Organic Carbon	mg/l	<2		9		20	24		3	< 2
	Total Cations	mmolc/l	<0 00		6 9		8 81	9 1		4 32	3 47
	Total Anions	mmolc/l	<0 00		9 83		10 96			3 83	3 86
	BOD (Settled) #							22		< 1	
	BOD (Settled) #						22			< 1	
	COD (Settled) #						73	95		< 7	
	Total Suspended Solids #						67	376		17	
	Dissolved Oxygen	%					4			4	

				Sample ID	BH108	BH108	BH108	BH108	BH108	BH111	BH111
				Depth					1 7		
				COC No / misc							
				Containers	V P G			V P G	V H HN P G	V P G	
				Sample Type	Liquid			Ground Water	Ground Water	Liquid	
				Sampled Date	28/04/2015			24/11/2015	14/06/2016	28/04/2015	
				Sample Received Date	02/05/2015	13/05/15		27/11/2015	16/06/2016	02/05/2015	13/05/15
				J E Sample No	36 40			34 39	19 24	11 15	
				Batch Number	1			1	1	1	
120 83 2	2,4 Dichlorophenol	ug/l	<0 5	20	< 0 5					< 0 5	
105 67 9	2,4 Dimethylphenol	ug/l	<0 5	100	< 0 5					< 0 5	
95 95 4	2,4,5 Trichlorophenol	ug/l	<0 5		< 0 5					< 0 5	
88 06 2	2,4,6 Trichlorophenol	ug/l	<0 5	200	< 0 5					< 0 5	
59 50 7	4 Chloro 3 methylphenol	ug/l	<0 5	40	< 0 5					< 0 5	
106 44 5	4 Methylphenol	ug/l	<0 5	100	< 0 5					< 0 5	
100 02 7	4 Nitrophenol	ug/l	<0 5		< 0 5					< 0 5	
87 86 5	Pentachlorophenol	ug/l	<0 5	2	< 0 5					< 0 5	
108 95 2	Phenol	ug/l	<0 5	7 7	< 0 5					< 0 5	
	Total Speciated Phenols MS	ug/l	<6		< 6					< 6	
	Sulphate	mg/l	<0 05	250	20 31		12 04	10 99	17 39	12 66	20 78		22 94	27 9
16887 00 6	Chloride	mg/l	<0 3	250	33 4		32 9	32 6	29 1	28	27 3		22 3	16 6
14797 55 8	Nitrate as NO3	mg/l	<0 2	25	1 3	< 0 2		< 0 2	5 8	0 8	8 9		5 5	5 8
14797 65 0	Nitrite as NO2	mg/l	<0 02	0 1	< 0 02	< 0 02		0 03	0 06	0 31	< 0 02	<	0 02	< 0 02
	Ortho Phosphate as P	mg/l	<0 03		< 0 03			< 0 03	< 0 06	< 0 03	< 0 03			0 09
	Total Oxidised Nitrogen as N	mg/l	<0 2	1	0 3	< 0 2		< 0 2	1 3	0 3	2		1 2	1 3
57 12 5	Total Cyanide	mg/l	<0 01	0 001	< 0 01			< 0 01			< 0 01			
	Ammoniacal Nitrogen as N	mg/l	<0 03	0 39	0 12		0 16	0 07	0 18		0 05		0 06	
	Ammoniacal Nitrogen as NH3	mg/l					0 19		0 22				0 08	
	Ammoniacal Nitrogen as NH4	mg/l		0 39	0 00 0 15		0 2		0 23		0 00 0 06		0 08	
64 19 7	Acetic Acid	mg/l	<1		< 10			< 10			< 10			
79 09 4	Propanoic Acid	mg/l	<1		< 1			< 1			< 1			
79 31 2 / 107 92 6	2 methyl propanoic acid / Butanoic acid	mg/l	<1		< 1			< 1			< 1			
503 74 2	3 methyl butanoic acid	mg/l	<0 5		< 0 5			< 0 5			< 0 5			
109 52 4	Pentanoic acid	mg/l	<0 5		< 0 5			< 0 5			< 0 5			
646 07 1	4 methyl pentanoic acid	mg/l	<0 5		< 0 5			< 0 5			< 0 5			
142 62 1	Hexanoic acid	mg/l	<0 5		< 0 5			< 0 5			< 0 5			
111 14 8	Heptanoic acid	mg/l	<0 5		< 0 5			< 0 5			< 0 5			
	Electrical Conductivity @25C	uS/cm	<2		383		378	341	337		317		363	
	pH	pH un ts	<0 01		7 42		6 93	7 26	7 07		6 69		7 38	
	Total Organic Carbon	mg/l	<2		3	< 2		< 2	2		2		4	
	Total Cations	mmolc/l	<0 00		4 32		3 47	3 47	3 31		3 19		3 71	
	Total Anions	mmolc/l	<0 00		3 83		3 86	4 15	3 76		3 39		3 88	
	BOD (Settled) #							< 1						
	BOD (Settled) #					< 1								
	COD (Settled) #					< 7		9						
	Total Suspended Solids #					17		21	20			<	10	
	Dissolved Oxygen	%				4			7				8	

				Sample ID	BH111	BH111	BH111	BH111			
				Depth				6 0			
				COC No / misc							
				Containers			V H N P G	V H HN P G			
				Sample Type			Ground Water	Ground Water			
				Sampled Date			09/03/2016	14/06/2016			
				Sample Received Date			12/03/2016	16/06/2016			
				J E Sample No			208 214	37 42			
				Batch Number			2	1			
120 83 2	2,4 Dichlorophenol	ug/l	<0 5	20							
105 67 9	2,4 Dimethylphenol	ug/l	<0 5	100							
95 95 4	2,4,5 Trichlorophenol	ug/l	<0 5								
88 06 2	2,4,6 Trichlorophenol	ug/l	<0 5	200							
59 50 7	4 Chloro 3 methylphenol	ug/l	<0 5	40							
106 44 5	4 Methylphenol	ug/l	<0 5	100							
100 02 7	4 Nitrophenol	ug/l	<0 5								
87 86 5	Pentachlorophenol	ug/l	<0 5	2							
108 95 2	Phenol	ug/l	<0 5	7 7							
	Total Speciated Phenols MS	ug/l	<6								
	Sulphate	mg/l	<0 05	250							
16887 00 6	Chloride	mg/l	<0 3	250							
14797 55 8	Nitrate as NO3	mg/l	<0 2	25							
14797 65 0	Nitrite as NO2	mg/l	<0 02	0 1							
	Ortho Phosphate as P	mg/l	<0 03								
	Total Oxidised Nitrogen as N	mg/l	<0 2	1							
57 12 5	Total Cyanide	mg/l	<0 01	0 001							
	Ammoniacal Nitrogen as N	mg/l	<0 03	0 39							
	Ammoniacal Nitrogen as NH3	mg/l									
	Ammoniacal Nitrogen as NH4	mg/l		0 39							
64 19 7	Acetic Acid	mg/l	<1								
79 09 4	Propanoic Acid	mg/l	<1								
79 31 2 / 107 92 6	2 methyl propanoic acid / Butanoic acid	mg/l	<1								
503 74 2	3 methyl butanoic acid	mg/l	<0 5								
109 52 4	Pentanoic acid	mg/l	<0 5								
646 07 1	4 methyl pentanoic acid	mg/l	<0 5								
142 62 1	Hexanoic acid	mg/l	<0 5								
111 14 8	Heptanoic acid	mg/l	<0 5								
	Electrical Conductivity @25C	uS/cm	<2								
	pH	pH un ts	<0 01								
	Total Organic Carbon	mg/l	<2								
	Total Cations	mmolc/l	<0 00								
	Total Anions	mmolc/l	<0 00								
	BOD (Settled) #										
	BOD (Settled) #										
	COD (Settled) #										
	Total Suspended Solids #										
	Dissolved Oxygen	%									

EQS

1 The Water Framework Directive (Priority Substances and Classification) Regulations (Northern Ireland) 2011 Inland waters

2 Groundwater Drinking Water Protected Areas The River Basin Districts Typology, Standards and Groundwater threshold values (Water Framework Directive) (England and Wales) Directions 2010

3 Freshwater EQS (AA)

DWS

1 Counc l Directive on the quality of water intended for human consumption (Drinking Water Directive)

2 The Water Supply (Water Qua ity) Regulations (Northern Ireland) 2007 (as amended)

Final City Waste Screening - Grounwater Wells

Jones Environmental Laboratory

Report:	Liquid
JE Job No:	15/6896
Client:	WYG
Client ref:	Citywaste
Location:	Citywaste
Contact	[redacted]

CAS Number	Test	Units	LOD	EQS	MAX	MIN	MEAN	No. Samples	No. >EQS	% >EQS	Magnitude of exceedance
	Total Alkalinity as CaCO3	mg/l	<1		944 00	42 00	276 95	59	0		
	Metals										
7429 90 5	Dissolved Aluminium	ug/l	<20	150	133 50	1 50	22 46	46	0	0%	0 89
7440 38 2	Dissolved Arsenic	ug/l	<2 5	10	29 00	0 90	4 82	46	7	15%	2 90
7440 43 9	Dissolved Cadmium	ug/l	<0 5	0 08	2 70	0 03	0 47	72	11	15%	33 75
7440 47 3	Total Dissolved Chromium	ug/l	<1 5	4 7	6 70	0 20	1 51	72	1	1%	1 43
7440 50 8	Dissolved Copper	ug/l	<7	1	54 00	3 00	8 64	72	9	13%	54 00
7439 89 6	Total Dissolved Iron	ug/l	<20	200	133100 00	4 70	6895 70	72	26	36%	665 50
7439 92 1	Dissolved Lead	ug/l	<5	7 2	8 00	0 40	4 21	72	1	1%	1 11
7440 02 0	Dissolved Nickel	ug/l	<2	20	58 00	0 20	9 00	46	6	13%	2 90
7782 49 2	Dissolved Selenium	ug/l	<3	10	20 00	1 20	3 30	46	2	4%	2 00
7440 66 6	Dissolved Zinc	ug/l	<3	8	88 00	1 50	9 83	72	22	31%	11 00
7439 97 6	Mercury Dissolved by CVAF	ug/l	<0 01	0 05	0 07	0 01	0 02	46	5	11%	1 40
	PAH MS										
83 32 9	Acenaphthene	ug/l	<0 013		8 12	0 01	0 46	63	0		
208 96 8	Acenaphthylene	ug/l	<0 013		16 55	0 01	0 61	63	0		
120 12 7	Anthracene	ug/l	<0 013	0 1	0 09	0 01	0 02	63	0	0%	0 90
56 55 3	Benzo(a)anthracene	ug/l	<0 015		0 05	0 02	0 02	63	0		
50 32 8	Benzo(a)pyrene	ug/l	<0 016	0 01	0 04	0 02	0 02	63	1	2%	4 00
205 99 2	Benzo(b)fluoranthene	ug/l	<0 01	0 03	0 05	0 01	0 01	63	1	2%	1 67
191 24 2	Benzo(gh)perylene	ug/l	<0 011	0 002	0 02	0 01	0 01	63	1	2%	10 00
207 08 9	Benzo(k)fluoranthene	ug/l	<0 01	0 03	0 02	0 01	0 01	63	0	0%	0 67
218 01 9	Chrysene	ug/l	<0 011		0 06	0 01	0 01	63	0		
53 70 3	Dibenzo(ah)anthracene	ug/l	<0 01		0 01	0 01	0 01	63	0		
206 44 0	Fluoranthene	ug/l	<0 012	0 1	0 22	0 01	0 02	63	2	3%	2 20
86 73 7	Fluorene	ug/l	<0 014		0 63	0 01	0 06	63	0		
193 39 5	Indeno(123cd)pyrene	ug/l	<0 011	0 002	0 02	0 01	0 01	63	1	2%	10 00
91 20 3	Naphthalene	ug/l	<0 014	2 4	757 10	0 01	15 76	63	5	8%	315 46
85 01 8	Phenanthrene	ug/l	<0 011		0 47	0 01	0 04	63	0		
129 00 0	Pyrene	ug/l	<0 013		0 18	0 01	0 02	63	0		
	PAH 16 Total	ug/l	<0 195		782 35	0 20	17 00	63	0		
	PAH Surrogate % Recovery	%	<0		116 00	70 00	82 98	63	0		
	Benzo(bk)fluoranthene	ug/l	<0 018		0 07	0 02	0 02	63	0		
	TPH CWG										
	Aliphatics										
	>C5 C6	ug/l	<5		31 00	5 00	5 68	63	0		
	>C6 C8	ug/l	<5		750 00	5 00	20 97	63	0		
	>C8 C10	ug/l	<5		115 00	5 00	9 63	63	0		
	>C10 C12	ug/l	<5		5 00	5 00	5 00	63	0		
	>C12 C16	ug/l	<10		10 00	10 00	10 00	63	0		
	>C16 C21	ug/l	<10		10 00	10 00	10 00	63	0		
	>C21 C35	ug/l	<10		1130 00	10 00	40 32	63	0		
	Total aliphatics C5 35	ug/l	<10		1130 00	10 00	61 92	63	0		
	Aromatics										
	>C5 EC7	ug/l	<5		3428 00	5 00	73 27	63	0		
	>EC7 EC8	ug/l	<5		441 00	5 00	13 32	63	0		
	>EC8 EC10	ug/l	<5		539 00	5 00	15 89	63	0		
	>EC10 EC12	ug/l	<5		687 00	5 00	20 63	63	0		
	>EC12 EC16	ug/l	<10		110 00	10 00	12 54	63	0		
	>EC16 EC21	ug/l	<10		20 00	10 00	10 16	63	0		
	>EC21 EC35	ug/l	<10		260 00	10 00	14 76	63	0		
	Total aromatics C5 35	ug/l	<10		5125 00	10 00	121 46	63	0		
	Total aliphatics and aromatics(C5 35)	ug/l	<10	10	5990 00	10 00	174 81	63	9	14%	599 00
	BTEX/MTBE MS										
1634 04 4	Methyl Tertiary Butyl Ether	ug/l	<0 1	30	5 00	0 10	3 17	55	0	0%	0 17
71 43 2	Benzene	ug/l	<0 5	1	3428 00	0 50	81 77	55	5	9%	3428 00
108 88 3	Toluene	ug/l	<0 5	50	441 00	0 50	13 09	55	2	4%	8 82
100 41 4	Ethylbenzene	ug/l	<0 5	20	203 00	0 50	8 30	55	3	5%	10 15
	p/m Xylene	ug/l	<1	30	19 00	1 00	3 75	55	0	0%	0 63
95 47 6	o Xylene	ug/l	<0 5	30	317 00	0 50	9 90	55	2	4%	10 57
2037 26 5	Surrogate Recovery Toluene D8	%	<0		109 00	91 00	102 48	21	0		
460 00 4	Surrogate Recovery 4 Bromofluorobenzene	%	<0		109 00	90 00	102 48	21	0		
7440 70 2	Dissolved Calcium	mg/l	<0 2		774 60	26 50	114 32	73	0		
7439 95 4	Dissolved Magnesium	mg/l	<0 1		103 80	3 10	19 00	73	0		
7439 96 5	Dissolved Manganese	ug/l	<2	50	70290 00	2 00	9493 18	70	65	93%	1405 80
7723 14 0	Dissolved Phosphorus	ug/l	<5		202 50	4 00	27 18	44	0		
07/09/7440	Dissolved Potassium	mg/l	<0 1		62 40	1 20	10 83	73	0		
7440 23 5	Dissolved Sodium	mg/l	<0 1	200	604 40	10 70	67 34	73	4	5%	3 02
7723 14 0	Total Phosphorus	ug/l	<5		930 00	23 00	184 61	44	0		
	Total Phenols HPLC	mg/l	<0 1		0 10	0 10	0 10	26	0		
	VOC MS										
75 71 8	Dichlorodifluoromethane	ug/l	<2		2 00	2 00	2 00	21	0		
1634 04 4	Methyl Tertiary Butyl Ether	ug/l	<0 1		5 00	0 10	1 40	28	0		
74 87 3	Chloromethane	ug/l	<3		3 00	3 00	3 00	21	0		
75 01 4	Vinyl Chloride	ug/l	<0 1	0 5	0 10	0 10	0 10	21	0	0%	0 20
74 83 9	Bromomethane	ug/l	<1		1 00	1 00	1 00	21	0		
75 00 3	Chloroethane	ug/l	<3		3 00	3 00	3 00	21	0		
75 69 4	Trichlorofluoromethane	ug/l	<3		3 00	3 00	3 00	21	0		
75 35 4	1,1 Dichloroethene (1,1 DCE)	ug/l	<3		3 00	3 00	3 00	21	0		
75 09 2	Dichloromethane (DCM)	ug/l	<3	20	3 00	3 00	3 00	21	0	0%	0 15
156 60 5	trans 1 2 Dichloroethene	ug/l	<3		3 00	3 00	3 00	21	0		
75 34 3	1,1 Dichloroethane	ug/l	<3	3	3 00	3 00	3 00	21	0	0%	1 00
156 59 2	cis 1 2 Dichloroethene	ug/l	<3		3 00	3 00	3 00	21	0		
594 20 7	2,2 Dichloropropane	ug/l	<1		1 00	1 00	1 00	21	0		
74 97 5	Bromochloromethane	ug/l	<2		2 00	2 00	2 00	21	0		
67 66 3	Chloroform	ug/l	<2		2 00	2 00	2 00	21	0		
71 55 6	1,1,1 Trichloroethane	ug/l	<2	100	2 00	2 00	2 00	21	0	0%	0 02
563 58 6	1,1 Dichloropropene	ug/l	<3		3 00	3 00	3 00	21	0		
56 23 5	Carbon tetrachloride	ug/l	<2	12	2 00	2 00	2 00	21	0	0%	0 17
107 06 2	1,2 Dichloroethane	ug/l	<2		2 00	2 00	2 00	21	0		
71 43 2	Benzene	ug/l	<0 5	1	73 40	0 50	4 37	27	1	4%	73 40
79 01 6	Trichloroethene (TCE)	ug/l	<3		3 00	3 00	3 00	21	0		
78 87 5	1,2 Dichloropropane	ug/l	<2		2 00	2 00	2 00	21	0		
74 95 3	Dibromomethane	ug/l	<3		3 00	3 00	3 00	21	0		
75 27 4	Bromodichloromethane	ug/l	<2		2 00	2 00	2 00	21	0		
10061 01 5	cis 1 3 Dichloropropene	ug/l	<2		2 00	2 00	2 00	21	0		
108 88 3	Toluene	ug/l	<0 5	50	30 90	0 50	2 94	28	0	0%	0 62
10061 02 6	trans 1 3 Dichloropropene	ug/l	<2		2 00	2 00	2 00	21	0		
79 00 5	1,1,2 Trichloroethane	ug/l	<2	400	2 00	2 00	2 00	21	0	0%	0 01

Sample ID	BH112	BH112	BH112	BH112	BH113	BH113	BH113	BH114	BH114	BH114	BH114
Depth				1 0							
COC No / misc											
Containers	V P G		V H N P G	V H HN P G	V H P G	V H N P G	V H HN P G	V H P G		V H N P G	V H HN P G
Sample Type	Liquid		Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Liquid		Ground Water	Ground Water
Sampled Date	28/04/2015		09/03/2016	14/06/2016	03/06/2015	10/03/2016	23/06/2016	29/04/2015		07/03/2016	23/06/2016
Sample Received Date	02/05/2015	13/05/15	12/03/2016	16/06/2016	05/06/2015	11/03/2016	25/06/2016	02/05/2015	12/05/15	10/03/2016	25/06/2016
J E Sample No	21 25		201 207	13 18	1 8	8 14	79 84	101 107		41 48	73 78
Batch Number	1		2	1	1	1	2	1		1	2
Total Alkalinity as CaCO3	98		68			786		42		80	
Metals											
Dissolved Aluminium	38			2 7				< 20			< 1 5
Dissolved Arsenic	< 2 5			< 0 9				< 2 5			< 0 9
Dissolved Cadmium	< 0 5		< 0 5	< 0 03		< 0 5		< 0 5		< 0 5	< 0 03
Total Dissolved Chromium	< 1 5		< 1 5	0 6		< 1 5		< 1 5		< 1 5	0 4
Dissolved Copper	< 7		< 7	< 3		< 7		< 7		< 7	< 3
Total Dissolved Iron	< 20		< 20	11 4		54		272		< 20	41 9
Dissolved Lead	< 5		< 5	< 0 4		< 5		< 5		< 5	< 0 4
Dissolved Nickel	9			3				2			1
Dissolved Selenium	< 3			< 1 2				< 3			< 1 2
Dissolved Zinc	13		< 3	3 2		4		5		7	2 2
Mercury Dissolved by CVAF	< 0 01			< 0 01				0 05			< 0 01
PAH MS											
Acenaphthene	< 0 013		< 0 013		0 02	0 03		< 0 013		< 0 013	
Acenaphthylene	< 0 013		< 0 013		0 05	0 04		< 0 013		< 0 013	
Anthracene	< 0 013		< 0 013		< 0 013	< 0 013		< 0 013		< 0 013	
Benzo(a)anthracene	< 0 015		< 0 015		< 0 015	< 0 015		< 0 015		< 0 015	
Benzo(a)pyrene	< 0 016		< 0 016		< 0 016	< 0 016		< 0 016		< 0 016	
Benzo(b)fluoranthene	< 0 01		< 0 01		< 0 01	< 0 01		< 0 01		< 0 01	
Benzo(gh)perylene	< 0 011		< 0 011		< 0 011	< 0 011		< 0 011		< 0 011	
Benzo(k)fluoranthene	< 0 01		< 0 01		< 0 01	< 0 01		< 0 01		< 0 01	
Chrysene	< 0 011		< 0 011		< 0 011	< 0 011		< 0 011		< 0 011	
Dibenzo(ah)anthracene	< 0 01		< 0 01		< 0 01	< 0 01		< 0 01		< 0 01	
Fluoranthene	< 0 012		< 0 012		< 0 012	< 0 012		< 0 012		< 0 012	
Fluorene	< 0 014		< 0 014		< 0 014	< 0 014		< 0 014		< 0 014	
Indeno(123cd)pyrene	< 0 011		< 0 011		< 0 011	< 0 011		< 0 011		< 0 011	
Naphthalene	< 0 014		< 0 1		0 19	0 3		< 0 014		< 0 1	
Phenanthrene	< 0 011		< 0 011		< 0 011	< 0 011		< 0 011		< 0 011	
Pyrene	< 0 013		< 0 013		< 0 013	< 0 013		< 0 013		< 0 013	
PAH 16 Total	< 0 195		< 0 195		0 26	0 37		< 0 195		< 0 195	
PAH Surrogate % Recovery	104		71		75	81		100		72	
Benzo(bk)fluoranthene	< 0 018		< 0 018		< 0 018	< 0 018		< 0 018		< 0 018	
TPH CWG											
Aliphatics											
>C5 C6	< 5		< 5		< 5	< 5		< 5		< 5	
>C6 C8	< 5		< 5		< 5	< 5		< 5		< 5	
>C8 C10	< 5		< 5		< 5	< 5		< 5		< 5	
>C10 C12	< 5		< 5		< 5	< 5		< 5		< 5	
>C12 C16	< 10		< 10		< 10	< 10		< 10		< 10	
>C16 C21	< 10		< 10		< 10	< 10		< 10		< 10	
>C21 C35	< 10		< 10		< 10	< 10		< 10		< 10	
Total aliphatics C5 35	< 10		< 10		< 10	< 10		< 10		< 10	
Aromatics											
>C5 EC7	< 5		< 5		< 5	< 5		< 5		< 5	
>EC7 EC8	< 5		< 5		< 5	< 5		< 5		< 5	
>EC8 EC10	< 5		< 5		< 5	< 5		< 5		< 5	
>EC10 EC12	< 5		< 5		< 5	< 5		< 5		< 5	
>EC12 EC16	< 10		< 10		< 10	< 10		< 10		< 10	
>EC16 EC21	< 10		< 10		< 10	< 10		< 10		< 10	
>EC21 EC35	< 10		< 10		< 10	< 10		< 10		< 10	
Total aromatics C5 35	< 10		< 10		< 10	< 10		< 10		< 10	
Total aliphatics and aromatics(C5 35)	< 10		< 10		< 10	< 10		< 10		< 10	
BTEX/MTBE MS											
Methyl Tertiary Butyl Ether	< 0 1		< 5		2 3	< 5	< 5	< 0 1			
Benzene	< 0 5		< 5		1 4	< 5	< 5	< 0 5			
Toluene	< 0 5		< 5		< 0 5	< 5	< 5	< 0 5			
Ethylbenzene	< 0 5		< 5		< 0 5	< 5	< 5	< 0 5			
p/m Xylene	< 1		< 5		< 1	< 5	< 5	< 1			
o Xylene	< 0 5		< 5		< 0 5	< 5	< 5	< 0 5			
Surrogate Recovery Toluene D8	101				91			101			
Surrogate Recovery 4 Bromofluorobenzene	102				91			98			
Dissolved Calcium	45 1		29 1			128 7	215 8	34 5		35 9	33 1
Dissolved Magnesium	7 7		6 8			39 9	43 3	5 8		6 6	5 7
Dissolved Manganese	164		8			1742	1815	129		8	4 9
Dissolved Phosphorus	10						88 2	28			4
Dissolved Potassium	2		1 6			55 9	62 4	2 6		2 4	2 6
Dissolved Sodium	25 1		21 8			116 4	104	14 4		12 7	12 1
Total Phosphorus	38						727 6	930			38 9
Total Phenols HPLC			< 0 1			< 0 1				< 0 1	
VOC MS											
Dichlorodifluoromethane	< 2				< 2			< 2			
Methyl Tertiary Butyl Ether	< 0 1				2 3			< 0 1			
Chloromethane	< 3				< 3			< 3			
Vinyl Chloride	< 0 1				< 0 1			< 0 1			
Bromomethane	< 1				< 1			< 1			
Chloroethane	< 3				< 3			< 3			
Trichlorofluoromethane	< 3				< 3			< 3			
1,1 Dichloroethene (1,1 DCE)	< 3				< 3			< 3			
Dichloromethane (DCM)	< 3				< 3			< 3			
trans 1 2 Dichloroethene	< 3				< 3			< 3			
1,1 Dichloroethane	< 3				< 3			< 3			
cis 1 2 Dichloroethene	< 3				< 3			< 3			
2,2 Dichloropropane	< 1				< 1			< 1			
Bromochloromethane	< 2				< 2			< 2			
Chloroform	< 2				< 2			< 2			
1,1,1 Trichloroethane	< 2				< 2			< 2			
1,1 Dichloropropene	< 3				< 3			< 3			
Carbon tetrachloride	< 2				< 2			< 2			
1,2 Dichloroethane	< 2				< 2			< 2			
Benzene	< 0 5							< 0 5			
Trichloroethene (TCE)	< 3				< 3			< 3			
1,2 Dichloropropane	< 2				< 2			< 2			
Dibromomethane	< 3				< 3			< 3			
Bromodichloromethane	< 2				< 2			< 2			
cis 1 3 Dichloropropene	< 2				< 2			< 2			
Toluene	< 0 5				< 0 5			< 0 5			
trans 1 3 Dichloropropene	< 2				< 2			< 2			
1,1,2 Trichloroethane	< 2				< 2			< 2			

Sample ID	BH118	BH118	BH119	BH119	BH119	BH119	BH119	BH120	BH120	BH120	BH121
Depth											
COC No / misc											
Containers	V H P G	V H N P G	V H P G		V P G	V H N P G	V H HN P G	V H P G		V H N P G	V H P G
Sample Type	Ground Water	Ground Water	Ground Water		Ground Water	Ground Water	Ground Water	Ground Water		Ground Water	Liquid
Sampled Date	30/04/2015	10/03/2016	30/04/2015		25/11/2015	08/03/2016	22/06/2016	30/04/2015		08/03/2016	29/04/2015
Sample Received Date	06/05/2015	11/03/2016	06/05/2015	13/05/15	27/11/2015	11/03/2016	25/06/2016	06/05/2015	13/05/15	11/03/2016	02/05/2015
J E Sample No	156 162	22 28	198 204		50 54	166 172	223 228	205 211		114 120	58 64
Batch Number	2	1	2		1	1	6	2		1	1
Total Alkalinity as CaCO3	158	130	692		124	730		90		78	114
Metals											
Dissolved Aluminium	< 20		< 20		32		47 4	< 20			< 20
Dissolved Arsenic	5 7		15 1		< 2 5		15	< 2 5			< 2 5
Dissolved Cadmium	< 0 5	< 0 5	< 0 5		2 7	< 0 5	< 0 03	0 5		< 0 5	< 0 5
Total Dissolved Chromium	< 1 5	< 1 5	< 1 5		< 1 5	1 9	4 2	< 1 5		< 1 5	< 1 5
Dissolved Copper	< 7	< 7	< 7		21	< 7	23	< 7		< 7	< 7
Total Dissolved Iron	< 20	46	659		1551	22	45460	< 20		< 20	2351
Dissolved Lead	< 5	< 5	7		< 5	< 5	< 0 4	< 5		< 5	< 5
Dissolved Nickel	2		19		7		23 4	7			28
Dissolved Selenium	< 3		< 3		< 3		< 1 2	< 3			< 3
Dissolved Zinc	6	4	12		28	6	7 9	88		20	31
Mercury Dissolved by CVAF	< 0 01		0 06		0 06		< 0 01	< 0 01			< 0 01
PAH MS											
Acenaphthene	< 0 013	< 0 013	1 24		0 66	1 41	2 76	< 0 013		< 0 013	< 0 013
Acenaphthylene	< 0 013	< 0 013	0 09		0 02	0 07	0 09	< 0 013		< 0 013	< 0 013
Anthracene	< 0 013	< 0 013	< 0 013		< 0 013	< 0 013	< 0 013	< 0 013		< 0 013	< 0 013
Benzo(a)anthracene	< 0 015	< 0 015	< 0 015		< 0 015	< 0 015	< 0 015	< 0 015		< 0 015	< 0 015
Benzo(a)pyrene	< 0 016	< 0 016	< 0 016		< 0 016	< 0 016	< 0 016	< 0 016		< 0 016	< 0 016
Benzo(b)fluoranthene	< 0 01	< 0 01	< 0 01		< 0 01	< 0 01	< 0 01	< 0 01		< 0 01	< 0 01
Benzo(gh)perylene	< 0 011	< 0 011	< 0 011		< 0 011	< 0 011	< 0 011	< 0 011		< 0 011	< 0 011
Benzo(k)fluoranthene	< 0 01	< 0 01	< 0 01		< 0 01	< 0 01	< 0 01	< 0 01		< 0 01	< 0 01
Chrysene	< 0 011	< 0 011	< 0 011		< 0 011	< 0 011	< 0 011	< 0 011		< 0 011	< 0 011
Dibenzo(ah)anthracene	< 0 01	< 0 01	< 0 01		< 0 01	< 0 01	< 0 01	< 0 01		< 0 01	< 0 01
Fluoranthene	< 0 012	< 0 012	< 0 012		< 0 012	< 0 012	< 0 012	< 0 012		< 0 012	< 0 012
Fluorene	< 0 014	< 0 014	0 11		0 09	0 25	0 63	< 0 014		< 0 014	< 0 014
Indeno(123cd)pyrene	< 0 011	< 0 011	< 0 011		< 0 011	< 0 011	< 0 011	< 0 011		< 0 011	< 0 011
Naphthalene	< 0 014	< 0 1	2 19		0 2	1 5	1 6	< 0 014		< 0 1	0 05
Phenanthrene	< 0 011	< 0 011	0 02		< 0 011	0 02	0 05	< 0 011		< 0 011	< 0 011
Pyrene	< 0 013	< 0 013	0 02		< 0 013	0 03	0 02	< 0 013		< 0 013	< 0 013
PAH 16 Total	< 0 195	< 0 195	3 67		0 97	3 28	5 15	< 0 195		< 0 195	< 0 195
PAH Surrogate % Recovery	109	73	116		76	89	73	101		71	101
Benzo(bk)fluoranthene	< 0 018	< 0 018	< 0 018		< 0 018	< 0 018	< 0 018	< 0 018		< 0 018	< 0 018
TPH CWG											
Aliphatics											
>C5 C6	< 5	< 5	< 5		< 5	< 5	< 5	< 5		< 5	< 5
>C6 C8	< 5	< 5	24		< 5	< 5	< 5	< 5		< 5	< 5
>C8 C10	< 5	< 5	< 5		< 5	17	< 5	< 5		< 5	< 5
>C10 C12	< 5	< 5	< 5		< 5	< 5	< 5	< 5		< 5	< 5
>C12 C16	< 10	< 10	< 10		< 10	< 10	< 10	< 10		< 10	< 10
>C16 C21	< 10	< 10	< 10		< 10	< 10	< 10	< 10		< 10	< 10
>C21 C35	< 10	< 10	700		< 10	< 10	< 10	< 10		< 10	< 10
Total aliphatics C5 35	< 10	< 10	724		< 10	17	< 10	< 10		< 10	< 10
Aromatics											
>C5 EC7	< 5	< 5	< 5		< 5	< 5	< 5	< 5		< 5	< 5
>EC7 EC8	< 5	< 5	26		< 5	< 5	< 5	< 5		< 5	< 5
>EC8 EC10	< 5	< 5	< 5		< 5	10	< 5	< 5		< 5	< 5
>EC10 EC12	< 5	< 5	< 5		< 5	< 5	< 5	< 5		< 5	< 5
>EC12 EC16	< 10	< 10	< 10		< 10	< 10	< 10	< 10		< 10	< 10
>EC16 EC21	< 10	< 10	< 10		< 10	< 10	< 10	< 10		< 10	< 10
>EC21 EC35	< 10	< 10	< 10		< 10	< 10	< 10	< 10		< 10	< 10
Total aromatics C5 35	< 10	< 10	26		< 10	10	< 10	< 10		< 10	< 10
Total aliphatics and aromatics(C5 35)	< 10	< 10	750		< 10	27	< 10	< 10		< 10	< 10
BTEX/MTBE MS											
Methyl Tertiary Butyl Ether	< 0 1	< 5	< 0 1		< 5	< 5	< 5	< 0 1		< 5	< 0 1
Benzene	< 0 5	< 5	< 0 5		< 5	< 5	< 5	< 0 5		< 5	< 0 5
Toluene	< 0 5	< 5	30 9		< 5	< 5	< 5	< 0 5		< 5	< 0 5
Ethylbenzene	< 0 5	< 5	1 6		< 5	6	< 5	< 0 5		< 5	< 0 5
p/m Xylene	< 1	< 5	< 1		< 5	< 5	< 5	< 1		< 5	< 1
o Xylene	< 0 5	< 5	< 0 5		< 5	< 5	< 5	< 0 5		< 5	< 0 5
Surrogate Recovery Toluene D8	107		107					105			101
Surrogate Recovery 4 Bromofluorobenzene	102		108					104			101
Dissolved Calcium	59	49 3	171 1		26 5	110 6	123 3	42 9		50 2	44 7
Dissolved Magnesium	9 6	8 1	32 8		5 6	31 6	32 1	11 7		12 2	7 6
Dissolved Manganese	3963	1256	30590		5431	26050	27840	1047		251	2780
Dissolved Phosphorus	< 5		24		15		161	9			8
Dissolved Potassium	7 5	8 5	9 6		6 7	28 8	43 5	3 5		5 2	5 9
Dissolved Sodium	33	20 1	88 8		13 5	106 7	108 6	13 6		10 7	17
Total Phosphorus	34		100		129		178 1	39			105
Total Phenols HPLC		< 0 1				< 0 1				< 0 1	
VOC MS											
Dichlorodifluoromethane	< 2		< 2					< 2			< 2
Methyl Tertiary Butyl Ether	< 0 1		< 0 1					< 0 1			< 0 1
Chloromethane	< 3		< 3					< 3			< 3
Vinyl Chloride	< 0 1		< 0 1					< 0 1			< 0 1
Bromomethane	< 1		< 1					< 1			< 1
Chloroethane	< 3		< 3					< 3			< 3
Trichlorofluoromethane	< 3		< 3					< 3			< 3
1,1 Dichloroethene (1,1 DCE)	< 3		< 3					< 3			< 3
Dichloromethane (DCM)	< 3		< 3					< 3			< 3
trans 1 2 Dichloroethene	< 3		< 3					< 3			< 3
1,1 Dichloroethane	< 3		< 3					< 3			< 3
cis 1 2 Dichloroethene	< 3		< 3					< 3			< 3
2,2 Dichloropropane	< 1		< 1					< 1			< 1
Bromochloromethane	< 2		< 2					< 2			< 2
Chloroform	< 2		< 2					< 2			< 2
1,1,1 Trichloroethane	< 2		< 2					< 2			< 2
1,1 Dichloropropene	< 3		< 3					< 3			< 3
Carbon tetrachloride	< 2		< 2					< 2			< 2
1,2 Dichloroethane	< 2		< 2					< 2			< 2
Benzene	< 0 5		< 0 5					< 0 5			< 0 5
Trichloroethene (TCE)	< 3		< 3					< 3			< 3
1,2 Dichloropropane	< 2		< 2					< 2			< 2
Dibromomethane	< 3		< 3					< 3			< 3
Bromodichloromethane	< 2		< 2					< 2			< 2
cis 1 3 Dichloropropene	< 2		< 2					< 2			< 2
Toluene	< 0 5		30 9					< 0 5			< 0 5
trans 1 3 Dichloropropene	< 2		< 2					< 2			< 2
1,1,2 Trichloroethane	< 2		< 2					< 2			< 2

Final City Waste Screening - Grounwater Wells

Report: Liquid
JE Job No: 15/6896
Client: WYG
Client ref: Citywaste
Location: Citywaste
Contact [redacted]

	Sample ID											BH112	BH112	BH112	BH112	BH113	BH113	BH113	BH114	BH114	BH114	BH114	BH118	BH118	BH119	BH119	BH119	BH119	BH119	BH120	BH120	BH120	BH121
	Depth														1 0																		
	COC No / misc																																
	Containers											V P G		V H N P G	V H HN P G	V H P G	V H N P G	V H HN P G	V H P G		V H N P G	V H HN P G	V H P G	V H N P G	V H P G		V P G	V H N P G	V H HN P G	V H P G		V H N P G	V H P G
	Sample Type											Liquid		Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Liquid		Ground Water	Ground Water	Ground Water	Ground Water	Ground Water		Ground Water	Ground Water	Ground Water	Ground Water		Ground Water	Liquid
	Sampled Date											28/04/2015		09/03/2016	14/06/2016	03/06/2015	10/03/2016	23/06/2016	29/04/2015		07/03/2016	23/06/2016	30/04/2015	10/03/2016	30/04/2015		25/11/2015	08/03/2016	22/06/2016	30/04/2015		08/03/2016	29/04/2015
	Sample Received Date											02/05/2015	13/05/15	12/03/2016	16/06/2016	05/06/2015	11/03/2016	25/06/2016	02/05/2015	12/05/15	10/03/2016	25/06/2016	06/05/2015	11/03/2016	06/05/2015	13/05/15	27/11/2015	11/03/2016	25/06/2016	06/05/2015	13/05/15	11/03/2016	02/05/2015
	J E Sample No											21 25		201 207	13 18	1 8	8 14	79 84	101 107		41 48	73 78	156 162	22 28	198 204		50 54	166 172	223 228	205 211		114 120	58 64
	Batch Number											1		2	1	1	1	2	1		1	2	2	1	2		1	1	6	2		1	1
127 18 4	Tetrachloroethene (PCE)	ug/l	<3	10	3 00	3 00	3 00	21	0	0%	0 30	< 3				< 3			< 3				< 3		< 3					< 3			< 3
142 28 9	1,3 Dichloropropane	ug/l	<2		2 00	2 00	2 00	21	0			< 2				< 2			< 2				< 2		< 2					< 2			< 2
124 48 1	Dibromochloromethane	ug/l	<2		2 00	2 00	2 00	21	0			< 2				< 2			< 2				< 2		< 2					< 2			< 2
106 93 4	1,2 Dibromoethane	ug/l	<2		2 00	2 00	2 00	21	0			< 2				< 2			< 2				< 2		< 2					< 2			< 2
108 90 7	Chlorobenzene	ug/l	<2		2 00	2 00	2 00	21	0			< 2				< 2			< 2				< 2		< 2					< 2			< 2
630 20 6	1,1,1,2 Tetrachloroethane	ug/l	<2		2 00	2 00	2 00	21	0			< 2				< 2			< 2				< 2		< 2					< 2			< 2
100 41 4	Ethylbenzene	ug/l	<0 5	20	5 00	0 50	1 80	28	0	0%	0 25	< 0 5				< 0 5			< 0 5				< 0 5		1 6					< 0 5			< 0 5
	p/m Xylene	ug/l	<1	30	5 00	1 00	2 00	28	0	0%	0 17	< 1				< 1			< 1				< 1		< 1					< 1			< 1
95 47 6	o Xylene	ug/l	<0 5	30	5 00	0 50	1 65	28	0	0%	0 17	< 0 5				< 0 5			< 0 5				< 0 5		< 0 5					< 0 5			< 0 5
100 42 5	Styrene	ug/l	<2	50	2 00	2 00	2 00	21	0	0%	0 04	< 2				< 2			< 2				< 2		< 2					< 2			< 2
75 25 2	Bromoform	ug/l	<2	100	2 00	2 00	2 00	21	0	0%	0 02	< 2				< 2			< 2				< 2		< 2					< 2			< 2
98 82 8	Isopropylbenzene	ug/l	<3		3 00	3 00	3 00	21	0			< 3				< 3			< 3				< 3		< 3					< 3			< 3
79 34 5	1,1,2,2 Tetrachloroethane	ug/l	<4		4 00	4 00	4 00	21	0			< 4				< 4			< 4				< 4		< 4					< 4			< 4
108 86 1	Bromobenzene	ug/l	<2		2 00	2 00	2 00	21	0			< 2				< 2			< 2				< 2		< 2					< 2			< 2
96 18 4	1,2,3 Trichloropropane	ug/l	<3		3 00	3 00	3 00	21	0			< 3				< 3			< 3				< 3		< 3					< 3			< 3
103 65 1	Propylbenzene	ug/l	<3		3 00	3 00	3 00	21	0			< 3				< 3			< 3				< 3		< 3					< 3			< 3
95 49 8	2 Chlorotoluene	ug/l	<3		3 00	3 00	3 00	21	0			< 3				< 3			< 3				< 3		< 3					< 3			< 3
108 67 8	1,3,5 Trimethylbenzene	ug/l	<3		3 00	3 00	3 00	21	0			< 3				< 3			< 3				< 3		< 3					< 3			< 3
106 43 4	4 Chlorotoluene	ug/l	<3		3 00	3 00	3 00	21	0			< 3				< 3			< 3				< 3		< 3					< 3			< 3
98 06 6	tert Buty benzene	ug/l	<3		3 00	3 00	3 00	21	0			< 3				< 3			< 3				< 3		< 3					< 3			< 3
95 63 6	1,2,4 Trimethylbenzene	ug/l	<3		3 00	3 00	3 00	21	0			< 3				< 3			< 3				< 3		< 3					< 3			< 3
135 98 8	sec Butylbenzene	ug/l	<3		3 00	3 00	3 00	21	0			< 3				< 3			< 3				< 3		< 3					< 3			< 3
99 87 6	4 Isopropyltoluene	ug/l	<3		3 00	3 00	3 00	21	0			< 3				< 3			< 3				< 3		< 3					< 3			< 3
541 73 1	1,3 Dichlorobenzene	ug/l	<3		3 00	3 00	3 00	21	0			< 3				< 3			< 3				< 3		< 3					< 3			< 3
106 46 7	1,4 Dichlorobenzene	ug/l	<3		3 00	3 00	3 00	21	0			< 3				< 3			< 3				< 3		< 3					< 3			< 3
104 51 8	n Butylbenzene	ug/l	<3		3 00	3 00	3 00	21	0			< 3				< 3			< 3				< 3		< 3					< 3			< 3
95 50 1	1,2 Dichlorobenzene	ug/l	<3	1000	3 00	3 00	3 00	21	0	0%	0 00	< 3				< 3			< 3				< 3		< 3					< 3			< 3
96 12 8	1,2 Dibromo 3 chloropropane	ug/l	<2		2 00	2 00	2 00	21	0			< 2				< 2			< 2				< 2		< 2					< 2			< 2
120 82 1	1,2,4 Trichlorobenzene	ug/l	<3	0 4	3 00	3 00	3 00	21	0	0%	7 50	< 3				< 3			< 3				< 3		< 3					< 3			< 3
87 68 3	Hexachlorobutadiene	ug/l	<3	0 1	3 00	3 00	3 00	21	0	0%	30 00	< 3				< 3			< 3				< 3		< 3					< 3			< 3
87 61 6	1,2,3 Trichlorobenzene	ug/l	<3		3 00	3 00	3 00	21	0			< 3				< 3			< 3				< 3		< 3					< 3			< 3
2037 26 5	Surrogate Recovery Toluene D8	%	<0		109 00	91 00	102 48	21	0			101				91			101				107		107					105			101
460 00 4	Surrogate Recovery 4 Bromofluorobenzene	%	<0		109 00	90 00	102 48	21	0			102				91			98				102		108					104			101
	SVOC MS																																
	Phenols																																
95 57 8	2 Chlorophenol	ug/l	<1	50	1 00	1 00	1 00	21	0	0%	0 02	< 1				< 1			< 1				< 1		< 1					< 1			< 1
95 48 7	2 Methylphenol	ug/l	<0 5	100	1 50	0 50	0 55	21	0	0%	0 02	< 0 5				< 0 5			< 0 5				< 0 5		1 5					< 0 5			< 0 5
88 75 5	2 Nitrophenol	ug/l	<0 5		0 50	0 50	0 50	21	0			< 0 5				< 0 5			< 0 5				< 0 5		< 0 5					< 0 5			< 0 5
120 83 2	2,4 Dichlorophenol	ug/l	<0 5	20	0 50	0 50	0 50	21	0	0%	0 03	< 0 5				< 0 5			< 0 5				< 0 5		< 0 5					< 0 5			< 0 5
105 67 9	2,4 Dimethylphenol	ug/l	<1	100	1 00	1 00	1 00	21	0	0%	0 01	< 1				< 1			< 1				< 1		< 1					< 1			< 1
95 95 4	2,4,5 Trichlorophenol	ug/l	<0 5		0 50	0 50	0 50	21	0			< 0 5				< 0 5			< 0 5				< 0 5		< 0 5					< 0 5			< 0 5
88 06 2	2,4,6 Trichlorophenol	ug/l	<1	200	1 00	1 00	1 00	21	0	0%	0 01	< 1				< 1			< 1				< 1		< 1					< 1			< 1
59 50 7	4 Chloro 3 methylphenol	ug/l	<0 5	40	0 50	0 50	0 50	21	0	0%	0 01	< 0 5				< 0 5			< 0 5				< 0 5		< 0 5					< 0 5			< 0 5
106 44 5	4 Methylphenol	ug/l	<1	100	68 00	1 00	4 19	21	0	0%	0 68	< 1				< 1			< 1				< 1		68					< 1			< 1
100 02 7	4 Nitrophenol	ug/l	<10		10 00	10 00	10 00	21	0			< 10				< 10			< 10				< 10		< 10					< 10			< 10
87 86 5	Pentachlorophenol	ug/l	<1	2	1 00	1 00	1 00	21	0	0%	0 50	< 1				< 1			< 1				< 1		< 1					< 1			< 1
108 95 2	Phenol	ug/l	<1	7 7	4 00	1 00	1 14	21	0	0%	0 52	< 1				< 1			< 1				< 1		4					< 1			< 1
	PAHs																																
91 58 7	2 Chloronaphthalene	ug/l	<1		1 00	1 00	1 00	21	0			< 1				< 1			< 1				< 1		< 1					< 1			< 1
91 57 6	2 Methylnaphthalene	ug/l	<1		3 00	1 00	1 10	21	0			< 1				< 1			< 1				< 1		< 1					< 1			< 1
	Phthalates																																
117 81 7	Bis(2 ethy hexyl) phthalate	ug/l	<5	8	5 00	5 00	5 00	21	0	0%	0 63	< 5				< 5			< 5				< 5		< 5					< 5			< 5
85 68 7	Butylbenzyl phthalate	ug/l	<1		1 00	1 00	1 00	21	0			< 1				< 1			< 1				< 1		< 1					< 1			< 1
84 74 2	Di n butyl phthalate	ug/l	<1 5		1 50	1 50	1 50	21	0			< 1 5				< 1 5			< 1 5				< 1 5		< 1 5					< 1 5			< 1 5
117 84 0	Di n Octyl phthalate	ug/l	<1		1 00	1 00	1 00	21	0			< 1				< 1			< 1				< 1		< 1					< 1			< 1
84 66 2	Diethyl phthalate	ug/l	<1	200	1 00	1 00	1 00	21	0	0%	0 01	< 1				< 1			< 1				< 1		< 1					< 1			< 1
131 11 3	Dimethyl phthalate	ug/l	<1	800	1 00	1 00	1 00	21	0	0%	0 00	< 1				< 1			< 1				< 1		< 1					< 1			< 1
	Other SVOCs																																
95 50 1	1,2 Dichlorobenzene	ug/l	<1	1000	1 00	1 00	1 00	21	0	0%	0 00	< 1				< 1			< 1				< 1		< 1					< 1			< 1
120 82 1	1,2,4 Trichlorobenzene	ug/l	<1	0 4	1 00	1 00	1 00	21	0	0%	2 50	< 1				< 1			< 1				< 1		< 1					< 1			< 1
541 73 1	1,3 Dichlorobenzene	ug/l	<1		1 00	1 00	1 00	21	0			< 1				< 1			< 1				< 1		< 1					< 1			< 1
106 46 7	1,4 Dichlorobenzene	ug/l	<1	300	1 00	1 00	1 00	21	0	0%	0 00	< 1				< 1			< 1				< 1		< 1					< 1			< 1
88 74 4	2 Nitroaniline	ug/l	<1		1 00	1 00	1 00	21	0			< 1				< 1			< 1				< 1		< 1					< 1			< 1
121 14 2	2,4 Dinitrotoluene	ug/l	<0 5		0 50	0 50	0 50	21	0			< 0 5				< 0 5			< 0 5				< 0 5		< 0 5					< 0 5			< 0 5
606 20 2	2,6 Dinitrotoluene	ug/l	<1		1 00	1 00	1 00	21	0			< 1				< 1			< 1				< 1		< 1					< 1			< 1
99 09 2	3 Nitroaniline	ug/l	<1		1 00	1 00	1 00	21	0			< 1				< 1			< 1				< 1		< 1					< 1			< 1
101 55 3	4 Bromophenylphenylether	ug/l	<1		1 00	1 00	1 00	21	0			< 1				< 1			< 1				< 1		< 1					< 1			< 1
106 47 8	4 Chloroaniline	ug/l	<1		1 00	1 00	1 00	21	0			< 1				< 1			< 1				< 1		< 1					< 1			< 1
7005 72 3	4 Chlorophenylphenylether	ug/l	<1		1 00	1 00	1 00	21	0			< 1				< 1			< 1				< 1		< 1					< 1			< 1
100 01 6	4 Nitroaniline	ug/l	<0 5		0 50	0 50	0 50	21	0			< 0 5				< 0 5			< 0 5				< 0 5		< 0 5					< 0 5			< 0 5
103 33 3	Azobenzene	ug/l	<0 5		0 50	0 50	0 50	21	0			< 0 5				< 0 5			< 0 5				< 0 5		< 0 5					< 0 5			< 0 5
111 91 1	Bis(2 chloroethoxy)methane	ug/l	<0 5		0 50	0 50	0 50	21	0			< 0 5				< 0 5			< 0 5				< 0 5		< 0 5					< 0 5			< 0 5
111 44 4	Bis(2 chloroethyl)ether	ug/l	<1		1 00	1 00	1 00	21	0			< 1				< 1			< 1				< 1		< 1					< 1			< 1
86 74 8	Carbazole	ug/l	<0 5		0 50	0 50	0 50	21	0			< 0 5				< 0 5			< 0 5				< 0 5		< 0 5					< 0 5			< 0 5
132 64 9	Dibenzofuran	ug/l	<0 5		0 50	0 50	0 50	21	0			< 0 5				< 0 5			< 0 5				< 0 5		< 0 5					< 0 5			< 0 5
118 74 1	Hexachlorobenzene	ug/l	<1	0 01	1 00	1 00	1 00	21	0	0%	100 00	< 1				< 1			< 1				< 1		< 1					< 1			< 1
87 68 3	Hexachlorobutadiene	ug/l	<1	0 1	1 00	1 00	1 00	21	0	0%	10 00	< 1				< 1			< 1				< 1		< 1					< 1			< 1
77 47 4	Hexachlorocyclopentadiene	ug/l	<1		1 00	1 00	1 00	21	0			< 1				< 1			< 1				< 1		< 1					< 1			< 1
67 72 1	Hexachloroethane	ug/l	<1		1 00	1 00	1 00	21	0			< 1				< 1			< 1				< 1		< 1					< 1			< 1
78 59 1	Isophorone	ug/l	<0 5		0 50	0 50	0 50	21	0			< 0 5				< 0 5			< 0 5				< 0 5		< 0 5					< 0 5			< 0 5
621 64 7	N nitrosodi n propylamine	ug/l	<0 5		0 50	0 50	0 50	21	0			< 0 5				< 0 5			< 0 5				< 0 5		< 0 5					< 0 5			< 0 5
98 95 3	Nitrobenzene	ug/l	<1		1 00	1 00	1 00	21	0			< 1				< 1			< 1				< 1		< 1					< 1			< 1
	Pesticides MS																																
	Organochlorine Pesticides																																
309 00 2	Aldrin	ug/l	<0 01	0 03	0 01	0 01	0 01	21	0	0%	0 33	< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
319 84 6	Alpha HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
319 85 7	Beta HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
1897 45 6	Chlorothalonil	ug/l	<0 01	0 1	0 01	0 01	0 01	21	0	0%	0 10	< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
5103 71 9	cis Chlordane	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
319 86 8	Delta HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
60 57 1	Dieldrin	ug/l	<0 01	0 03	0 01	0 01	0 01	21	0	0%	0 33	< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
959 98 8	Endosulphan I	ug/l	<0 01	0 005	0 01	0 01	0 01	21	0	0%	2 00	< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
33213 65 9	Endosulphan II	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01

Final City Waste Screening - Grounwater Wells

Report: Liquid
JE Job No: 15/6896
Client: WYG
Client ref: Citywaste
Location: Citywaste
Contact [redacted]

			Sample ID									BH112	BH112	BH112	BH112	BH113	BH113	BH113	BH114	BH114	BH114	BH114	BH118	BH118	BH119	BH119	BH119	BH119	BH119	BH120	BH120	BH120	BH121
			Depth												1 0																		
			COC No / misc																														
			Containers									VPG		VHNPG	VHHNPG	VHPG	VHNPG	VHHNPG	VHPG		VHNPG	VHHNPG	VHPG	VHNPG	VHPG		VPG	VHNPG	VHHNPG	VHPG		VHNPG	VHPG
			Sample Type									Liquid		Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Liquid		Ground Water	Ground Water	Ground Water	Ground Water	Ground Water		Ground Water	Ground Water	Ground Water	Ground Water		Ground Water	Liquid
			Sampled Date									28/04/2015		09/03/2016	14/06/2016	03/06/2015	10/03/2016	23/06/2016	29/04/2015		07/03/2016	23/06/2016	30/04/2015	10/03/2016	30/04/2015		25/11/2015	08/03/2016	22/06/2016	30/04/2015		08/03/2016	29/04/2015
			Sample Received Date									02/05/2015	13/05/15	12/03/2016	16/06/2016	05/06/2015	11/03/2016	25/06/2016	02/05/2015	12/05/15	10/03/2016	25/06/2016	06/05/2015	11/03/2016	06/05/2015	13/05/15	27/11/2015	11/03/2016	25/06/2016	06/05/2015	13/05/15	11/03/2016	02/05/2015
			J E Sample No									21 25		201 207	13 18	1 8	8 14	79 84	101 107		41 48	73 78	156 162	22 28	198 204		50 54	166 172	223 228	205 211		114 120	58 64
			Batch Number									1		2	1	1	1	2	1		1	2	2	1	2		1	1	6	2		1	1
1031 07 8	Endosulphan sulphate	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
72 20 8	Endrin	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
58 89 9	Gamma HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
76 44 8	Heptachlor	ug/l	<0 01	0 03	0 01	0 01	0 01	21	0	0%	0 33	< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
1024 57 3	Heptachlor Epoxide	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
118 74 1	Hexachlorobenzene	ug/l	<0 01	0 01	0 02	0 01	0 01	21	3	14%	2 00	0 01				< 0 01			< 0 01				0 02		< 0 01					< 0 01			< 0 01
465 73 6	Isodrin	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
3424 82 6	o,p' DDE	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
789 02 6	o,p' DDT	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
30667 99 3	o,p' Methoxychlor	ug/l	<0 01	20	0 01	0 01	0 01	21	0	0%	0 00	< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
53 19 0	o,p' TDE	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
72 55 9	p,p' DDE	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
50 29 3	p,p' DDT	ug/l	<0 01	0 01	0 01	0 01	0 01	21	0	0%	1 00	< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
72 43 5	p,p' Methoxychlor	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
72 54 8	p,p' TDE	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
40487 42 1	Pendimethalin	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
61949 76 6	Permethrin I	ug/l	<0 01	0 01	0 01	0 01	0 01	21	0	0%	1 00	< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
61949 77 7	Permethrin II	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
82 68 8	Quintozene (PCNB)	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
117 18 0	Tecnazene	ug/l	<0 01	1	0 01	0 01	0 01	21	0	0%	0 01	< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
297 78 9	Telodrin	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
																< 0 01																	
5103 74 2	trans Chlordane	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
43121 43 3	Triadimefon	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
2303 17 5	Triallate	ug/l	<0 01	0 25	0 01	0 01	0 01	21	0	0%	0 04	< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
1582 09 8	Trifluralin	ug/l	<0 01	0 03	0 01	0 01	0 01	21	0	0%	0 33	< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
	Organophosphorus Pesticides																																
2642 71 9	Azinphos ethyl	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
86 50 0	Azinphos methyl	ug/l	<0 01	0 01	0 01	0 01	0 01	21	0	0%	1 00	< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
786 19 6	Carbophenothion	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
470 90 6	Chlorfenvinphos	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
2921 88 2	Chlorpyrifos	ug/l	<0 01	0 03	0 01	0 01	0 01	21	0	0%	0 33	< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
5598 13 0	Chlorpyrifos methyl	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
333 41 5	Diazinon	ug/l	<0 01	0 01	0 01	0 01	0 01	21	0	0%	1 00	< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
62 73 7	Dichlorvos	ug/l	<0 01	0 001	0 01	0 01	0 01	21	0	0%	10 00	< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
298 04 4	Disulfoton	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
60 51 5	Dimethoate	ug/l	<0 01	0 48	0 01	0 01	0 01	21	0	0%	0 02	< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
563 12 2	Ethion	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
56 38 2	Ethyl Parathion (Parathion)	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
38260 54 7	Etrimphos	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
122 14 5	Fenitrothion	ug/l	<0 01	0 01	0 01	0 01	0 01	21	0	0%	1 00	< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
55 38 9	Fenthion	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
121 75 5	Malathion	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
298 00 0	Methyl Parathion	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
7786 34 7	Mevinphos	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
2310 17 0	Phosalone	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
29232 93 7	Pirimiphos Methyl	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
31218 83 4	Propetamphos	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
24017 47 8	Triazophos	ug/l	<0 01		0 01	0 01	0 01	21	0			< 0 01				< 0 01			< 0 01				< 0 01		< 0 01					< 0 01			< 0 01
06/05/3813	Benazolin	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
25057 89 0	Bentazone	ug/l	<0 1	500	0 10	0 10	0 10	21	0	0%	0 00	< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
1689 84 5	Bromoxynil	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
1702 17 6	Clopyralid	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
122 88 3	4 CPA	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
94 75 7	2,4 D	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
94 80 4	2,4 DB	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
1918 00 9	Dicamba	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
120 36 5	Dichloroprop	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
40843 25 2	Diclofop	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
93 72 1	Fenoprop	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
58667 63 3	Flamprop	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
52756 22 6	Flamprop isopropyl	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
1689 83 4	Ioxynil	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
94 74 6	MCPA	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
94 81 5	MCPB	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
7085 19 0	Mecoprop	ug/l	<0 1	18	0 10	0 10	0 10	21	0	0%	0 01	< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
01/02/1918	Picloram	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
87 86 5	Pentachlorophenol	ug/l	<0 1	0 4	0 10	0 10	0 10	21	0	0%	0 25	< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
93 76 5	2,4,5 T	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
50 31 7	2,3,6 TBA	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
55335 06 3	Triclopyr	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
1912 24 9	Atrazine	ug/l	<1	0 6	1 00	1 00	1 00	21	0	0%	1 67	< 1				< 1			< 1				< 1		< 1					< 1			< 1
122 34 9	Simazine	ug/l	<1	1	1 00	1 00	1 00	21	0	0%	1 00	< 1				< 1			< 1				< 1		< 1					< 1			< 1
32598 13 3	PCB 77	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
70362 50 4	PCB 81	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
32598 14 4	PCB 105	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
74472 37 0	PCB 114	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
31508 00 6	PCB 118	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
65510 44 3	PCB 123	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
57465 28 8	PCB 126	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
38380 08 4	PCB 156	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
69782 90 7	PCB 157	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
52663 72 6	PCB 167	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
32774 16 6	PCB 169	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
39635 31 9	PCB 189	ug/l	<0 1		0 10	0 10	0 10	21	0			< 0 1				< 0 1			< 0 1				< 0 1		< 0 1					< 0 1			< 0 1
	Total 12 PCBs	ug/l	<1 2		1 20	1 20	1 20	21	0			< 1 2				< 1 2			< 1 2				< 1 2		< 1 2					< 1 2			< 1 2
16984 48 8	Fluoride	mg/l	<0 3	1 5	0 40	0 30	0 30	34	0	0%	0 27	< 0 3							< 0 3				< 0 3		< 0 3		< 0 3			< 0 3			< 0 3
95 57 8	2 Chlorophenol	ug/l	<0 5	50	0 50	0 50	0 50	21	0	0%	0 01	< 0 5				< 0 5			< 0 5				< 0 5		< 0 5					< 0 5			< 0 5
95 48 7	2 Methylphenol	ug/l	<0 5	100	1 40	0 50	0 54	21	0	0%	0 01	< 0 5				< 0 5			< 0 5				< 0 5		1 4					< 0 5			< 0 5
88 75 5	2 Nitrophenol	ug/l	<0 5		0 50	0 50	0 50	21	0			< 0 5				< 0 5			< 0 5				< 0 5		< 0 5					< 0 5			< 0 5

Final City Waste Screening - Grounwater Wells

Report: Liquid
JE Job No: 15/6896
Client: WYG
Client ref: Citywaste
Location: Citywaste
Contact [redacted]

			Sample ID									BH112	BH112	BH112	BH112	BH113	BH113	BH113	BH114	BH114	BH114	BH114	BH118	BH118	BH119	BH119	BH119	BH119	BH119	BH120	BH120	BH120	BH121
			Depth												1 0																		
			COC No / misc																														
			Containers									VPG		VHNPG	VHHNPG	VHPG	VHNPG	VHHNPG	VHPG		VHNPG	VHHNPG	VHPG	VHNPG	VHPG		VPG	VHNPG	VHHNPG	VHPG		VHNPG	VHPG
			Sample Type									Liquid		Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Liquid		Ground Water	Ground Water	Ground Water	Ground Water	Ground Water		Ground Water	Ground Water	Ground Water	Ground Water		Ground Water	Liquid
			Sampled Date									29/04/2015		09/03/2016	14/06/2016	03/06/2015	10/03/2016	23/06/2016	29/04/2015		07/03/2016	23/06/2016	30/04/2015	10/03/2016	30/04/2015		25/11/2015	08/03/2016	22/06/2016	30/04/2015		08/03/2016	29/04/2015
			Sample Received Date									02/05/2015	13/05/15	12/03/2016	16/06/2016	05/06/2015	11/03/2016	25/06/2016	02/05/2015	12/05/15	10/03/2016	25/06/2016	06/05/2015	11/03/2016	06/05/2015	13/05/15	27/11/2015	11/03/2016	25/06/2016	06/05/2015	13/05/15	11/03/2016	02/05/2015
			J E Sample No									21 25		201 207	13 18	1 8	8 14	79 84	101 107		41 48	73 78	156 162	22 28	198 204		50 54	166 172	223 228	205 211		114 120	58 64
			Batch Number									1		2	1	1	1	2	1		1	2	2	1	2		1	1	6	2		1	1
120 83 2	2,4 Dichlorophenol	ug/l	<0 5	20	0 50	0 50	0 50	21	0	0%	0 03	< 0 5				< 0 5			< 0 5				< 0 5		< 0 5					< 0 5			< 0 5
105 67 9	2,4 Dimethylphenol	ug/l	<0 5	100	0 50	0 50	0 50	21	0	0%	0 01	< 0 5				< 0 5			< 0 5				< 0 5		< 0 5					< 0 5			< 0 5
95 95 4	2,4,5 Trichlorophenol	ug/l	<0 5		0 50	0 50	0 50	21	0			< 0 5				< 0 5			< 0 5				< 0 5		< 0 5					< 0 5			< 0 5
88 06 2	2,4,6 Trichlorophenol	ug/l	<0 5	200	0 50	0 50	0 50	21	0	0%	0 00	< 0 5				< 0 5			< 0 5				< 0 5		< 0 5					< 0 5			< 0 5
59 50 7	4 Chloro 3 methylphenol	ug/l	<0 5	40	0 50	0 50	0 50	21	0	0%	0 01	< 0 5				< 0 5			< 0 5				< 0 5		< 0 5					< 0 5			< 0 5
106 44 5	4 Methylphenol	ug/l	<0 5	[illegible]	96 00	0 50	5 16	21	0	0%	0 96	< 0 5				< 0 5			< 0 5				< 0 5		96					< 0 5			< 0 5
100 02 7	4 Nitrophenol	ug/l	<0 5		0 50	0 50	0 50	21	0			< 0 5				< 0 5			< 0 5				< 0 5		< 0 5					< 0 5			< 0 5
87 86 5	Pentachlorophenol	ug/l	<0 5	2	0 50	0 50	0 50	21	0	0%	0 25	< 0 5				< 0 5			< 0 5				< 0 5		< 0 5					< 0 5			< 0 5
108 95 2	Phenol	ug/l	<0 5	7 7	0 50	0 50	0 50	21	0	0%	0 06	< 0 5				< 0 5			< 0 5				< 0 5		< 0 5					< 0 5			< 0 5
	Total Speciated Phenols MS	ug/l	<6		97 00	6 00	10 33	21	0			< 6				< 6			< 6				< 6		97					< 6			< 6
	Sulphate	mg/l	<0 05	250	279 44	0 65	37 96	72	1	1%	1 12	20 23		21 34	21 94		13 79	1 41	41 42		31 51	27 13	45 63	74 27	7 96		7 01	13 2	11 46	17 57		15 12	47 12
16887 00 6	Chloride	mg/l	<0 3	250	1993 80	16 60	154 23	72	7	10%	7 98	39 4		42 3	39		129 1	93 7	34 9		28 8	28 3	41 8	28 4	89 9		19 6	108 8	92	30 7		40 2	34 4
14797 55 8	Nitrate as NO3	mg/l	<0 2	50	84 40	0 20	6 17	72	7	10%	3 38	30		29	34 4		0 5	0 6	39 2		29 7	32 2	17 2	11 4	< 0 2		< 0 2	0 3	0 4	10 9		84 4	8
14797 65 0	Nitrite as NO2	mg/l	<0 02	0 1	1 12	0 02	0 07	72	8	11%	11 20	< 0 02		< 0 02	< 0 02		< 0 02	< 0 02	< 0 02		< 0 02	< 0 02	0 02	0 99	< 0 02		0 04	< 0 02	< 0 02	0 06		< 0 02	< 0 02
	Ortho Phosphate as P	mg/l	<0 03		0 15	0 03	0 04	46	0			< 0 03			< 0 06			< 0 06	< 0 03			< 0 06	< 0 03		< 0 03		< 0 03		< 0 06	< 0 03			< 0 03
	Total Oxidised Nitrogen as N	mg/l	<0 2	[illegible]	19 10	0 20	1 49	72	21	29%	19 10	6 8		6 6	7 8		< 0 2	< 0 2	8 8		6 7	7 3	3 9	2 9	< 0 2		< 0 2	< 0 2	< 0 2	2 5		19 1	1 8
57 12 5	Total Cyanide	mg/l	<0 01	0 001	0 01	0 01	0 01	31	1	3%	10 00	< 0 01							< 0 01				< 0 01		< 0 01		< 0 01			< 0 01			< 0 01
	Ammoniacal Nitrogen as N	mg/l	<0 03	0 39	92 05	0 03	7 31	72	55	76%	236 70	0 05		0 11			78 5	92 05	0 03		0 05		0 19	0 15	12 86		3 07	53 98	65 51	0 08		< 0 03	2 78
	Ammoniacal Nitrogen as NH3	mg/l			111 92	0 03	12 92	38	0					0 13			95 44	111 92			0 06			0 18				65 63	79 64			< 0 03	
	Ammoniacal Nitrogen as NH4	mg/l		0 39	118 55	0 00	8 00	77	14	18%	303 97	0 00 0 06		0 14			101 09	118 55	0 00 0 04		0 06		0 00 0 24	0 19	0 00 16 53			69 52	84 36	0 00 0 10		< 0 03	0 00 3 57
64 19 7	Acetic Acid	mg/l	<1		10 00	10 00	10 00	31	0			< 10							< 10				< 10		< 10		< 10			< 10			< 10
79 09 4	Propanoic Acid	mg/l	<1		5 00	1 00	1 23	31	0			< 1							< 1				< 1		4		< 1			< 1			< 1
79 31 2/ 107 92 6	2 methyl propanoic acid / Butanoic acid	mg/l	<1		8 00	1 00	1 29	31	0			< 1							< 1				< 1		2		< 1			< 1			< 1
503 74 2	3 methyl butanoic acid	mg/l	<0 5		1 00	0 50	0 52	31	0			< 0 5							< 0 5				< 0 5		< 0 5		< 0 5			< 0 5			< 0 5
109 52 4	Pentanoic acid	mg/l	<0 5		2 40	0 50	0 57	31	0			< 0 5							< 0 5				< 0 5		0 9		< 0 5			< 0 5			< 0 5
646 07 1	4 methyl pentanoic acid	mg/l	<0 5		0 50	0 50	0 50	31	0			< 0 5							< 0 5				< 0 5		< 0 5		< 0 5			< 0 5			< 0 5
142 62 1	Hexanoic acid	mg/l	<0 5		2 80	0 50	0 59	31	0			< 0 5							< 0 5				< 0 5		1 1		< 0 5			< 0 5			< 0 5
111 14 8	Heptanoic acid	mg/l	<0 5		0 50	0 50	0 50	31	0			< 0 5							< 0 5				< 0 5		< 0 5		< 0 5			< 0 5			< 0 5
	Electrical Conductivity @25C	uS/cm	<2		6546 00	293 00	972 44	57	0			397		333			1950		404		313		550	409	1370		293	1640		399		447	441
	pH	pH un ts	<0 01		7 42	3 57	6 71	60	0			6 52		6 38			6 89		6 36		6 61		6 99	6 84	6 94		6 6	7 08		6 77		6 47	6 68
	Total Organic Carbon	mg/l	<2		68 00	2 00	11 16	57	0			< 2		< 2			< 2		3		< 2		< 2	< 2	35		14	34		< 2		< 2	3
	Total Cations	mmolc/l	<0 00		69 77	2 54	9 53	60	0			4 03		3			16 2		2 89		2 95		5 36	4 22	15 35		2 54	13 5		3 79		4 11	3 75
	Total Anions	mmolc/l	<0 00		73 78	2 92	10 39	59	0			3 98		3 47			19 65		3 32		3 55		5 57	5 13	16 54		3 18	17 94		3 21		4 37	4 36
	BOD (Settled)#				22 00	1 00	8 45	11	0																		2						
	BOD (Settled)#				22 00	1 00	6 57	7	0																								
	COD (Settled)#				148 00	7 00	40 56	18	0																		56						
	Total Suspended Solids#				504 00	10 00	90 68	37	0					< 10			504				21			< 10			56	92				79	
	Dissolved Oxygen	%			8 00	1 00	4 50	26	0					8			< 1				6			5				2				8	

EQS

1 The Water Framework Directive (Priority Substances and Classification) Regulations (Northern Ireland) 2011 Inland waters

2 Groundwater Drinking Water Protected Areas The River Basin Districts Typology, Standards and Groundwater threshold values (Water Framework Directive) (England and Wales) Directions 2010

3 Freshwater EQS (AA)

DWS

1 Council Directive on the quality of water intended for human consumption (Drinking Water Directive)

2 The Water Supply (Water Quality) Regulations (Northern Ireland) 2007 (as amended)

Final City Waste Screening - Grounwater Wells

Jones Environmental Laboratory

Report:	Liquid
JE Job No:	15/6896
Client:	WYG
Client ref:	Citywaste
Location:	Citywaste
Contact	[redacted]

	BH121	BH121	BH121	BH122	BH122	BH122	BH122	BH201	BH201	BH201	BH204	BH204	BH204	BH204	BH206	BH206	BH206	BH206B	BH206	BH206	BH210	BH210
Sample ID																						
Depth																						
COC No / misc																						
Containers		V H N P G	V H HN P G	V H P G		V H N P G	V H HN P G	V H P G		V H N P G	V H P G		V H N P G	V H HN P G	V P G		V H P G	V H N P G	V H N P G	V H HN P G	V H P G	
Sample Type		Ground Water	Ground Water	Liquid		Ground Water	Ground Water	Ground Water		Ground Water	Ground Water		Ground Water	Ground Water	Liquid		Ground Water	Ground Water	Ground Water	Ground Water	Liquid	
Sampled Date		07/03/2016	23/06/2016	29/04/2015		07/03/2016	23/06/2016	30/04/2015		08/03/2016	30/04/2015		07/03/2016	15/06/2016	29/04/2015		25/11/2015	08/03/2016	08/03/2016	14/06/2016	29/04/2015	
Sample Received Date	12/05/15	10/03/2016	25/06/2016	02/05/2015	14/05/15	10/03/2016	25/06/2016	06/05/2015	13/05/15	11/03/2016	06/05/2015	13/05/15	11/03/2016	21/06/2016	02/05/2015	13/05/15	27/11/2015	11/03/2016	11/03/2016	21/06/2016	02/05/2015	12/05/15
J E Sample No		1 8	61 66	51 57		17 24	133 138	184 190		107 113	170 176		85 92	49 54	96 100		55 59	71 77	78 84	19 24	65 71	
Batch Number		1	2	1		1	3	2		1	2		1	1	1		1	1	1	1	1	

CAS Number	Test	Units	LOD	EQS	MAX	MIN	MEAN	No. Samples	No. >EQS	%>EQS	Magnitude of exceedance																											
	Total Alkalinity as CaCO3	mg/l	<1		944 00	42 00	276 95	59	0				162			346			264			944			698		210			216			832			858		268		774			486		
	Metals																																							
7429 90 5	Dissolved Aluminium	ug/l	<20	150	133 50	1 50	22 46	46	0	0%	0 89			<	1 5	<	20					<	20			<	20			9 2	<	20			<	20					60 1	<	20		<
7440 38 2	Dissolved Arsenic	ug/l	<2 5	10	29 00	0 90	4 82	46	7	15%	2 90			<	0 9		3 5						18 7					5 6			2 8		6 2			<	2 5					17 1		2 8		<
7440 43 9	Dissolved Cadmium	ug/l	<0 5	0 08	2 70	0 03	0 47	72	11	15%	33 75	<	0 5	<	0 03	<	0 5	<	0 5			<	1 2	<	0 5			<	0 5	<	0 03		0 8			<	0 8	<	0 5	<	0 5	<	0 5	<	0 03	<	0 5		<
7440 47 3	Total Dissolved Chromium	ug/l	<1 5	4 7	6 70	0 20	1 51	72	1	1%	1 43	<	1 5		2	<	1 5	<	1 5				2 2	<	1 5			<	1 5	<	0 2	<	1 5			<	1 5	<	1 5	<	1 5	<	0 7	<	1 5		<
7440 50 8	Dissolved Copper	ug/l	<7	1	54 00	3 00	8 64	72	9	13%	54 00	<	7	<	3	<	7	<	7			<	10	<	7	<	7	<	7	<	3	<	7			<	7		49	<	7	<	23	<	7		<
7439 89 6	Total Dissolved Iron	ug/l	<20	200	133100 00	4 70	6895 70	72	26	36%	665 50	<	20		1203		41	<	20			<	20	<	20		1119		51		5552		237			<	20		39440		1049		69720		23		<
7439 92 1	Dissolved Lead	ug/l	<5	7 2	8 00	0 40	4 21	72	1	1%	1 11	<	5	<	0 4	<	5	<	5				8	<	5	<	5	<	5	<	0 4	<	5			<	5	<	5	<	5	<	0 4	<	5		<
7440 02 0	Dissolved Nickel	ug/l	<2	20	58 00	0 20	9 00	46	6	13%	2 90				45 1		6						58			<	2			<	0 2		5				9					12 4		8		
7782 49 2	Dissolved Selenium	ug/l	<3	10	20 00	1 20	3 30	46	2	4%	2 00	<	3	<	1 2	<	3					<	3			<	3			<	1 2	<	3				20					1 2	<	3		<
7440 66 6	Dissolved Zinc	ug/l	<3	8	88 00	1 50	9 83	72	22	31%	11 00		6		6 5	<	7	<	3			<	26	<	3	<	3	<	3	<	2 7		4				15		6		4		9 5		10		
7439 97 6	Mercury Dissolved by CVAF	ug/l	<0 01	0 05	0 07	0 01	0 02	46	5	11%	1 40			<	0 01		0 03						0 07			<	0 01			<	0 01		0 01			<	0 01					0 02	<	0 01		<
	PAH MS																																							
83 32 9	Acenaphthene	ug/l	<0 013		8 12	0 01	0 46	63	0			<	0 013			<	0 013		0 013				0 29		0 3		0 05		0 09				4 61				3 17		0 09		4 47		8 12	<	0 013		<
208 96 8	Acenaphthylene	ug/l	<0 013		16 55	0 01	0 61	63	0			<	0 013				0 02	<	0 013				0 33		0 04		0 02	<	0 013				6 13				7 3		0 03		6 52		16 55	<	0 013		<
120 12 7	Anthracene	ug/l	<0 013	0 1	0 09	0 01	0 02	63	0	0%	0 90	<	0 013			<	0 013	<	0 013			<	0 02	<	0 013	<	0 013	<	0 013				0 03			<	0 02	<	0 013	<	0 013	<	0 013	<	0 013		<
56 55 3	Benzo(a)anthracene	ug/l	<0 015		0 05	0 02	0 02	63	0			<	0 015			<	0 015	<	0 015			<	0 015	<	0 015	<	0 015	<	0 015			<	0 015			<	0 015	<	0 015	<	0 015	<	0 015	<	0 015		<
50 32 8	Benzo(a)pyrene	ug/l	<0 016	0 01	0 04	0 02	0 02	63	1	2%	4 00	<	0 016			<	0 016	<	0 016			<	0 016	<	0 016	<	0 016	<	0 016			<	0 016			<	0 016	<	0 016	<	0 016	<	0 016	<	0 016		<
205 99 2	Benzo(b)fluoranthene	ug/l	<0 01	0 03	0 05	0 01	0 01	63	1	2%	1 67	<	0 01			<	0 01	<	0 01			<	0 01	<	0 01	<	0 01	<	0 01			<	0 01			<	0 01	<	0 01	<	0 01	<	0 01	<	0 01		<
191 24 2	Benzo(gh)perylene	ug/l	<0 011	0 002	0 02	0 01	0 01	63	1	2%	10 00	<	0 011			<	0 011	<	0 011			<	0 011	<	0 011	<	0 011	<	0 011			<	0 011			<	0 011	<	0 011	<	0 011	<	0 011	<	0 011		<
207 08 9	Benzo(k)fluoranthene	ug/l	<0 01	0 03	0 02	0 01	0 01	63	0	0%	0 67	<	0 01			<	0 01	<	0 01			<	0 01	<	0 01	<	0 01	<	0 01			<	0 01			<	0 01	<	0 01	<	0 01	<	0 01	<	0 01		<
218 01 9	Chrysene	ug/l	<0 011		0 06	0 01	0 01	63	0			<	0 011			<	0 011	<	0 011			<	0 011	<	0 011	<	0 011	<	0 011			<	0 011			<	0 011	<	0 011	<	0 011	<	0 011	<	0 011		<
53 70 3	Dibenzo(ah)anthracene	ug/l	<0 01		0 01	0 01	0 01	63	0			<	0 01			<	0 01	<	0 01			<	0 01	<	0 01	<	0 01	<	0 01			<	0 01			<	0 01	<	0 01	<	0 01	<	0 01	<	0 01		<
206 44 0	Fluoranthene	ug/l	<0 012	0 1	0 22	0 01	0 02	63	2	3%	2 20	<	0 012			<	0 012	<	0 012				0 05		0 02	<	0 012	<	0 012				0 04			<	0 012	<	0 012	<	0 012	<	0 02	<	0 012		<
86 73 7	Fluorene	ug/l	<0 014		0 63	0 01	0 06	63	0			<	0 014			<	0 014	<	0 014				0 12		0 02	<	0 014	<	0 014				0 51				0 2		0 04		0 33		0 41	<	0 014		<
193 39 5	Indeno(123cd)pyrene	ug/l	<0 011	0 002	0 02	0 01	0 01	63	1	2%	10 00	<	0 011			<	0 011	<	0 011			<	0 011	<	0 011	<	0 011	<	0 011			<	0 011			<	0 011	<	0 011	<	0 011	<	0 011	<	0 011		<
91 20 3	Naphthalene	ug/l	<0 014	2 4	757 10	0 01	15 76	63	5	8%	315 46	<	0 1			<	0 014	<	0 1				0 52	<	0 1	<	0 02	<	0 1				10 29				133 9		0 2		70 1		757 1		0 02		<
85 01 8	Phenanthrene	ug/l	<0 011		0 47	0 01	0 04	63	0			<	0 011			<	0 011						0 25		0 02		0 03	<	0 011				0 41				0 1		0 03		0 27		0 15	<	0 011		<
129 00 0	Pyrene	ug/l	<0 013		0 18	0 01	0 02	63	0			<	0 013			<	0 013	<	0 013				0 07		0 02	<	0 013	<	0 013				0 03			<	0 013	<	0 013	<	0 013	<	0 013	<	0 013		<
	PAH 16 Total	ug/l	<0 195		782 35	0 20	17 00	63	0			<	0 195			<	0 195	<	0 195				1 65	<	0 195	<	0 195	<	0 195				22 05				144 69		0 39		81 69		782 35	<	0 195		<
	PAH Surrogate % Recovery	%	<0		116 00	70 00	82 98	63	0				70				70						97		71		94		76				101				76		70		85		74		102		
	Benzo(bk)fluoranthene	ug/l	<0 018		0 07	0 02	0 02	63	0			<	0 018			<	0 018	<	0 018			<	0 018	<	0 018	<	0 018	<	0 018			<	0 018			<	0 018	<	0 018	<	0 018	<	0 018	<	0 018		<
	TPH CWG																																							
	Aliphatics																																							
	>C5 C6	ug/l	<5		31 00	5 00	5 68	63	0			<	5			<	5	<	5			<	5	<	5	<	5	<	5				12				15	<	5		31	<	5	<	5		<
	>C6 C8	ug/l	<5		750 00	5 00	20 97	63	0			<	5			<	5	<	5			<	5	<	5	<	5	<	5				21				116	<	5		108		750	<	5		<
	>C8 C10	ug/l	<5		115 00	5 00	9 63	63	0			<	5			<	5	<	5			<	5	<	5	<	5	<	5				27				36	<	5		37		115	<	5		<
	>C10 C12	ug/l	<5		5 00	5 00	5 00	63	0			<	5			<	5	<	5			<	5	<	5	<	5	<	5			<	5	<	5	<	5	<	5	<	5	<	5	<	5		<
	>C12 C16	ug/l	<10		10 00	10 00	10 00	63	0			<	10			<	10	<	10			<	10	<	10	<	10	<	10			<	10	<	10	<	10	<	10	<	10	<	10	<	10		<
	>C16 C21	ug/l	<10		10 00	10 00	10 00	63	0			<	10			<	10	<	10			<	10	<	10	<	10	<	10			<	10	<	10	<	10	<	10	<	10	<	10	<	10		<
	>C21 C35	ug/l	<10		1130 00	10 00	40 32	63	0			<	10			<	10	<	10			<	10	<	10	<	10	<	10			<	10	<	10	<	10	<	10	<	10	<	10	<	10		<
	Total aliphatics C5 35	ug/l	<10		1130 00	10 00	61 92	63	0			<	10			<	10	<	10			<	10	<	10	<	10	<	10				60				167	<	10		176		865	<	10		<
	Aromatics																																							
	>C5 EC7	ug/l	<5		3428 00	5 00	73 27	63	0			<	5			<	5		9			<	5	<	5	<	5	<	5			<	5				59				499	<	5		310		3428	<	5		<
	>EC7 EC8	ug/l	<5		441 00	5 00	13 32	63	0			<	5			<	5	<	5			<	5	<	5	<	5	<	5			<	5				51	<	5		26		441	<	5		<
	>EC8 EC10	ug/l	<5		539 00	5 00	15 89	63	0			<	5			<	5	<	5			<	5	<	5	<	5	<	5			<	5				99	<	5		54		539	<	5		<
	>EC10 EC12	ug/l	<5		687 00	5 00	20 63	63	0			<	5			<	5	<	5			<	5	<	5	<	5	<	5				48				112	<	5		158		687	<	5		<
	>EC12 EC16	ug/l	<10		110 00	10 00	12 54	63	0			<	10			<	10	<	10			<	10	<	10	<	10	<	10				50		<	10	<	10		110		30	<	10		<
	>EC16 EC21	ug/l	<10		20 00	10 00	10 16	63	0			<	10			<	10	<	10			<	10	<	10	<	10	<	10			<	10	<	10	<	10	<	10	<	10	<	10	<	10		<
	>EC21 EC35	ug/l	<10		260 00	10 00	14 76	63	0			<	10			<	10	<	10			<	10	<	10	<	10	<	10			<	10	<	10	<	10	<	10	<	10	<	10	<	10		<
	Total aromatics C5 35	ug/l	<10		5125 00	10 00	121 46	63	0			<	10			<	10	<	10			<	10	<	10	<	10	<	10				157				761	<	10		658		5125	<	10		<
	Total aliphatics and aromatics(C5 35)	ug/l	<10	10	5990 00	10 00	174 81	63	9	14%	599 00	<	10			<	10	<	10			<	10	<	10	<	10	<	10				217				928	<	10		834		5990	<	10		<
	BTEX/MTBE MS																																							
1634 04 4	Methyl Tertiary Butyl Ether	ug/l	<0 1	30	5 00	0 10	3 17	55	0	0%	0 17	<	5			<	0 1					<	0 1	<	5	<	0 1	<	5			<	0 1			<	5	<	5	<	5	<	5	<	0 1		<
71 43 2	Benzene	ug/l	<0 5	1	3428 00	0 50	81 77	55	5	9%	3428 00	<	5			<	0 5					<	0 5	<	5	<	0 5	<	5			<	73 4				499	<	5		310		3428	<	0 5		<
108 88 3	Toluene	ug/l	<0 5	50	441 00	0 50	13 09	55	2	4%	8 82	<	5			<	0 5					<	0 5	<	5	<	0 5	<	5			<	6 8				51	<	5		26		441	<	0 5		<
100 41 4	Ethylbenzene	ug/l	<0 5	20	203 00	0 50	8 30	55	3	5%	10 15	<	5			<	0 5					<	0 5	<	5	<	0 5	<	5			<	4 2				49	<	5		33		203	<	0 5		<
	p/m Xylene	ug/l	<1	30	19 00	1 00	3 75	55	0	0%	0 63	<	5			<	1					<	1	<	5	<	1	<	5			<	1				6	<	5	<	5		19	<	1		<
95 47 6	o Xylene	ug/l	<0 5	30	317 00	0 50	9 90	55	2	4%	10 57	<	5			<	0 5					<	0 5	<	5	<	0 5	<	5			<	0 5				44	<	5		17		317	<	0 5		<
2037 26 5	Surrogate Recovery Toluene D8	%	<0		109 00	91 00	102 48	21	0								99						107				109						101												101		
460 00 4	Surrogate Recovery 4 Bromofluorobenzene	%	<0		109 00	90 00	102 48	21	0								101						109				107						102												99		
7440 70 2	Dissolved Calcium	mg/l	<0 2		774 60	26 50	114 32	73	0				46 9		37 7		119 5		94 8	101 9			269		173 6		102 5		135 6	86 6			700 8				655 2		50 4		697		774 6		132 5		
7439 95 4	Dissolved Magnesium	mg/l	<0 1		103 80	3 10	19 00	73	0				9 9		7		11 7		9 5	9 7			38 5		27 9		22 5		27	17			96 1				81 1		10 4		103 8		93 4		16 9		
7439 96 5	Dissolved Manganese	ug/l	<2	50	70290 00	2 00	9493 18	70	65	93%	1405 80		2900		1685		1977		826	853 2			41160		14690		4074		4403	831 3			18990				18630		14360		18030		18720		8848		
7723 14 0	Dissolved Phosphorus	ug/l	<5		202 50	4 00	27 18	44	0						4 9		13			25			24	<	5					24			16			<	5					158 3	<	5		<
07/09/7440	Dissolved Potassium	mg/l	<0 1		62 40	1 20	10 83	73	0				7 7		3 6		22 7		17 5	21 5			7 4		18 1		4		4 5	5			33 4				45 2		1 5		39 6		44 1		18 8		
7440 23 5	Dissolved Sodium	mg/l	<0 1	200	604 40	10 70	67 34	73	4	5%	3 02		20		15 7		45 2		29 5	29 2			132 3		88 8		21 7		19 9	14 5			540 7				562 5		38 8		584 9		604 4		74 3		
7723 14 0	Total Phosphorus	ug/l	<5		930 00	23 00	184 61	44	0						31 5		111			67 6			71				28			460 5			40				432						228 6		33		
	Total Phenols HPLC	mg/l	<0 1		0 10	0 10	0 10	26	0			<	0 1			<	0 1					<	0 1			<	0 1																				
	VOC MS																																							
75 71 8	Dichlorodifluoromethane	ug/l	<2		2 00	2 00	2 00	21	0							<	2					<	2			<	2					<	2													<	2		
1634 04 4	Methyl Tertiary Butyl Ether	ug/l	<0 1		5 00	0 10	1 40	28	0							<	0 1					<	0 1			<	0 1					<	0 1													<	0 1		
74 87 3	Chloromethane	ug/l	<3		3 00	3 00	3 00	21	0							<	3					<	3			<	3					<	3													<	3		
75 01 4	Vinyl Chloride	ug/l	<0 1	0 5	0 10	0 10	0 10	21	0	0%	0 20					<	0 1					<	0 1			<	0 1					<	0 1													<	0 1		
74 83 9	Bromomethane	ug/l	<1		1 00	1 00	1 00	21	0							<	1					<	1			<	1					<	1													<	1		
75 00 3	Chloroethane	ug/l	<3		3 00	3 00	3 00	21	0							<	3					<	3			<	3					<	3													<	3		
75 69 4	Trichlorofluoromethane	ug/l	<3		3 00	3 00	3 00	21	0							<	3					<	3			<	3					<	3													<	3		
75 35 4	1,1 Dichloroethene (1,1 DCE)	ug/l	<3		3 00	3 00	3 00	21	0							<	3					<	3			<	3					<	3													<	3		
75 09 2	Dichloromethane (DCM)	ug/l	<3	20	3 00	3 00	3 00	21	0	0%	0 15					<	3					<	3			<	3					<	3													<	3		
156 60 5	trans 1 2 Dichloroethene	ug/l	<3		3 00	3 00	3 00	21	0							<	3					<	3			<	3					<	3													<	3		
75 34 3	1,1 Dichloroethane	ug/l	<3	3	3 00	3 00	3 00	21	0	0%	1 00					<	3					<	3			<	3					<	3													<	3		
156 59 2	cis 1 2 Dichloroethene	ug/l	<3		3 00	3 00	3 00	21	0							<	3					<	3			<	3					<	3													<	3		
594 20 7	2,2 Dichloropropane	ug/l	<1		1 00	1 00	1 00	21	0							<	1					<	1			<	1					<	1													<	1		
74 97 5	Bromochloromethane	ug/l	<2		2 00	2 00	2 00	21	0							<	2					<	2			<	2					<	2													<	2		
67 66 3	Chloroform	ug/l	<2		2 00	2 00	2 00	21	0							<	2					<	2			<	2					<	2													<	2		
71 55 6	1,1,1 Trichloroethane	ug/l	<2	100	2 00	2 00	2 00	21	0	0%	0 02					<	2					<	2			<	2					<	2													<	2		
563 58 6	1,1 Dichloropropene	ug/l	<3		3 00	3 00	3 00	21	0							<	3					<	3			<	3					<	3													<	3		
56 23 5	Carbon tetrachloride	ug/l	<2	12	2 00	2 00	2 00	21	0	0%	0 17					<	2					<	2			<	2					<	2													<	2		
107 06 2	1,2 Dichloroethane	ug/l	<2		2 00	2 00	2 00	21	0							<	2					<	2			<	2					<	2													<	2		
71 43 2	Benzene	ug/l	<0 5	1	73 40	0 50	4 37	27	1	4%	73 40					<	0 5					<	0 5			<	0 5						73 4													<	0 5		
79 01 6	Trichloroethene (TCE)	ug/l	<3		3 00	3 00	3 00	21	0							<	3					<	3			<	3					<	3													<	3		
78 87 5	1,2 Dichloropropane	ug/l	<2		2 00	2 00	2 00	21	0							<	2					<	2			<	2					<	2													<	2		
74 95 3	Dibromomethane	ug/l	<3		3 00	3 00	3 00	21	0							<	3					<	3			<	3					<	3													<	3		
75 27 4	Bromodichloromethane	ug/l	<2		2 00	2 00	2 00	21	0							<	2					<	2			<	2					<	2													<	2		
10061 01 5	cis 1 3 Dichloropropene	ug/l	<2		2 00	2 00	2 00	21	0							<	2					<	2			<	2					<	2													<	2		
108 88 3	Toluene	ug/l	<0 5	50	30 90	0 50	2 94	28	0	0%	0 62					<	0 5					<	0 5			<	0 5						6 8													<	0 5		
10061 02 6	trans 1 3 Dichloropropene	ug/l	<2		2 00	2 00	2 00	21	0							<	2					<	2			<	2					<	2													<	2		
79 00 5	1,1,2 Trichloroethane	ug/l	<2	400	2 00	2 00	2 00	21	0	0%	0 01					<	2					<	2			<	2					<	2													<	2		

Final City Waste Screening - Grounwater Wells

			Sample ID									BH121	BH121	BH121	BH122	BH122	BH122	BH122	BH201	BH201	BH201	BH204	BH204	BH204	BH204	BH206	BH206	BH206	BH206B	BH206	BH206	BH210	BH210
Report:	Liquid		Depth																														
JE Job No:	15/6896		COC No / misc																														
Client:	WYG		Containers										V H N P G	V H HN P G	V H P G		V H N P G	V H HN P G	V H P G		V H N P G	V H P G		V H N P G	V H HN P G	V P G		V P G	V H N P G	V H N P G	V H HN P G	V H P G	
Client ref:	Citywaste		Sample Type										Ground Water	Ground Water	Liquid		Ground Water	Ground Water	Ground Water		Ground Water	Ground Water		Ground Water	Ground Water	Liquid		Ground Water	Ground Water	Ground Water	Ground Water	Liquid	
Location:	Citywaste		Sampled Date										07/03/2016	23/06/2016	29/04/2015		07/03/2016	23/06/2016	30/04/2015		08/03/2016	30/04/2015		07/03/2016	15/06/2016	29/04/2015		25/11/2015	08/03/2016	08/03/2016	14/06/2016	29/04/2015	
Contact	[redacted]		Sample Received Date									12/05/15	10/03/2016	25/06/2016	02/05/2015	14/05/15	10/03/2016	25/06/2016	06/05/2015		11/03/2016	06/05/2015	13/05/15	11/03/2016	21/06/2016	02/05/2015	13/05/15	27/11/2015	11/03/2016	11/03/2016	21/06/2016	02/05/2015	12/05/15
			J E Sample No										1 8	61 66	51 57		17 24	133 138	184 190		107 113	170 176		85 92	49 54	96 100		55 59	71 77	78 84	19 24	65 71	
			Batch Number										1	2	1		1	3	2		1	2		1	1	1		1	1	1	1	1	
127 18 4	Tetrachloroethene (PCE)	ug/l	<3	10	3 00	3 00	3 00	21	0	0%	0 30				< 3				< 3			< 3				< 3						< 3	
142 28 9	1,3 Dichloropropane	ug/l	<2		2 00	2 00	2 00	21	0						< 2				< 2			< 2				< 2						< 2	
124 48 1	Dibromochloromethane	ug/l	<2		2 00	2 00	2 00	21	0						< 2				< 2			< 2				< 2						< 2	
106 93 4	1,2 Dibromoethane	ug/l	<2		2 00	2 00	2 00	21	0						< 2				< 2			< 2				< 2						< 2	
108 90 7	Chlorobenzene	ug/l	<2		2 00	2 00	2 00	21	0						< 2				< 2			< 2				< 2						< 2	
630 20 6	1,1,1,2 Tetrachloroethane	ug/l	<2		2 00	2 00	2 00	21	0						< 2				< 2			< 2				< 2						< 2	
100 41 4	Ethylbenzene	ug/l	<0 5	20	5 00	0 50	1 80	28	0	0%	0 25				< 0 5				< 0 5			< 0 5				4 2						< 0 5	
	p/m Xylene	ug/l	<1	30	5 00	1 00	2 00	28	0	0%	0 17				< 1				< 1			< 1				< 1						< 1	
95 47 6	o Xylene	ug/l	<0 5	30	5 00	0 50	1 65	28	0	0%	0 17				< 0 5				< 0 5			< 0 5				< 0 5						< 0 5	
100 42 5	Styrene	ug/l	<2	50	2 00	2 00	2 00	21	0	0%	0 04				< 2				< 2			< 2				< 2						< 2	
75 25 2	Bromoform	ug/l	<2	100	2 00	2 00	2 00	21	0	0%	0 02				< 2				< 2			< 2				< 2						< 2	
98 82 8	Isopropylbenzene	ug/l	<3		3 00	3 00	3 00	21	0						< 3				< 3			< 3				< 3						< 3	
79 34 5	1,1,2,2 Tetrachloroethane	ug/l	<4		4 00	4 00	4 00	21	0						< 4				< 4			< 4				< 4						< 4	
108 86 1	Bromobenzene	ug/l	<2		2 00	2 00	2 00	21	0						< 2				< 2			< 2				< 2						< 2	
96 18 4	1,2,3 Trichloropropane	ug/l	<3		3 00	3 00	3 00	21	0						< 3				< 3			< 3				< 3						< 3	
103 65 1	Propylbenzene	ug/l	<3		3 00	3 00	3 00	21	0						< 3				< 3			< 3				< 3						< 3	
95 49 8	2 Chlorotoluene	ug/l	<3		3 00	3 00	3 00	21	0						< 3				< 3			< 3				< 3						< 3	
108 67 8	1,3,5 Trimethylbenzene	ug/l	<3		3 00	3 00	3 00	21	0						< 3				< 3			< 3				< 3						< 3	
106 43 4	4 Chlorotoluene	ug/l	<3		3 00	3 00	3 00	21	0						< 3				< 3			< 3				< 3						< 3	
98 06 6	tert Buty benzene	ug/l	<3		3 00	3 00	3 00	21	0						< 3				< 3			< 3				< 3						< 3	
95 63 6	1,2,4 Trimethylbenzene	ug/l	<3		3 00	3 00	3 00	21	0						< 3				< 3			< 3				< 3						< 3	
135 98 8	sec Butylbenzene	ug/l	<3		3 00	3 00	3 00	21	0						< 3				< 3			< 3				< 3						< 3	
99 87 6	4 Isopropyltoluene	ug/l	<3		3 00	3 00	3 00	21	0						< 3				< 3			< 3				< 3						< 3	
541 73 1	1,3 Dichlorobenzene	ug/l	<3		3 00	3 00	3 00	21	0						< 3				< 3			< 3				< 3						< 3	
106 46 7	1,4 Dichlorobenzene	ug/l	<3		3 00	3 00	3 00	21	0						< 3				< 3			< 3				< 3						< 3	
104 51 8	n Butylbenzene	ug/l	<3		3 00	3 00	3 00	21	0						< 3				< 3			< 3				< 3						< 3	
95 50 1	1,2 Dichlorobenzene	ug/l	<3	1000	3 00	3 00	3 00	21	0	0%	0 00				< 3				< 3			< 3				< 3						< 3	
96 12 8	1,2 Dibromo 3 chloropropane	ug/l	<2		2 00	2 00	2 00	21	0						< 2				< 2			< 2				< 2						< 2	
120 82 1	1,2,4 Trichlorobenzene	ug/l	<3	0 4	3 00	3 00	3 00	21	0	0%	7 50				< 3				< 3			< 3				< 3						< 3	
87 68 3	Hexachlorobutadiene	ug/l	<3	0 1	3 00	3 00	3 00	21	0	0%	30 00				< 3				< 3			< 3				< 3						< 3	
87 61 6	1,2,3 Trichlorobenzene	ug/l	<3		3 00	3 00	3 00	21	0						< 3				< 3			< 3				< 3						< 3	
2037 26 5	Surrogate Recovery Toluene D8	%	<0		109 00	91 00	102 48	21	0						99				107			109				101						101	
460 00 4	Surrogate Recovery 4 Bromofluorobenzene	%	<0		109 00	90 00	102 48	21	0						101				109			107				102						99	
	SVOC MS																																
	Phenols																																
95 57 8	2 Chlorophenol	ug/l	<1	50	1 00	1 00	1 00	21	0	0%	0 02				< 1				< 1			< 1				< 1						< 1	
95 48 7	2 Methylphenol	ug/l	<0 5	100	1 50	0 50	0 55	21	0	0%	0 02				< 0 5				< 0 5			< 0 5				< 0 5						< 0 5	
88 75 5	2 Nitrophenol	ug/l	<0 5		0 50	0 50	0 50	21	0						< 0 5				< 0 5			< 0 5				< 0 5						< 0 5	
120 83 2	2,4 Dichlorophenol	ug/l	<0 5	20	0 50	0 50	0 50	21	0	0%	0 03				< 0 5				< 0 5			< 0 5				< 0 5						< 0 5	
105 67 9	2,4 Dimethylphenol	ug/l	<1	100	1 00	1 00	1 00	21	0	0%	0 01				< 1				< 1			< 1				< 1						< 1	
95 95 4	2,4,5 Trichlorophenol	ug/l	<0 5		0 50	0 50	0 50	21	0						< 0 5				< 0 5			< 0 5				< 0 5						< 0 5	
88 06 2	2,4,6 Trichlorophenol	ug/l	<1	200	1 00	1 00	1 00	21	0	0%	0 01				< 1				< 1			< 1				< 1						< 1	
59 50 7	4 Chloro 3 methylphenol	ug/l	<0 5	40	0 50	0 50	0 50	21	0	0%	0 01				< 0 5				< 0 5			< 0 5				< 0 5						< 0 5	
106 44 5	4 Methylphenol	ug/l	<1	100	68 00	1 00	4 19	21	0	0%	0 68				< 1				< 1			< 1				< 1						< 1	
100 02 7	4 Nitrophenol	ug/l	<10		10 00	10 00	10 00	21	0						< 10				< 10			< 10				< 10						< 10	
87 86 5	Pentachlorophenol	ug/l	<1	2	1 00	1 00	1 00	21	0	0%	0 50				< 1				< 1			< 1				< 1						< 1	
108 95 2	Phenol	ug/l	<1	7 7	4 00	1 00	1 14	21	0	0%	0 52				< 1				< 1			< 1				1						< 1	
	PAHs																																
91 58 7	2 Chloronaphthalene	ug/l	<1		1 00	1 00	1 00	21	0						< 1				< 1			< 1				< 1						< 1	
91 57 6	2 Methylnaphthalene	ug/l	<1		3 00	1 00	1 10	21	0						< 1				< 1			< 1				3						< 1	
	Phthalates																																
117 81 7	Bis(2 ethy hexyl) phthalate	ug/l	<5	8	5 00	5 00	5 00	21	0	0%	0 63				< 5				< 5			< 5				< 5						< 5	
85 68 7	Butylbenzyl phthalate	ug/l	<1		1 00	1 00	1 00	21	0						< 1				< 1			< 1				< 1						< 1	
84 74 2	Di n butyl phthalate	ug/l	<1 5		1 50	1 50	1 50	21	0						< 1 5				< 1 5			< 1 5				< 1 5						< 1 5	
117 84 0	Di n Octyl phthalate	ug/l	<1		1 00	1 00	1 00	21	0						< 1				< 1			< 1				< 1						< 1	
84 66 2	Diethyl phthalate	ug/l	<1	200	1 00	1 00	1 00	21	0	0%	0 01				< 1				< 1			< 1				< 1						< 1	
131 11 3	Dimethyl phthalate	ug/l	<1	800	1 00	1 00	1 00	21	0	0%	0 00				< 1				< 1			< 1				< 1						< 1	
	Other SVOCs																																
95 50 1	1,2 Dichlorobenzene	ug/l	<1	1000	1 00	1 00	1 00	21	0	0%	0 00				< 1				< 1			< 1				< 1						< 1	
120 82 1	1,2,4 Trichlorobenzene	ug/l	<1	0 4	1 00	1 00	1 00	21	0	0%	2 50				< 1				< 1			< 1				< 1						< 1	
541 73 1	1,3 Dichlorobenzene	ug/l	<1		1 00	1 00	1 00	21	0						< 1				< 1			< 1				< 1						< 1	
106 46 7	1,4 Dichlorobenzene	ug/l	<1	300	1 00	1 00	1 00	21	0	0%	0 00				< 1				< 1			< 1				< 1						< 1	
88 74 4	2 Nitroaniline	ug/l	<1		1 00	1 00	1 00	21	0						< 1				< 1			< 1				< 1						< 1	
121 14 2	2,4 Dinitrotoluene	ug/l	<0 5		0 50	0 50	0 50	21	0						< 0 5				< 0 5			< 0 5				< 0 5						< 0 5	
606 20 2	2,6 Dinitrotoluene	ug/l	<1		1 00	1 00	1 00	21	0						< 1				< 1			< 1				< 1						< 1	
99 09 2	3 Nitroaniline	ug/l	<1		1 00	1 00	1 00	21	0						< 1				< 1			< 1				< 1						< 1	
101 55 3	4 Bromophenylphenylether	ug/l	<1		1 00	1 00	1 00	21	0						< 1				< 1			< 1				< 1						< 1	
106 47 8	4 Chloroaniline	ug/l	<1		1 00	1 00	1 00	21	0						< 1				< 1			< 1				< 1						< 1	
7005 72 3	4 Chlorophenylphenylether	ug/l	<1		1 00	1 00	1 00	21	0						< 1				< 1			< 1				< 1						< 1	
100 01 6	4 Nitroaniline	ug/l	<0 5		0 50	0 50	0 50	21	0						< 0 5				< 0 5			< 0 5				< 0 5						< 0 5	
103 33 3	Azobenzene	ug/l	<0 5		0 50	0 50	0 50	21	0						< 0 5				< 0 5			< 0 5				< 0 5						< 0 5	
111 91 1	Bis(2 chloroethoxy)methane	ug/l	<0 5		0 50	0 50	0 50	21	0						< 0 5				< 0 5			< 0 5				< 0 5						< 0 5	
111 44 4	Bis(2 chloroethyl)ether	ug/l	<1		1 00	1 00	1 00	21	0						< 1				< 1			< 1				< 1						< 1	
86 74 8	Carbazole	ug/l	<0 5		0 50	0 50	0 50	21	0						< 0 5				< 0 5			< 0 5				< 0 5						< 0 5	
132 64 9	Dibenzofuran	ug/l	<0 5		0 50	0 50	0 50	21	0						< 0 5				< 0 5			< 0 5				< 0 5						< 0 5	
118 74 1	Hexachlorobenzene	ug/l	<1	0 01	1 00	1 00	1 00	21	0	0%	100 00				< 1				< 1			< 1				< 1						< 1	
87 68 3	Hexachlorobutadiene	ug/l	<1	0 1	1 00	1 00	1 00	21	0	0%	10 00				< 1				< 1			< 1				< 1						< 1	
77 47 4	Hexachlorocyclopentadiene	ug/l	<1		1 00	1 00	1 00	21	0						< 1				< 1			< 1				< 1						< 1	
67 72 1	Hexachloroethane	ug/l	<1		1 00	1 00	1 00	21	0						< 1				< 1			< 1				< 1						< 1	
78 59 1	Isophorone	ug/l	<0 5		0 50	0 50	0 50	21	0						< 0 5				< 0 5			< 0 5				< 0 5						< 0 5	
621 64 7	N nitrosodi n propylamine	ug/l	<0 5		0 50	0 50	0 50	21	0						< 0 5				< 0 5			< 0 5				< 0 5						< 0 5	
98 95 3	Nitrobenzene	ug/l	<1		1 00	1 00	1 00	21	0						< 1				< 1			< 1				< 1						< 1	
	Pesticides MS																																
	Organochlorine Pesticides																																
309 00 2	Aldrin	ug/l	<0 01	0 03	0 01	0 01	0 01	21	0	0%	0 33				< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
319 84 6	Alpha HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
319 85 7	Beta HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
1897 45 6	Chlorothalonil	ug/l	<0 01	0 1	0 01	0 01	0 01	21	0	0%	0 10				< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
5103 71 9	cis Chlordane	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
319 86 8	Delta HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
60 57 1	Dieldrin	ug/l	<0 01	0 03	0 01	0 01	0 01	21	0	0%	0 33				< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
959 98 8	Endosulphan I	ug/l	<0 01	0 005	0 01	0 01	0 01	21	0	0%	2 00				< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
33213 65 9	Endosulphan II	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	

Final City Waste Screening - Grounwater Wells

Report: **Liquid**
JE Job No: 15/6896
Client: WYG
Client ref: Citywaste
Location: Citywaste
Contact [redacted]

			Sample ID									BH121	BH121	BH121	BH122	BH122	BH122	BH122	BH201	BH201	BH201	BH204	BH204	BH204	BH204	BH206	BH206	BH206	BH206B	BH206	BH206	BH210	BH210
			Depth																														
			COC No / misc																														
			Containers										V H N P G	V H HN P G	V H P G		V H N P G	V H HN P G	V H P G		V H N P G	V H P G		V H N P G	V H HN P G	V P G		V P G	V H N P G	V H N P G	V H HN P G	V H P G	
			Sample Type										Ground Water	Ground Water	Liquid		Ground Water	Ground Water	Ground Water		Ground Water	Ground Water		Ground Water	Ground Water	Liquid		Ground Water	Ground Water	Ground Water	Ground Water	Liquid	
			Sampled Date										07/03/2016	23/06/2016	29/04/2015		07/03/2016	23/06/2016	30/04/2015		08/03/2016	30/04/2015		07/03/2016	15/06/2016	29/04/2015		25/11/2015	08/03/2016	08/03/2016	14/06/2016	29/04/2015	
			Sample Received Date									12/05/15	10/03/2016	25/06/2016	02/05/2015	14/05/15	10/03/2016	25/06/2016	06/05/2015		11/03/2016	06/05/2015	13/05/15	11/03/2016	21/06/2016	02/05/2015	13/05/15	27/11/2015	11/03/2016	11/03/2016	21/06/2016	02/05/2015	12/05/15
			J E Sample No										1 8	61 66	51 57		17 24	133 138	184 190		107 113	170 176		85 92	49 54	96 100		55 59	71 77	78 84	19 24	65 71	
			Batch Number										1	2	1		1	3	2		1	2		1	1	1		1	1	1	1	1	
1031 07 8	Endosulphan sulphate	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
72 20 8	Endrin	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
58 89 9	Gamma HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
76 44 8	Heptachlor	ug/l	<0 01	0 03	0 01	0 01	0 01	21	0	0%	0 33				< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
1024 57 3	Heptachlor Epoxide	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
118 74 1	Hexachlorobenzene	ug/l	<0 01	0 01	0 02	0 01	0 01	21	3	14%	2 00				< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
465 73 6	Isodrin	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
3424 82 6	o,p' DDE	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
789 02 6	o,p' DDT	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
30667 99 3	o,p' Methoxychlor	ug/l	<0 01	20	0 01	0 01	0 01	21	0	0%	0 00				< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
53 19 0	o,p' TDE	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
72 55 9	p,p' DDE	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
50 29 3	p,p' DDT	ug/l	<0 01	0 01	0 01	0 01	0 01	21	0	0%	1 00				< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
72 43 5	p,p' Methoxychlor	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
72 54 8	p,p' TDE	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
40487 42 1	Pendimetha in	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
61949 76 6	Permethrin I	ug/l	<0 01	0 01	0 01	0 01	0 01	21	0	0%	1 00				< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
61949 77 7	Permethrin II	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
82 68 8	Quintozene (PCNB)	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
117 18 0	Tecnazene	ug/l	<0 01	1	0 01	0 01	0 01	21	0	0%	0 01				< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
297 78 9	Telodrin	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
5103 74 2	trans Chlordane	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
43121 43 3	Triadimefon	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
2303 17 5	Triallate	ug/l	<0 01	0 25	0 01	0 01	0 01	21	0	0%	0 04				< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
1582 09 8	Trifluralin	ug/l	<0 01	0 03	0 01	0 01	0 01	21	0	0%	0 33				< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
	Organophosphorus Pesticides																																
2642 71 9	Azinphos ethyl	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
86 50 0	Azinphos methyl	ug/l	<0 01	0 01	0 01	0 01	0 01	21	0	0%	1 00				< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
786 19 6	Carbophenothion	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
470 90 6	Chlorfenvinphos	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
2921 88 2	Chlorpyr fos	ug/l	<0 01	0 03	0 01	0 01	0 01	21	0	0%	0 33				< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
5598 13 0	Chlorpyr fos methyl	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
333 41 5	Diazinon	ug/l	<0 01	0 01	0 01	0 01	0 01	21	0	0%	1 00				< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
62 73 7	Dichlorvos	ug/l	<0 01	0 001	0 01	0 01	0 01	21	0	0%	10 00				< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
298 04 4	Disulfoton	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
60 51 5	Dimethoate	ug/l	<0 01	0 48	0 01	0 01	0 01	21	0	0%	0 02				< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
563 12 2	Ethion	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
56 38 2	Ethyl Parathion (Parathion)	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
38260 54 7	Etrimphos	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
122 14 5	Fenitrothion	ug/l	<0 01	0 01	0 01	0 01	0 01	21	0	0%	1 00				< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
55 38 9	Fenthion	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
121 75 5	Malathion	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
298 00 0	Methyl Parathion	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
7786 34 7	Mevinphos	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
2310 17 0	Phosalone	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
29232 93 7	Pirimiphos Methyl	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
31218 83 4	Propetamphos	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
24017 47 8	Triazophos	ug/l	<0 01		0 01	0 01	0 01	21	0						< 0 01				< 0 01			< 0 01				< 0 01						< 0 01	
06/05/3813	Benazolin	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
25057 89 0	Bentazone	ug/l	<0 1	500	0 10	0 10	0 10	21	0	0%	0 00				< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
1689 84 5	Bromoxynil	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
1702 17 6	Clopyralid	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
122 88 3	4 CPA	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
94 75 7	2,4 D	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
94 80 4	2,4 DB	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
1918 00 9	Dicamba	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
120 36 5	Dichloroprop	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
40843 25 2	Diclofop	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
93 72 1	Fenoprop	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
58667 63 3	Flamprop	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
52756 22 6	Flamprop isopropyl	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
1689 83 4	Ioxynil	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
94 74 6	MCPA	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
94 81 5	MCPB	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
7085 19 0	Mecoprop	ug/l	<0 1	18	0 10	0 10	0 10	21	0	0%	0 01				< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
01/02/1918	Picloram	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
87 86 5	Pentachlorophenol	ug/l	<0 1	0 4	0 10	0 10	0 10	21	0	0%	0 25				< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
93 76 5	2,4,5 T	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
50 31 7	2,3,6 TBA	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
55335 06 3	Triclopyr	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
1912 24 9	Atrazine	ug/l	<1	0 6	1 00	1 00	1 00	21	0	0%	1 67				< 1				< 1			< 1				< 1						< 1	
122 34 9	Simazine	ug/l	<1	1	1 00	1 00	1 00	21	0	0%	1 00				< 1				< 1			< 1				< 1						< 1	
32598 13 3	PCB 77	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
70362 50 4	PCB 81	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
32598 14 4	PCB 105	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
74472 37 0	PCB 114	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
31508 00 6	PCB 118	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
65510 44 3	PCB 123	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
57465 28 8	PCB 126	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
38380 08 4	PCB 156	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
69782 90 7	PCB 157	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
52663 72 6	PCB 167	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
32774 16 6	PCB 169	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
39635 31 9	PCB 189	ug/l	<0 1		0 10	0 10	0 10	21	0						< 0 1				< 0 1			< 0 1				< 0 1						< 0 1	
	Total 12 PCBs	ug/l	<1 2		1 20	1 20	1 20	21	0						< 1 2				< 1 2			< 1 2				< 1 2						< 1 2	
16984 48 8	Fluoride	mg/l	<0 3	1 5	0 40	0 30	0 30	34	0	0%	0 27				< 0 3				0 4			< 0 3				< 0 3		< 0 3				< 0 3	<
95 57 8	2 Chlorophenol	ug/l	<0 5	50	0 50	0 50	0 50	21	0	0%	0 01				< 0 5				< 0 5			< 0 5				< 0 5						< 0 5	
95 48 7	2 Methylphenol	ug/l	<0 5	100	1 40	0 50	0 54	21	0	0%	0 01				< 0 5				< 0 5			< 0 5				< 0 5						< 0 5	
88 75 5	2 Nitrophenol	ug/l	<0 5		0 50	0 50	0 50	21	0						< 0 5				< 0 5			< 0 5				< 0 5						< 0 5	

Final City Waste Screening - Grounwater Wells

Report: **Liquid**
JE Job No: 15/6896
Client: WYG
Client ref: Citywaste
Location: Citywaste
Contact [redacted]

120 83 2	2,4 Dichlorophenol	ug/l	<0 5	20	0 50	0 50	0 50	21	0	0%	0 03
105 67 9	2,4 Dimethylphenol	ug/l	<0 5	100	0 50	0 50	0 50	21	0	0%	0 01
95 95 4	2,4,5 Trichlorophenol	ug/l	<0 5		0 50	0 50	0 50	21	0		
88 06 2	2,4,6 Trichlorophenol	ug/l	<0 5	200	0 50	0 50	0 50	21	0	0%	0 00
59 50 7	4 Chloro 3 methylphenol	ug/l	<0 5	40	0 50	0 50	0 50	21	0	0%	0 01
106 44 5	4 Methylphenol	ug/l	<0 5	100	96 00	0 50	5 16	21	0	0%	0 96
100 02 7	4 Nitrophenol	ug/l	<0 5		0 50	0 50	0 50	21	0		
87 86 5	Pentachlorophenol	ug/l	<0 5	2	0 50	0 50	0 50	21	0	0%	0 25
108 95 2	Phenol	ug/l	<0 5	7 7	0 50	0 50	0 50	21	0	0%	0 06
	Total Speciated Phenols MS	ug/l	<6		97 00	6 00	10 33	21	0		
	Sulphate	mg/l	<0 05	250	279 44	0 65	37 96	72	1	1%	1 12
16887 00 6	Chloride	mg/l	<0 3	250	1993 80	16 60	154 23	72	7	10%	7 98
14797 55 8	Nitrate as NO3	mg/l	<0 2	25	84 40	0 20	6 17	72	7	10%	3 38
14797 65 0	Nitrite as NO2	mg/l	<0 02	0 1	1 12	0 02	0 07	72	8	11%	11 20
	Ortho Phosphate as P	mg/l	<0 03		0 15	0 03	0 04	46	0		
	Total Oxidised Nitrogen as N	mg/l	<0 2	1	19 10	0 20	1 49	72	21	29%	19 10
57 12 5	Total Cyanide	mg/l	<0 01	0 001	0 01	0 01	0 01	31	1	3%	10 00
	Ammoniacal Nitrogen as N	mg/l	<0 03	0 39	92 05	0 03	7 31	72	55	76%	236 70
	Ammoniacal Nitrogen as NH3	mg/l			111 92	0 03	12 92	38	0		
	Ammoniacal Nitrogen as NH4	mg/l		0 39	118 55	0 00	8 00	77	14	18%	303 97
64 19 7	Acetic Acid	mg/l	<1		10 00	10 00	10 00	31	0		
79 09 4	Propanoic Acid	mg/l	<1		5 00	1 00	1 23	31	0		
79 31 2 / 107 92 6	2 methyl propanoic acid / Butanoic acid	mg/l	<1		8 00	1 00	1 29	31	0		
503 74 2	3 methyl butanoic acid	mg/l	<0 5		1 00	0 50	0 52	31	0		
109 52 4	Pentanoic acid	mg/l	<0 5		2 40	0 50	0 57	31	0		
646 07 1	4 methyl pentanoic acid	mg/l	<0 5		0 50	0 50	0 50	31	0		
142 62 1	Hexanoic acid	mg/l	<0 5		2 80	0 50	0 59	31	0		
111 14 8	Heptanoic acid	mg/l	<0 5		0 50	0 50	0 50	31	0		
	Electrical Conductivity @25C	uS/cm	<2		6546 00	293 00	972 44	57	0		
	pH	pH un ts	<0 01		7 42	3 57	6 71	60	0		
	Total Organic Carbon	mg/l	<2		68 00	2 00	11 16	57	0		
	Total Cations	mmolc/l	<0 00		69 77	2 54	9 53	60	0		
	Total Anions	mmolc/l	<0 00		73 78	2 92	10 39	59	0		
	BOD (Settled) #				22 00	1 00	8 45	11	0		
	BOD (Settled) #				22 00	1 00	6 57	7	0		
	COD (Settled) #				148 00	7 00	40 56	18	0		
	Total Suspended Solids #				504 00	10 00	90 68	37	0		
	Dissolved Oxygen	%			8 00	1 00	4 50	26	0		

Sample ID	BH121		BH121		BH121		BH122		BH122		BH122		BH122
Depth													
COC No / misc													
Containers			V H N P G		V H HN P G		V H P G				V H N P G		V H HN P G
Sample Type			Ground Water		Ground Water		Liquid				Ground Water		Ground Water
Sampled Date			07/03/2016		23/06/2016		29/04/2015				07/03/2016		23/06/2016
Sample Received Date	12/05/15		10/03/2016		25/06/2016		02/05/2015		14/05/15		10/03/2016		25/06/2016
J E Sample No			1 8		61 66		51 57				17 24		133 138
Batch Number			1		2		1				1		3
2,4 Dichlorophenol						<	0 5						
2,4 Dimethylphenol						<	0 5						
2,4,5 Trichlorophenol						<	0 5						
2,4,6 Trichlorophenol						<	0 5						
4 Chloro 3 methylphenol						<	0 5						
4 Methylphenol						<	0 5						
4 Nitrophenol						<	0 5						
Pentachlorophenol						<	0 5						
Phenol						<	0 5						
Total Speciated Phenols MS						<	6						
Sulphate			33 87		32 53		104 73				96 2		
Chloride			36 5		32 3		54 8				33 3		
Nitrate as NO3			5 3		21 9		0 4				0 8		
Nitrite as NO2			0 08		0 06	<	0 02				0 02		
Ortho Phosphate as P				<	0 06	<	0 03						
Total Oxidised Nitrogen as N			1 2		5	<	0 2			<	0 2		
Total Cyanide						<	0 01						
Ammoniacal Nitrogen as N			5 68		0 53		12 44				6 4		9 72
Ammoniacal Nitrogen as NH3			6 9		0 64						7 78		11 82
Ammoniacal Nitrogen as NH4			7 31		0 68	0 00	15 99				8 24		12 52
Acetic Acid						<	10						
Propanoic Acid						<	1						
2 methyl propanoic acid / Butanoic acid						<	1						
3 methyl butanoic acid						<	0 5						
Pentanoic acid						<	0 5						
4 methyl pentanoic acid						<	0 5						
Hexanoic acid						<	0 5						
Heptanoic acid						<	0 5						
Electrical Conductivity @25C			452				972				744		
pH			6 61				7 19				6 97		
Total Organic Carbon		<	2				4			<	2		
Total Cations			4 22				9 47				7 24		
Total Anions			5 06				10 65				8 23		
BOD (Settled) #													
BOD (Settled) #													
COD (Settled) #													
Total Suspended Solids #			199							<	10		
Dissolved Oxygen			3								4		

Sample ID		BH201		BH201		BH201		BH204		BH204		BH204		BH204
Depth														
COC No / misc														
Containers		V H P G				V H N P G		V H P G				V H N P G		V H HN P G
Sample Type		Ground Water				Ground Water		Ground Water				Ground Water		Ground Water
Sampled Date		30/04/2015				08/03/2016		30/04/2015				07/03/2016		15/06/2016
Sample Received Date		06/05/2015				11/03/2016		06/05/2015		13/05/15		11/03/2016		21/06/2016
J E Sample No		184 190				107 113		170 176				85 92		49 54
Batch Number		2				1		2				1		1
2,4 Dichlorophenol	<	0 5					<	0 5						
2,4 Dimethylphenol	<	0 5					<	0 5						
2,4,5 Trichlorophenol	<	0 5					<	0 5						
2,4,6 Trichlorophenol	<	0 5					<	0 5						
4 Chloro 3 methylphenol	<	0 5					<	0 5						
4 Methylphenol	<	0 5					<	0 5						
4 Nitrophenol	<	0 5					<	0 5						
Pentachlorophenol	<	0 5					<	0 5						
Phenol	<	0 5					<	0 5						
Total Speciated Phenols MS	<	6					<	6						
Sulphate		7 6				1 54		205 06				279 44		87 98
Chloride		182				104 1		23 4				22 4		20 2
Nitrate as NO3	<	0 2				0 3	<	0 2				0 4		1 1
Nitrite as NO2	<	0 02			<	0 02	<	0 02			<	0 02		0 19
Ortho Phosphate as P	<	0 03					<	0 03					<	0 06
Total Oxidised Nitrogen as N	<	0 2			<	0 2	<	0 2			<	0 2		0 3
Total Cyanide	<	0 01					<	0 01						
Ammoniacal Nitrogen as N		1 02				21 41		5 86				3 04		0 78
Ammoniacal Nitrogen as NH3						26 03						3 7		0 94
Ammoniacal Nitrogen as NH4	0 00	1 31				27 57	0 00	7 53				3 92		1
Acetic Acid	<	10					<	10						
Propanoic Acid	<	1					<	1						
2 methyl propanoic acid / Butanoic acid	<	1					<	1						
3 methyl butanoic acid	<	0 5					<	0 5						
Pentanoic acid	<	0 5					<	0 5						
4 methyl pentanoic acid	<	0 5					<	0 5						
Hexanoic acid	<	0 5					<	0 5						
Heptanoic acid	<	0 5					<	0 5						
Electrical Conductivity @25C		1983				1499		766				886		
pH		6 94				7 23		6 73				6 9		
Total Organic Carbon		45				23		10				7		
Total Cations		22 53				15 28		8 01				9 97		
Total Anions		24 17				16 93		9 13				10 77		
BOD (Settled) #														
BOD (Settled) #														
COD (Settled) #														
Total Suspended Solids #						14						67		
Dissolved Oxygen						7						6		

Sample ID		BH206		BH206		BH206		BH206B		BH206		BH206		BH210		BH210	
Depth																	
COC No / misc																	
Containers		V P G				V P G		V H N P G		V H N P G		V H HN P G		V H P G			
Sample Type		Liquid				Ground Water		Ground Water		Ground Water		Ground Water		Liquid			
Sampled Date		29/04/2015				25/11/2015		08/03/2016		08/03/2016		14/06/2016		29/04/2015			
Sample Received Date		02/05/2015		13/05/15		27/11/2015		11/03/2016		11/03/2016		21/06/2016		02/05/2015		12/05/15	
J E Sample No		96 100				55 59		71 77		78 84		19 24		65 71			
Batch Number		1				1		1		1		1		1			
2,4 Dichlorophenol	<	0 5											<	0 5			
2,4 Dimethylphenol	<	0 5											<	0 5			
2,4,5 Trichlorophenol	<	0 5											<	0 5			
2,4,6 Trichlorophenol	<	0 5											<	0 5			
4 Chloro 3 methylphenol	<	0 5											<	0 5			
4 Methylphenol	<	0 5												2			
4 Nitrophenol	<	0 5											<	0 5			
Pentachlorophenol	<	0 5											<	0 5			
Phenol	<	0 5											<	0 5			
Total Speciated Phenols MS	<	6											<	6			
Sulphate		43 37				48 26		7 71		0 82		14 86		115 76			
Chloride		1993 8				1425 1		42 3		1829		1514 8		49 4			
Nitrate as NO3	<	0 2			<	0 2		0 4		0 4		0 4		8 7			
Nitrite as NO2	<	0 02			<	0 02	<	0 02	<	0 02	<	0 02		0 29			
Ortho Phosphate as P	<	0 03			<	0 03					<	0 06	<	0 03			<
Total Oxidised Nitrogen as N	<	0 2			<	0 2	<	0 2	<	0 2	<	0 2		2 1			
Total Cyanide	<	0 01				0 01							<	0 01			<
Ammoniacal Nitrogen as N		9 74				9 36		2 57		11 92		14 21		9 06			
Ammoniacal Nitrogen as NH3								3 12		14 49		17 28					
Ammoniacal Nitrogen as NH4	0 00	12 52						3 31		15 35		18 3	0 00	11 65			
Acetic Acid	<	10			<	10							<	10			<
Propanoic Acid	<	1			<	1								1			<
2 methyl propanoic acid / Butanoic acid	<	1			<	1								2			<
3 methyl butanoic acid	<	0 5			<	0 5							<	0 5			<
Pentanoic acid	<	0 5			<	0 5							<	0 5			<
4 methyl pentanoic acid	<	0 5			<	0 5							<	0 5			<
Hexanoic acid	<	0 5			<	0 5							<	0 5			<
Heptanoic acid	<	0 5			<	0 5							<	0 5			<
Electrical Conductivity @25C		6546				5365		613		6333				1142			
pH		7 09				7 18		6 42		7 09				7 33			
Total Organic Carbon		51				38		15		61				19			
Total Cations		67 25				64 99		5 1		69 77				11 72			
Total Anions		73 78				58 36		6 72		67 09				13 66			
BOD (Settled) #						22											
BOD (Settled) #																	
COD (Settled) #						148											
Total Suspended Solids #						395		168		208							
Dissolved Oxygen							<	1		1							

EQS

1 The Water Framework Directive (Priority Substances and Classification) Regulations (Northern Ireland) 2011 Inland waters

2 Groundwater Drinking Water Protected Areas The River Basin Districts Typology, Standards and Groundwater threshold values (Water Framework Directive) (England and Wales) Directions 2010

3 Freshwater EQS (AA)

DWS

1 Counc l Directive on the quality of water intended for human consumption (Drinking Water Directive)

2 The Water Supply (Water Qua ity) Regulations (Northern Ireland) 2007 (as amended)

Jones Environmental Laboratory

		Sample ID	
Report:	**Liquid**	**Depth**	
JE Job No:	15/6896	**COC No / misc**	
Client:	WYG	**Containers**	
Client ref:	Citywaste	**Sample Type**	
Location:	Citywaste	**Sampled Date**	
Contact	[redacted]	**Sample Received Date**	
		J E Sample No	
		Batch Number	

CAS Number	Test	Units	LOD	EQS	MAX	MIN	MEAN	No. Samples	No. >EQS	%>EQS	Magnitude of exceedance	BH210	BH210	BH221	BH221	BH221	BH221
												V P G	V H N P G	V H P G		V P G	V H HN P G
												Ground Water	Ground Water	Ground Water		Ground Water	Ground Water
												25/11/2015	07/03/2016	30/04/2015		25/11/2015	23/06/2016
												27/11/2015	10/03/2016	06/05/2015	13/05/2015	27/11/2015	25/06/2016
												40 44	33 40	177 183		45 49	121 126
												1	1	2		1	3
	Total Alkalinity as CaCO3	mg/l	<1		944 00	42 00	276 95	59	0			442	358	588		666	
	Metals																
7429 90 5	Dissolved Aluminium	ug/l	<20	150	133 50	1 50	22 46	46	0	0%	0 89	20		< 20		< 20	43
7440 38 2	Dissolved Arsenic	ug/l	<2 5	10	29 00	0 90	4 82	46	7	15%	2 90	2 5		11 5		< 2 5	< 0 9
7440 43 9	Dissolved Cadmium	ug/l	<0 5	0 08	2 70	0 03	0 47	72	11	15%	33 75	0 5	< 0 5	< 0 5		0 6	< 0 03
7440 47 3	Total Dissolved Chromium	ug/l	<1 5	4 7	6 70	0 20	1 51	72	1	1%	1 43	1 5	< 1 5	3 6		< 1 5	1
7440 50 8	Dissolved Copper	ug/l	<7	1	54 00	3 00	8 64	72	9	13%	54 00	7	< 7	< 7		< 7	17
7439 89 6	Total Dissolved Iron	ug/l	<20	200	133100 00	4 70	6895 70	72	26	36%	665 50	20	161	109		41	35670
7439 92 1	Dissolved Lead	ug/l	<5	7 2	8 00	0 40	4 21	72	1	1%	1 11	5	< 5	6		< 5	< 0 4
7440 02 0	Dissolved Nickel	ug/l	<2	20	58 00	0 20	9 00	46	6	13%	2 90	5		5		< 2	2 3
7782 49 2	Dissolved Selenium	ug/l	<3	10	20 00	1 20	3 30	46	2	4%	2 00	3		< 3		< 3	< 1 2
7440 66 6	Dissolved Zinc	ug/l	<3	8	88 00	1 50	9 83	72	22	31%	11 00	6	4	4		< 3	5 6
7439 97 6	Mercury Dissolved by CVAF	ug/l	<0 01	0 05	0 07	0 01	0 02	46	5	11%	1 40	0 01		< 0 01		< 0 01	< 0 01
	PAH MS																
83 32 9	Acenaphthene	ug/l	<0 013		8 12	0 01	0 46	63	0			0 013	< 0 013	0 06		0 04	0 1
208 96 8	Acenaphthylene	ug/l	<0 013		16 55	0 01	0 61	63	0			0 013	< 0 013	0 02		< 0 013	< 0 013
120 12 7	Anthracene	ug/l	<0 013	0 1	0 09	0 01	0 02	63	0	0%	0 90	0 013	< 0 013	0 03		< 0 013	< 0 013
56 55 3	Benzo(a)anthracene	ug/l	<0 015		0 05	0 02	0 02	63	0			0 015	< 0 015	0 05		< 0 015	< 0 015
50 32 8	Benzo(a)pyrene	ug/l	<0 016	0 01	0 04	0 02	0 02	63	1	2%	4 00	0 016	< 0 016	0 04		< 0 016	< 0 016
205 99 2	Benzo(b)fluoranthene	ug/l	<0 01	0 03	0 05	0 01	0 01	63	1	2%	1 67	0 01	< 0 01	0 05		< 0 01	< 0 01
191 24 2	Benzo(gh)perylene	ug/l	<0 011	0 002	0 02	0 01	0 01	63	1	2%	10 00	0 011	< 0 011	0 02		< 0 011	< 0 011
207 08 9	Benzo(k)fluoranthene	ug/l	<0 01	0 03	0 02	0 01	0 01	63	0	0%	0 67	0 01	< 0 01	0 02		< 0 01	< 0 01
218 01 9	Chrysene	ug/l	<0 011		0 06	0 01	0 01	63	0			0 011	< 0 011	0 06		< 0 011	< 0 011
53 70 3	Dibenzo(ah)anthracene	ug/l	<0 01		0 01	0 01	0 01	63	0			0 01	< 0 01	< 0 01		< 0 01	< 0 01
206 44 0	Fluoranthene	ug/l	<0 012	0 1	0 22	0 01	0 02	63	2	3%	2 20	0 012	< 0 012	0 11		< 0 012	< 0 012
86 73 7	Fluorene	ug/l	<0 014		0 63	0 01	0 06	63	0			0 014	< 0 014	0 05		0 02	0 06
193 39 5	Indeno(123cd)pyrene	ug/l	<0 011	0 002	0 02	0 01	0 01	63	1	2%	10 00	0 011	< 0 011	0 02		< 0 011	< 0 011
91 20 3	Naphthalene	ug/l	<0 014	2 4	757 10	0 01	15 76	63	5	8%	315 46	0 1	< 0 1	0 24		0 2	0 1
85 01 8	Phenanthrene	ug/l	<0 011		0 47	0 01	0 04	63	0			0 011	< 0 011	0 12		< 0 011	0 02
129 00 0	Pyrene	ug/l	<0 013		0 18	0 01	0 02	63	0			0 013	< 0 013	0 1		< 0 013	< 0 013
	PAH 16 Total	ug/l	<0 195		782 35	0 20	17 00	63	0			0 195	< 0 195	0 99		0 26	0 28
	PAH Surrogate % Recovery	%	<0		116 00	70 00	82 98	63	0			70	70	101		70	83
	Benzo(bk)fluoranthene	ug/l	<0 018		0 07	0 02	0 02	63	0			0 018	< 0 018	0 07		< 0 018	< 0 018
	TPH CWG																
	Aliphatics																
	>C5 C6	ug/l	<5		31 00	5 00	5 68	63	0			5	< 5	< 5		< 5	
	>C6 C8	ug/l	<5		750 00	5 00	20 97	63	0			5	< 5	< 5		< 5	
	>C8 C10	ug/l	<5		115 00	5 00	9 63	63	0			5	< 5	< 5		< 5	
	>C10 C12	ug/l	<5		5 00	5 00	5 00	63	0			5	< 5	< 5		< 5	
	>C12 C16	ug/l	<10		10 00	10 00	10 00	63	0			10	< 10	< 10		< 10	
	>C16 C21	ug/l	<10		10 00	10 00	10 00	63	0			10	< 10	< 10		< 10	
	>C21 C35	ug/l	<10		1130 00	10 00	40 32	63	0			10	< 10	< 10		< 10	
	Total aliphatics C5 35	ug/l	<10		1130 00	10 00	61 92	63	0			10	< 10	< 10		< 10	
	Aromatics																
	>C5 EC7	ug/l	<5		3428 00	5 00	73 27	63	0			5	< 5	< 5		< 5	
	>EC7 EC8	ug/l	<5		441 00	5 00	13 32	63	0			5	< 5	< 5		< 5	
	>EC8 EC10	ug/l	<5		539 00	5 00	15 89	63	0			5	< 5	< 5		< 5	
	>EC10 EC12	ug/l	<5		687 00	5 00	20 63	63	0			5	< 5	< 5		< 5	
	>EC12 EC16	ug/l	<10		110 00	10 00	12 54	63	0			10	< 10	< 10		< 10	
	>EC16 EC21	ug/l	<10		20 00	10 00	10 16	63	0			10	< 10	< 10		< 10	
	>EC21 EC35	ug/l	<10		260 00	10 00	14 76	63	0			10	< 10	< 10		< 10	
	Total aromatics C5 35	ug/l	<10		5125 00	10 00	121 46	63	0			10	< 10	< 10		< 10	
	Total aliphatics and aromatics(C5 35)	ug/l	<10	10	5990 00	10 00	174 81	63	9	14%	599 00	10	< 10	< 10		< 10	
	BTEX/MTBE MS																
1634 04 4	Methyl Tertiary Butyl Ether	ug/l	<0 1	30	5 00	0 10	3 17	55	0	0%	0 17	5		< 0 1		< 5	< 5
71 43 2	Benzene	ug/l	<0 5	1	3428 00	0 50	81 77	55	5	9%	3428 00	5		< 0 5		< 5	< 5
108 88 3	Toluene	ug/l	<0 5	50	441 00	0 50	13 09	55	2	4%	8 82	5		< 0 5		< 5	< 5
100 41 4	Ethylbenzene	ug/l	<0 5	20	203 00	0 50	8 30	55	3	5%	10 15	5		< 0 5		< 5	< 5
	p/m Xylene	ug/l	<1	30	19 00	1 00	3 75	55	0	0%	0 63	5		< 1		< 5	< 5
95 47 6	o Xylene	ug/l	<0 5	30	317 00	0 50	9 90	55	2	4%	10 57	5		< 0 5		< 5	< 5
2037 26 5	Surrogate Recovery Toluene D8	%	<0		109 00	91 00	102 48	21	0					108			
460 00 4	Surrogate Recovery 4 Bromofluorobenzene	%	<0		109 00	90 00	102 48	21	0					103			
7440 70 2	Dissolved Calcium	mg/l	<0 2		774 60	26 50	114 32	73	0			119 4	123 1	159 2		166 5	233 6
7439 95 4	Dissolved Magnesium	mg/l	<0 1		103 80	3 10	19 00	73	0			12 5	13 4	18 2		20 8	23 5
7439 96 5	Dissolved Manganese	ug/l	<2	50	70290 00	2 00	9493 18	70	65	93%	1405 80	4008	7162	3827		2820	4202
7723 14 0	Dissolved Phosphorus	ug/l	<5		202 50	4 00	27 18	44	0			5		11		< 5	202 5
07/09/7440	Dissolved Potassium	mg/l	<0 1		62 40	1 20	10 83	73	0			21 1	17 1	12 4		14 6	14 6
7440 23 5	Dissolved Sodium	mg/l	<0 1	200	604 40	10 70	67 34	73	4	5%	3 02	42 4	42 3	47		40 6	41 7
7723 14 0	Total Phosphorus	ug/l	<5		930 00	23 00	184 61	44	0			61		79		248	248 6
	Total Phenols HPLC	mg/l	<0 1		0 10	0 10	0 10	26	0				< 0 1				
	VOC MS																
75 71 8	Dichlorodifluoromethane	ug/l	<2		2 00	2 00	2 00	21	0					< 2			
1634 04 4	Methyl Tertiary Butyl Ether	ug/l	<0 1		5 00	0 10	1 40	28	0					< 0 1			
74 87 3	Chloromethane	ug/l	<3		3 00	3 00	3 00	21	0					< 3			
75 01 4	Vinyl Chloride	ug/l	<0 1	0 5	0 10	0 10	0 10	21	0	0%	0 20			< 0 1			
74 83 9	Bromomethane	ug/l	<1		1 00	1 00	1 00	21	0					< 1			
75 00 3	Chloroethane	ug/l	<3		3 00	3 00	3 00	21	0					< 3			
75 69 4	Trichlorofluoromethane	ug/l	<3		3 00	3 00	3 00	21	0					< 3			
75 35 4	1,1 Dichloroethene (1,1 DCE)	ug/l	<3		3 00	3 00	3 00	21	0					< 3			
75 09 2	Dichloromethane (DCM)	ug/l	<3	20	3 00	3 00	3 00	21	0	0%	0 15			< 3			
156 60 5	trans 1 2 Dichloroethene	ug/l	<3		3 00	3 00	3 00	21	0					< 3			
75 34 3	1,1 Dichloroethane	ug/l	<3	3	3 00	3 00	3 00	21	0	0%	1 00			< 3			
156 59 2	cis 1 2 Dichloroethene	ug/l	<3		3 00	3 00	3 00	21	0					< 3			
594 20 7	2,2 Dichloropropane	ug/l	<1		1 00	1 00	1 00	21	0					< 1			
74 97 5	Bromochloromethane	ug/l	<2		2 00	2 00	2 00	21	0					< 2			
67 66 3	Chloroform	ug/l	<2		2 00	2 00	2 00	21	0					< 2			
71 55 6	1,1,1 Trichloroethane	ug/l	<2	100	2 00	2 00	2 00	21	0	0%	0 02			< 2			
563 58 6	1,1 Dichloropropene	ug/l	<3		3 00	3 00	3 00	21	0					< 3			
56 23 5	Carbon tetrachloride	ug/l	<2	12	2 00	2 00	2 00	21	0	0%	0 17			< 2			
107 06 2	1,2 Dichloroethane	ug/l	<2		2 00	2 00	2 00	21	0					< 2			
71 43 2	Benzene	ug/l	<0 5	1	73 40	0 50	4 37	27	1	4%	73 40			< 0 5			
79 01 6	Trichloroethene (TCE)	ug/l	<3		3 00	3 00	3 00	21	0					< 3			
78 87 5	1,2 Dichloropropane	ug/l	<2		2 00	2 00	2 00	21	0					< 2			
74 95 3	Dibromomethane	ug/l	<3		3 00	3 00	3 00	21	0					< 3			
75 27 4	Bromodichloromethane	ug/l	<2		2 00	2 00	2 00	21	0					< 2			
10061 01 5	cis 1 3 Dichloropropene	ug/l	<2		2 00	2 00	2 00	21	0					< 2			
108 88 3	Toluene	ug/l	<0 5	50	30 90	0 50	2 94	28	0	0%	0 62			< 0 5			
10061 02 6	trans 1 3 Dichloropropene	ug/l	<2		2 00	2 00	2 00	21	0					< 2			
79 00 5	1,1,2 Trichloroethane	ug/l	<2	400	2 00	2 00	2 00	21	0	0%	0 01			< 2			

Final City Waste Screening - Grounwater Wells

Report:	**Liquid**		**Sample ID**									BH210		BH210		BH221		BH221		BH221	
JE Job No:	15/6896		**Depth**																							
Client:	WYG		**COC No / misc**									V P G		V H N P G		V H P G				V P G		V H HN P G		
Client ref:	Citywaste		**Containers**									Ground Water		Ground Water		Ground Water				Ground Water		Ground Water		
Location:	Citywaste		**Sample Type**									25/11/2015		07/03/2016		30/04/2015				25/11/2015		23/06/2016		
Contact	[redacted]		**Sampled Date**									27/11/2015		10/03/2016		06/05/2015		13/05/2015		27/11/2015		25/06/2016		
			Sample Received Date									40 44		33 40		177 183				45 49		121 126		
			J E Sample No									1		1		2				1		3		
			Batch Number																					
127 18 4	Tetrachloroethene (PCE)	ug/l	<3	10	3 00	3 00	3 00	21	0	0%	0 30					<	3							
142 28 9	1,3 Dichloropropane	ug/l	<2		2 00	2 00	2 00	21	0							<	2							
124 48 1	Dibromochloromethane	ug/l	<2		2 00	2 00	2 00	21	0							<	2							
106 93 4	1,2 Dibromoethane	ug/l	<2		2 00	2 00	2 00	21	0							<	2							
108 90 7	Chlorobenzene	ug/l	<2		2 00	2 00	2 00	21	0							<	2							
630 20 6	1,1,1,2 Tetrachloroethane	ug/l	<2		2 00	2 00	2 00	21	0							<	2							
100 41 4	Ethylbenzene	ug/l	<0 5	20	5 00	0 50	1 80	28	0	0%	0 25					<	0 5							
	p/m Xylene	ug/l	<1	30	5 00	1 00	2 00	28	0	0%	0 17					<	1							
95 47 6	o Xylene	ug/l	<0 5	30	5 00	0 50	1 65	28	0	0%	0 17					<	0 5							
100 42 5	Styrene	ug/l	<2	50	2 00	2 00	2 00	21	0	0%	0 04					<	2							
75 25 2	Bromoform	ug/l	<2	100	2 00	2 00	2 00	21	0	0%	0 02					<	2							
98 82 8	Isopropylbenzene	ug/l	<3		3 00	3 00	3 00	21	0							<	3							
79 34 5	1,1,2,2 Tetrachloroethane	ug/l	<4		4 00	4 00	4 00	21	0							<	4							
108 86 1	Bromobenzene	ug/l	<2		2 00	2 00	2 00	21	0							<	2							
96 18 4	1,2,3 Trichloropropane	ug/l	<3		3 00	3 00	3 00	21	0							<	3							
103 65 1	Propylbenzene	ug/l	<3		3 00	3 00	3 00	21	0							<	3							
95 49 8	2 Chlorotoluene	ug/l	<3		3 00	3 00	3 00	21	0							<	3							
108 67 8	1,3,5 Trimethylbenzene	ug/l	<3		3 00	3 00	3 00	21	0							<	3							
106 43 4	4 Chlorotoluene	ug/l	<3		3 00	3 00	3 00	21	0							<	3							
98 06 6	tert Buty benzene	ug/l	<3		3 00	3 00	3 00	21	0							<	3							
95 63 6	1,2,4 Trimethylbenzene	ug/l	<3		3 00	3 00	3 00	21	0							<	3							
135 98 8	sec Butylbenzene	ug/l	<3		3 00	3 00	3 00	21	0							<	3							
99 87 6	4 Isopropyltoluene	ug/l	<3		3 00	3 00	3 00	21	0							<	3							
541 73 1	1,3 Dichlorobenzene	ug/l	<3		3 00	3 00	3 00	21	0							<	3							
106 46 7	1,4 Dichlorobenzene	ug/l	<3		3 00	3 00	3 00	21	0							<	3							
104 51 8	n Butylbenzene	ug/l	<3		3 00	3 00	3 00	21	0							<	3							
95 50 1	1,2 Dichlorobenzene	ug/l	<3	1000	3 00	3 00	3 00	21	0	0%	0 00					<	3							
96 12 8	1,2 Dibromo 3 chloropropane	ug/l	<2		2 00	2 00	2 00	21	0							<	2							
120 82 1	1,2,4 Trichlorobenzene	ug/l	<3	0 4	3 00	3 00	3 00	21	0	0%	7 50					<	3							
87 68 3	Hexachlorobutadiene	ug/l	<3	0 1	3 00	3 00	3 00	21	0	0%	30 00					<	3							
87 61 6	1,2,3 Trichlorobenzene	ug/l	<3		3 00	3 00	3 00	21	0							<	3							
2037 26 5	Surrogate Recovery Toluene D8	%	<0		109 00	91 00	102 48	21	0								108							
460 00 4	Surrogate Recovery 4 Bromofluorobenzene	%	<0		109 00	90 00	102 48	21	0								103							
	SVOC MS																							
	Phenols																							
95 57 8	2 Chlorophenol	ug/l	<1	50	1 00	1 00	1 00	21	0	0%	0 02					<	1							
95 48 7	2 Methylphenol	ug/l	<0 5	100	1 50	0 50	0 55	21	0	0%	0 02					<	0 5							
88 75 5	2 Nitrophenol	ug/l	<0 5		0 50	0 50	0 50	21	0							<	0 5							
120 83 2	2,4 Dichlorophenol	ug/l	<0 5	20	0 50	0 50	0 50	21	0	0%	0 03					<	0 5							
105 67 9	2,4 Dimethylphenol	ug/l	<1	100	1 00	1 00	1 00	21	0	0%	0 01					<	1							
95 95 4	2,4,5 Trichlorophenol	ug/l	<0 5		0 50	0 50	0 50	21	0							<	0 5							
88 06 2	2,4,6 Trichlorophenol	ug/l	<1	200	1 00	1 00	1 00	21	0	0%	0 01					<	1							
59 50 7	4 Chloro 3 methylphenol	ug/l	<0 5	40	0 50	0 50	0 50	21	0	0%	0 01					<	0 5							
106 44 5	4 Methylphenol	ug/l	<1	100	68 00	1 00	4 19	21	0	0%	0 68					<	1							
100 02 7	4 Nitrophenol	ug/l	<10		10 00	10 00	10 00	21	0							<	10							
87 86 5	Pentachlorophenol	ug/l	<1	2	1 00	1 00	1 00	21	0	0%	0 50					<	1							
108 95 2	Phenol	ug/l	<1	7 7	4 00	1 00	1 14	21	0	0%	0 52					<	1							
	PAHs																							
91 58 7	2 Chloronaphthalene	ug/l	<1		1 00	1 00	1 00	21	0							<	1							
91 57 6	2 Methylnaphthalene	ug/l	<1		3 00	1 00	1 10	21	0							<	1							
	Phthalates																							
117 81 7	Bis(2 ethy hexyl) phthalate	ug/l	<5	8	5 00	5 00	5 00	21	0	0%	0 63					<	5							
85 68 7	Butylbenzyl phthalate	ug/l	<1		1 00	1 00	1 00	21	0							<	1							
84 74 2	Di n butyl phthalate	ug/l	<1 5		1 50	1 50	1 50	21	0							<	1 5							
117 84 0	Di n Octyl phthalate	ug/l	<1		1 00	1 00	1 00	21	0							<	1							
84 66 2	Diethyl phthalate	ug/l	<1	200	1 00	1 00	1 00	21	0	0%	0 01					<	1							
131 11 3	Dimethyl phthalate	ug/l	<1	800	1 00	1 00	1 00	21	0	0%	0 00					<	1							
	Other SVOCs																							
95 50 1	1,2 Dichlorobenzene	ug/l	<1	1000	1 00	1 00	1 00	21	0	0%	0 00					<	1							
120 82 1	1,2,4 Trichlorobenzene	ug/l	<1	0 4	1 00	1 00	1 00	21	0	0%	2 50					<	1							
541 73 1	1,3 Dichlorobenzene	ug/l	<1		1 00	1 00	1 00	21	0							<	1							
106 46 7	1,4 Dichlorobenzene	ug/l	<1	300	1 00	1 00	1 00	21	0	0%	0 00					<	1							
88 74 4	2 Nitroaniline	ug/l	<1		1 00	1 00	1 00	21	0							<	1							
121 14 2	2,4 Dinitrotoluene	ug/l	<0 5		0 50	0 50	0 50	21	0							<	0 5							
606 20 2	2,6 Dinitrotoluene	ug/l	<1		1 00	1 00	1 00	21	0							<	1							
99 09 2	3 Nitroaniline	ug/l	<1		1 00	1 00	1 00	21	0							<	1							
101 55 3	4 Bromophenylphenylether	ug/l	<1		1 00	1 00	1 00	21	0							<	1							
106 47 8	4 Chloroaniline	ug/l	<1		1 00	1 00	1 00	21	0							<	1							
7005 72 3	4 Chlorophenylphenylether	ug/l	<1		1 00	1 00	1 00	21	0							<	1							
100 01 6	4 Nitroaniline	ug/l	<0 5		0 50	0 50	0 50	21	0							<	0 5							
103 33 3	Azobenzene	ug/l	<0 5		0 50	0 50	0 50	21	0							<	0 5							
111 91 1	Bis(2 chloroethoxy)methane	ug/l	<0 5		0 50	0 50	0 50	21	0							<	0 5							
111 44 4	Bis(2 chloroethyl)ether	ug/l	<1		1 00	1 00	1 00	21	0							<	1							
86 74 8	Carbazole	ug/l	<0 5		0 50	0 50	0 50	21	0							<	0 5							
132 64 9	Dibenzofuran	ug/l	<0 5		0 50	0 50	0 50	21	0							<	0 5							
118 74 1	Hexachlorobenzene	ug/l	<1	0 01	1 00	1 00	1 00	21	0	0%	100 00					<	1							
87 68 3	Hexachlorobutadiene	ug/l	<1	0 1	1 00	1 00	1 00	21	0	0%	10 00					<	1							
77 47 4	Hexachlorocyclopentadiene	ug/l	<1		1 00	1 00	1 00	21	0							<	1							
67 72 1	Hexachloroethane	ug/l	<1		1 00	1 00	1 00	21	0							<	1							
78 59 1	Isophorone	ug/l	<0 5		0 50	0 50	0 50	21	0							<	0 5							
621 64 7	N nitrosodi n propylamine	ug/l	<0 5		0 50	0 50	0 50	21	0							<	0 5							
98 95 3	Nitrobenzene	ug/l	<1		1 00	1 00	1 00	21	0							<	1							
	Pesticides MS																							
	Organochlorine Pesticides																							
309 00 2	Aldrin	ug/l	<0 01	0 03	0 01	0 01	0 01	21	0	0%	0 33					<	0 01							
319 84 6	Alpha HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	21	0							<	0 01							
319 85 7	Beta HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	21	0							<	0 01							
1897 45 6	Chlorothalonil	ug/l	<0 01	0 1	0 01	0 01	0 01	21	0	0%	0 10					<	0 01							
5103 71 9	cis Chlordane	ug/l	<0 01		0 01	0 01	0 01	21	0							<	0 01							
319 86 8	Delta HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	21	0							<	0 01							
60 57 1	Dieldrin	ug/l	<0 01	0 03	0 01	0 01	0 01	21	0	0%	0 33					<	0 01							
959 98 8	Endosulphan I	ug/l	<0 01	0 005	0 01	0 01	0 01	21	0	0%	2 00					<	0 01							
33213 65 9	Endosulphan II	ug/l	<0 01		0 01	0 01	0 01	21	0							<	0 01							

Report:	**Liquid**		**Sample ID**										BH210		BH210		BH221		BH221		BH221								
JE Job No:	15/6896		**Depth**																										
Client:	WYG		**COC No / misc**										V P G		V H N P G		V H P G				V P G				V H HN P G			
Client ref:	Citywaste		**Containers**										Ground Water		Ground Water		Ground Water				Ground Water				Ground Water			
Location:	Citywaste		**Sample Type**										25/11/2015		07/03/2016		30/04/2015				25/11/2015				23/06/2016			
Contact	[redacted]		**Sampled Date**										27/11/2015		10/03/2016		06/05/2015		13/05/2015		27/11/2015				25/06/2016			
			Sample Received Date										40 44		33 40		177 183				45 49				121 126			
			J E Sample No										1		1		2				1				3			
			Batch Number																										
1031 07 8	Endosulphan sulphate	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
72 20 8	Endrin	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
58 89 9	Gamma HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
76 44 8	Heptachlor	ug/l	<0 01	0 03	0 01	0 01	0 01	21	0	0%	0 33						<	0 01											
1024 57 3	Heptachlor Epoxide	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
118 74 1	Hexachlorobenzene	ug/l	<0 01	0 01	0 02	0 01	0 01	21	3	14%	2 00						<	0 01											
465 73 6	Isodrin	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
3424 82 6	o,p' DDE	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
789 02 6	o,p' DDT	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
30667 99 3	o,p' Methoxychlor	ug/l	<0 01	20	0 01	0 01	0 01	21	0	0%	0 00						<	0 01											
53 19 0	o,p' TDE	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
72 55 9	p,p' DDE	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
50 29 3	p,p' DDT	ug/l	<0 01	0 01	0 01	0 01	0 01	21	0	0%	1 00						<	0 01											
72 43 5	p,p' Methoxychlor	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
72 54 8	p,p' TDE	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
40487 42 1	Pendimetha in	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
61949 76 6	Permethrin I	ug/l	<0 01	0 01	0 01	0 01	0 01	21	0	0%	1 00						<	0 01											
61949 77 7	Permethrin II	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
82 68 8	Quintozene (PCNB)	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
117 18 0	Tecnazene	ug/l	<0 01	1	0 01	0 01	0 01	21	0	0%	0 01						<	0 01											
297 78 9	Telodrin	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
5103 74 2	trans Chlordane	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
43121 43 3	Triadimefon	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
2303 17 5	Triallate	ug/l	<0 01	0 25	0 01	0 01	0 01	21	0	0%	0 04						<	0 01											
1582 09 8	Trifluralin	ug/l	<0 01	0 03	0 01	0 01	0 01	21	0	0%	0 33						<	0 01											
	Organophosphorus Pesticides																												
2642 71 9	Azinphos ethyl	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
86 50 0	Azinphos methyl	ug/l	<0 01	0 01	0 01	0 01	0 01	21	0	0%	1 00						<	0 01											
786 19 6	Carbophenothion	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
470 90 6	Chlorfenvinphos	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
2921 88 2	Chlorpyr fos	ug/l	<0 01	0 03	0 01	0 01	0 01	21	0	0%	0 33						<	0 01											
5598 13 0	Chlorpyr fos methyl	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
333 41 5	Diazinon	ug/l	<0 01	0 01	0 01	0 01	0 01	21	0	0%	1 00						<	0 01											
62 73 7	Dichlorvos	ug/l	<0 01	0 001	0 01	0 01	0 01	21	0	0%	10 00						<	0 01											
298 04 4	Disulfoton	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
60 51 5	Dimethoate	ug/l	<0 01	0 48	0 01	0 01	0 01	21	0	0%	0 02						<	0 01											
563 12 2	Ethion	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
56 38 2	Ethyl Parathion (Parathion)	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
38260 54 7	Etrimphos	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
122 14 5	Fenitrothion	ug/l	<0 01	0 01	0 01	0 01	0 01	21	0	0%	1 00						<	0 01											
55 38 9	Fenthion	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
121 75 5	Malathion	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
298 00 0	Methyl Parathion	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
7786 34 7	Mevinphos	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
2310 17 0	Phosalone	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
29232 93 7	Pirimiphos Methyl	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
31218 83 4	Propetamphos	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
24017 47 8	Triazophos	ug/l	<0 01		0 01	0 01	0 01	21	0								<	0 01											
06/05/3813	Benazolin	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
25057 89 0	Bentazone	ug/l	<0 1	500	0 10	0 10	0 10	21	0	0%	0 00						<	0 1											
1689 84 5	Bromoxynil	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
1702 17 6	Clopyralid	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
122 88 3	4 CPA	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
94 75 7	2,4 D	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
94 80 4	2,4 DB	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
1918 00 9	Dicamba	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
120 36 5	Dichloroprop	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
40843 25 2	Diclofop	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
93 72 1	Fenoprop	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
58667 63 3	Flamprop	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
52756 22 6	Flamprop isopropyl	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
1689 83 4	Ioxynil	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
94 74 6	MCPA	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
94 81 5	MCPB	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
7085 19 0	Mecoprop	ug/l	<0 1	18	0 10	0 10	0 10	21	0	0%	0 01						<	0 1											
01/02/1918	Picloram	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
87 86 5	Pentachlorophenol	ug/l	<0 1	0 4	0 10	0 10	0 10	21	0	0%	0 25						<	0 1											
93 76 5	2,4,5 T	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
50 31 7	2,3,6 TBA	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
55335 06 3	Triclopyr	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
1912 24 9	Atrazine	ug/l	<1	0 6	1 00	1 00	1 00	21	0	0%	1 67						<	1											
122 34 9	Simazine	ug/l	<1	1	1 00	1 00	1 00	21	0	0%	1 00						<	1											
32598 13 3	PCB 77	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
70362 50 4	PCB 81	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
32598 14 4	PCB 105	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
74472 37 0	PCB 114	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
31508 00 6	PCB 118	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
65510 44 3	PCB 123	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
57465 28 8	PCB 126	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
38380 08 4	PCB 156	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
69782 90 7	PCB 157	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
52663 72 6	PCB 167	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
32774 16 6	PCB 169	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
39635 31 9	PCB 189	ug/l	<0 1		0 10	0 10	0 10	21	0								<	0 1											
	Total 12 PCBs	ug/l	<1 2		1 20	1 20	1 20	21	0								<	1 2											
16984 48 8	Fluoride	mg/l	<0 3	1 5	0 40	0 30	0 30	34	0	0%	0 27		0 3				<	0 3			<	0 3							
95 57 8	2 Chlorophenol	ug/l	<0 5	50	0 50	0 50	0 50	21	0	0%	0 01						<	0 5											
95 48 7	2 Methylphenol	ug/l	<0 5	100	1 40	0 50	0 54	21	0	0%	0 01						<	0 5											
88 75 5	2 Nitrophenol	ug/l	<0 5		0 50	0 50	0 50	21	0								<	0 5											

Final City Waste Screening - Grounwater Wells

			Sample ID									BH210		BH210		BH221	BH221		BH221		BH221
Report:	**Liquid**		**Depth**																		
JE Job No:	15/6896		**COC No / misc**																		
Client:	WYG		**Containers**									V P G		V H N P G		V H P G			V P G		V H HN P G
Client ref:	Citywaste		**Sample Type**									Ground Water		Ground Water		Ground Water			Ground Water		Ground Water
Location:	Citywaste		**Sampled Date**									25/11/2015		07/03/2016		30/04/2015			25/11/2015		23/06/2016
Contact	[redacted]		**Sample Received Date**									27/11/2015		10/03/2016		06/05/2015	13/05/2015		27/11/2015		25/06/2016
			J E Sample No									40 44		33 40		177 183			45 49		121 126
			Batch Number									1		1		2			1		3
120 83 2	2,4 Dichlorophenol	ug/l	<0 5	20	0 50	0 50	0 50	21	0	0%	0 03				<	0 5					
105 67 9	2,4 Dimethylphenol	ug/l	<0 5	100	0 50	0 50	0 50	21	0	0%	0 01				<	0 5					
95 95 4	2,4,5 Trichlorophenol	ug/l	<0 5		0 50	0 50	0 50	21	0						<	0 5					
88 06 2	2,4,6 Trichlorophenol	ug/l	<0 5	200	0 50	0 50	0 50	21	0	0%	0 00				<	0 5					
59 50 7	4 Chloro 3 methylphenol	ug/l	<0 5	40	0 50	0 50	0 50	21	0	0%	0 01				<	0 5					
106 44 5	4 Methylphenol	ug/l	<0 5	100	96 00	0 50	5 16	21	0	0%	0 96				<	0 5					
100 02 7	4 Nitrophenol	ug/l	<0 5		0 50	0 50	0 50	21	0						<	0 5					
87 86 5	Pentachlorophenol	ug/l	<0 5	2	0 50	0 50	0 50	21	0	0%	0 25				<	0 5					
108 95 2	Phenol	ug/l	<0 5	7 7	0 50	0 50	0 50	21	0	0%	0 06				<	0 5					
	Total Speciated Phenols MS	ug/l	<6		97 00	6 00	10 33	21	0						<	6					
	Sulphate	mg/l	<0 05	250	279 44	0 65	37 96	72	1	1%	1 12	69 89		97 22		0 65			25 47		
16887 00 6	Chloride	mg/l	<0 3	250	1993 80	16 60	154 23	72	7	10%	7 98	19 4		20 9		41 3			30 6		
14797 55 8	Nitrate as NO3	mg/l	<0 2	25	84 40	0 20	6 17	72	7	10%	3 38	2 3		11 3	<	0 2		<	0 2		
14797 65 0	Nitrite as NO2	mg/l	<0 02	0 1	1 12	0 02	0 07	72	8	11%	11 20	0 18		1 12	<	0 02		<	0 02		
	Ortho Phosphate as P	mg/l	<0 03		0 15	0 03	0 04	46	0			0 03			<	0 03		<	0 03		
	Total Oxidised Nitrogen as N	mg/l	<0 2	1	19 10	0 20	1 49	72	21	29%	19 10	0 6		2 9	<	0 2		<	0 2		
57 12 5	Total Cyanide	mg/l	<0 01	0 001	0 01	0 01	0 01	31	1	3%	10 00	0 01			<	0 01		<	0 01		
	Ammoniacal Nitrogen as N	mg/l	<0 03	0 39	92 05	0 03	7 31	72	55	76%	236 70	5 57		6 27		9 04			16 19		12 38
	Ammoniacal Nitrogen as NH3	mg/l			111 92	0 03	12 92	38	0					7 62							15 05
	Ammoniacal Nitrogen as NH4	mg/l		0 39	118 55	0 00	8 00	77	14	18%	303 97			8 07	0 00	11 62					15 94
64 19 7	Acetic Acid	mg/l	<1		10 00	10 00	10 00	31	0			10			<	10		<	10		
79 09 4	Propanoic Acid	mg/l	<1		5 00	1 00	1 23	31	0			1			<	1		<	1		
79 31 2 / 107 92 6	2 methyl propanoic acid / Butanoic acid	mg/l	<1		8 00	1 00	1 29	31	0			1			<	1		<	1		
503 74 2	3 methyl butanoic acid	mg/l	<0 5		1 00	0 50	0 52	31	0			0 5			<	0 5		<	0 5		
109 52 4	Pentanoic acid	mg/l	<0 5		2 40	0 50	0 57	31	0			0 5			<	0 5		<	0 5		
646 07 1	4 methyl pentanoic acid	mg/l	<0 5		0 50	0 50	0 50	31	0			0 5			<	0 5		<	0 5		
142 62 1	Hexanoic acid	mg/l	<0 5		2 80	0 50	0 59	31	0			0 5			<	0 5		<	0 5		
111 14 8	Heptanoic acid	mg/l	<0 5		0 50	0 50	0 50	31	0			0 5			<	0 5		<	0 5		
	Electrical Conductivity @25C	uS/cm	<2		6546 00	293 00	972 44	57	0			866		884		1072			1107		
	pH	pH un ts	<0 01		7 42	3 57	6 71	60	0			7 05		7 11		6 98			7 19		
	Total Organic Carbon	mg/l	<2		68 00	2 00	11 16	57	0			4	<	2		29			16		
	Total Cations	mmolc/l	<0 00		69 77	2 54	9 53	60	0			9 37		9 52		11 8			12 16		
	Total Anions	mmolc/l	<0 00		73 78	2 92	10 39	59	0			10 88		9 95		12 94			14 71		
	BOD (Settled) $^{\#}$				22 00	1 00	8 45	11	0			2							21		
	BOD (Settled) $^{\#}$				22 00	1 00	6 57	7	0												
	COD (Settled) $^{\#}$				148 00	7 00	40 56	18	0			29							40		
	Total Suspended Solids $^{\#}$				504 00	10 00	90 68	37	0			30		35					116		
	Dissolved Oxygen	%			8 00	1 00	4 50	26	0					2							

EQS

1 The Water Framework Directive (Priority Substances and Classification) Regulations (Northern Ireland) 2011 Inland waters

2 Groundwater Drinking Water Protected Areas The River Basin Districts Typology, Standards and Groundwater threshold values (Water Framework Directive) (England and Wales) Directions 2010

3 Freshwater EQS (AA)

DWS

1 Counc l Directive on the quality of water intended for human consumption (Drinking Water Directive)

2 The Water Supply (Water Qua ity) Regulations (Northern Ireland) 2007 (as amended)

Leachate Boreholes

Citywaste Monitoring Final - Leachate Boreholes

Jones Environmental Laboratory

Report: Liquid
JE Job No: 15/6896
Client: WYG
Client ref: Citywaste
Location: Citywaste
Contact [redacted]

	Sample ID											BH105	BH105	BH105	BH105	BH202	BH202	BH202	BH203	BH203	BH203	BH205	BH205	BH205	BH207	BH207	BH207	BH208	BH208	BH208	BH208	BH209	BH209	BH209	BH209	BH209	BH212	BH212	BH212	BH213	BH213	
	Depth														7 00												4 00															
	COC No / misc																																									
	Containers											V P G		V H N P G	V H HN P G	V H P G		V H N P G	V H P G	V H N P G	V H HN P G	V P G		V H N P G	V P G	V H N P G	V H HN P G	V H P G		V H N P G	V H HN P G	V H P G		V H N P G	V H HN P G	V H HN P G	V H P G		V H HN P G	V H P G	V H N P G	
	Sample Type											Liquid		Ground Water	Ground Water	Ground Water		Ground Water	Ground Water	Ground Water	Ground Water	Liquid		Ground Water	Liquid	Ground Water	Ground Water	Liquid		Ground Water	Ground Water	Liquid		Ground Water	Ground Water	Ground Water	Ground Water		Ground Water	Liquid	Ground Water	(
	Sampled Date											29/04/2015		08/03/2016	15/06/2016	30/04/2015		08/03/2016	30/04/2015	08/03/2016	16/06/2016	29/04/2015		08/03/2016	28/04/2015	09/03/2016	14/06/2016	29/04/2015		07/03/2016	23/06/2016	29/04/2015		07/03/2016	15/06/2016	23/06/2016	30/04/2015		23/06/2016	29/04/2015	09/03/2016	
	Sample Received Date											02/05/2015	13/05/15	11/03/2016	21/06/2016	06/05/2015	13/05/15	11/03/2016	06/05/2015	11/03/2016	21/06/2016	02/05/2015		11/03/2016	02/05/2015	12/03/2016	21/06/2016	02/05/2015	12/05/15	10/03/2016	25/06/2016	02/05/2015	12/05/15	10/03/2016	21/06/2016	25/06/2016	06/05/2015	13/05/15	25/06/2016	02/05/2015	12/03/2016	
	J E Sample No											84 88		64 70	25 30	163 169		100 106	191 197	93 99	43 48	79 83		57 63	41 45	229 235	1 6	72 78		9 16	145 150	89 95		25 32	55 60	67 72	219 225		115 120	115 121	256 262	
	Batch Number											1		1	1	2		1	2	1	1	1		1	1	2	1	1		1	3	1		1	1	2	2		3	1	2	
	Metals																																									
7429 90 5	Dissolved Aluminium	ug/l	<20	150	1774	5 4	217 00	26	8	31%	11 83	< 20			49 8	< 20			172			< 20			65		14 9	174			175 3	68			28 7	101 1	< 20			714		
7440 38 2	Dissolved Arsenic	ug/l	<2 5	10	50 2	0 9	14 94	26	14	54%	5 02	< 2 5			12 3	23 8			23 7			8 8			11 1		19 7	9 2			< 0 9	11 1			24 2	< 0 9	8 9			33 4		<
7440 43 9	Dissolved Cadmium	ug/l	<0 5	0 08	0 8	0 03	0 40	40	5	13%	10 00	< 0 5		< 0 5	< 0 03	< 0 5		< 0 5	< 0 5	< 0 5		0 6		< 0 5	0 6	< 0 5	< 0 03	< 0 5		< 0 5	< 0 03	< 0 5		< 0 5	< 0 03	< 0 03	< 0 5			< 0 5	< 0 5	<
7440 47 3	Total Dissolved Chromium	ug/l	<1 5	4 7	115 1	0 2	15 21	40	15	38%	24 49	< 1 5		< 1 5	0 7	< 1 5		< 1 5	17 6	5 1		< 1 5		< 1 5	5 8	< 1 5	3 4	4 4		< 1 5	6	2 7		< 1 5	< 0 2	2 3	< 1 5			60 2	35 8	
7440 50 8	Dissolved Copper	ug/l	<7	1	743	3	66 95	40	16	40%	743 00	< 7		< 7	13	< 7		< 7	28	< 7		< 7		< 7	8	< 7	< 3	39		59	50	18		< 7	< 3	4	< 7			169	230	
7439 89 6	Total Dissolved Iron	ug/l	<20	200	2188000	20	241174 25	40	27	68%	10940 00	< 20		3651	34460	160		128	198300	3410		72		40	55740	6690	2302	181200		74950	102300	109000		112	7584	74050	28			1867000	256200	
7439 92 1	Dissolved Lead	ug/l	<5	7 2	59	0 4	7 11	40	6	15%	8 19	< 5		< 5	< 0 4	< 5		< 5	11	< 5		< 5		< 5	< 5	< 5	< 0 4	10		< 5	< 0 4	8		< 5	< 0 4	< 0 4	< 5			55	< 5	<
7440 02 0	Dissolved Nickel	ug/l	<2	20	403 8	2	83 99	26	12	46%	20 19	< 2			2 4	10			165			7			38		50 1	26			43 7	14			15	5 7	< 2			204		
7782 49 2	Dissolved Selenium	ug/l	<3	10	3	1 2	2 35	26	0	0%	0 30	< 3			< 1 2	< 3			< 3			< 3			< 3		< 1 2	< 3			< 1 2	< 3			< 1 2	< 1 2	< 3			< 3		<
7440 66 6	Dissolved Zinc	ug/l	<3	8	23340	1 8	938 80	40	20	50%	2917 50	4		3	5 9	11		4	26	10		10		9	15	< 3	12 3	33		7	62 9	14		< 3	5 5	8 2	< 3			4700	96	
7439 97 6	Mercury Dissolved by CVAF	ug/l	<0 01	0 05	0 07	0 01	0 02	25	3	12%	1 40	0 02			< 0 01	< 0 01			< 0 01		0 07	0 06			< 0 01		0 02	0 02			< 0 01	0 01			0 02	< 0 01	< 0 01			0 03		
	PAH MS																																									
83 32 9	Acenaphthene	ug/l	<0 013		5 81	0 013	0 40	37	0			0 21		0 22		0 09		0 07	1 07	0 52	2 18	0 06		0 03	0 18	0 13	0 14	0 25		0 08	0 08	0 56		0 31	0 52	0 24	0 07			0 14	0 08	<
208 96 8	Acenaphthylene	ug/l	<0 013		6 62	0 013	0 33	37	0			0 03		< 0 013		0 04		0 02	0 61	0 32	0 08	0 04		< 0 013	0 24	0 08	0 2	0 15		0 05	0 11	0 15		0 05	0 09	0 05	< 0 013			0 17	0 08	
120 12 7	Anthracene	ug/l	<0 013	0 1	7 77	0 013	0 25	37	4	11%	77 70	< 0 013		< 0 013		< 0 013		< 0 013	0 07	0 03	0 05	< 0 013		< 0 013	0 06	< 0 013	0 02	0 15		0 03	0 02	0 06		< 0 013	< 0 013	0 04	< 0 013			0 15	0 03	<
56 55 3	Benzo(a)anthracene	ug/l	<0 015		20 63	0 015	0 62	37	0			< 0 015		< 0 015		< 0 015		< 0 015	0 05	0 03	< 0 015	< 0 015		< 0 015	0 04	< 0 015	0 02	0 17		0 02	0 02	0 02		< 0 015	< 0 015	0 04	< 0 015			0 51	0 03	<
50 32 8	Benzo(a)pyrene	ug/l	<0 016	0 01	6 45	0 016	0 22	37	7	19%	645 00	< 0 016		< 0 016		< 0 016		< 0 016	0 03	0 03	< 0 016	< 0 016		< 0 016	0 03	< 0 016	< 0 016	0 12		< 0 016	< 0 016	< 0 016		< 0 016	< 0 016	0 04	< 0 016			0 16	< 0 016	<
205 99 2	Benzo(b)fluoranthene	ug/l	<0 01	0 03	11 41	0 01	0 35	37	6	16%	380 33	< 0 01		< 0 01		< 0 01		< 0 01	0 02	0 02	< 0 01	< 0 01		< 0 01	0 03	< 0 01	< 0 01	0 14		< 0 01	0 01	< 0 01		< 0 01	< 0 01	0 06	< 0 01			0 31	< 0 01	<
191 24 2	Benzo(ghi)perylene	ug/l	<0 011	0 002	0 22	0 011	0 02	37	1	3%	110 00	< 0 011		< 0 011		< 0 011		< 0 011	< 0 011	< 0 011	< 0 011	< 0 011		< 0 011	< 0 011	< 0 011	< 0 011	0 04		< 0 011	< 0 011	< 0 011		< 0 011	< 0 011	< 0 011	< 0 011			< 0 011	< 0 011	<
207 08 9	Benzo(k)fluoranthene	ug/l	<0 01	0 03	4 44	0 01	0 15	37	4	11%	148 00	< 0 01		< 0 01		< 0 01		< 0 01	< 0 01	< 0 01	< 0 01	< 0 01		< 0 01	0 01	< 0 01	< 0 01	0 05		< 0 01	< 0 01	< 0 01		< 0 01	< 0 01	0 02	< 0 01			0 12	< 0 01	<
218 01 9	Chrysene	ug/l	<0 011		17 73	0 011	0 53	37	0			< 0 011		< 0 011		< 0 011		< 0 011	0 06	0 05	< 0 011	< 0 011		< 0 011	0 04	< 0 011	0 02	0 23		0 02	0 03	0 02		< 0 011	< 0 011	0 07	< 0 011			0 31	0 04	<
53 70 3	Dibenzo(ah)anthracene	ug/l	<0 01		0 2	0 01	0 02	37	0			< 0 01		< 0 01		< 0 01		< 0 01	< 0 01	< 0 01	< 0 01	< 0 01		< 0 01	< 0 01	< 0 01	< 0 01	< 0 01		< 0 01	< 0 01	< 0 01		< 0 01	< 0 01	< 0 01	< 0 01			< 0 01	< 0 01	<
206 44 0	Fluoranthene	ug/l	<0 012	0 1	10 32	0 012	0 36	37	8	22%	103 20	0 02		< 0 012		< 0 012		< 0 012	0 11	0 09	0 09	0 02		< 0 012	0 08	0 05	0 04	0 41		0 04	0 05	0 1		< 0 012	0 02	0 18	0 03			0 25	0 03	
86 73 7	Fluorene	ug/l	<0 014		5 77	0 014	0 28	37	0			0 1		0 09		0 05		0 04	0 35	0 19	0 43	0 07		0 05	0 15	0 1	0 1	0 37		0 1	0 13	0 32		0 14	0 03	0 18	0 08			0 09	0 08	<
193 39 5	Indeno(123cd)pyrene	ug/l	<0 011	0 002	4 46	0 011	0 14	37	3	8%	2230 00	< 0 011		< 0 011		< 0 011		< 0 011	< 0 011	< 0 011	< 0 011	< 0 011		< 0 011	< 0 011	< 0 011	< 0 011	0 03		< 0 011	< 0 011	< 0 011		< 0 011	< 0 011	< 0 011	< 0 011			< 0 011	< 0 011	<
91 20 3	Naphthalene	ug/l	<0 014	2 4	8 87	0 014	1 02	37	4	11%	3 70	0 09		0 1		0 54		0 3	8 87	2 4	4 5	0 18		< 0 1	1 02	0 6	0 9	1 93		1 2	1 1	1 01		0 5	0 6	0 7	0 03			< 0 014	2	<
85 01 8	Phenanthrene	ug/l	<0 011		15 79	0 011	0 60	37	0			0 03		0 03		0 04		0 02	0 43	0 24	0 4	0 06		0 02	0 21	0 13	0 13	0 76		0 12	0 14	0 35		0 09	0 02	0 24	0 12			0 36	0 18	
129 00 0	Pyrene	ug/l	<0 013		12 06	0 013	0 41	37	0			< 0 013		< 0 013		< 0 013		< 0 013	0 18	0 13	0 1	0 02		< 0 013	0 08	0 04	0 04	0 38		0 04	0 05	0 08		< 0 013	0 02	0 16	0 02			0 25	0 04	
	PAH 16 Total	ug/l	<0 195		129 26	0 195	5 57	37	0			0 48		0 44		0 76		0 45	11 86	4 06	7 83	0 45		< 0 195	2 17	1 13	1 61	5 18		1 7	1 75	2 67		1 09	1 3	2 02	0 35			2 82	2 59	<
	PAH Surrogate % Recovery	%	<0		162	8	86 03	37	0			101		70		101		85	88	81	71	101		73	105	84	72	101		85	73	104		73	72	79	100			8	71	
	Benzo(bk)fluoranthene	ug/l	<0 018		15 85	0 018	0 50	37	0			< 0 018		< 0 018		< 0 018		< 0 018	0 03	0 03	< 0 018	< 0 018		< 0 018	0 04	< 0 018	< 0 018	0 19		< 0 018	0 02	< 0 018		< 0 018	< 0 018	0 08	< 0 018			0 43	< 0 018	<
	TPH CWG																																									
	Aliphatics																																									
	>C5 C6	ug/l	<5		4088	5	380 57	37	0			< 5		< 5		< 5		< 5	258	< 5	< 5	< 5		< 5	8	< 5	< 5	18		< 5		39		< 5	< 5	< 5	< 5			3095	372	
	>C6 C8	ug/l	<5		26090	5	2522 81	37	0			< 5		< 5		< 5		< 5	3739	49	< 5	< 5		< 5	85	< 5	20	235		86		633		27	< 5	< 5	< 5			14473	8231	
	>C8 C10	ug/l	<5		6795	5	558 62	37	0			< 5		< 5		< 5		< 5	230	54	< 5	< 5		< 5	55	19	30	72		27		46		9	< 5	< 5	< 5			4200	1010	
	>C10 C12	ug/l	<5		5	5	5 00	37	0			< 5		< 5		< 5		< 5	< 5	< 5	< 5	< 5		< 5	< 5	< 5	< 5	< 5		< 5		< 5		< 5	< 5	< 5	< 5			< 5	< 5	<
	>C12 C16	ug/l	<10		10	10	10 00	37	0			< 10		< 10		< 10		< 10	< 10	< 10	< 10	< 10		< 10	< 10	< 10	< 10	< 10		< 10		< 10		< 10	< 10	< 10	< 10			< 10	< 10	<
	>C16 C21	ug/l	<10		10	10	10 00	37	0			< 10		< 10		< 10		< 10	< 10	< 10	< 10	< 10		< 10	< 10	< 10	< 10	< 10		< 10		< 10		< 10	< 10	< 10	< 10			< 10	< 10	<
	>C21 C35	ug/l	<10		270	10	17 03	37	0			< 10		< 10		< 10		< 10	< 10	< 10	< 10	< 10		< 10	< 10	< 10	< 10	270		< 10		< 10		< 10	< 10	< 10	< 10			< 10	< 10	<
	Total aliphatics C5 35	ug/l	<10		36973	10	3466 05	37	0			< 10		< 10		< 10		< 10	4227	103	< 10	< 10		< 10	148	19	50	595		113		718		36	< 10	< 10	< 10			21768	9613	
	Aromatics																																									
	>C5 EC7	ug/l	<5		92	5	14 73	37	0			< 5		< 5		< 5		< 5	8	< 5	< 5	< 5		< 5	< 5	< 5	< 5	7		13		< 5		5	< 5	< 5	< 5			82	13	<
	>EC7 EC8	ug/l	<5		615	5	76 89	37	0			< 5		< 5		< 5		< 5	468	13	< 5	< 5		< 5	27	13	< 5	342		130		27		11	< 5	< 5	< 5			204	270	
	>EC8 EC10	ug/l	<5		919	5	97 14	37	0			< 5		< 5		< 5		< 5	41	47	< 5	< 5		< 5	67	65	79	48		54		< 5		11	< 5	< 5	< 5			439	496	
	>EC10 EC12	ug/l	<5		82	5	13 86	37	0			< 5		< 5		< 5		< 5	< 5	43	< 5	< 5		< 5	19	15	< 5	20		< 5		< 5		< 5	< 5	< 5	< 5			< 5	30	
	>EC12 EC16	ug/l	<10		340	10	44 86	37	0			< 10		< 10		< 10		< 10	90	< 10	< 10	< 10		< 10	< 10	< 10	< 10	60		< 10		< 10		< 10	< 10	< 10	< 10			170	90	
	>EC16 EC21	ug/l	<10		10	10	10 00	37	0			< 10		< 10		< 10		< 10	< 10	< 10	< 10	< 10		< 10	< 10	< 10	< 10	< 10		< 10		< 10		< 10	< 10	< 10	< 10			< 10	< 10	<
	>EC21 EC35	ug/l	<10		10	10	10 00	37	0			< 10		< 10		< 10		< 10	< 10	< 10	< 10	< 10		< 10	< 10	< 10	< 10	< 10		< 10		< 10		< 10	< 10	< 10	< 10			< 10	< 10	<
	Total aromatics C5 35	ug/l	<10		1680	10	229 65	37	0			< 10		< 10		< 10		< 10	607	103	< 10	< 10		< 10	113	93	79	477		197		27		27	< 10	< 10	< 10			895	899	
	Total aliphatics and aromatics C5 35)	ug/l	<10	10	38653	10	3690 84	37	19	51%	3865 30	< 10		< 10		< 10		< 10	4834	206	< 10	< 10		< 10	261	112	129	1072		310		745		63	< 10	< 10	< 10			22663	10512	
	BTEX/MTBE MS																																									
1634 04 4	Methyl Tertiary Butyl Ether	ug/l	<0 1	30	50	0 1	6 03	36	0	0%	1 67	< 0 1		< 5		< 0 1		< 5	< 0 1	< 5	< 5	< 0 1		< 5	< 0 1	< 5	< 5	< 0 1			< 5	< 0 1			< 5	< 5	< 0 1			9 2	< 5	<
71 43 2	Benzene	ug/l	<0 5	1	50	0 5	7 19	36	9	25%	50 00	< 0 5		< 5		< 0 5		< 5	6 9	< 5	< 5	< 0 5		< 5	5 1	< 5	< 5	5 9			< 5	< 0 5			< 5	< 5	< 0 5			4 5	13	<
108 88 3	Toluene	ug/l	<0 5	50	750 8	0 5	87 28	36	8	22%	15 02	< 0 5		< 5		< 0 5		< 5	750 8	13	< 5	< 0 5		< 5	42 7	13	< 5	479 6			6	39 7			< 5	< 5	< 0 5			313 7	270	
100 41 4	Ethylbenzene	ug/l	<0 5	20	119	0 5	18 31	36	9	25%	5 95	< 0 5		< 5		< 0 5		< 5	12 7	13	< 5	< 0 5		< 5	33 8	25	23	10 7			10	< 0 5			< 5	< 5	< 0 5			88 3	91	
	p/m Xylene	ug/l	<1	30	323	1	39 06	36	9	25%	10 77	< 1		< 5		< 1		< 5	13	18	< 5	< 1		< 5	41	30	40	21			18	< 1			< 5	< 5	< 1			323	307	
95 47 6	o Xylene	ug/l	<0 5	30	291	0 5	22 43	36	5	14%	9 70	< 0 5		< 5		< 0 5		< 5	4 8	16	< 5	< 0 5		< 5	12 9	10	16	9 3			11	< 0 5			< 5	< 5	< 0 5			90	98	
2037 26 5	Surrogate Recovery Toluene D8	%	<0		106	90	99 19	16	0			97				106			104			98			100			98				97					104			90		
460 00 4	Surrogate Recovery 4-Bromofluorobenzene	%	<0		108	83	99 75	16	0			96				104			108			100			102			100				99					108			83		
7440 70 2	Dissolved Calcium	mg/l	<0 2		4865	0 2	751 88	40	0			190 8		169 3		255 8		183 7	1372	351 1	185 1	404 2		317 1	< 0 2	203 7	204 4	432		439 9	576 3	700 6		343 6	138 1	418 6	189 3		169 6	3256	1007	
7439 95 4	Dissolved Magnesium	mg/l	<0 1		869 9	0 1	145 83	40	0			15 8		15		39 5		19 9	198 2	78 5	50	47 7		43 3	< 0 1	67 5	101	14 2		14 5	23 5	90 1		50 4	24 5	64 5	18 1		13 1	668 9	445 7	
7439 96 5	Dissolved Manganese	ug/l	<2	50	62760	443	10328 07	40	40	100%	1255 20	2563		2331		1686		1609	24680	3299	15680	4136		3012	2388	2316	1231	14090		5002	1947	8684		1398	9472	2278	688		996 6	59470	4071	
7723 14 0	Dissolved Phosphorus	ug/l	<5		9819	5	1134 61	26	0			12				62			855		284 5	27			439		355 9	1030			2634	111			85 4	207 4	10		29	4022		
07/09/7440	Dissolved Potassium	mg/l	<0 1		2468	0 1	358 97	40	0			12 4		11 2		143 6		51 2	628 8	268 8	94 2	49 6		44 2	< 0 1	127 9	244 3	9 7		12 4	44 5	88 3		51 1	23	65	14 6		12 4	1409	1135	
7440 23 5	Dissolved Sodium	mg/l	<0 1	200	4575	0 1	649 66	40	15	38%	22 88	36 8		30 6		121 1		42 9	1164	424 7	252 4	125 3		108	< 0 1	175 6	415	37 3		16 6	40 7	259 8		122 7	67 4	138 7	26		15 3	2613	1943	
7723 14 0	Total Phosphorus	ug/l	<5		18210	37	2667 17	26	0			102				149			3656		664 5	43			1376		1286	2641			2461	182			81	197 2	37		98 6	6773		
	Total Phenols HPLC	mg/l	<0 1		0 3	0 1	0 12	12	0					< 0 1				< 0 1		< 0 1				< 0 1		< 0 1				0 3				< 0 1								
	VOC MS																																									
75 71 8	Dichlorodifluoromethane	ug/l	<2		2	2	2 00	16	0			< 2				< 2			< 2			< 2			< 2			< 2				< 2					< 2			< 2		
1634 04 4	Methyl Tertiary Butyl Ether	ug/l	<0 1		9 9	0 1	1 68	16	0			< 0 1				< 0 1			< 0 1			< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			9 2		
74 87 3	Chloromethane	ug/l	<3		3	3	3 00	16	0			< 3				< 3			< 3			< 3			< 3			< 3				< 3					< 3			< 3		
75 01 4	Vinyl Chloride	ug/l	<0 1	0 5	0 1	0 1	0 10	16	0	0%	0 20	< 0 1				< 0 1			< 0 1			< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 0 1		
74 83 9	Bromomethane	ug/l	<1		1	1	1 00	16	0			< 1				< 1			< 1			< 1			< 1			< 1				< 1					< 1			< 1		
75 00 3	Chloroethane	ug/l	<3		3	3	3 00	16	0			< 3				< 3			< 3			< 3			< 3			< 3				< 3					< 3			< 3		
75 69 4	Trichlorofluoromethane	ug/l	<3		3	3	3 00	16	0			< 3				< 3			< 3			< 3			< 3			< 3				< 3					< 3			< 3		
75 35 4	1 1 Dichloroethene (1 1 DCE)	ug/l	<3		3	3	3 00	16	0			< 3				< 3			< 3			< 3			< 3			< 3				< 3					< 3			< 3		
75 09 2	Dichloromethane (DCM)	ug/l	<3	20	16	3	3 81	16	0	0%	0 80	< 3				< 3			< 3			< 3			< 3			< 3				< 3					< 3			16		
156 60 5	trans 1 2 Dichloroethene	ug/l	<3		3	3	3 00	16	0			< 3				< 3			< 3			< 3			< 3			< 3				< 3					< 3			< 3		
75 34 3	1,1 Dichloroethane	ug/l	<3	3	3	3	3 00	16	0	0%	1 00	< 3				< 3			< 3			< 3			< 3			< 3				< 3					< 3			< 3		
156 59 2	cis 1 2 Dichloroethene	ug/l	<3		3	3	3 00	16	0			< 3				< 3			< 3			< 3			< 3			< 3				< 3					< 3			< 3		
594 20 7	2,2 Dichloropropane	ug/l	<1		1	1	1 00	16	0			< 1				< 1			< 1			< 1			< 1			< 1				< 1					< 1			< 1		
74 97 5	Bromochloromethane	ug/l	<2		2	2	2 00	16	0			< 2				< 2			< 2			< 2			< 2			< 2				< 2					< 2			< 2		
67 66 3	Chloroform	ug/l	<2		2	2	2 00	16	0			< 2				< 2			< 2			< 2			< 2			< 2				< 2					< 2			< 2		
71 55 6	1,1,1 Trichloroethane	ug/l	<2	100	2	2	2 00	16	0	0%	0 02	< 2				< 2			< 2			< 2			< 2			< 2				< 2					< 2			< 2		
563 58 6	1,1 Dichloropropene	ug/l	<3		3	3	3 00	16	0			< 3				< 3			< 3			< 3			< 3			< 3				< 3					< 3			< 3		
56 23 5	Carbon tetrachloride	ug/l	<2	12	2	2	2 00	16	0	0%	0 17	< 2				< 2			< 2			< 2			< 2			< 2				< 2					< 2			< 2		
107 06 2	1,2 Dichloroethane	ug/l	<2		2	2	2 00	16	0			< 2				< 2			< 2			< 2			< 2			< 2				< 2					< 2			< 2		
71 43 2	Benzene	ug/l	<0 5	1	8	0 5	2 92	16	7	44%	8 00	< 0 5				< 0 5			6 9			< 0 5			5 1			5 9				< 0 5					< 0 5			4 5		
79 01 6	Trichloroethene (TCE)	ug/l	<3		3	3	3 00	16	0			< 3				< 3			< 3			< 3			< 3			< 3				< 3					< 3			< 3		
78 87 5	1,2 Dichloropropane	ug/l	<2		2	2	2 00	16	0			< 2				< 2			< 2			< 2			< 2			< 2				< 2					< 2			< 2		
74 95 3	Dibromomethane	ug/l	<3		3	3	3 00	16	0			< 3				< 3			< 3			< 3			< 3			< 3				< 3					< 3			< 3		
75 27 4	Bromodichloromethane	ug/l	<2		2	2	2 00	16	0			< 2				< 2			< 2			< 2			< 2			< 2				< 2					< 2			< 2		
10061 01 5	cis 1 3 Dichloropropene	ug/l	<2		2	2	2 00	16	0			< 2				< 2			< 2			< 2			< 2			< 2				< 2					< 2			< 2		
108 88 3	Toluene	ug/l	<0 5	50	750 8	0 5	109 62	16	4	25%	15 02	< 0 5				< 0 5			750 8			< 0 5			42 7			479 6				39 7					< 0 5			313 7		
10061 02 6	trans 1 3 Dichloropropene	ug/l	<2		2	2	2 00	16	0			< 2				< 2			< 2			< 2			< 2			< 2				< 2					< 2			< 2		
79 00 5	1,1,2 Trichloroethane	ug/l	<2	400	2	2	2 00	16	0	0%	0 01	< 2				< 2			< 2			< 2			< 2			< 2				< 2					< 2			< 2		
127 18 4	Tetrachloroethene (PCE)	ug/l	<3	10	3	3	3 00	16	0	0%	0 30	< 3				< 3			< 3			< 3			< 3			< 3				< 3					< 3			< 3		
142 28 9	1,3 Dichloropropane	ug/l	<2		2	2	2 00	16	0			< 2				< 2			< 2			< 2			< 2			< 2				< 2					< 2			< 2		
124 48 1	Dibromochloromethane	ug/l	<2		2	2	2 00	16	0			< 2				< 2			< 2			< 2			< 2			< 2				< 2					< 2			< 2		
106 93 4	1,2 Dibromoethane	ug/l	<2		2	2	2 00	16	0			< 2				< 2			< 2			< 2			< 2			< 2				< 2					< 2			< 2		
108 90 7	Chlorobenzene	ug/l	<2		2	2	2 00	16	0			< 2				< 2			< 2			< 2			< 2			< 2				< 2					< 2			< 2		
630 20 6	1,1,1,2 Tetrachloroethane	ug/l	<2		2	2	2 00	16	0			< 2				< 2			< 2			< 2			< 2			< 2				< 2					< 2			< 2		
100 41 4	Ethylbenzene	ug/l	<0 5	20	88 3	0 5	13 75	16	3	19%	4 42	< 0 5				< 0 5			12 7			< 0 5			33 8			10 7				< 0 5					< 0 5			88 3		
	p/m Xylene	ug/l	<1	30	323	1	32 13	16	3	19%	10 77	< 1				< 1			13			< 1			41			21				< 1					< 1			323		
95 47 6	o Xylene	ug/l	<0 5	30	90	0 5	10 14	16	1	6%	3 00	< 0 5				< 0 5			4 8			< 0 5			12 9			9 3				< 0 5					< 0 5			90		
100 42 5	Styrene	ug/l	<2	50	16	2	2 88	16	0	0%	0 32	< 2				< 2			< 2			< 2			< 2			< 2				< 2					< 2			< 2		
75 25 2	Bromoform	ug/l	<2	100	2	2	2 00	16	0	0%	0 02	< 2				< 2			< 2			< 2			< 2			< 2				< 2					< 2			< 2		
98 82 8	Isopropylbenzene	ug/l	<3		3	3	3 00	16	0			< 3				< 3			< 3			< 3			< 3			< 3				< 3					< 3			< 3		
79 34 5	1,1,2,2 Tetrachloroethane	ug/l	<4		4	4	4 00	16	0			< 4				< 4			< 4			< 4			< 4			< 4				< 4					< 4			< 4		
108 86 1	Bromobenzene	ug/l	<2		2	2	2 00	16	0			< 2				< 2			< 2			< 2			< 2			< 2				< 2					< 2			< 2		
96 18 4	1,2,3 Trichloropropane	ug/l	<3		3	3	3 00	16	0			< 3				< 3			< 3			< 3			< 3			< 3				< 3					< 3			< 3		
103 65 1	Propylbenzene	ug/l	<3		3	3	3 00	16	0			< 3				< 3			< 3			< 3			< 3			< 3				< 3					< 3			< 3		
95 49 8	2 Chlorotoluene	ug/l	<3		3	3	3 00	16	0			< 3				< 3			< 3			< 3			< 3			< 3				< 3					< 3			< 3		
108 67 8	1,3,5 Trimethylbenzene	ug/l	<3		6	3	3 19	16	0			< 3				< 3			< 3			< 3			< 3			< 3				< 3					< 3			6		
106 43 4	4 Chlorotoluene	ug/l	<3		3	3	3 00	16	0			< 3				< 3			< 3			< 3			< 3			< 3				< 3					< 3			< 3		
98 06 6	tert Butylbenzene	ug/l	<3		3	3	3 00	16	0			< 3				< 3			< 3			< 3			< 3			< 3				< 3					< 3			< 3		
95 63 6	1,2,4 Trimethylbenzene	ug/l	<3		19	3	4 88	16	0			< 3				< 3			< 3			< 3			8			< 3				< 3					< 3			19		
135 98 8	sec Butylbenzene	ug/l	<3		3	3	3 00	16	0			< 3				< 3			< 3			< 3			< 3			< 3				< 3					< 3			< 3		
99 87 6	4 Isopropyltoluene	ug/l	<3		41	3	6 13	16	0			< 3				< 3			< 3			< 3			41			< 3				< 3					< 3			< 3		
541 73 1	1,3 Dichlorobenzene	ug/l	<3		3	3	3 00	16	0			< 3				< 3			< 3			< 3			< 3			< 3				< 3					< 3			< 3		
106 46 7	1,4 Dichlorobenzene	ug/l	<3		3	3	3 00	16	0			< 3				< 3			< 3			< 3			< 3			< 3				< 3					< 3			< 3		
104 51 8	n Butylbenzene	ug/l	<3		3	3	3 00	16	0			< 3				< 3			< 3			< 3			< 3			< 3				< 3					< 3			< 3		

Citywaste Monitoring Final - Leachate Boreholes

Report: **Liquid**
JE Job No: 15/6896
Client: WYG
Client ref: Citywaste
Location: Citywaste
Contact [redacted]

			Sample ID									BH105	BH105	BH105	BH105	BH202	BH202	BH202	BH203	BH203	BH203	BH205	BH205	BH205	BH207	BH207	BH207	BH208	BH208	BH208	BH208	BH209	BH209	BH209	BH209	BH209	BH212	BH212	BH212	BH213	BH213
			Depth												7 00												4 00														
			COC No / misc																																						
			Containers									V P G		V H N P G	V H HN P G	V H P G		V H N P G	V H P G	V H N P G	V H HN P G	V P G		V H N P G	V P G	V H N P G	V H HN P G	V H P G		V H N P G	V H HN P G	V H P G		V H N P G	V H HN P G	V H HN P G	V H P G		V H HN P G	V H P G	V H N P G
			Sample Type									Liquid		Ground Water	Ground Water	Ground Water		Ground Water	Ground Water	Ground Water	Ground Water	Liquid		Ground Water	Liquid	Ground Water	Ground Water	Liquid		Ground Water	Ground Water	Liquid		Ground Water	Ground Water	Ground Water	Ground Water		Ground Water	Liquid	Ground Water
			Sampled Date									29/04/2015		08/03/2016	15/06/2016	30/04/2015		08/03/2016	30/04/2015	08/03/2016	16/06/2016	29/04/2015		08/03/2016	28/04/2015	09/03/2016	14/06/2016	29/04/2015		07/03/2016	23/06/2016	29/04/2015		07/03/2016	15/06/2016	23/06/2016	30/04/2015		23/06/2016	29/04/2015	09/03/2016
			Sample Received Date									02/05/2015	13/05/15	11/03/2016	21/06/2016	06/05/2015	13/05/15	11/03/2016	06/05/2015	11/03/2016	21/06/2016	02/05/2015		11/03/2016	02/05/2015	12/03/2016	21/06/2016	02/05/2015	12/05/15	10/03/2016	25/06/2016	02/05/2015	12/05/15	10/03/2016	21/06/2016	25/06/2016	06/05/2015	13/05/15	25/06/2016	02/05/2015	12/03/2016
			J E Sample No									84 88		64 70	25 30	163 169		100 106	191 197	93 99	43 48	79 83		57 63	41 45	229 235	1 6	72 78		9 16	145 150	89 95		25 32	55 60	67 72	219 225		115 120	115 121	256 262
			Batch Number									1		1	1	2		1	2	1	1	1		1	1	2	1	1		1	3	1		1	1	2	2		3	1	2
95 50 1	1,2 Dichlorobenzene	ug/l	<3	1000	3	3	3 00	16	0	0%	0 00	< 3				< 3			< 3			< 3			< 3			< 3				< 3					< 3			< 3	
96 12 8	1 2 Dibromo 3 chloropropane	ug/l	<2		2	2	2 00	16	0			< 2				< 2			< 2			< 2			< 2			< 2				< 2					< 2			< 2	
120 82 1	1,2,4 Trichlorobenzene	ug/l	<3	0 4	3	3	3 00	16	0	0%	7 50	< 3				< 3			< 3			< 3			< 3			< 3				< 3					< 3			< 3	
87 68 3	Hexachlorobutadiene	ug/l	<3	0 1	3	3	3 00	16	0	0%	30 00	< 3				< 3			< 3			< 3			< 3			< 3				< 3					< 3			< 3	
87 61 6	1,2,3 Trichlorobenzene	ug/l	<3		3	3	3 00	16	0			< 3				< 3			< 3			< 3			< 3			< 3				< 3					< 3			< 3	
2037 26 5	Surrogate Recovery Toluene D8	%	<0		106	90	99 19	16	0			97				106			104			98			100			98				97					104			90	
460 00 4	Surrogate Recovery 4-Bromofluorobenzene	%	<0		108	83	99 75	16	0			96				104			108			100			102			100				99					108			83	
	SVOC MS																																								
	Phenols																																								
95 57 8	2 Chlorophenol	ug/l	<1	50	1	1	1 00	17	0	0%	0 02	< 1				< 1			< 1		< 1	< 1			< 1			< 1				< 1					< 1			< 1	
95 48 7	2 Methylphenol	ug/l	<0 5	100	33 1	0 5	7 78	17	0	0%	0 33	< 0 5				< 0 5			25 3		< 0 5	< 0 5			4 9			6				< 0 5					< 0 5			21 8	
88 75 5	2 Nitrophenol	ug/l	<0 5		0 5	0 5	0 50	17	0			< 0 5				< 0 5			< 0 5		< 0 5	< 0 5			< 0 5			< 0 5				< 0 5					< 0 5			< 0 5	
120 83 2	2,4 Dichlorophenol	ug/l	<0 5	20	31	0 5	3 42	17	1	6%	1 55	< 0 5				< 0 5			31		< 0 5	< 0 5			< 0 5			< 0 5				< 0 5					< 0 5			< 0 5	
105 67 9	2,4 Dimethylphenol	ug/l	<1	100	2	1	1 06	17	0	0%	0 02	< 1				< 1			< 1		< 1	< 1			2			< 1				< 1					< 1			< 1	
95 95 4	2,4,5 Trichlorophenol	ug/l	<0 5		0 5	0 5	0 50	17	0			< 0 5				< 0 5			< 0 5		< 0 5	< 0 5			< 0 5			< 0 5				< 0 5					< 0 5			< 0 5	
88 06 2	2,4,6 Trichlorophenol	ug/l	<1	200	1	1	1 00	17	0	0%	0 01	< 1				< 1			< 1		< 1	< 1			< 1			< 1				< 1					< 1			< 1	
59 50 7	4 Chloro 3 methylphenol	ug/l	<0 5	40	0 5	0 5	0 50	17	0	0%	0 01	< 0 5				< 0 5			< 0 5		< 0 5	< 0 5			< 0 5			< 0 5				< 0 5					< 0 5			< 0 5	
106 44 5	4 Methylphenol	ug/l	<1	100	53920	1	5188 94	17	7	41%	539 20	< 1				< 1			5530		17	< 1			124			5164				659					< 1			12739	
100 02 7	4 Nitrophenol	ug/l	<10		10	10	10 00	17	0			< 10				< 10			< 10		< 10	< 10			< 10			< 10				< 10					< 10			< 10	
87 86 5	Pentachlorophenol	ug/l	<1	2	1	1	1 00	17	0	0%	0 50	< 1				< 1			< 1		< 1	< 1			< 1			< 1				< 1					< 1			< 1	
108 95 2	Phenol	ug/l	<1	7 7	3113	1	521 18	17	6	35%	404 29	< 1				< 1			976		< 1	< 1			6			188				114					< 1			2250	
	PAHs																																								
91 58 7	2 Chloronaphthalene	ug/l	<1		1	1	1 00	17	0			< 1				< 1			< 1		< 1	< 1			< 1			< 1				< 1					< 1			< 1	
91 57 6	2 Methylnaphthalene	ug/l	<1		2	1	1 06	17	0			< 1				< 1			< 1		< 1	< 1			< 1			< 1				< 1					< 1			< 1	
	Phthalates																																								
117 81 7	Bis(2 ethylhexyl) phthalate	ug/l	<5	8	5	5	5 00	17	0	0%	0 63	< 5				< 5			< 5		< 5	< 5			< 5			< 5				< 5					< 5			< 5	
85 68 7	Butylbenzyl phthalate	ug/l	<1		2	1	1 06	17	0			< 1				< 1			2		< 1	< 1			< 1			< 1				< 1					< 1			< 1	
84 74 2	Di n butyl phthalate	ug/l	<1 5		1 5	1 5	1 50	17	0			< 1 5				< 1 5			< 1 5		< 1 5	< 1 5			< 1 5			< 1 5				< 1 5					< 1 5			< 1 5	
117 84 0	Di n Octyl phthalate	ug/l	<1		1	1	1 00	17	0			< 1				< 1			< 1		< 1	< 1			< 1			< 1				< 1					< 1			< 1	
84 66 2	Diethyl phthalate	ug/l	<1	200	1	1	1 00	17	0	0%	0 01	< 1				< 1			< 1		< 1	< 1			< 1			< 1				< 1					< 1			< 1	
131 11 3	Dimethyl phthalate	ug/l	<1	800	1	1	1 00	17	0	0%	0 00	< 1				< 1			< 1		< 1	< 1			< 1			< 1				< 1					< 1			< 1	
	Other SVOCs																																								
95 50 1	1,2 Dichlorobenzene	ug/l	<1	1000	1	1	1 00	17	0	0%	0 00	< 1				< 1			< 1		< 1	< 1			< 1			< 1				< 1					< 1			< 1	
120 82 1	1,2,4 Trichlorobenzene	ug/l	<1	0 4	1	1	1 00	17	0	0%	2 50	< 1				< 1			< 1		< 1	< 1			< 1			< 1				< 1					< 1			< 1	
541 73 1	1,3 Dichlorobenzene	ug/l	<1		1	1	1 00	17	0			< 1				< 1			< 1		< 1	< 1			< 1			< 1				< 1					< 1			< 1	
106 46 7	1,4 Dichlorobenzene	ug/l	<1	300	1	1	1 00	17	0	0%	0 00	< 1				< 1			< 1		< 1	< 1			< 1			< 1				< 1					< 1			< 1	
88 74 4	2 Nitroaniline	ug/l	<1		1	1	1 00	17	0			< 1				< 1			< 1		< 1	< 1			< 1			< 1				< 1					< 1			< 1	
121 14 2	2,4 Dinitrotoluene	ug/l	<0 5		0 5	0 5	0 50	17	0			< 0 5				< 0 5			< 0 5		< 0 5	< 0 5			< 0 5			< 0 5				< 0 5					< 0 5			< 0 5	
606 20 2	2,6 Dinitrotoluene	ug/l	<1		1	1	1 00	17	0			< 1				< 1			< 1		< 1	< 1			< 1			< 1				< 1					< 1			< 1	
99 09 2	3 Nitroaniline	ug/l	<1		1	1	1 00	17	0			< 1				< 1			< 1		< 1	< 1			< 1			< 1				< 1					< 1			< 1	
101 55 3	4 Bromophenyl phenyl ether	ug/l	<1		1	1	1 00	17	0			< 1				< 1			< 1		< 1	< 1			< 1			< 1				< 1					< 1			< 1	
106 47 8	4 Chloroaniline	ug/l	<1		2	1	1 06	17	0			< 1				< 1			< 1		< 1	< 1			< 1			< 1				< 1					< 1			< 1	
7005 72 3	4 Chlorophenylphenylether	ug/l	<1		1	1	1 00	17	0			< 1				< 1			< 1		< 1	< 1			< 1			< 1				< 1					< 1			< 1	
100 01 6	4 Nitroaniline	ug/l	<0 5		0 5	0 5	0 50	17	0			< 0 5				< 0 5			< 0 5		< 0 5	< 0 5			< 0 5			< 0 5				< 0 5					< 0 5			< 0 5	
103 33 3	Azobenzene	ug/l	<0 5		0 5	0 5	0 50	17	0			< 0 5				< 0 5			< 0 5		< 0 5	< 0 5			< 0 5			< 0 5				< 0 5					< 0 5			< 0 5	
111 91 1	Bis(2 chloroethoxy)methane	ug/l	<0 5		0 5	0 5	0 50	17	0			< 0 5				< 0 5			< 0 5		< 0 5	< 0 5			< 0 5			< 0 5				< 0 5					< 0 5			< 0 5	
111 44 4	Bis(2 chloroethyl)ether	ug/l	<1		1	1	1 00	17	0			< 1				< 1			< 1		< 1	< 1			< 1			< 1				< 1					< 1			< 1	
86 74 8	Carbazole	ug/l	<0 5		0 5	0 5	0 50	17	0			< 0 5				< 0 5			< 0 5		< 0 5	< 0 5			< 0 5			< 0 5				< 0 5					< 0 5			< 0 5	
132 64 9	Dibenzofuran	ug/l	<0 5		0 5	0 5	0 50	17	0			< 0 5				< 0 5			< 0 5		< 0 5	< 0 5			< 0 5			< 0 5				< 0 5					< 0 5			< 0 5	
118 74 1	Hexachlorobenzene	ug/l	<1	0 01	1	1	1 00	17	0	0%	100 00	< 1				< 1			< 1		< 1	< 1			< 1			< 1				< 1					< 1			< 1	
87 68 3	Hexachlorobutadiene	ug/l	<1	0 1	1	1	1 00	17	0	0%	10 00	< 1				< 1			< 1		< 1	< 1			< 1			< 1				< 1					< 1			< 1	
77 47 4	Hexachlorocyclopentadiene	ug/l	<1		1	1	1 00	17	0			< 1				< 1			< 1		< 1	< 1			< 1			< 1				< 1					< 1			< 1	
67 72 1	Hexachloroethane	ug/l	<1		1	1	1 00	17	0			< 1				< 1			< 1		< 1	< 1			< 1			< 1				< 1					< 1			< 1	
78 59 1	Isophorone	ug/l	<0 5		0 5	0 5	0 50	17	0			< 0 5				< 0 5			< 0 5		< 0 5	< 0 5			< 0 5			< 0 5				< 0 5					< 0 5			< 0 5	
621 64 7	N nitrosodi n propylamine	ug/l	<0 5		0 5	0 5	0 50	17	0			< 0 5				< 0 5			< 0 5		< 0 5	< 0 5			< 0 5			< 0 5				< 0 5					< 0 5			< 0 5	
98 95 3	Nitrobenzene	ug/l	<1		1	1	1 00	17	0			< 1				< 1			< 1		< 1	< 1			< 1			< 1				< 1					< 1			< 1	
	Pesticides MS																																								
	Organochlorine Pesticides																																								
309 00 2	Aldrin	ug/l	<0 01	0 03	0 2	0 01	0 04	17	1	6%	6 67	< 0 01				< 0 01			< 0 01		0 03	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
319 84 6	Alpha HCH (BHC)	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
319 85 7	Beta HCH (BHC)	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
1897 45 6	Chlorothalonil	ug/l	<0 01	0 1	2 5	0 01	0 19	17	0	0%	25 00	< 0 01				< 0 01			< 0 01		< 2 5	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
5103 71 9	cis Chlordane	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
319 86 8	Delta HCH (BHC)	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
60 57 1	Dieldrin	ug/l	<0 01	0 03	0 2	0 01	0 04	17	0	0%	6 67	< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
959 98 8	Endosulphan I	ug/l	<0 01	0 005	0 2	0 01	0 04	17	0	0%	40 00	< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
33213 65 9	Endosulphan II	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
1031 07 8	Endosulphan sulphate	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
72 20 8	Endrin	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
58 89 9	Gamma HCH (BHC)	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
76 44 8	Heptachlor	ug/l	<0 01	0 03	0 2	0 01	0 04	17	0	0%	6 67	< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
1024 57 3	Heptachlor Epoxide	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
118 74 1	Hexachlorobenzene	ug/l	<0 01	0 01	0 2	0 01	0 04	17	1	6%	20 00	< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
465 73 6	Isodrin	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
3424 82 6	o,p DDE	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
789 02 6	o,p DDT	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
30667 99 3	o,p Methoxychlor	ug/l	<0 01	20	0 2	0 01	0 04	17	0	0%	0 01	< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
53 19 0	o,p TDE	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
72 55 9	p,p DDE	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
50 29 3	p,p DDT	ug/l	<0 01	0 01	0 2	0 01	0 04	17	0	0%	20 00	< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
72 43 5	p,p Methoxychlor	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
72 54 8	p,p TDE	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
40487 42 1	Pendimethalin	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
61949 76 6	Permethrin I	ug/l	<0 01	0 01	0 2	0 01	0 04	17	0	0%	20 00	< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
61949 77 7	Permethrin II	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
82 68 8	Quintozene (PCNB)	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
117 18 0	Tecnazene	ug/l	<0 01	1	0 2	0 01	0 04	17	0	0%	0 20	< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
297 78 9	Telodrin	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
5103 74 2	trans Chlordane	ug/l	<0 01		0 2	0 01	0 05	15	0			< 0 01				< 0 01			< 0 01						< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
					0 01	0 01	0 01	2	0												< 0 01	< 0 01																			
43121 43 3	Triadimefon	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
2303 17 5	Triallate	ug/l	<0 01	0 25	0 2	0 01	0 04	17	0	0%	0 80	< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
1582 09 8	Trifluralin	ug/l	<0 01	0 03	0 2	0 01	0 04	17	0	0%	6 67	< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
	Organophosphorus Pesticides				0	0	#DIV/0!	0	0																																
2642 71 9	Azinphos ethyl	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
86 50 0	Azinphos methyl	ug/l	<0 01	0 01	0 2	0 01	0 04	17	0	0%	20 00	< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
786 19 6	Carbophenothion	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
470 90 6	Chlorfenvinphos	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
2921 88 2	Chlorpyrifos	ug/l	<0 01	0 03	0 2	0 01	0 05	17	1	6%	6 67	< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			0 07				< 0 01					< 0 01			< 0 2	
5598 13 0	Chlorpyrifos methyl	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
333 41 5	Diazinon	ug/l	<0 01	0 01	1 95	0 01	0 16	17	1	6%	195 00	< 0 01				< 0 01			1 95		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
62 73 7	Dichlorvos	ug/l	<0 01	0 001	0 2	0 01	0 04	17	0	0%	200 00	< 0 01				< 0 01			< 0 01		< 0 02	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
298 04 4	Disulfoton	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
60 51 5	Dimethoate	ug/l	<0 01	0 48	0 2	0 01	0 04	17	0	0%	0 42	< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
563 12 2	Ethion	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
56 38 2	Ethyl Parathion (Parathion)	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
38260 54 7	Etrimphos	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
122 14 5	Fenitrothion	ug/l	<0 01	0 01	0 2	0 01	0 04	17	0	0%	20 00	< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
55 38 9	Fenthion	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
121 75 5	Malathion	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
298 00 0	Methyl Parathion	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
7786 34 7	Mevinphos	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
2310 17 0	Phosalone	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
29232 93 7	Pirimiphos Methyl	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	

Citywaste Monitoring Final - Leachate Boreholes

Report: Liquid
JE Job No: 15/6896
Client: WYG
Client ref: Citywaste
Location: Citywaste
Contact [redacted]

			Sample ID									BH105	BH105	BH105	BH105	BH202	BH202	BH202	BH203	BH203	BH203	BH205	BH205	BH205	BH207	BH207	BH207	BH208	BH208	BH208	BH208	BH209	BH209	BH209	BH209	BH209	BH212	BH212	BH212	BH213	BH213
			Depth												7 00												4 00														
			COC No / misc																																						
			Containers									V P G		V H N P G	V H HN P G	V H P G		V H N P G	V H P G	V H N P G	V H HN P G	V P G		V H N P G	V P G	V H N P G	V H HN P G	V H P G		V H N P G	V H HN P G	V H P G		V H N P G	V H HN P G	V H HN P G	V H P G		V H HN P G	V H P G	V H N P G
			Sample Type									Liquid		Ground Water	Ground Water	Ground Water		Ground Water	Ground Water	Ground Water	Ground Water	Liquid		Ground Water	Liquid	Ground Water	Ground Water	Liquid		Ground Water	Ground Water	Liquid		Ground Water	Ground Water	Ground Water	Ground Water		Ground Water	Liquid	Ground Water
			Sampled Date									29/04/2015		08/03/2016	15/06/2016	30/04/2015		08/03/2016	30/04/2015	08/03/2016	16/06/2016	29/04/2015		08/03/2016	28/04/2015	09/03/2016	14/06/2016	29/04/2015		07/03/2016	23/06/2016	29/04/2015		07/03/2016	15/06/2016	23/06/2016	30/04/2015		23/06/2016	29/04/2015	09/03/2016
			Sample Received Date									02/05/2015	13/05/15	11/03/2016	21/06/2016	06/05/2015	13/05/15	11/03/2016	06/05/2015	11/03/2016	21/06/2016	02/05/2015		11/03/2016	02/05/2015	12/03/2016	21/06/2016	02/05/2015	12/05/15	10/03/2016	25/06/2016	02/05/2015	12/05/15	10/03/2016	21/06/2016	25/06/2016	06/05/2015	13/05/15	25/06/2016	02/05/2015	12/03/2016
			J E Sample No									84 88		64 70	25 30	163 169		100 106	191 197	93 99	43 48	79 83		57 63	41 45	229 235	1 6	72 78		9 16	145 150	89 95		25 32	55 60	67 72	219 225		115 120	115 121	256 262
			Batch Number									1		1	1	2		1	2	1	1	1		1	1	2	1	1		1	3	1		1	1	2	2		3	1	2
31218 83 4	Propetamphos	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
24017 47 8	Triazophos	ug/l	<0 01		0 2	0 01	0 04	17	0			< 0 01				< 0 01			< 0 01		< 0 01	< 0 01			< 0 01			< 0 01				< 0 01					< 0 01			< 0 2	
06/05/3813	Benazolin	ug/l	<0 1		2	0 1	0 44	17	0			< 0 1				< 0 1			< 0 1		< 0 1	< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 2	
25057 89 0	Bentazone	ug/l	<0 1	500	2	0 1	0 44	17	0	0%	0 00	< 0 1				< 0 1			< 0 1		< 0 1	< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 2	
1689 84 5	Bromoxynil	ug/l	<0 1		2	0 1	0 44	17	0			< 0 1				< 0 1			< 0 1		< 0 1	< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 2	
1702 17 6	Clopyralid	ug/l	<0 1		2	0 1	0 44	17	0			< 0 1				< 0 1			< 0 1		< 0 1	< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 2	
122 88 3	4 CPA	ug/l	<0 1		2	0 1	0 44	17	0			< 0 1				< 0 1			< 0 1		< 0 1	< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 2	
94 75 7	2,4 D	ug/l	<0 1		2	0 1	0 44	17	0			< 0 1				< 0 1			< 0 1		< 0 1	< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 2	
94 80 4	2,4 DB	ug/l	<0 1		2	0 1	0 44	17	0			< 0 1				< 0 1			< 0 1		< 0 1	< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 2	
1918 00 9	Dicamba	ug/l	<0 1		2	0 1	0 44	17	0			< 0 1				< 0 1			< 0 1		< 0 1	< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 2	
120 36 5	Dichloroprop	ug/l	<0 1		2	0 1	0 44	17	0			< 0 1				< 0 1			< 0 1		< 0 1	< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 2	
40843 25 2	Diclofop	ug/l	<0 1		2	0 1	0 44	17	0			< 0 1				< 0 1			< 0 1		< 0 1	< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 2	
93 72 1	Fenoprop	ug/l	<0 1		2	0 1	0 44	17	0			< 0 1				< 0 1			< 0 1		< 0 1	< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 2	
58667 63 3	Flamprop	ug/l	<0 1		2	0 1	0 44	17	0			< 0 1				< 0 1			< 0 1		< 0 1	< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 2	
52756 22 6	Flamprop isopropyl	ug/l	<0 1		2	0 1	0 44	17	0			< 0 1				< 0 1			< 0 1		< 0 1	< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 2	
1689 83 4	Ioxynil	ug/l	<0 1		2	0 1	0 44	17	0			< 0 1				< 0 1			< 0 1		< 0 1	< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 2	
94 74 6	MCPA	ug/l	<0 1		2	0 1	0 44	17	0			< 0 1				< 0 1			< 0 1		< 0 1	< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 2	
94 81 5	MCPB	ug/l	<0 1		2	0 1	0 44	17	0			< 0 1				< 0 1			< 0 1		< 0 1	< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 2	
7085 19 0	Mecoprop	ug/l	<0 1	18	2	0 1	0 44	17	0	0%	0 11	< 0 1				< 0 1			< 0 1		< 0 1	< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 2	
01/02/1918	Picloram	ug/l	<0 1		2	0 1	0 44	17	0			< 0 1				< 0 1			< 0 1		< 0 1	< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 2	
87 86 5	Pentachlorophenol	ug/l	<0 1	0 4	2	0 1	0 44	17	0	0%	5 00	< 0 1				< 0 1			< 0 1		< 0 1	< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 2	
93 76 5	2,4,5 T	ug/l	<0 1		2	0 1	0 44	17	0			< 0 1				< 0 1			< 0 1		< 0 1	< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 2	
50 31 7	2,3,6 TBA	ug/l	<0 1		2	0 1	0 44	17	0			< 0 1				< 0 1			< 0 1		< 0 1	< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 2	
55335 06 3	Triclopyr	ug/l	<0 1		2	0 1	0 44	17	0			< 0 1				< 0 1			< 0 1		< 0 1	< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 2	
1912 24 9	Atrazine	ug/l	<1	0 6	20	0 01	4 29	17	0	0%	33 33	< 1				< 1			< 1		< 0 01	< 1			< 1			< 1				< 1					< 1			< 20	
122 34 9	Simazine	ug/l	<1	1	20	0 08	4 30	17	0	0%	20 00	< 1				< 1			< 1		0 08	< 1			< 1			< 1				< 1					< 1			< 20	
32598 13 3	PCB 77	ug/l	<0 1		0 1	0 1	0 10	16	0			< 0 1				< 0 1			< 0 1			< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 0 1	
70362 50 4	PCB 81	ug/l	<0 1		0 1	0 1	0 10	16	0			< 0 1				< 0 1			< 0 1			< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 0 1	
32598 14 4	PCB 105	ug/l	<0 1		0 1	0 1	0 10	16	0			< 0 1				< 0 1			< 0 1			< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 0 1	
74472 37 0	PCB 114	ug/l	<0 1		0 1	0 1	0 10	16	0			< 0 1				< 0 1			< 0 1			< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 0 1	
31508 00 6	PCB 118	ug/l	<0 1		0 1	0 1	0 10	16	0			< 0 1				< 0 1			< 0 1			< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 0 1	
65510 44 3	PCB 123	ug/l	<0 1		0 1	0 1	0 10	16	0			< 0 1				< 0 1			< 0 1			< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 0 1	
57465 28 8	PCB 126	ug/l	<0 1		0 1	0 1	0 10	16	0			< 0 1				< 0 1			< 0 1			< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 0 1	
38380 08 4	PCB 156	ug/l	<0 1		0 1	0 1	0 10	16	0			< 0 1				< 0 1			< 0 1			< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 0 1	
69782 90 7	PCB 157	ug/l	<0 1		0 1	0 1	0 10	16	0			< 0 1				< 0 1			< 0 1			< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 0 1	
52663 72 6	PCB 167	ug/l	<0 1		0 1	0 1	0 10	16	0			< 0 1				< 0 1			< 0 1			< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 0 1	
32774 16 6	PCB 169	ug/l	<0 1		0 1	0 1	0 10	16	0			< 0 1				< 0 1			< 0 1			< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 0 1	
39635 31 9	PCB 189	ug/l	<0 1		0 1	0 1	0 10	16	0			< 0 1				< 0 1			< 0 1			< 0 1			< 0 1			< 0 1				< 0 1					< 0 1			< 0 1	
	Total 12 PCBs	ug/l	<1 2		1 2	1 2	1 20	16	0			< 1 2				< 1 2			< 1 2			< 1 2			< 1 2			< 1 2				< 1 2					< 1 2			< 1 2	
16984 48 8	Fluoride	mg/l	<0 3	1 5	0 3	0 3	0 30	12	0	0%	0 20	< 0 3				< 0 3						< 0 3			< 0 3			< 0 3				< 0 3					< 0 3				
95 57 8	2 Chlorophenol	ug/l	<0 5	50	25	0 5	2 63	23	0	0%	0 50	< 0 5				< 0 5			< 0 5		< 0 5	< 0 5			< 0 5		< 0 5	< 0 5			< 0 5	< 0 5			< 0 5	< 0 5	< 0 5			< 0 5	
95 48 7	2 Methylphenol	ug/l	<0 5	100	25	0 5	4 63	23	0	0%	0 25	< 0 5				< 0 5			19 6		< 0 5	< 0 5			3 9		< 0 5	< 0 5			3 4	1			< 0 5	< 0 5	< 0 5			< 0 5	
88 75 5	2 Nitrophenol	ug/l	<0 5		25	0 5	2 85	23	0			< 0 5				< 0 5			< 0 5		< 0 5	< 0 5			< 0 5		< 0 5	< 0 5			< 0 5	< 0 5			< 0 5	< 0 5	< 0 5			< 0 5	
120 83 2	2,4 Dichlorophenol	ug/l	<0 5	20	34 1	0 5	4 09	23	1	4%	1 71	< 0 5				< 0 5			34 1		< 0 5	< 0 5			< 0 5		< 0 5	< 0 5			< 0 5	< 0 5			< 0 5	< 0 5	< 0 5			< 0 5	
105 67 9	2,4 Dimethylphenol	ug/l	<0 5	100	25	0 5	2 83	23	0	0%	0 25	< 0 5				< 0 5			< 0 5		< 0 5	< 0 5			1 7		1 2	< 0 5			< 0 5	< 0 5			< 0 5	< 0 5	< 0 5			< 0 5	
95 95 4	2,4,5 Trichlorophenol	ug/l	<0 5		25	0 5	2 63	23	0			< 0 5				< 0 5			< 0 5		< 0 5	< 0 5			< 0 5		< 0 5	< 0 5			< 0 5	< 0 5			< 0 5	< 0 5	< 0 5			< 0 5	
88 06 2	2,4,6 Trichlorophenol	ug/l	<0 5	200	25	0 5	2 63	23	0	0%	0 13	< 0 5				< 0 5			< 0 5		< 0 5	< 0 5			< 0 5		< 0 5	< 0 5			< 0 5	< 0 5			< 0 5	< 0 5	< 0 5			< 0 5	
59 50 7	4 Chloro 3 methylphenol	ug/l	<0 5	40	25	0 5	2 67	23	0	0%	0 63	< 0 5				< 0 5			< 0 5		< 0 5	< 0 5			< 0 5		< 0 5	< 0 5			1 3	< 0 5			< 0 5	< 0 5	< 0 5			< 0 5	
106 44 5	4 Methylphenol	ug/l	<0 5	100	68080 1	0 5	6675 27	23	9	39%	680 80	< 0 5				< 0 5			10978 5		17 3	< 0 5			100 5		1 3	4486 2			< 0 5	555 8			< 0 5	< 0 5	< 0 5			40020	
100 02 7	4 Nitrophenol	ug/l	<0 5		25	0 5	2 63	23	0			< 0 5				< 0 5			< 0 5		< 0 5	< 0 5			< 0 5		< 0 5	< 0 5			< 0 5	< 0 5			< 0 5	< 0 5	< 0 5			< 0 5	
87 86 5	Pentachlorophenol	ug/l	<0 5	2	25	0 5	2 63	23	0	0%	12 50	< 0 5				< 0 5			< 0 5		< 0 5	< 0 5			< 0 5		< 0 5	< 0 5			< 0 5	< 0 5			< 0 5	< 0 5	< 0 5			< 0 5	
108 95 2	Phenol	ug/l	<0 5	7 7	6681 2	0 5	681 44	23	8	35%	867 69	< 0 5				< 0 5			537 4		< 0 5	< 0 5			4 9		< 0 5	159 7			< 0 5	80 7			< 0 5	< 0 5	< 0 5			4417 4	
	Total Speciated Phenols MS	ug/l	<6		74777	6	7363 17	23	0			< 6				< 6			11570		17	< 6			111		< 6	4646			< 6	638			< 6	< 6	< 6			44437	
	Sulphate	mg/l	<0 05	250	1411 64	0 05	204 46	39	8	21%	5 65	2 63		4 79	81 26	9 81		34 36	129 96	6 19	90 33	87 82		84 14	1 44	< 0 05	2 35	1 2		< 0 05		87 2		8 63	3 01	53 99	51 76			1196 35	413 52
16887 00 6	Chloride	mg/l	<0 3	250	3851 1	9 8	702 36	39	13	33%	15 40	41 4		33 4	27 1	127 9		48 5	1156 9	431 4	217 9	146 3		103 3	228 9	175 9	302 5	29 2		22 5		267 3		138 1	95 1	152 1	28 9			3171 4	2153 6
14797 55 8	Nitrate as NO3	mg/l	<0 2	25	10 5	0 2	0 92	39	0	0%	0 42	< 0 2		0 4	0 4	< 0 2		0 4	< 0 2	0 8	0 4	< 0 2		0 4	0 4	0 6	0 5	< 0 2		0 3		< 0 2		0 5	0 6	0 6	< 0 2			< 0 2	< 0 2
14797 65 0	Nitrite as NO2	mg/l	<0 02	0 1	1 76	0 02	0 17	39	6	15%	17 60	< 0 02		< 0 02	< 0 02	< 0 02		< 0 02	< 0 02	< 0 02	< 0 02	< 0 02		< 0 02	< 0 02	< 0 02	< 0 02	< 0 02		< 0 02		< 0 02		< 0 02	< 0 02	< 0 02	< 0 02			1 76	< 0 02
	Ortho Phosphate as P	mg/l	<0 03		0 36	0 03	0 06	25	0			< 0 03			< 0 06	0 36			< 0 03		< 0 06	< 0 03			0 04		0 12	< 0 03				< 0 03			< 0 06	< 0 06	< 0 03			< 0 03	
	Total Oxdsed Ntrogen as N	mg/l	<0 2	1	2 4	0 2	0 27	39	1	3%	2 40	< 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			< 0 2	< 0 2
57 12 5	Total Cyanide	mg/l	<0 01	0 001	0 01	0 01	0 01	9	1	11%	10 00	< 0 01				< 0 01						< 0 01			0 01												< 0 01				
	Ammoniacal Ntrogen as N	mg/l	<0 03	0 39	1710 02	0 58	213 41	43	43	100%	4397 19	8 9		9 53	7	93 63		44 45	696 88	340 75	143 42	19 45		25 36	198	183 22	287 24	9 63		35 35	123 43	66 47		33 2	22 51	45 78	4 89		3	32 43	1709 42
	Ammoniacal Ntrogen as NH3	mg/l			2078 38	0 71	233 56	27	0					11 58	8 51			54 04		414 3	174 38			30 83		222 76	349 24			42 98	150 07			40 36	27 37	55 66			3 64		2078 38
	Ammoniacal Ntrogen as NH4	mg/l		0 39	2201 44	0 75	239 45	28	15	54%	5644 72			12 27	9 01			57 24		438 83	184 7	25 01		32 66		235 95	369 92			45 53	158 96			42 75	28 99	58 96			3 86		2201 44
64 19 7	Acetic Acid	mg/l	<1		12588	10	2328 19	16	0			< 10				< 10			4516			< 10			67			147				755					< 10			12588	
79 09 4	Propanoic Acid	mg/l	<1		7966	1	1303 31	16	0			< 1				< 1			2010			< 1			17			595				541					< 1			5593	
79 31 2 / 107 92 6	2 methyl p opanoic acid / Bu anoic acid	mg/l	<1		13395	1	2078 25	16	0			< 1				< 1			954			< 1			12			19				70					< 1			13395	
503 74 2	3 methyl butanoic acid	mg/l	<0 5		840	0 5	150 78	16	0			< 0 5				< 0 5			< 182 5			< 0 5			< 3			< 65				< 32 5					< 0 5			< 840	
109 52 4	Pentanoic acid	mg/l	<0 5		3324 8	0 5	503 40	16	0			< 0 5				< 0 5			622 5			< 0 5			5 8			20 1				46 2					< 0 5			3324 8	
646 07 1	4 methyl pentanoic acid	mg/l	<0 5		82 5	0 5	15 16	16	0			< 0 5				< 0 5			< 22 5			< 0 5			< 0 5			< 12 5				< 2 5					< 0 5			< 82 5	
142 62 1	Hexanoic acid	mg/l	<0 5		3499 3	0 5	521 28	16	0			< 0 5				< 0 5			628 3			< 0 5			2 9			2 4				12 9					< 0 5			3499 3	
111 14 8	Heptanoic acid	mg/l	<0 5		286	0 5	37 51	16	0			< 0 5				< 0 5			55 7			< 0 5			< 0 5			< 0 5				1					< 0 5			286	
					0	0	#DIV/0!	0	0																																
	Electr cal Conductivity @25C	uS/cm	<2		31641	445	7682 03	30	0			1195		1031		2652		1488	12908	5641		2517		2148	4168	3590		2030		2018		4090		2404			1060			30984	24349
	pH	pH units	<0 01		7 89	6 08	7 00	30	0			6 96		6 83		7 03		7 05	6 86	7 13		7 25		7 16	6 87	6 91		6 43		6 69		6 7		6 85			7 18			6 35	7 02
	Total Organic Carbon	mg/l	<2		21335	2	2931 07	30	0			15		22		56		28	4396	278		45		41	143	94		754		< 2		775		< 2			17			21335	8085
	Total Cations	mmolc/l	<0 00		389 22	0	78 53	30	0			12 74		11 3		24 96		13 98	164 88	49 33		30 81		25 21	0	26 63		24 6		24 18		55 93		27 94			12 44			367 2	200 46
	Total Anions	mmolc/l	<0 00		347 08	4 55	83 70	30	0			14 78		12 24		29 68		16 8	164 1	69 81		32 35		26 19	48 08	33 6		25 52		27 67		54 06		28 36			13 13			309 91	240 9
					0	0	#DIV/0!	0	0																																
	BOD (Settled)#				0	0	#DIV/0!	0	0																																
	BOD (Settled)#				0	0	#DIV/0!	0	0																																
	COD (Settled)#				0	0	#DIV/0!	0	0																																
	Total Suspended Solids#				1886	21	503 86	14	0					1495				37		469				944		166				310				267							1886
	Dissolved Oxygen	%			7	1	2 14	14	0					1				3		< 1				1		< 1				< 1				1							< 1

EQS

1 The Water Framework Directive (Priority Substances and Classification) Regulations (Northern Ireland) 2011 Inland waters

2 Groundwater Drinking Water Protected Areas The River Basin Districts Typology, Standards and Groundwater threshold values (Water Framework Directive) (England and Wales) Directions 2010

3 Freshwater EQS (AA)

DWS

1 Council Directive on the quality of water intended for human consumption (Drinking Water Directive)

2 The Water Supply (Water Quality) Regulations (Northern Ireland) 2007 (as amended)

Citywaste Monitoring Final - Leachate Boreholes

Jones Environmental Laboratory

Report:	Liquid
JE Job No:	15/5896
Client:	WYG
Client ref:	Citywaste
Location:	Citywaste
Contact	[redacted]

	BH213	BH214	BH214	BH214	BH215	BH216	BH216	BH216	BH216	BH217	BH217	BH217	BH218	BH218	BH218	BH218	BH219	BH219	BH219	BH219	BH220	BH220	BH220	BH220
Sample ID	V H N P G	V H P G	V H N P G	V H N P G	V P G	V P G				V P G			V P G		V H N P G		V P G		V H N P G	V H N P G	V P G		V H N P G	V H N P G
Depth	Ground Water	Liquid	Ground Water	Ground Water	Liquid	Liquid				Liquid			Liquid		Ground Water		Liquid		Ground Water	Ground Water	Liquid		Ground Water	Ground Water
COC No / misc	23/06/2016	30/04/2015	09/03/2016	23/06/2016	29/04/2015	28/04/2015				28/04/2015			28/04/2015		09/03/2016	14/06/2016	28/04/2015		09/03/2016	14/06/2016	28/04/2015		09/03/2016	14/06/2016
Containers	25/06/2016	02/05/2015	12/03/2016	25/06/2016	02/05/2015	02/05/2015	13/05/15		12/03/2016	02/05/2015	13/05/15	12/03/2016	02/05/2015	13/05/15	12/03/2016	16/06/2016	02/05/2015	13/05/15	12/03/2016	16/06/2016	02/05/2015	13/05/2015	12/03/2016	16/06/2016
Sample Type	91 96	128 134	249 255	85 90	108 114	1 5			173 179	6 10		180 186	16 20		194 200	25 30	31 35		215 221	1 6	26 30		222 228	7 12
Sampled Date	2	1	2	2	1	1			2	1		2	1		2	1	1		2	1	1		2	1
Sample Received Date																								
J E Sample No																								
Batch Number																								
Metals																								
7429 90 5 Dissolved Aluminium ug/l <20 150	1774	693		836 6	413	< 20				71			55			27 3	< 20			64	< 20			5 4
7440 38 2 Dissolved Arsenic ug/l <2 5 10	50 2	37 4		< 0 9	50 2	3 3				7 9			18 2			22 9	4 7			28 3	8			14 3
7440 43 9 Dissolved Cadmium ug/l <0 5 0 08	0 8	0 5	< 0 5	< 0 03	< 0 5	< 0 5			< 0 5	< 0 5		< 0 5	< 0 5		< 0 5	< 0 03	0 5		< 0 5	< 0 03	< 0 5	< 0 5	< 0 03	< 0 06
7440 47 3 Total Dissoved Chromium ug/l <1 5 4 7	115 1	66 3	49 1	60 9	115 1	< 1 5			< 1 5	< 1 5		< 1 5	12 5		10 1	11 7	< 1 5		< 1 5	1 3	4 9	< 1 5		0 7
7440 50 8 Dissolved Copper ug/l <7 1	743	143	658	285	56	< 7			< 7	< 7		< 3	< 7		< 7	< 3	< 7		< 7	23	< 7	< 7	< 3	< 3
7439 89 6 Total Dissolved Iron ug/l <20 200	2188000	1859000	949400	1130000	460300	86			174	40		25	2243		1252	1766	143		6951	68600	205	174		1214
7439 92 1 Dissolved Lead ug/l <5 7 2	59	59	< 5	< 0 4	17	< 5			< 5	< 5		< 5	< 5		< 5	< 0 4	< 5		< 5	< 0 4	< 5	< 5	< 0 4	< 5
7440 02 0 Dissolved Nickel ug/l <2 20	403 8	367		375 6	242	2				16			94			72	6			5 4	10			5
7782 49 2 Dissolved Selenium ug/l <3 10	3	3		< 1 2	3	3				< 3			< 3			< 1 2	3			< 1 2	< 3			< 1 2
7440 66 6 Dissolved Zinc ug/l <3 8	23340	23340	180	130 3	124	< 3			< 3	< 3		< 3	11		3	4 3	4		< 3	9 9	4	< 3		1 8
7439 97 6 Mercury Dissoved by CVAF ug/l <0 01 0 05	0 07	0 02	0 01	0 02	0 02	0 01				0 01			0 07			< 0 01	< 0 01			< 0 01	< 0 01			< 0 01
PAH MS																								
83 32 9 Acenaphthene ug/l <0 013	0 26	5 81	0 29	0 05	0 52	< 0 013			< 0 013	0 02		0 02	0 24		0 24		< 0 013		< 0 013		0 05			0 09
208 96 8 Acenaphthylene ug/l <0 013	0 53	6 62	0 72	0 26	1 07	< 0 013			< 0 013	< 0 013		< 0 013	0 22		0 11		< 0 02		< 0 013		0 03			0 02
120 12 7 Anthracene ug/l <0 013 0 1	0 26	7 77	0 07	0 03	0 26	< 0 013			< 0 013	< 0 013		< 0 013	< 0 013		< 0 013		< 0 013		< 0 013	< 0 013	< 0 013			< 0 013
56 55 3 Benzo(a)anthracene ug/l <0 015	0 3	20 63	0 03	0 62	0 67	0 015			< 0 015	< 0 015		< 0 015	< 0 015		< 0 015		< 0 015		< 0 015	< 0 015	< 0 015			< 0 015
50 32 8 Benzo(a)pyrene ug/l <0 016 0 01	0 32	6 45	< 0 016	< 0 016	0 44	< 0 016			< 0 016	< 0 016		< 0 016	< 0 016		< 0 016		< 0 016		< 0 016	< 0 016	< 0 016			< 0 016
205 99 2 Benzo(b)fluoranthene ug/l <0 01 0 03	0 2	11 41	< 0 01	< 0 01	0 64	< 0 01			< 0 01	< 0 01		< 0 01	< 0 01		< 0 01		< 0 01		< 0 01	< 0 01	< 0 01			< 0 01
191 24 2 Benzo(ghi)perylene ug/l <0 011 0 002	0 22	0 22	< 0 011	< 0 011	< 0 011	< 0 011			< 0 011	< 0 011		< 0 011	< 0 011		< 0 011		< 0 011		< 0 011	< 0 011	< 0 011			< 0 011
207 08 9 Benzo(k)fluoranthene ug/l <0 01 0 03	0 2	4 44	< 0 01	< 0 01	< 0 01	< 0 01			< 0 01	< 0 01		< 0 01	< 0 01		< 0 01		< 0 01		< 0 01	< 0 01	< 0 01			< 0 01
218 01 9 Chrysene ug/l <0 011	0 22	17 73	0 05	0 03	0 56	< 0 011			< 0 011	< 0 011		< 0 011	< 0 011		< 0 011		< 0 011		< 0 011	< 0 011	< 0 011			< 0 011
53 70 3 Dibenzo(ah)anthracene ug/l <0 01	0 2	2 0 01	0 02	< 0 01	< 0 01	< 0 01			< 0 01	< 0 01		< 0 01	< 0 01		< 0 01		< 0 01		< 0 01	< 0 01	< 0 01			< 0 01
206 44 0 Fluoranthene ug/l <0 012 0 1	10 32	10 32	0 09	0 08	0 85	< 0 012			< 0 012	0 02		< 0 012	0 04		0 02		< 0 012		< 0 012	< 0 012	< 0 012			< 0 012
86 73 7 Fluorene ug/l <0 014	0 28	5 77	0 28	0 06	0 54	< 0 014			< 0 014	0 02		< 0 014	0 1		0 08		< 0 014		< 0 014	< 0 014	0 03			0 05
193 39 5 Indeno(123cd)pyrene ug/l <0 011 0 002	0 22	4 46	< 0 011	< 0 011	0 22	< 0 011			< 0 011	< 0 011		< 0 011	< 0 011		< 0 011		< 0 011		< 0 011	< 0 011	< 0 011			< 0 011
91 20 3 Naphthalene ug/l <0 014 2 4	2	6 45	2 6	0 2	< 0 014	< 0 1			< 0 014	0 06		0 1	1 63		1 2		0 05		< 0 1	0 4	< 0 016			0 4
85 01 8 Phenanthrene ug/l <0 011	0 26	15 79	0 57	0 14	1 18	< 0 011			< 0 011	0 04		0 02	0 1		0 06		< 0 011		< 0 011	< 0 011	< 0 011			0 04
129 00 0 Pyrene ug/l <0 013	0 36	12 06	0 08	0 07	0 85	< 0 013			< 0 013	< 0 013		< 0 013	0 05		0 02		< 0 013		< 0 013	< 0 013	< 0 013			< 0 013
PAH 16 Total ug/l <0 195	3 9	129 26	4 78	0 95	8 05	< 0 195			< 0 195	< 0 195		< 0 195	2 38		1 73		< 0 195		< 0 195		< 0 27			0 6
PAH Surrogate % Recovery % <0	77	162	8	86 03	37	101			77	106		74	99		75		103		70		103	6		86
Benzo(bk)fluoranthene ug/l <0 018	0 36	15 85	< 0 018	< 0 018	0 89	< 0 018			< 0 018	< 0 018		< 0 018	< 0 018		< 0 018		< 0 018		< 0 018		< 0 018			< 0 018
TPH CWG																								
Aliphatics																								
>C5 C6 ug/l <5	4088	2430	1559	921	1123	< 5			< 5	< 5		< 5	21		17	17	< 5		< 5		< 5	< 5		< 5
>C6 C8 ug/l <5	26090	13090	10336	7133	8896	< 5			< 5	< 5		< 5	53		32	41	< 5		< 5		< 5	< 5		< 5
>C8 C10 ug/l <5	6795	3293	1841	2135	505	< 5			< 5	< 5		< 5	118		73	67	< 5		< 5		< 5	< 5		< 5
>C10 C12 ug/l <5	5	< 5	< 5	< 5	< 5	< 5			< 5	< 5		< 5	< 5		< 5	< 5	< 5		< 5		< 5	< 5		< 5
>C12 C16 ug/l <10	10	< 10	< 10	< 10	< 10	< 10			< 10	< 10		< 10	< 10		< 10	< 10	< 10		< 10		< 10	< 10		< 10
>C16 C21 ug/l <10	10	< 10	< 10	< 10	< 10	< 10			< 10	< 10		< 10	< 10		< 10	< 10	< 10		< 10		< 10	< 10		< 10
>C21 C35 ug/l <10	270	10	17 03	37	0	< 10			< 10	< 10		< 10	< 10		< 10	< 10	< 10		< 10		< 10	< 10		< 10
Total aliphatics C5 35 ug/l <10	36973	18813	13736	10189	10524	< 10			< 10	< 10		< 10	192		122	125	< 10		< 10		< 10	< 10		< 10
Aromatics																								
>C5 EC7 ug/l <5	92	92	19	< 50	76	< 5			< 5	< 5		< 5	< 5		< 5	< 5	< 5		< 5		< 5	< 5		< 5
>EC7 EC8 ug/l <5	615	152	165	241	57	< 5			< 5	< 5		< 5	< 5		< 5	< 5	< 5		< 5		< 5	< 5		< 5
>EC8 EC10 ug/l <5	710	919	123	189	110	< 5			< 5	< 5		< 5	23		34	44	< 5		< 5		< 5	< 5		< 5
>EC10 EC12 ug/l <5	82	5	13 86	48	17	< 5			< 5	< 5		< 5	36		33	30	< 5		< 5		< 5	< 5		< 5
>EC12 EC16 ug/l <10	340	160	44 86	210	130	< 10			< 10	< 10		< 10	< 10		< 10	< 10	< 10		< 10		< 10	< 10		< 10
>EC16 EC21 ug/l <10	10	< 10	< 10	< 10	< 10	< 10			< 10	< 10		< 10	< 10		< 10	< 10	< 10		< 10		< 10	< 10		< 10
>EC21 EC35 ug/l <10	10	< 10	< 10	< 10	< 10	< 10			< 10	< 10		< 10	< 10		< 10	< 10	< 10		< 10		< 10	< 10		< 10
Total aromatics C5 35 ug/l <10	1680	1405	565	577	373	< 10			< 10	< 10		< 10	59		67	74	< 10		< 10		< 10	< 10		< 10
Total aliphatics and aromatics (C5 35) ug/l <10 10	38653	20218	14301	10766	10897	< 10			< 10	< 10		< 10	251		189	199	< 10		< 10		< 10	< 10		< 10
BTEX/MTBE MS																								
1634 04 4 Methyl Tertiary Butyl Ether ug/l <0 1 30	50	9 9	< 5	< 50	6 5	< 0 1			< 5	< 5		< 0 1	< 5		< 5	< 5	< 0 1		< 5		< 0 1	< 5		
71 43 2 Benzene ug/l <0 5 1	50	8	19	< 50	7 6	< 0 5			< 5	< 5		< 5	4 2		< 5	< 5	< 0 5		< 5		< 0 5	< 5		
108 88 3 Toluene ug/l <0 5 50	615	83 9	165	241	35 1	< 0 5			< 5	< 5		< 5	4 4		< 5	< 5	< 0 5		< 5		< 0 5	< 5		
100 41 4 Ethylbenzene ug/l <0 5 20	119	41 5	29	65	18 9	< 0 5			< 5	< 5		< 5	6 7		6	8	< 0 5		< 5		3 4	< 5		
p/m Xylene ug/l <1 30	300	58	34	61	28	< 1			< 5	< 5		< 5	16		16	18	< 1		< 5		4	< 5		
95 47 6 o Xylene ug/l <0 5 30	291	< 21 3	60	63	9 6	< 0 5			< 5	< 5		< 5	9 9		12	18	< 0 5		< 5		< 0 5	< 5		
2037 26 5 Surrogate Recovery Toluene D8 % <0	106	92			100	99				100			101				100				101			
460 00 4 Surrogate Recovery 4-Bromofluorobenzene % <0	108	88			97	102				103			102				103				101			
7440 70 2 Dissolved Calcium mg/l <0 2	4865	3868	2673	3012	1816	64 4			83 9	103 1		171 7	124 5		122 8		270 3		188 7	262 7	571 3			300 5 68 8
7439 95 4 Dissolved Magnesium mg/l <0 1	869 9	557 6	588 8	616	387 8	5 4			6 4	3 2		14 8	256 2		230 1		40		31	30 9	39			27 2 25
7439 96 5 Dissolved Manganese ug/l <2 50	62760	50800	24960	29630	25860	1491			4095	610		2443	727		443		9093		6877	9678	3994			3027 3607
7723 14 0 Dissolved Phosphorus ug/l <5	9819	3386		2604	2847	< 5				56			558				55			133 8	35			36 9
07/09/7440 Dissolved Potassium mg/l <0 1	2468	1247	1448	1765	1034	11 9			4 7	12 8		16 2	870 5		799		14 1		14 2	16 8	52 6			34 4 8 3
7440 23 5 Dissolved Sodium mg/l <0 1 200	4575	2723	2613	2819	1637	13 4			11 5	76 9		97 3	1330		1163		280 3		121 2	80 3	95 1			51 9 121 6
7723 14 0 Total Phosphorus ug/l <5	18210	6148	37	18210	8887	46				103			2418				88			284 4	143			91 6
Total Phenols HPLC mg/l <0 1	0 3	0 1		0 12	12	0			< 0 1			< 0 1			< 0 1				< 0 1			< 0 1		
VOC MS																								
75 71 8 Dichlorodifluoromethane ug/l <2	2	2	2 00		< 2	< 2				< 2			< 2				< 2				< 2			
1634 04 4 Methyl Tertiary Butyl Ether ug/l <0 1	9 9	0 1	1 68		6 5	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
74 87 3 Chloromethane ug/l <3	3	3	3 00		< 3	< 3				< 3			< 3				< 3				< 3			
75 01 4 Vinyl Chloride ug/l <0 1 0 5	0 1	0 1	0 10	0% 0 20	< 0 1	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
74 83 9 Bromomethane ug/l <1	1	1	1 00		< 1	< 1				< 1			< 1				< 1				< 1			
75 00 3 Chloroethane ug/l <3	3	3	3 00		< 3	< 3				< 3			< 3				< 3				< 3			
75 69 4 Trichlorofluoromethane ug/l <3	3	3	3 00		< 3	< 3				< 3			< 3				< 3				< 3			
75 35 4 1 1 Dichroethene (1 1 DCE) ug/l <3	3	3	3 00		< 3	< 3				< 3			< 3				< 3				< 3			
75 09 2 Dichloromethane (DCM) ug/l <3 20	16	3	3 81	0% 0 80	< 3	< 3				< 3			< 3				< 3				< 3			
156 60 5 trans 1 2 Dichloroethene ug/l <3	3	3	3 00		< 3	< 3				< 3			< 3				< 3				< 3			
75 34 3 1,1 Dichloroethane ug/l <3 3	3	3	3 00	0% 1 00	< 3	< 3				< 3			< 3				< 3				< 3			
156 59 2 cis 1 2 Dichloroethene ug/l <3	3	3	3 00		< 3	< 3				< 3			< 3				< 3				< 3			
594 20 7 2,2 Dichloropropane ug/l <1	1	1	1 00		< 1	< 1				< 1			< 1				< 1				< 1			
74 97 5 Bromochloromethane ug/l <2	2	2	2 00		< 2	< 2				< 2			< 2				< 2				< 2			
67 66 3 Chloroform ug/l <2	2	2	2 00		< 2	< 2				< 2			< 2				< 2				< 2			
71 55 6 1,1,1 Trichloroethane ug/l <2 100	2	2	2 00	0% 0 02	< 2	< 2				< 2			< 2				< 2				< 2			
563 58 6 1,1 Dichloropropene ug/l <3	3	3	3 00		< 3	< 3				< 3			< 3				< 3				< 3			
56 23 5 Carbon tetrachloride ug/l <2 12	2	2	2 00	0% 0 17	< 2	< 2				< 2			< 2				< 2				< 2			
107 06 2 1,2 Dichloroethane ug/l <2	2	2	2 00		< 2	< 2				< 2			< 2				< 2				< 2			
71 43 2 Benzene ug/l <0 5 1	8	0 5	2 92	44% 8 00	7 6	< 0 5				< 0 5			4 2				< 0 5				< 0 5			
79 01 6 Trichloroethene (TCE) ug/l <3	3	3	3 00		< 3	< 3				< 3			< 3				< 3				< 3			
78 87 5 1,2 Dichloropropane ug/l <2	2	2	2 00		< 2	< 2				< 2			< 2				< 2				< 2			
74 95 3 Dibromomethane ug/l <3	3	3	3 00		< 3	< 3				< 3			< 3				< 3				< 3			
75 27 4 Bromodichloromethane ug/l <2	2	2	2 00		< 2	< 2				< 2			< 2				< 2				< 2			
10061 01 5 cis 1 3 Dichloropropene ug/l <2	2	2	2 00		< 2	< 2				< 2			< 2				< 2				< 2			
108 88 3 Toluene ug/l <0 5 50	750 8	83 9	0 5	109 62	35 1	< 0 5				< 0 5			4 4				< 0 5				< 0 5			
10061 02 6 trans 1 3 Dichloropropene ug/l <2	2	2	2 00		< 2	< 2				< 2			< 2				< 2				< 2			
79 00 5 1,1,2 Trichloroethane ug/l <2 400	2	2	2 00	0% 0 01	< 2	< 2				< 2			< 2				< 2				< 2			
127 18 4 Tetrachloroethene (PCE) ug/l <3 10	3	3	3 00	0% 0 30	< 3	< 3				< 3			< 3				< 3				< 3			
142 28 9 1,3 Dichloropropane ug/l <2	2	2	2 00		< 2	< 2				< 2			< 2				< 2				< 2			
124 48 1 Dibromochloromethane ug/l <2	2	2	2 00		< 2	< 2				< 2			< 2				< 2				< 2			
106 93 4 1,2 Dibromoethane ug/l <2	2	2	2 00		< 2	< 2				< 2			< 2				< 2				< 2			
108 90 7 Chlorobenzene ug/l <2	2	2	2 00		< 2	< 2				< 2			< 2				< 2				< 2			
630 20 6 1,1,1,2 Tetrachloroethane ug/l <2	2	2	2 00		< 2	< 2				< 2			< 2				< 2				< 2			
100 41 4 Ethylbenzene ug/l <0 5 20	88 3	0 5	13 75	19% 4 42	18 9	< 0 5				< 0 5			6 7				< 0 5				3 4			
p/m Xylene ug/l <1 30	323	1	32 13	19% 10 77	28	< 1				< 1			18				< 1				4			
95 47 6 o Xylene ug/l <0 5 30	90	0 5	10 14	6% 3 00	9 6	0 5				< 0 5			< 0 5				< 0 5				< 0 5			
100 42 5 Styrene ug/l <2 50	16	2	2 88	0% 0 32	< 2	< 2				< 2			< 2				< 2				< 2			
75 25 2 Bromoform ug/l <2 100	2	2	2 00	0% 0 02	< 2	< 2				< 2			< 2				< 2				< 2			
98 82 8 Isopropylbenzene ug/l <3	3	3	3 00		< 3	< 3				< 3			< 3				< 3				< 3			
79 34 5 1,1,2,2 Tetrachloroethane ug/l <4	4	4	4 00		< 4	< 4				< 4			< 4				< 4				< 4			
108 86 1 Bromobenzene ug/l <2	2	2	2 00		< 2	< 2				< 2			< 2				< 2				< 2			
96 18 4 1,2,3 Trichloropropane ug/l <3	3	3	3 00		< 3	< 3				< 3			< 3				< 3				< 3			
103 65 1 Propylbenzene ug/l <3	3	3	3 00		< 3	< 3				< 3			< 3				< 3				< 3			
95 49 8 2 Chlorotoluene ug/l <3	3	3	3 00		< 3	< 3				< 3			< 3				< 3				< 3			
108 67 8 1,3,5 Trimethylbenzene ug/l <3	6	3	3 19		< 3	< 3				< 3			< 3				< 3				< 3			
106 43 4 4 Chlorotoluene ug/l <3	3	3	3 00		< 3	< 3				< 3			< 3				< 3				< 3			
98 06 6 tert Butylbenzene ug/l <3	3	3	3 00		< 3	< 3				< 3			< 3				< 3				< 3			
95 63 6 1,2,4 Trimethylbenzene ug/l <3	19	3	4 88		4	< 3				< 3			7				< 3				< 3			
135 98 8 sec Butylbenzene ug/l <3	3	3	3 00		< 3	< 3				< 3			< 3				< 3				< 3			
99 87 6 4 Isopropyltoluene ug/l <3	41	3	6 13		< 3	< 3				< 3			15				< 3				< 3			
541 73 1 1,3 Dichlorobenzene ug/l <3	3	3	3 00		< 3	< 3				< 3			< 3				< 3				< 3			
106 46 7 1,4 Dichlorobenzene ug/l <3	3	3	3 00		< 3	< 3				< 3			< 3				< 3				< 3			
104 51 8 n Butylbenzene ug/l <3	3	3	3 00		< 3	< 3				< 3			< 3				< 3				< 3			

Report:	Liquid
JE Job No:	15/5896
Client:	WYG
Client ref:	Citywaste
Location:	Citywaste
Contact	[redacted]

												BH213	BH214	BH214	BH214	BH215	BH216	BH216	BH216	BH216 16	BH217	BH217	BH217	BH218	BH218	BH218	BH218 2 0	BH219	BH219	BH219	BH219 3 5	BH220	BH220	BH220	BH220 3 0
	Sample ID																																	
	Depth																																	
	CoC No / misc																																	
	Containers											V H HN P G	V H P G	V H N P G	V H HN P G	V H P G	V P G		V H N P G	V H HN P G	V P G		V H N P G	V P G		V H N P G	V H HN P G	V P G		V H N P G	V H HN P G	V P G		V H N P G	V H HN P G
	Sample Type											Ground Water	Liquid	Ground Water	Ground Water	Liquid	Liquid		Ground Water	Ground Water	Liquid		Ground Water	Liquid		Ground Water	Ground Water	Liquid		Ground Water	Ground Water	Liquid		Ground Water	Ground Water
	Sampled Date											23/06/2016	30/04/2015	09/03/2016	23/06/2016	29/04/2015	28/04/2015		09/03/2016	14/06/2016	28/04/2015		09/03/2016	28/04/2015		09/03/2016	14/06/2016	28/04/2015		09/03/2016	14/06/2016	28/04/2015		09/03/2016	14/06/2016
Sample	Receiv ed Date											25/06/2016	02/05/2015	12/03/2016	25/06/2016	02/05/2015	02/05/2015		12/03/2016	16/06/2016	02/05/2015		12/03/2016	02/05/2015		12/03/2016	16/06/2016	02/05/2015		12/03/2016	16/06/2016	02/05/2015		12/03/2016	16/06/2016
	J E Sample No											91 96	128 134	249 255	85 90	108 114	1 5		173 179	31 36	6 10		16 20	180 186		194 200	25 30	31 35		215 221	1 6	26 30		222 228	7 12
	Batch Number											2	1	2	2	1	1		2	1	1		2	2		2	1	1		2	1	1		2	1
95 50 1	1,2 Dichlorobenzene	ug/l	<3	1000	3	3	3 00	16	0	0%	0 00		< 3			< 3	< 3				< 3			< 3			< 3				< 3			
96 12 8	1 2 Dibromo 3 chloropropane	ug/l	<2		2	2	2 00	16	0				< 2			< 2	< 2				< 2			< 2			< 2				< 2			
120 82 1	1,2,4 Trichlorobenzene	ug/l	<3	0 4	3	3	3 00	16	0	0%	7 50		< 3			< 3	< 3				< 3			< 3			< 3				< 3			
87 68 3	Hexachlorobutadiene	ug/l	<3	0 1	3	3	3 00	16	0	0%	30 00		< 3			< 3	< 3				< 3			< 3			< 3				< 3			
87 61 6	1,2,3 Trichlorobenzene	ug/l	<3		3	3	3 00	16	0				< 3			< 3	< 3				< 3			< 3			< 3				< 3			
2037 26 5	Surrogate Recovery Toluene D8	%	<0		106	90	99 19	16	0				92			100	99				100			101			100				101			
460 00 4	Surrogate Recovery 4-Bromofluorobenzene	%	<0		108	83	99 75	16	0				88			97	102				103			102			103				101			
	SVOC MS																																	
	Phenols																																	
95 57 8	2 Chlorophenol	ug/l	<1	50	1	1	1 00	17	0	0%	0 02		< 1			< 1	< 1				< 1			< 1			< 1				< 1			
95 48 7	2 Methylphenol	ug/l	<0 5	100	33 1	0 5	7 78	17	0	0%	0 33		29 3			33 1	< 0 5				< 0 5			6 8			< 0 5				< 0 5			
88 75 5	2 Nitrophenol	ug/l	<0 5		0 5	0 5	0 50	17	0				< 0 5			< 0 5	< 0 5				< 0 5			< 0 5			< 0 5				< 0 5			
120 83 2	2,4 Dichlorophenol	ug/l	<0 5	20	31	0 5	3 42	17	1	6%	1 55		< 0 5			19 7	< 0 5				< 0 5			< 0 5			< 0 5				< 0 5			
105 67 9	2,4 Dimethylphenol	ug/l	<1	100	2	1	1 06	17	0	0%	0 02		< 1			< 1	< 1				< 1			< 1			< 1				< 1			
95 95 4	2,4,5 Trichlorophenol	ug/l	<0 5		0 5	0 5	0 50	17	0				< 0 5			< 0 5	< 0 5				< 0 5			< 0 5			< 0 5				< 0 5			
88 06 2	2,4,6 Trichlorophenol	ug/l	<1	200	1	1	1 00	17	0	0%	0 01		< 1			< 1	< 1				< 1			< 1			< 1				< 1			
59 50 7	4 Chloro 3 methylphenol	ug/l	<0 5	40	0 5	0 5	0 50	17	0	0%	0 01		< 0 5			< 0 5	< 0 5				< 0 5			< 0 5			< 0 5				< 0 5			
106 44 5	4 Methylphenol	ug/l	<1	100	53920	1	5188 94	17	7	41%	539 20		10050			53920	< 1				< 1			< 1			< 1				< 1			
100 02 7	4 Nitrophenol	ug/l	<10		10	10	10 00	17	0				< 10			< 10	< 10				< 10			< 10			< 10				< 10			
87 86 5	Pentachlorophenol	ug/l	<1	2	1	1	1 00	17	0	0%	0 50		< 1			< 1	< 1				< 1			< 1			< 1				< 1			
108 95 2	Phenol	ug/l	<1	7 7	3113	1	521 18	17	6	35%	404 29		2203			3113	< 1				< 1			< 1			< 1				< 1			
	PAHs																																	
91 58 7	2 Chloronaphthalene	ug/l	<1		1	1	1 00	17	0				< 1			< 1	< 1				< 1			< 1			< 1				< 1			
91 57 6	2 Methylnaphthalene	ug/l	<1		2	1	1 06	17	0				2			< 1	< 1				< 1			< 1			< 1				< 1			
	Phthalates																																	
117 81 7	Bis(2 ethylhexyl) phthalate	ug/l	<5	8	5	5	5 00	17	0	0%	0 63		< 5			< 5	< 5				< 5			< 5			< 5				< 5			
85 68 7	Butylbenzyl phthalate	ug/l	<1		2	1	1 06	17	0				< 1			< 1	< 1				< 1			< 1			< 1				< 1			
84 74 2	Di n butyl phthalate	ug/l	<1 5		1 5	1 5	1 50	17	0				< 1 5			< 1 5	< 1 5				< 1 5			< 1 5			< 1 5				< 1 5			
117 84 0	Di n Octyl phthalate	ug/l	<1		1	1	1 00	17	0				< 1			< 1	< 1				< 1			< 1			< 1				< 1			
84 66 2	Diethyl phthalate	ug/l	<1	200	1	1	1 00	17	0	0%	0 01		< 1			< 1	< 1				< 1			< 1			< 1				< 1			
131 11 3	Dimethyl phthalate	ug/l	<1	800	1	1	1 00	17	0	0%	0 00		< 1			< 1	< 1				< 1			< 1			< 1				< 1			
	Other SVOCs																																	
95 50 1	1,2 Dichlorobenzene	ug/l	<1	1000	1	1	1 00	17	0	0%	0 00		< 1			< 1	< 1				< 1			< 1			< 1				< 1			
120 82 1	1,2,4 Trichlorobenzene	ug/l	<1	0 4	1	1	1 00	17	0	0%	2 50		< 1			< 1	< 1				< 1			< 1			< 1				< 1			
541 73 1	1,3 Dichlorobenzene	ug/l	<1		1	1	1 00	17	0				< 1			< 1	< 1				< 1			< 1			< 1				< 1			
106 46 7	1,4 Dichlorobenzene	ug/l	<1	300	1	1	1 00	17	0	0%	0 00		< 1			< 1	< 1				< 1			< 1			< 1				< 1			
88 74 4	2 Nitroaniline	ug/l	<1		1	1	1 00	17	0				< 1			< 1	< 1				< 1			< 1			< 1				< 1			
121 14 2	2,4 Dinitrotoluene	ug/l	<0 5		0 5	0 5	0 50	17	0				< 0 5			< 0 5	< 0 5				< 0 5			< 0 5			< 0 5				< 0 5			
606 20 2	2,6 Dinitrotoluene	ug/l	<1		1	1	1 00	17	0				< 1			< 1	< 1				< 1			< 1			< 1				< 1			
99 09 2	3 Nitroaniline	ug/l	<1		1	1	1 00	17	0				< 1			< 1	< 1				< 1			< 1			< 1				< 1			
101 55 3	4 Bromophenyl phenyl ether	ug/l	<1		1	1	1 00	17	0				< 1			< 1	< 1				< 1			< 1			< 1				< 1			
106 47 8	4 Chloroaniline	ug/l	<1		2	1	1 06	17	0				< 1			< 1	< 1				< 1			2			< 1				< 1			
7005 72 3	4 Chlorophenylphenylether	ug/l	<1		1	1	1 00	17	0				< 1			< 1	< 1				< 1			< 1			< 1				< 1			
100 01 6	4 Nitroaniline	ug/l	<0 5		0 5	0 5	0 50	17	0				< 0 5			< 0 5	< 0 5				< 0 5			< 0 5			< 0 5				< 0 5			
103 33 3	Azobenzene	ug/l	<0 5		0 5	0 5	0 50	17	0				< 0 5			< 0 5	< 0 5				< 0 5			< 0 5			< 0 5				< 0 5			
111 91 1	Bis(2 choroethoxy)methane	ug/l	<0 5		0 5	0 5	0 50	17	0				< 0 5			< 0 5	< 0 5				< 0 5			< 0 5			< 0 5				< 0 5			
111 44 4	Bis(2 chloroethyl)ether	ug/l	<1		1	1	1 00	17	0				< 1			< 1	< 1				< 1			< 1			< 1				< 1			
86 74 8	Carbazole	ug/l	<0 5		0 5	0 5	0 50	17	0				< 0 5			< 0 5	< 0 5				< 0 5			< 0 5			< 0 5				< 0 5			
132 64 9	Dibenzofuran	ug/l	<0 5		0 5	0 5	0 50	17	0				< 0 5			< 0 5	< 0 5				< 0 5			< 0 5			< 0 5				< 0 5			
118 74 1	Hexachlorobenzene	ug/l	<1	0 01	1	1	1 00	17	0	0%	100 00		< 1			< 1	< 1				< 1			< 1			< 1				< 1			
87 68 3	Hexachlorobutadiene	ug/l	<1	0 1	1	1	1 00	17	0	0%	10 00		< 1			< 1	< 1				< 1			< 1			< 1				< 1			
77 47 4	Hexachlorocyc opentadiene	ug/l	<1		1	1	1 00	17	0				< 1			< 1	< 1				< 1			< 1			< 1				< 1			
67 72 1	Hexachloroethane	ug/l	<1		1	1	1 00	17	0				< 1			< 1	< 1				< 1			< 1			< 1				< 1			
78 59 1	Isophorone	ug/l	<0 5		0 5	0 5	0 50	17	0				< 0 5			< 0 5	< 0 5				< 0 5			< 0 5			< 0 5				< 0 5			
621 64 7	N nitrosodi n propylamine	ug/l	<0 5		0 5	0 5	0 50	17	0				< 0 5			< 0 5	< 0 5				< 0 5			< 0 5			< 0 5				< 0 5			
98 95 3	Nitrobenzene	ug/l	<1		1	1	1 00	17	0				< 1			< 1	< 1				< 1			< 1			< 1				< 1			
	Pesticides MS																																	
	Organochlorine Pesticides																																	
309 00 2	Aldrin	ug/l	<0 01	0 03	0 2	0 01	0 04	17	1	6%	6 67		< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
319 84 6	Alpha HCH (BHC)	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
319 85 7	Beta HCH (BHC)	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
1897 45 6	Chlorothalonil	ug/l	<0 01	0 1	2 5	0 01	0 19	17	0	0%	25 00		< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
5103 71 9	cis Chlordane	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
319 86 8	Delta HCH (BHC)	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
60 57 1	Dieldrin	ug/l	<0 01	0 03	0 2	0 01	0 04	17	0	0%	6 67		< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
959 98 8	Endosulphan I	ug/l	<0 01	0 005	0 2	0 01	0 04	17	0	0%	40 00		< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
33213 65 9	Endosulphan II	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
1031 07 8	Endosulphan sulphate	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
72 20 8	Endrin	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
58 89 9	Gamma HCH (BHC)	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
76 44 8	Heptachlor	ug/l	<0 01	0 03	0 2	0 01	0 04	17	0	0%	6 67		< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
1024 57 3	Heptachlor Epoxide	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
118 74 1	Hexachlorobenzene	ug/l	<0 01	0 01	0 2	0 01	0 04	17	1	6%	20 00		< 0 2			< 0 2	< 0 01				0 01			< 0 01			< 0 01				< 0 01			
465 73 6	Isodrin	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
3424 82 6	o,p DDE	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
789 02 6	o,p DDT	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
30667 99 3	o,p Methoxychlor	ug/l	<0 01	20	0 2	0 01	0 04	17	0	0%	0 01		< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
53 19 0	o,p TDE	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
72 55 9	p,p DDE	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
50 29 3	p,p DDT	ug/l	<0 01	0 01	0 2	0 01	0 04	17	0	0%	20 00		< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
72 43 5	p,p Methoxychlor	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
72 54 8	p,p TDE	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
40487 42 1	Pendimethalin	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
61949 76 6	Permethrin I	ug/l	<0 01	0 01	0 2	0 01	0 04	17	0	0%	20 00		< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
61949 77 7	Permethrin II	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
82 68 8	Quintozene (PCNB)	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
117 18 0	Tecnazene	ug/l	<0 01	1	0 2	0 01	0 04	17	0	0%	0 20		< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
297 78 9	Telodrin	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
5103 74 2	trans Chlordane	ug/l	<0 01		0 2	0 01	0 05	15	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
					0 01	0 01	0 01	2	0																										
43121 43 3	Triadimefon	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
2303 17 5	Triallate	ug/l	<0 01	0 25	0 2	0 01	0 04	17	0	0%	0 80		< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
1582 09 8	Trifluralin	ug/l	<0 01	0 03	0 2	0 01	0 04	17	0	0%	6 67		< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
	Organophosphorus Pesticides				0	0	#DIV/0!	0	0																										
2642 71 9	Azinphos ethyl	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
86 50 0	Azinphos methyl	ug/l	<0 01	0 01	0 2	0 01	0 04	17	0	0%	20 00		< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
786 19 6	Carbophenothion	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
470 90 6	Chlorfenvinphos	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
2921 88 2	Chlorpyrifos	ug/l	<0 01	0 03	0 2	0 01	0 05	17	1	6%	6 67		< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
5598 13 0	Chlorpyrifos methyl	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
333 41 5	Diazinon	ug/l	<0 01	0 01	1 95	0 01	0 16	17	1	6%	195 00		< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
62 73 7	Dichlorvos	ug/l	<0 01	0 001	0 2	0 01	0 04	17	0	0%	200 00		< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
298 04 4	Disulfoton	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
60 51 5	Dimethoate	ug/l	<0 01	0 48	0 2	0 01	0 04	17	0	0%	0 42		< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
563 12 2	Ethion	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
56 38 2	Ethyl Parathion (Parathion)	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
38260 54 7	Etrimphos	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
122 14 5	Fenitrothion	ug/l	<0 01	0 01	0 2	0 01	0 04	17	0	0%	20 00		< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
55 38 9	Fenthion	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
121 75 5	Malathion	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
298 00 0	Methyl Parathion	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
7786 34 7	Mevinphos	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
2310 17 0	Phosalone	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			
29232 93 7	Pirimiphos Methyl	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01			< 0 01				< 0 01			

Citywaste Monitoring Final - Leachate Boreholes

Report: Liquid
JE Job No: 15/6896
Client: WYG
Client ref: Citywaste
Location: Citywaste
Contact [redacted]

			Sample ID									BH213	BH214	BH214	BH214	BH215	BH216	BH216	BH216	BH216	BH217	BH217	BH217	BH218	BH218	BH218	BH218	BH219	BH219	BH219	BH219	BH220	BH220	BH220	BH220
			Depth																	1 6							2 0				3 5				3 0
			COC No / misc									V H HN P G	V H P G	V H N P G	V H HN P G	V H P G	V P G		V H N P G	V H HN P G	V P G		V H N P G	V P G		V H N P G	V H HN P G	V P G		V H N P G	V H HN P G	V P G		V H N P G	V H HN P G
			Containers																																
			Sample Type									Ground Water	Liquid	Ground Water	Ground Water	Liquid	Liquid		Ground Water	Ground Water	Liquid		Ground Water	Liquid		Ground Water	Ground Water	Liquid		Ground Water	Ground Water	Liquid		Ground Water	Ground Water
			Sampled Date									23/06/2016	30/04/2015	09/03/2016	23/06/2016	29/04/2015	28/04/2015		09/03/2016	14/06/2016	28/04/2015		09/03/2016	28/04/2015		09/03/2016	14/06/2016	28/04/2015		09/03/2016	14/06/2016	28/04/2015		09/03/2016	14/06/2016
			Sample Received Date									25/06/2016	02/05/2015	12/03/2016	25/06/2016	02/05/2015	02/05/2015	13/05/15	12/03/2016	16/06/2016	02/05/2015	13/05/15	12/03/2016	02/05/2015	13/05/15	12/03/2016	16/06/2016	02/05/2015	13/05/15	12/03/2016	16/06/2016	02/05/2015	13/05/2015	12/03/2016	16/06/2016
			J E Sample No									91 96	128 134	249 255	85 90	108 114	1 5		173 179	31 36	6 10		180 186	16 20		194 200	25 30	31 35		215 221	1 6	26 30		222 228	7 12
			Batch Number									2	1	2	2	1	1		2	1	1		2	1		2	1	1		2	1	1		2	1
31218 83 4	Propetamphos	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01				< 0 01				< 0 01			
24017 47 8	Triazophos	ug/l	<0 01		0 2	0 01	0 04	17	0				< 0 2			< 0 2	< 0 01				< 0 01			< 0 01				< 0 01				< 0 01			
06/05/3813	Benazolin	ug/l	<0 1		2	0 1	0 44	17	0				< 2			< 2	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
25057 89 0	Bentazone	ug/l	<0 1	500	2	0 1	0 44	17	0	0%	0 00		< 2			< 2	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
1689 84 5	Bromoxynil	ug/l	<0 1		2	0 1	0 44	17	0				< 2			< 2	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
1702 17 6	Clopyralid	ug/l	<0 1		2	0 1	0 44	17	0				< 2			< 2	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
122 88 3	4 CPA	ug/l	<0 1		2	0 1	0 44	17	0				< 2			< 2	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
94 75 7	2,4 D	ug/l	<0 1		2	0 1	0 44	17	0				< 2			< 2	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
94 80 4	2,4 DB	ug/l	<0 1		2	0 1	0 44	17	0				< 2			< 2	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
1918 00 9	Dicamba	ug/l	<0 1		2	0 1	0 44	17	0				< 2			< 2	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
120 36 5	Dichloroprop	ug/l	<0 1		2	0 1	0 44	17	0				< 2			< 2	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
40843 25 2	Diclofop	ug/l	<0 1		2	0 1	0 44	17	0				< 2			< 2	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
93 72 1	Fenoprop	ug/l	<0 1		2	0 1	0 44	17	0				< 2			< 2	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
58667 63 3	Flamprop	ug/l	<0 1		2	0 1	0 44	17	0				< 2			< 2	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
52756 22 6	Flamprop isopropyl	ug/l	<0 1		2	0 1	0 44	17	0				< 2			< 2	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
1689 83 4	Ioxynil	ug/l	<0 1		2	0 1	0 44	17	0				< 2			< 2	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
94 74 6	MCPA	ug/l	<0 1		2	0 1	0 44	17	0				< 2			< 2	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
94 81 5	MCPB	ug/l	<0 1		2	0 1	0 44	17	0				< 2			< 2	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
7085 19 0	Mecoprop	ug/l	<0 1	18	2	0 1	0 44	17	0	0%	0 11		< 2			< 2	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
01/02/1918	Picloram	ug/l	<0 1		2	0 1	0 44	17	0				< 2			< 2	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
87 86 5	Pentachlorophenol	ug/l	<0 1	0 4	2	0 1	0 44	17	0	0%	5 00		< 2			< 2	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
93 76 5	2,4,5 T	ug/l	<0 1		2	0 1	0 44	17	0				< 2			< 2	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
50 31 7	2,3,6 TBA	ug/l	<0 1		2	0 1	0 44	17	0				< 2			< 2	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
55335 06 3	Triclopyr	ug/l	<0 1		2	0 1	0 44	17	0				< 2			< 2	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
1912 24 9	Atrazine	ug/l	<1	0 6	20	0 01	4 29	17	0	0%	33 33		< 20			< 20	< 1				< 1			< 1				< 1				< 1			
122 34 9	Simazine	ug/l	<1	1	20	0 08	4 30	17	0	0%	20 00		< 20			< 20	< 1				< 1			< 1				< 1				< 1			
32598 13 3	PCB 77	ug/l	<0 1		0 1	0 1	0 10	16	0				< 0 1			< 0 1	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
70362 50 4	PCB 81	ug/l	<0 1		0 1	0 1	0 10	16	0				< 0 1			< 0 1	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
32598 14 4	PCB 105	ug/l	<0 1		0 1	0 1	0 10	16	0				< 0 1			< 0 1	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
74472 37 0	PCB 114	ug/l	<0 1		0 1	0 1	0 10	16	0				< 0 1			< 0 1	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
31508 00 6	PCB 118	ug/l	<0 1		0 1	0 1	0 10	16	0				< 0 1			< 0 1	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
65510 44 3	PCB 123	ug/l	<0 1		0 1	0 1	0 10	16	0				< 0 1			< 0 1	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
57465 28 8	PCB 126	ug/l	<0 1		0 1	0 1	0 10	16	0				< 0 1			< 0 1	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
38380 08 4	PCB 156	ug/l	<0 1		0 1	0 1	0 10	16	0				< 0 1			< 0 1	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
69782 90 7	PCB 157	ug/l	<0 1		0 1	0 1	0 10	16	0				< 0 1			< 0 1	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
52663 72 6	PCB 167	ug/l	<0 1		0 1	0 1	0 10	16	0				< 0 1			< 0 1	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
32774 16 6	PCB 169	ug/l	<0 1		0 1	0 1	0 10	16	0				< 0 1			< 0 1	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
39635 31 9	PCB 189	ug/l	<0 1		0 1	0 1	0 10	16	0				< 0 1			< 0 1	< 0 1				< 0 1			< 0 1				< 0 1				< 0 1			
	Total 12 PCBs	ug/l	<1 2		1 2	1 2	1 20	16	0				< 1 2			< 1 2	< 1 2				< 1 2			< 1 2				< 1 2				< 1 2			
16984 48 8	Fluoride	mg/l	<0 3	1 5	0 3	0 3	0 30	12	0	0%	0 20						< 0 3				< 0 3			< 0 3				< 0 3				< 0 3			
95 57 8	2 Chlorophenol	ug/l	<0 5	50	25	0 5	2 63	23	0	0%	0 50	25	< 0 5		< 25	< 0 5	< 0 5				< 0 5			< 0 5				< 0 5				< 0 5			
95 48 7	2 Methylphenol	ug/l	<0 5	100	25	0 5	4 63	23	0	0%	0 25	25	< 0 5		< 25	15 6	< 0 5				< 0 5			5 5				< 0 5				< 0 5			
88 75 5	2 Nitrophenol	ug/l	<0 5		25	0 5	2 85	23	0			25	< 0 5		< 25	< 0 5	< 0 5				< 0 5			5 5				< 0 5				< 0 5			
120 83 2	2,4 Dichlorophenol	ug/l	<0 5	20	34 1	0 5	4 09	23	1	4%	1 71	25	< 0 5		< 25	< 0 5	< 0 5				< 0 5			< 0 5				< 0 5				< 0 5			
105 67 9	2,4 Dimethylphenol	ug/l	<0 5	100	25	0 5	2 83	23	0	0%	0 25	25	< 0 5		< 25	< 0 5	< 0 5				< 0 5			3 2				< 0 5				< 0 5			
95 95 4	2,4,5 Trichlorophenol	ug/l	<0 5		25	0 5	2 63	23	0			25	< 0 5		< 25	< 0 5	< 0 5				< 0 5			< 0 5				< 0 5				< 0 5			
88 06 2	2,4,6 Trichlorophenol	ug/l	<0 5	200	25	0 5	2 63	23	0	0%	0 13	25	< 0 5		< 25	< 0 5	< 0 5				< 0 5			< 0 5				< 0 5				< 0 5			
59 50 7	4 Chloro 3 methylphenol	ug/l	<0 5	40	25	0 5	2 67	23	0	0%	0 63	25	< 0 5		< 25	< 0 5	< 0 5				< 0 5			< 0 5				< 0 5				< 0 5			
106 44 5	4 Methylphenol	ug/l	<0 5	100	68080 1	0 5	6675 27	23	9	39%	680 80	9490	11774		8021	68080 1	< 0 5				< 0 5			0 9				< 0 5				< 0 5			
100 02 7	4 Nitrophenol	ug/l	<0 5		25	0 5	2 63	23	0			25	< 0 5		< 25	< 0 5	< 0 5				< 0 5			< 0 5				< 0 5				< 0 5			
87 86 5	Pentachlorophenol	ug/l	<0 5	2	25	0 5	2 63	23	0	0%	12 50	25	< 0 5		< 25	< 0 5	< 0 5				< 0 5			< 0 5				< 0 5				< 0 5			
108 95 2	Phenol	ug/l	<0 5	7 7	6681 2	0 5	681 44	23	8	35%	867 69	1500	1434 9		850	6681 2	< 0 5				< 0 5			< 0 5				< 0 5				< 0 5			
	Total Speciated Phenols MS	ug/l	<6		74777	6	7363 17	23	0			10990	13209		8871	74777	< 6				< 6			15				< 6				< 6			
	Sulphate	mg/l	<0 05	250	1411 64	0 05	204 46	39	8	21%	5 65	1115 7	1411 64	< 0 05	847 36	702 55	29 05		17 36	23 65	132 57		257 78	< 0 05		< 0 05		188 4		54 51		540 19		214 35	87 72
16887 00 6	Chloride	mg/l	<0 3	250	3851 1	9 8	702 36	39	13	33%	15 40	3851 1	3428 6	2593 9	2541 8	1932 7	27 5		20 8	9 8	74 7		68 9	1819		1553 8		68 8		44 3		94 4		57 3	105 1
14797 55 8	Nitrate as NO3	mg/l	<0 2	25	10 5	0 2	0 92	39	0	0%	0 42	0 2	< 0 2	< 0 2	9 8	< 0 2	10 5		0 3	1 1	1 2		0 3	0 4		0 6		1 2		0 3		< 0 2		0 3	0 7
14797 65 0	Nitrite as NO2	mg/l	<0 02	0 1	1 76	0 02	0 17	39	6	15%	17 60	0 02	1 14	1 5	< 0 02	0 29	< 0 02		< 0 02	0 12	1 03		< 0 02	< 0 02		< 0 02		< 0 02		< 0 02		< 0 02		< 0 02	< 0 02
	Ortho Phosphate as P	mg/l	<0 03		0 36	0 03	0 06	25	0			0 06	0 05		< 0 06	< 0 03	< 0 03			< 0 06	< 0 03			0 11				< 0 03				< 0 03			< 0 06
	Total Oxidised Nitrogen as N	mg/l	<0 2	1	2 4	0 2	0 27	39	1	3%	2 40	0 2	< 0 2	< 0 2	< 0 2	< 0 2	2 4		< 0 2	0 3	0 6		< 0 2	< 0 2		< 0 2		0 3		< 0 2		< 0 2		< 0 2	< 0 2
57 12 5	Total Cyanide	mg/l	<0 01	0 001	0 01	0 01	0 01	9	1	11%	10 00						< 0 01				< 0 01							< 0 01				< 0 01			
	Ammoniacal Nitrogen as N	mg/l	<0 03	0 39	1710 02	0 58	213 41	43	43	100%	4397 19	31 87	43 13	55 64	50 25	1710 02	0 74		2 43	0 58	9 87		18 31	1012 42		964 38	968 8	11 12		15 93	15 66	72 14		47 07	2 14
	Ammoniacal Nitrogen as NH3	mg/l			2078 38	0 71	233 56	27	0			38 75		67 65	61 09				2 96	0 71			22 26			1172 53	1177 91			19 36	19 04			57 23	2 61
	Ammoniacal Nitrogen as NH4	mg/l		0 39	2201 44	0 75	239 45	28	15	54%	5644 72	41 04		71 66	64 71				3 13	0 75			23 58			1241 96	1247 65			20 51	20 17			60 62	2 76
64 19 7	Acetic Acid	mg/l	<1		12588	10	2328 19	16	0				12303			6785	< 10				< 10			< 10				< 10				< 10			
79 09 4	Propanoic Acid	mg/l	<1		7966	1	1303 31	16	0				7966			4122	< 1				< 1			< 1				< 1				< 1			
79-31 2 / 107 92-6	2-methyl propanoic acid / Butanoic acid	mg/l	<1		13395	1	2078 25	16	0				11571			7222	< 1				< 1			< 1				< 1				< 1			
503 74 2	3 methyl butanoic acid	mg/l	<0 5		840	0 5	150 78	16	0				< 660			< 625	< 0 5				< 0 5			< 0 5				< 0 5				< 0 5			
109 52 4	Pentanoic acid	mg/l	<0 5		3324 8	0 5	503 40	16	0				2218 9			1811 6	< 0 5				< 0 5			< 0 5				< 0 5				< 0 5			
646 07 1	4 methyl pentanoic acid	mg/l	<0 5		82 5	0 5	15 16	16	0				< 70			< 47 5	< 0 5				< 0 5			< 0 5				< 0 5				< 0 5			
142 62 1	Hexanoic acid	mg/l	<0 5		3499 3	0 5	521 28	16	0				1676 7			2513 5	< 0 5				< 0 5			< 0 5				< 0 5				< 0 5			
111 14 8	Heptanoic acid	mg/l	<0 5		286	0 5	37 51	16	0				55 9			196 1	< 0 5				< 0 5			< 0 5				< 0 5				< 0 5			
					0	0	#DIV/0!	0	0																										
	Electrical Conductivity @25C	uS/cm	<2		31641	445	7682 03	30	0				31641	29842		24011	445		485		790		1318	14601		14353		2178		1611		2938		1975	
	pH	pH units	<0 01		7 89	6 08	7 00	30	0				6 08	6 89		6 57	6 81		7 89		7 86		7 38	7 48		7 55		7 35		7 02		6 91		7 01	
	Total Organic Carbon	mg/l	<2		21335	2	2931 07	30	0				19540	18095		12666	3		5		41		90	665		597		44		29		40		29	
	Total Cations	mmolc/l	<0 00		389 22	0	78 53	30	0				389 22	332 52		220 17	4 55		5 33		9 08		14 43	107 41		96 08		29 33		17 6		37 2		20 37	
	Total Anions	mmolc/l	<0 00		347 08	4 55	83 70	30	0				296 45	347 08		273 88	4 55		6 11		8 52		15 27	186 07		117 94		28 16		19 02		37 98		22 8	
					0	0	#DIV/0!	0	0																										
	BOD (Settled)#				0	0	#DIV/0!	0	0																										
	BOD (Settled)#				0	0	#DIV/0!	0	0																										
	COD (Settled)#				0	0	#DIV/0!	0	0																										
	Total Suspended Solids#				1886	21	503 86	14	0					1194					37				62			54				112				21	
	Dissolved Oxygen	%			7	1	2 14	14	0					< 1					3				3			3				7				3	

EQS

1 The Water Framework Directive (Priority Substances and Classification) Regulations (Northern Ireland) 2011 Inland waters

2 Groundwater Drinking Water Protected Areas The River Basin Districts Typology, Standards and Groundwater threshold values (Water Framework Directive) (England and Wa

3 Freshwater EQS (AA)

DWS

1 Council Directive on the quality of water intended for human consumption (Drinking Water Directive)

2 The Water Supply (Water Quality) Regulations (Northern Ireland) 2007 (as amended)

Appendix F – Groundwater and Leachate Level Monitoring Results

Name	Elevation	21-22/04/2015	27-30/04/2015	11-12/05/2015	14-15/05/2015	24/11/2016 - 25/11/2015	07/03/2016-10/03/2016	22/06/2016 - 23/06/2016
		Preliminery Round	Gas Round 1	Gas/Field Chem Round 2	Gas/Field Chem Round 3			
GL	Datum - Top of Standpipe	Corrected WL (mAOD)	Corrected WL (mAOD)	Corrected WL (mAOD)	Corrected WL (mAOD)	Corrected WL (mAOD)	Corrected WL (mAOD)	Corrected WL (mAOD)
BH101	6.59	4.098	4.388	4.238	4.188	4.63	4.12	4.11
BH102	6.51	3.815	4.135	4.025	-	4.52	4.15	4.21
BH103	6.32	3.72	3.940	4.020	-	4.19	3.72	3.84
BH104	7.03	3.68	3.898	3.788	-	4.14	6.35	6.49
BH105	9.67	5.20	5.028	5.138	5.098		5.42	4.62
BH106a	DRY	DRY	DRY	DRY	DRY		dry	dry
BH106b	8.35	3.653	3.693	3.773	3.723	3.77	3.89	5.71
BH107	8.45	3.251	3.151	3.331	3.376	3.87	7.72	3.85
BH108	4.75	3.340	3.340	3.460	3.410	3.80	3.77	3.45
BH111	8.74	4.333	4.233	4.193	4.163		4.79	3.97
BH112	5.62	5.142	5.097	5.077	5.087		5.30	5.05
BH113	17.55	5.233	5.208	5.598	5.128		5.50	4.80
BH114	7.92	5.76	5.717	5.737	5.707		5.85	3.70
BH117	15.06	DRY	DRY	DRY	DRY		dry	dry
BH118	5.34	4.467	4.442	4.442	4.412			
BH119	6.27	4.238	4.433	4.373	4.343	4.99	4.62	4.20
BH120	6.14	4.492	4.312	4.382	4.452		4.82	
BH121	7.30	5.35	5.318	5.398	-		5.44	4.96
BH122	8.45	5.08	4.850	4.850	-		4.98	4.45
BH201	7.84	4.49	4.547	4.637	4.707	5.36	4.86	4.52
BH202	9.33	4.55	4.928	4.948	4.988		5.23	
BH203	8.02	4.22	4.317	VENTING GAS	4.287			4.17
BH204	6.92	3.826	4.116	3.916	3.896		4.14	3.95
BH205	10.38	5.13	5.086	5.106	6.091		5.35	
BH206	9.15	4.278	4.218	4.308	4.278	4.31	4.60	9.15
BH207	7.13	4.958	4.968	-	5.028		5.18	4.82
BH208	7.35	5.59	5.549	5.789	5.679		5.70	5.08
BH209	8.481	6.02	5.971	6.191	-		6.08	5.67
BH210	8.09	5.85	5.820	5.910	5.790		6.00	
BH211	8.12	-	-5.877	-5.697	-4.977		not recorded	
BH212	20.90	-	17.623	17.773	17.783		not recorded	17.66
BH213	16.16	14.174	14.204	VENTING GAS	VENTING GAS		not dipped - venting	not dipped - venting
BH214	15.67	12.374	12.274	VENTING GAS	VENTING GAS		13.35	not dipped - venting
BH215	16.38	12.931	11.861	VENTING GAS	VENTING GAS		Clogged up and venting	Clogged up and venting
BH216	5.14	3.960	3.840	3.900	3.850		4.49	3.58
BH217	5.35	3.685	3.365	3.665	3.735		4.25	5.35
BH218	9.37	7.570	7.530	7.520	7.530		7.57	7.43
BH219	7.49	4.635	4.245	4.165	3.780		4.78	4.39
BH220	7.69	4.774	4.844	4.864	4.834		5.21	5.10
BH221	7.49	5.16	5.588	5.728	5.348	2.91	4.96	4.88

Appendix H – Surface Water Quality Results

Surface Water Monitoring

Citywaste Monitoring - Final - Surface Water

Jones Environmental Laboratory

Report: Liquid
JE Job No: 15/6896
Client: WYG
Client ref: Citywaste
Location: Citywaste
Contact [redacted]

	Sample ID											SW1	SW1	SW1	SW1	SW1	SW2	SW2	SW2	SW2	SW2	SW3	SW3	SW3	SW3	SW3	SW4	SW4	SW4	SW4	SW4	SW5	SW5	SW5	
	Depth																																		
	COC No / misc																																		
	Containers											V H P BOD G	V P G	V P G	V H N P G	V H HN P G	V H P BOD G	V P G	V P G	V H N P G	V H HN P G	V H P BOD G	V P G	V P G	V H N P G	V H HN P G	V H P BOD G	V P G	V P G	V H N P G	V H HN P G	V H P BOD G	V P G	V P G	
	Sample Type											Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Ground Water	Surface Water	Surface Water	Ground Water	Surface Water	Ground Water	Surface Water	Surface Water	Surface Water	Surface Water	
	Sampled Date											06/05/2015	25/08/2015	25/11/2015	07/03/2016	23/06/2016	06/05/2015	25/08/2015	25/11/2015	07/03/2016	23/06/2016	06/05/2015	25/08/2015	25/11/2015	08/03/2016	22/06/2016	06/05/2015	25/08/2015	25/11/2015	08/03/2016	22/06/2016	06/05/2015	25/08/2015	25/11/2015	
	Sample Received Date											09/05/2015	27/08/2015	27/11/2015	10/03/2016	25/06/2016	09/05/2015	27/08/2015	27/11/2015	10/03/2016	25/06/2016	09/05/2015	27/08/2015	27/11/2015	11/03/2016	25/06/2016	09/05/2015	28/08/2015	27/11/2015	11/03/2016	25/06/2016	09/05/2015	27/08/2015	27/11/2015	
	J E Sample No											286 292	1 5	60 65	57 64	139 144	293 299	6 10	66 71	49 56	127 132	300 306	11 15	72 77	145 151	211 216	279 285	40 44	78 83	152 158	205 210	272 278	16 21	84 89	
	Batch Number											3	1	1	1	3	3	1	1	1	3	3	1	1	1	5	3	1	1	1	5	3	1	1	
CAS Number	Test	Units	LOD	EQS	MAX	MIN	MEAN	No. Samples	No. >EQS	% >EQS	Magnitude of exceedance																								
	Total Alkalinity as CaCO3	mg/l	<1		120	20	80 06	35	0	0%		62	92	96	84		84	88	94	82		70	104	102	94		62	106	118	120		66	108	116	
	Metals																																		
7429 90 5	Dissolved Aluminium	ug/l	<20	150	95	1 5	30 42	27	0	0%	0 63	< 20		< 20		< 1 5	< 20		< 20		< 1 5	24		< 20		< 1 5	40		< 20		< 1 5	30		< 20	
7440 38 2	Dissolved Arsenic	ug/l	<2 5	10	3 3	0 9	2 06	27	0	0%	0 33	< 2 5		< 2 5		< 0 9	< 2 5		< 2 5		< 0 9	3 3		< 2 5		< 0 9	< 2 5		< 2 5		< 0 9	< 2 5		< 2 5	
7440 43 9	Dissolved Cadmium	ug/l	<0 5	0 08	0 5	0 03	0 41	43	0	0%	6 25	< 0 5	< 0 5	< 0 5	< 0 5	< 0 03	< 0 5	< 0 5	< 0 5	< 0 5	< 0 03	< 0 5	< 0 5	< 0 5	< 0 5	< 0 03	< 0 5	< 0 5	< 0 5	< 0 5	< 0 03	< 0 5	< 0 5	< 0 5	<
7440 47 3	Total Dissolved Chromium	ug/l	<1 5	4 7	5 4	0 2	1 44	43	1	2%	1 15	< 1 5	< 1 5	< 1 5	< 1 5	< 0 2	< 1 5	< 1 5	< 1 5	< 1 5	0 3	< 1 5	< 1 5	< 1 5	< 1 5	5 4	< 1 5	2 2	< 1 5	< 1 5	< 0 2	< 1 5	< 1 5	< 1 5	<
7440 50 8	Dissolved Copper	ug/l	<7	1	10	3	6 42	43	1	2%	10 00	< 7	< 7	< 7	< 7	10	< 7	< 7	< 7	< 7	< 3	< 7	< 7	< 7	< 7	< 3	< 7	< 7	< 7	< 7	< 3	< 7	< 7	< 7	<
7439 89 6	Total Dissolved Iron	ug/l	<20	200	852	20	239 55	43	16	37%	4 26	< 20	97	43	33	22 4	93	22	35	29	25 8	78	23	< 20	66	199 9	140	33	28	135	94 7	117	75	72	
7439 92 1	Dissolved Lead	ug/l	<5	7 2	5	0 4	4 14	43	0	0%	0 69	< 5	< 5	< 5	< 5	< 0 4	< 5	< 5	< 5	< 5	< 0 4	< 5	< 5	< 5	< 5	< 0 4	< 5	< 5	< 5	< 5	< 0 4	< 5	< 5	< 5	<
7440 02 0	Dissolved Nickel	ug/l	<2	20	3	0 7	1 82	27	0	0%	0 15	< 2		< 2		0 7	3		< 2		0 9	< 2		< 2		1 7	< 2		< 2		1 2	< 2		< 2	
7782 49 2	Dissolved Selenium	ug/l	<3	10	5	1 2	2 54	27	0	0%	0 50	< 3		< 3		< 1 2	< 3		< 3		< 1 2	< 3		< 3		< 1 2	< 3		< 3		< 1 2	< 3		5	
7440 66 6	Dissolved Zinc	ug/l	<3	8	8	2	4 06	43	1	2%	1 00	6	< 3	< 3	< 3	3	7	3	< 3	< 3	2 8	3	< 3	< 3	< 3	7 7	5	< 3	3	5	4 3	4	< 3	5	<
7439 97 6	Mercury Dissolved by CVAF	ug/l	<0 01	0 05	0 01	0 01	0 01	27	0	0%	0 20	< 0 01		< 0 01		< 0 01	0 01		< 0 01		< 0 01	< 0 01		< 0 01		< 0 01	< 0 01		< 0 01		< 0 01	< 0 01		< 0 01	
	PAH MS																																		
83 32 9	Acenaphthene	ug/l	<0 013		0 013	0 013	0 01	20	0	0%				< 0 013	< 0 013				< 0 013	< 0 013				< 0 013	< 0 013			< 0 013	< 0 013	< 0 013		< 0 013		< 0 013	<
208 96 8	Acenaphthylene	ug/l	<0 013		0 03	0 013	0 01	20	0	0%				< 0 013	< 0 013				< 0 013	< 0 013				< 0 013	< 0 013			< 0 013	< 0 013	< 0 013		0 03		< 0 013	<
120 12 7	Anthracene	ug/l	<0 013	0 1	0 013	0 013	0 01	20	0	0%	0 13			< 0 013	< 0 013				< 0 013	< 0 013				< 0 013	< 0 013			< 0 013	< 0 013	< 0 013		< 0 013		< 0 013	<
56 55 3	Benzo(a)anthracene	ug/l	<0 015		0 015	0 015	0 02	20	0	0%				< 0 015	< 0 015				< 0 015	< 0 015				< 0 015	< 0 015			< 0 015	< 0 015	< 0 015		< 0 015		< 0 015	<
50 32 8	Benzo(a)pyrene	ug/l	<0 016	0 01	0 016	0 016	0 02	20	0	0%	1 60			< 0 016	< 0 016				< 0 016	< 0 016				< 0 016	< 0 016			< 0 016	< 0 016	< 0 016		< 0 016		< 0 016	<
205 99 2	Benzo(b)fluoranthene	ug/l	<0 01	0 03	0 01	0 01	0 01	20	0	0%	0 33			< 0 01	< 0 01				< 0 01	< 0 01				< 0 01	< 0 01			< 0 01	< 0 01	< 0 01		< 0 01		< 0 01	<
191 24 2	Benzo(ghi)perylene	ug/l	<0 011	0 002	0 011	0 011	0 01	20	0	0%	5 50			< 0 011	< 0 011				< 0 011	< 0 011				< 0 011	< 0 011			< 0 011	< 0 011	< 0 011		< 0 011		< 0 011	<
207 08 9	Benzo(k)fluoranthene	ug/l	<0 01	0 03	0 01	0 01	0 01	20	0	0%	0 33			< 0 01	< 0 01				< 0 01	< 0 01				< 0 01	< 0 01			< 0 01	< 0 01	< 0 01		< 0 01		< 0 01	<
218 01 9	Chrysene	ug/l	<0 011		0 011	0 011	0 01	20	0	0%				< 0 011	< 0 011				< 0 011	< 0 011				< 0 011	< 0 011			< 0 011	< 0 011	< 0 011		< 0 011		< 0 011	<
53 70 3	Dibenzo(ah)anthracene	ug/l	<0 01		0 01	0 01	0 01	20	0	0%				< 0 01	< 0 01				< 0 01	< 0 01				< 0 01	< 0 01			< 0 01	< 0 01	< 0 01		< 0 01		< 0 01	<
206 44 0	Fluoranthene	ug/l	<0 012	0 1	0 012	0 012	0 01	20	0	0%	0 12			< 0 012	< 0 012				< 0 012	< 0 012				< 0 012	< 0 012			< 0 012	< 0 012	< 0 012		< 0 012		< 0 012	<
86 73 7	Fluorene	ug/l	<0 014		0 02	0 014	0 01	20	0	0%				< 0 014	< 0 014				< 0 014	< 0 014				< 0 014	< 0 014			< 0 014	< 0 014	< 0 014		0 02		< 0 014	<
193 39 5	Indeno(123cd)pyrene	ug/l	<0 011	0 002	0 011	0 011	0 01	20	0	0%	5 50			< 0 011	< 0 011				< 0 011	< 0 011				< 0 011	< 0 011			< 0 011	< 0 011	< 0 011		< 0 011		< 0 011	<
91 20 3	Naphthalene	ug/l	<0 014	2 4	1 15	0 014	0 14	20	0	0%	0 48			< 0 1	< 0 1				< 0 1	< 0 1				< 0 1	< 0 1			< 0 014	< 0 1	< 0 1		1 15		< 0 1	<
85 01 8	Phenanthrene	ug/l	<0 011		0 02	0 011	0 01	20	0	0%				< 0 011	< 0 011				< 0 011	< 0 011				< 0 011	< 0 011			< 0 011	< 0 011	< 0 011		0 02		< 0 011	<
129 00 0	Pyrene	ug/l	<0 013		0 013	0 013	0 01	20	0	0%				< 0 013	< 0 013				< 0 013	< 0 013				< 0 013	< 0 013			< 0 013	< 0 013	< 0 013		< 0 013		< 0 013	<
	PAH 16 Total	ug/l	<0 195		1 22	0 195	0 25	20	0	0%				< 0 195	< 0 195				< 0 195	< 0 195				< 0 195	< 0 195			< 0 195	< 0 195	< 0 195		1 22		< 0 195	<
	PAH Surrogate % Recovery	%	<0		106	70	75 00	20	0	0%				73	91				71	73				72	77			70	106	74		70		72	
	Benzo(bk)fluoranthene	ug/l	<0 018		0 018	0 018	0 02	20	0	0%				< 0 018	< 0 018				< 0 018	< 0 018				< 0 018	< 0 018			< 0 018	< 0 018	< 0 018		< 0 018		< 0 018	<
	TPH CWG																																		
	Aliphatics																																		
	>C5 C6	ug/l	<5		5	5	5 00	20	0	0%				< 5	< 5				< 5	< 5				< 5	< 5			< 5	< 5	< 5		< 5		< 5	<
	>C6 C8	ug/l	<5		5	5	5 00	20	0	0%				< 5	< 5				< 5	< 5				< 5	< 5			< 5	< 5	< 5		< 5		< 5	<
	>C8 C10	ug/l	<5		5	5	5 00	20	0	0%				< 5	< 5				< 5	< 5				< 5	< 5			< 5	< 5	< 5		< 5		< 5	<
	>C10 C12	ug/l	<5		5	5	5 00	20	0	0%				< 5	< 5				< 5	< 5				< 5	< 5			< 5	< 5	< 5		< 5		< 5	<
	>C12 C16	ug/l	<10		10	10	10 00	20	0	0%				< 10	< 10				< 10	< 10				< 10	< 10			< 10	< 10	< 10		< 10		< 10	<
	>C16 C21	ug/l	<10		10	10	10 00	20	0	0%				< 10	< 10				< 10	< 10				< 10	< 10			< 10	< 10	< 10		< 10		< 10	<
	>C21 C35	ug/l	<10		10	10	10 00	20	0	0%				< 10	< 10				< 10	< 10				< 10	< 10			< 10	< 10	< 10		< 10		< 10	<
	Total aliphatics C5 35	ug/l	<10		10	10	10 00	20	0	0%				< 10	< 10				< 10	< 10				< 10	< 10			< 10	< 10	< 10		< 10		< 10	<
	Aromatics																																		
	>C5 EC7	ug/l	<5		5	5	5 00	20	0	0%				< 5	< 5				< 5	< 5				< 5	< 5			< 5	< 5	< 5		< 5		< 5	<
	>EC7 EC8	ug/l	<5		5	5	5 00	20	0	0%				< 5	< 5				< 5	< 5				< 5	< 5			< 5	< 5	< 5		< 5		< 5	<
	>EC8 EC10	ug/l	<5		5	5	5 00	20	0	0%				< 5	< 5				< 5	< 5				< 5	< 5			< 5	< 5	< 5		< 5		< 5	<
	>EC10 EC12	ug/l	<5		5	5	5 00	20	0	0%				< 5	< 5				< 5	< 5				< 5	< 5			< 5	< 5	< 5		< 5		< 5	<
	>EC12 EC16	ug/l	<10		10	10	10 00	20	0	0%				< 10	< 10				< 10	< 10				< 10	< 10			< 10	< 10	< 10		< 10		< 10	<
	>EC16 EC21	ug/l	<10		10	10	10 00	20	0	0%				< 10	< 10				< 10	< 10				< 10	< 10			< 10	< 10	< 10		< 10		< 10	<
	>EC21 EC35	ug/l	<10		10	10	10 00	20	0	0%				< 10	< 10				< 10	< 10				< 10	< 10			< 10	< 10	< 10		< 10		< 10	<
	Total aromatics C5 35	ug/l	<10		10	10	10 00	20	0	0%				< 10	< 10				< 10	< 10				< 10	< 10			< 10	< 10	< 10		< 10		< 10	<
	Total aliphatics and aromatics(C5 35)	ug/l	<10	10	10	10	10 00	20	0	0%	1 00			< 10	< 10				< 10	< 10				< 10	< 10			< 10	< 10	< 10		< 10		< 10	<
	BTEX/MTBE MS																																		
1634 04 4	Methyl Tertiary Butyl Ether	ug/l	<0 1	30	5	0 1	4 14	17	0	0%	0 17			< 5					< 5					< 5	< 5				< 5	< 5		< 0 1		< 5	<
71 43 2	Benzene	ug/l	<0 5	1	5	0 5	4 21	17	0	0%	5 00			< 5					< 5					< 5	< 5				< 5	< 5		< 0 5		< 5	<
108 88 3	Toluene	ug/l	<0 5	50	5	0 5	4 21	17	0	0%	0 10			< 5					< 5					< 5	< 5				< 5	< 5		< 0 5		< 5	<
100 41 4	Ethylbenzene	ug/l	<0 5	20	5	0 5	4 21	17	0	0%	0 25			< 5					< 5					< 5	< 5				< 5	< 5		< 0 5		< 5	<
	p/m Xylene	ug/l	<1	30	5	1	4 29	17	0	0%	0 17			< 5					< 5					< 5	< 5				< 5	< 5		< 1		< 5	<
95 47 6	o Xylene	ug/l	<0 5	30	5	0 5	4 21	17	0	0%	0 17			< 5					< 5					< 5	< 5				< 5	< 5		< 0 5		< 5	<
2037 26 5	Surrogate Recovery Toluene D8	%	<0		98	96	97 00	3	0	0%																						96			
460 00 4	Surrogate Recovery 4 Bromofluorobenzene	%	<0		105	97	100 33	3	0	0%																						105			
7440 70 2	Dissolved Calcium	mg/l	<0 2		45 5	10 3	30 97	43	0	0%		34 7	31 8	33 3	33 1	36 6	39 4	34 3	36 7	33 6	36 3	34 8	39 3	40	37 5	41 4	30 4	41 6	41 6	41 4	43 8	33 1	41 8	40 9	
7439 95 4	Dissolved Magnesium	mg/l	<0 1		8	1 8	4 91	43	0	0%		4 6	4 4	4 7	4 9	5	6 3	4 7	5	4 8	5 1	4 8	5 8	5 9	5 7	6 4	5 3	6 7	6 8	6 9	8	4 8	6 5	6 5	
7439 96 5	Dissolved Manganese	ug/l	<2	50	1093	1 5	80 38	43	13	30%	21 86	< 2	49	< 2	26	15 7	1093	25	< 2	31	16 1	9	50	< 2	248	352 8	< 2	3	< 2	67	132 8	2	5	62	
7723 14 0	Dissolved Phosphorus	ug/l	<5		123	5	27 83	27	0	0%		19		18		8 2	19		16		12 1	45		6		5 8	123		59		15 1	84		8	
07/09/7440	Dissolved Potassium	mg/l	<0 1		5 5	1 3	3 31	43	0	0%		4 7	4 8	4 3	3 4	3 5	1 7	4	3 8	3 2	3 4	5 5	4 8	4 1	3 4	3 6	5 3	5	4 5	3 9	4 5	5 1	5 3	4 4	
7440 23 5	Dissolved Sodium	mg/l	<0 1	200	20 3	8 4	12 77	43	0	0%	0 10	12 9	13	12 3	12 8	13	20 3	12 3	12 7	12 6	12 8	13 8	15 2	14 4	14 3	16	15 9	14 5	13 7	14	14 9	12	14 7	14 2	
7723 14 0	Total Phosphorus	ug/l	<5		2977	35	294 71	27	0	0%		105		579		215 9	70		2977		110	126		918		445 7	182		568		152 9	144		57	
	Total Phenols HPLC	mg/l	<0 1		0 1	0 1	0 10	16	0	0%			< 0 1		< 0 1			< 0 1		< 0 1			< 0 1		< 0 1			< 0 1		< 0 1			< 0 1		<
	VOC MS																																		
75 71 8	Dichlorodifluoromethane	ug/l	<2		2	2	2 00	3	0	0%																						< 2			
1634 04 4	Methyl Tertiary Butyl Ether	ug/l	<0 1		5	0 1	1 33	4	0	0%																		< 5				< 0 1			
74 87 3	Chloromethane	ug/l	<3		3	3	3 00	3	0	0%																						< 3			
75 01 4	Vinyl Chloride	ug/l	<0 1	0 5	0 1	0 1	0 10	3	0	0%	0 20																					< 0 1			
74 83 9	Bromomethane	ug/l	<1		1	1	1 00	3	0	0%																						< 1			
75 00 3	Chloroethane	ug/l	<3		3	3	3 00	3	0	0%																						< 3			
75 69 4	Trichlorofluoromethane	ug/l	<3		3	3	3 00	3	0	0%																						< 3			
75 35 4	1,1 Dichloroethene (1,1 DCE)	ug/l	<3		3	3	3 00	3	0	0%																						< 3			
75 09 2	Dichloromethane (DCM)	ug/l	<3	20	3	3	3 00	3	0	0%	0 15																					< 3			
156 60 5	trans 1 2 Dichloroethene	ug/l	<3		3	3	3 00	3	0	0%																						< 3			
75 34 3	1,1 Dichloroethane	ug/l	<3	3	3	3	3 00	3	0	0%	1 00																					< 3			
156 59 2	cis 1 2 Dichloroethene	ug/l	<3		3	3	3 00	3	0	0%																						< 3			
594 20 7	2,2 Dichloropropane	ug/l	<1		1	1	1 00	3	0	0%																						< 1			
74 97 5	Bromochloromethane	ug/l	<2		2	2	2 00	3	0	0%																						< 2			
67 66 3	Chloroform	ug/l	<2		2	2	2 00	3	0	0%																						< 2			
71 55 6	1,1,1 Trichloroethane	ug/l	<2	100	2	2	2 00	3	0	0%	0 02																					< 2			
563 58 6	1,1 Dichloropropene	ug/l	<3		3	3	3 00	3	0	0%																						< 3			
56 23 5	Carbon tetrachloride	ug/l	<2	12	2	2	2 00	3	0	0%	0 17																					< 2			
107 06 2	1,2 Dichloroethane	ug/l	<2		2	2	2 00	3	0	0%																						< 2			
71 43 2	Benzene	ug/l	<0 5	1	5	0 5	1 63	4	0	0%	5 00																	< 5				< 0 5			
79 01 6	Trichloroethene (TCE)	ug/l	<3		3	3	3 00	3	0	0%																						< 3			
78 87 5	1,2 Dichloropropane	ug/l	<2		2	2	2 00	3	0	0%																						< 2			
74 95 3	Dibromomethane	ug/l	<3		3	3	3 00	3	0	0%																						< 3			
75 27 4	Bromodichloromethane	ug/l	<2		2	2	2 00	3	0	0%																						< 2			
10061 01 5	cis 1 3 Dichloropropene	ug/l	<2		2	2	2 00	3	0	0%																						< 2			
108 88 3	Toluene	ug/l	<0 5	50	5	0 5	1 63	4	0	0%	0 10																	< 5				< 0 5			
10061 02 6	trans 1 3 Dichloropropene	ug/l	<2		2	2	2 00	3	0	0%																						< 2			
79 00 5	1,1,2 Trichloroethane	ug/l	<2	400	2	2	2 00	3	0	0%	0 01																					< 2			
127 18 4	Tetrachloroethene (PCE)	ug/l	<3	10	3	3	3 00	3	0	0%	0 30																					< 3			
142 28 9	1,3 Dichloropropane	ug/l	<2		2	2	2 00	3	0	0%																						< 2			
124 48 1	Dibromochloromethane	ug/l	<2		2	2	2 00	3	0	0%																						< 2			
106 93 4	1,2 Dibromoethane	ug/l	<2		2	2	2 00	3	0	0%																						< 2			
108 90 7	Chlorobenzene	ug/l	<2		2	2	2 00	3	0	0%																						< 2			
630 20 6	1,1,1,2 Tetrachloroethane	ug/l	<2		2	2	2 00	3	0	0%																						< 2			
100 41 4	Ethylbenzene	ug/l	<0 5	20	5	0 5	1 63	4	0	0%	0 25																	< 5				< 0 5			
	p/m Xylene	ug/l	<1	30	5	1	2 00	4	0	0%	0 17																	< 5				< 1			

Citywaste Monitoring - Final - Surface Water

			Sample ID									SW1	SW1	SW1	SW1	SW1	SW2	SW2	SW2	SW2	SW2	SW3	SW3	SW3	SW3	SW3	SW4	SW4	SW4	SW4	SW4	SW5	SW5	SW5
Report:	**Liquid**		**Depth**																															
JE Job No:	15/6896		**COC No / misc**																															
Client:	WYG		**Containers**									V H P BOD G	V P G	V P G	V H N P G	V H HN P G	V H P BOD G	V P G	V P G	V H N P G	V H HN P G	V H P BOD G	V P G	V P G	V H N P G	V H HN P G	V H P BOD G	V P G	V P G	V H N P G	V H HN P G	V H P BOD G	V P G	V P G
Client ref:	Citywaste		**Sample Type**									Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Ground Water	Surface Water	Surface Water	Ground Water	Surface Water	Ground Water	Surface Water	Surface Water	Surface Water	Surface Water
Location:	Citywaste		**Sampled Date**									06/05/2015	25/08/2015	25/11/2015	07/03/2016	23/06/2016	06/05/2015	25/08/2015	25/11/2015	07/03/2016	23/06/2016	06/05/2015	25/08/2015	25/11/2015	08/03/2016	22/06/2016	06/05/2015	25/08/2015	25/11/2015	08/03/2016	22/06/2016	06/05/2015	25/08/2015	25/11/2015
Contact	[redacted]		**Sample Received Date**									09/05/2015	27/08/2015	27/11/2015	10/03/2016	25/06/2016	09/05/2015	27/08/2015	27/11/2015	10/03/2016	25/06/2016	09/05/2015	27/08/2015	27/11/2015	11/03/2016	25/06/2016	09/05/2015	28/08/2015	27/11/2015	11/03/2016	25/06/2016	09/05/2015	27/08/2015	27/11/2015
			J E Sample No									286 292	1 5	60 65	57 64	139 144	293 299	6 10	66 71	49 56	127 132	300 306	11 15	72 77	145 151	211 216	279 285	40 44	78 83	152 158	205 210	272 278	16 21	84 89
			Batch Number									3	1	1	1	3	3	1	1	1	3	3	1	1	1	5	3	1	1	1	5	3	1	1
95 47 6	o Xylene	ug/l	<0 5	30	5	0 5	1 63	4	0	0%	0 17																	< 5				< 0 5		
100 42 5	Styrene	ug/l	<2	50	2	2	2 00	3	0	0%	0 04																					< 2		
75 25 2	Bromoform	ug/l	<2	100	2	2	2 00	3	0	0%	0 02																					< 2		
98 82 8	Isopropy benzene	ug/l	<3		3	3	3 00	3	0	0%																						< 3		
79 34 5	1,1,2,2 Tetrachloroethane	ug/l	<4		4	4	4 00	3	0	0%																						< 4		
108 86 1	Bromobenzene	ug/l	<2		2	2	2 00	3	0	0%																						< 2		
96 18 4	1,2,3 Trichloropropane	ug/l	<3		3	3	3 00	3	0	0%																						< 3		
103 65 1	Propylbenzene	ug/l	<3		3	3	3 00	3	0	0%																						< 3		
95 49 8	2 Chlorotoluene	ug/l	<3		3	3	3 00	3	0	0%																						< 3		
108 67 8	1,3,5 Trimethylbenzene	ug/l	<3		3	3	3 00	3	0	0%																						< 3		
106 43 4	4 Chlorotoluene	ug/l	<3		3	3	3 00	3	0	0%																						< 3		
98 06 6	tert Butylbenzene	ug/l	<3		3	3	3 00	3	0	0%																						< 3		
95 63 6	1,2,4 Trimethylbenzene	ug/l	<3		3	3	3 00	3	0	0%																						< 3		
135 98 8	sec Butylbenzene	ug/l	<3		3	3	3 00	3	0	0%																						< 3		
99 87 6	4 Isopropyltoluene	ug/l	<3		3	3	3 00	3	0	0%																						< 3		
541 73 1	1,3 Dichlorobenzene	ug/l	<3		3	3	3 00	3	0	0%																						< 3		
106 46 7	1,4 Dichlorobenzene	ug/l	<3		3	3	3 00	3	0	0%																						< 3		
104 51 8	n Butylbenzene	ug/l	<3		3	3	3 00	3	0	0%																						< 3		
95 50 1	1,2 Dichlorobenzene	ug/l	<3	1000	3	3	3 00	3	0	0%	0 00																					< 3		
96 12 8	1,2 Dibromo 3 chloropropane	ug/l	<2		2	2	2 00	3	0	0%																						< 2		
120 82 1	1,2,4 Trichlorobenzene	ug/l	<3	0 4	3	3	3 00	3	0	0%	7 50																					< 3		
87 68 3	Hexachlorobutadiene	ug/l	<3	0 1	3	3	3 00	3	0	0%	30 00																					< 3		
87 61 6	1,2,3 Trichlorobenzene	ug/l	<3		3	3	3 00	3	0	0%																						< 3		
2037 26 5	Surrogate Recovery Toluene D8	%	<0		98	96	97 00	3	0	0%																						96		
460 00 4	Surrogate Recovery 4 Bromofluorobenzene	%	<0		105	97	100 33	3	0	0%																						105		
	Pesticides MS																																	
	Organochlorine Pesticides																																	
309 00 2	Aldrin	ug/l	<0 01	0 03	0 01	0 01	0 01	3	0	0%	0 33																					< 0 01		
319 84 6	Alpha HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
319 85 7	Beta HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
1897 45 6	Chlorothalonil	ug/l	<0 01	0 1	0 01	0 01	0 01	3	0	0%	0 10																					< 0 01		
5103 71 9	cis Chlordane	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
319 86 8	Delta HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
60 57 1	Dieldrin	ug/l	<0 01	0 03	0 01	0 01	0 01	3	0	0%	0 33																					< 0 01		
959 98 8	Endosulphan I	ug/l	<0 01	0 005	0 01	0 01	0 01	3	0	0%	2 00																					< 0 01		
33213 65 9	Endosulphan II	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
1031 07 8	Endosulphan sulphate	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
72 20 8	Endrin	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
58 89 9	Gamma HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
76 44 8	Heptachlor	ug/l	<0 01	0 03	0 01	0 01	0 01	3	0	0%	0 33																					< 0 01		
1024 57 3	Heptachlor Epoxide	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
118 74 1	Hexachlorobenzene	ug/l	<0 01	0 01	0 01	0 01	0 01	3	0	0%	1 00																					< 0 01		
465 73 6	Isodrin	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
3424 82 6	o,p' DDE	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
789 02 6	o,p' DDT	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
30667 99 3	o,p' Methoxychlor	ug/l	<0 01	20	0 01	0 01	0 01	3	0	0%	0 00																					< 0 01		
53 19 0	o,p' TDE	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
72 55 9	p,p' DDE	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
50 29 3	p,p' DDT	ug/l	<0 01	0 01	0 01	0 01	0 01	3	0	0%	1 00																					< 0 01		
72 43 5	p,p' Methoxychlor	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
72 54 8	p,p' TDE	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
40487 42 1	Pendimethalin	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
61949 76 6	Permethrin I	ug/l	<0 01	0 01	0 01	0 01	0 01	3	0	0%	1 00																					< 0 01		
61949 77 7	Permethrin II	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
82 68 8	Quintozene (PCNB)	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
117 18 0	Tecnazene	ug/l	<0 01	1	0 01	0 01	0 01	3	0	0%	0 01																					< 0 01		
297 78 9	Telodrin	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
	Total Methoxychlor				0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
5103 74 2	trans Chlordane	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
43121 43 3	Triadimefon	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
2303 17 5	Triallate	ug/l	<0 01	0 25	0 01	0 01	0 01	3	0	0%	0 04																					< 0 01		
1582 09 8	Trifluralin	ug/l	<0 01	0 03	0 01	0 01	0 01	3	0	0%	0 33																					< 0 01		
	Organophosphorus Pesticides																																	
2642 71 9	Azinphos ethyl	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
86 50 0	Azinphos methyl	ug/l	<0 01	0 01	0 01	0 01	0 01	3	0	0%	1 00																					< 0 01		
786 19 6	Carbophenothion	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
470 90 6	Chlorfenvinphos	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
2921 88 2	Chlorpyrifos	ug/l	<0 01	0 03	0 01	0 01	0 01	3	0	0%	0 33																					< 0 01		
5598 13 0	Chlorpyrifos methyl	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
333 41 5	Diazinon	ug/l	<0 01	0 01	0 01	0 01	0 01	3	0	0%	1 00																					< 0 01		
62 73 7	Dichlorvos	ug/l	<0 01	0 001	0 01	0 01	0 01	3	0	0%	10 00																					< 0 01		
298 04 4	Disulfoton	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
60 51 5	Dimethoate	ug/l	<0 01	0 48	0 01	0 01	0 01	3	0	0%	0 02																					< 0 01		
563 12 2	Ethion	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
56 38 2	Ethyl Parathion (Parathion)	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
38260 54 7	Etrimphos	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
122 14 5	Fenitrothion	ug/l	<0 01	0 01	0 01	0 01	0 01	3	0	0%	1 00																					< 0 01		
55 38 9	Fenthion	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
121 75 5	Malathion	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
298 00 0	Methyl Parathion	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
7786 34 7	Mevinphos	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
2310 17 0	Phosalone	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
29232 93 7	Pirimiphos Methyl	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
31218 83 4	Propetamphos	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
24017 47 8	Triazophos	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!																					< 0 01		
06/05/3813	Benazolin	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1		

Citywaste Monitoring - Final - Surface Water

Report: **Liquid**
JE Job No: 15/6896
Client: WYG
Client ref: Citywaste
Location: Citywaste
Contact [redacted]

			Sample ID									SW1	SW1	SW1	SW1	SW1	SW2	SW2	SW2	SW2	SW2	SW3	SW3	SW3	SW3	SW3	SW4	SW4	SW4	SW4	SW4	SW5	SW5	SW5	
			Depth																																
			COC No / misc																																
			Containers									V H P BOD G	V P G	V P G	V H N P G	V H HN P G	V H P BOD G	V P G	V P G	V H N P G	V H HN P G	V H P BOD G	V P G	V P G	V H N P G	V H HN P G	V H P BOD G	V P G	V P G	V H N P G	V H HN P G	V H P BOD G	V P G	V P G	
			Sample Type									Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Ground Water	Surface Water	Surface Water	Ground Water	Surface Water	Ground Water	Surface Water	Surface Water	Surface Water	Surface Water	
			Sampled Date									06/05/2015	25/08/2015	25/11/2015	07/03/2016	23/06/2016	06/05/2015	25/08/2015	25/11/2015	07/03/2016	23/06/2016	06/05/2015	25/08/2015	25/11/2015	08/03/2016	22/06/2016	06/05/2015	25/08/2015	25/11/2015	08/03/2016	22/06/2016	06/05/2015	25/08/2015	25/11/2015	
			Sample Received Date									09/05/2015	27/08/2015	27/11/2015	10/03/2016	25/06/2016	09/05/2015	27/08/2015	27/11/2015	10/03/2016	25/06/2016	09/05/2015	27/08/2015	27/11/2015	11/03/2016	25/06/2016	09/05/2015	28/08/2015	27/11/2015	11/03/2016	25/06/2016	09/05/2015	27/08/2015	27/11/2015	
			J E Sample No									286 292	1 5	60 65	57 64	139 144	293 299	6 10	66 71	49 56	127 132	300 306	11 15	72 77	145 151	211 216	279 285	40 44	78 83	152 158	205 210	272 278	16 21	84 89	
			Batch Number									3	1	1	1	3	3	1	1	1	3	3	1	1	1	5	3	1	1	1	5	3	1	1	
25057 89 0	Bentazone	ug/l	<0 1	500	0 1	0 1	0 10	3	0	0%	0 00																					< 0 1			
1689 84 5	Bromoxynil	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
1702 17 6	Clopyralid	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
122 88 3	4 CPA	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
94 75 7	2,4 D	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
94 80 4	2,4 DB	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
1918 00 9	Dicamba	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
120 36 5	Dichloroprop	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
40843 25 2	Diclofop	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
93 72 1	Fenoprop	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
58667 63 3	Flamprop	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
52756 22 6	Flamprop isopropyl	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
1689 83 4	Ioxynil	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
94 74 6	MCPA	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
94 81 5	MCPB	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
7085 19 0	Mecoprop	ug/l	<0 1	18	0 1	0 1	0 10	3	0	0%	0 01																					< 0 1			
01/02/1918	Picloram	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
87 86 5	Pentachlorophenol	ug/l	<0 1	0 4	0 1	0 1	0 10	3	0	0%	0 25																					< 0 1			
93 76 5	2,4,5 T	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
50 31 7	2,3,6 TBA	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
55335 06 3	Triclopyr	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
1912 24 9	Atrazine	ug/l	<1	0 6	1	1	1 00	3	0	0%	1 67																					< 1			
122 34 9	Simazine	ug/l	<1	1	1	1	1 00	3	0	0%	1 00																					< 1			
32598 13 3	PCB 77	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
70362 50 4	PCB 81	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
32598 14 4	PCB 105	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
74472 37 0	PCB 114	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
31508 00 6	PCB 118	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
65510 44 3	PCB 123	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
57465 28 8	PCB 126	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
38380 08 4	PCB 156	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
69782 90 7	PCB 157	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
52663 72 6	PCB 167	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
32774 16 6	PCB 169	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
39635 31 9	PCB 189	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!																					< 0 1			
	Total 12 PCBs	ug/l	<1 2		1 2	1 2	1 20	3	0	0%	#DIV/0!																					< 1 2			
16984 48 8	Fluoride	mg/l	<0 3	1 5	0 3	0 3	0 30	19	0	0%	0 20	< 0 3		< 0 3			< 0 3		< 0 3			< 0 3		< 0 3			< 0 3		< 0 3			< 0 3		< 0 3	
95 57 8	2 Chlorophenol	ug/l	<0 5	50	0 5	0 5	0 50	3	0	0%	0 01																					< 0 5			
95 48 7	2 Methylphenol	ug/l	<0 5	100	0 5	0 5	0 50	3	0	0%	0 01																					< 0 5			
88 75 5	2 Nitrophenol	ug/l	<0 5		0 5	0 5	0 50	3	0	0%	#DIV/0!																					< 0 5			
120 83 2	2,4 Dichlorophenol	ug/l	<0 5	20	0 5	0 5	0 50	3	0	0%	0 03																					< 0 5			
105 67 9	2,4 Dimethylphenol	ug/l	<0 5	100	0 5	0 5	0 50	3	0	0%	0 01																					< 0 5			
95 95 4	2,4,5 Trichlorophenol	ug/l	<0 5		0 5	0 5	0 50	3	0	0%	#DIV/0!																					< 0 5			
88 06 2	2,4,6 Trichlorophenol	ug/l	<0 5	200	0 5	0 5	0 50	3	0	0%	0 00																					< 0 5			
59 50 7	4 Chloro 3 methylphenol	ug/l	<0 5	40	0 5	0 5	0 50	3	0	0%	0 01																					< 0 5			
106 44 5	4 Methylphenol	ug/l	<0 5	100	0 5	0 5	0 50	3	0	0%	0 01																					< 0 5			
100 02 7	4 Nitrophenol	ug/l	<0 5		0 5	0 5	0 50	3	0	0%	#DIV/0!																					< 0 5			
87 86 5	Pentachlorophenol	ug/l	<0 5	2	0 5	0 5	0 50	3	0	0%	0 25																					< 0 5			
108 95 2	Phenol	ug/l	<0 5	7 7	0 5	0 5	0 50	3	0	0%	0 06																					< 0 5			
	Total Speciated Phenols MS	ug/l	<6		6	6	6 00	3	0	0%	#DIV/0!																					< 6			
	Sulphate	mg/l	<0 05	250	28 98	0 05	14 73	43	0	0%	0 12	15 43	16 95	15 15	17 12	17 51	28 98	18 08	16 98	18 14	17 57	15 88	21 34	21 54	20 74	21 17	15 46	22 34	19 5	23 41	23 16	15 04	20 93	19 64	
16887 00 6	Chloride	mg/l	<0 3	250	70 4	13 2	24 47	43	0	0%	0 28	26 4	26 1	26 5	26 5	25 7	33 8	26	26 4	26 4	26 1	24 5	27 4	27	28 4	27 5	29 6	27 9	26	70 4	24 9	21 9	26 8	26 9	
14797 55 8	Nitrate as NO3	mg/l	<0 2	25	28 8	1 6	13 41	43	5	12%	1 15	16 4	11 5	13 8	25 2	24 8	4 9	22	22 3	26 2	25 2	16 4	19 3	21 5	28 8	8 3	14 1	19 3	18 6	18 5	15 1	15 2	20 1	21 7	
14797 65 0	Nitrite as NO2	mg/l	<0 02	0 1	0 61	0 02	0 11	43	18	42%	6 10	0 12	0 12	< 0 02	0 04	0 2	0 07	0 12	0 04	0 03	0 12	0 1	0 25	0 23	0 04	0 35	0 11	0 06	0 11	0 06	0 37	0 11	0 38	0 14	
	Ortho Phosphate as P	mg/l	<0 03		0 07	0 03	0 04	27	0	0%	#DIV/0!	< 0 03		< 0 03		< 0 06	< 0 03		< 0 03		< 0 06	< 0 03		< 0 03		< 0 06	0 06		< 0 03		< 0 06	0 04		< 0 03	
	Total Oxidised Nitrogen as N	mg/l	<0 2	1	6 5	0 4	3 05	43	33	77%	6 50	3 7	2 6	3 1	5 7	5 7	1 1	5	5	5 9	5 7	3 7	4 4	4 9	6 5	2	3 2	4 4	4 2	4 2	3 5	3 5	4 6	4 9	
57 12 5	Total Cyanide	mg/l	<0 01	0 001	0 02	0 01	0 01	19	4	21%	20 00	< 0 01		< 0 01			< 0 01		0 02			< 0 01		0 01			< 0 01		0 01			< 0 01		< 0 01	
	Ammoniacal Nitrogen as N	mg/l	<0 03	0 39	0 47	0 03	0 14	43	2	5%	1 21	0 16	0 05	0 03	0 26	0 13	0 19	0 06	0 03	0 19	0 05	0 47	0 05	0 08	0 33	0 21	0 23	0 07	0 05	0 16	0 12	0 3	0 16	0 17	
	Ammoniacal Nitrogen as NH3	mg/l			0 5	0 04	0 17	24	0	0%	#DIV/0!		0 07		0 31	0 16		0 08		0 23	0 07		0 06		0 4	0 25		0 08		0 19	0 15		0 19		
	Ammoniacal Nitrogen as NH4	mg/l		0 39	0 604285714	0 038571429	0 18	40	2	5%	1 55	0 21	0 07	0 04	0 33	0 17	0 24	0 08	0 04	0 24	0 07	0 60	0 06	0 10	0 42	0 27	0 30	0 09	0 06	0 2	0 16	0 39	0 2	0 22	
	Electrical Conductivity @25C	uS/cm	<2		371	117	267 06	35	0	0%	#DIV/0!	297	290	277	279		355	318	321	287		302	331	334	331		294	355	331	371		280	344	336	
	pH	pH units	<0 01		7 5	6 53	6 83	35	0	0%	#DIV/0!	6 76	6 63	6 87	6 67		6 53	6 62	7 26	6 65		6 62	6 62	6 67	6 7		6 89	6 61	6 74	7 16		6 78	6 73	6 76	
	Total Organic Carbon	mg/l	<2		20	2	6 66	35	0	0%	#DIV/0!	3	3	2	< 2		4	3	< 2	< 2		6	3	< 2	< 2		10	3	3	3		9	5	< 2	<
	Total Cations	mmolc/l	<0 00		3 47	1 06	2 52	35	0	0%	#DIV/0!	2 79	2 64	2 69	2 7		3 41	2 74	2 89	2 7		2 87	3 22	3 21	3 05		2 78	3 39	3 35	3 34		2 7	3 4	3 31	
	Total Anions	mmolc/l	<0 00		5 17	0 8	2 82	35	0	0%	#DIV/0!	2 57	3 11	3 21	3 19		3 32	3 22	3 34	3 19		2 69	3 61	3 6	3 58		2 62	3 68	3 8	5 17		2 5	3 68	3 84	
	BOD (Settled)#				2	1	1 13	8	0	0%	#DIV/0!			< 1					< 1					< 1					2					< 1	
	BOD (Settled)#				5	1	2 00	19	0	0%	#DIV/0!	3	< 1				4	< 1				4	< 1				2	< 1				5	< 1		
	COD (Settled)#				63	7	30 00	27	0	0%	#DIV/0!	36	10	9			40	8	14			43	12	9			61	< 7	14			56	15	11	
	Total Suspended Solids#				1343	10	112 97	35	0	0%	#DIV/0!	109	1343	12	24		< 10	291	794	< 10		< 10	596	369	< 10		13	30	124	< 10		< 10	< 10	< 10	<
													8		11			9		11			8		11			9		11			9		

EQS

1 The Water Framework Directive (Priority Substances and Classification) Regulations (Northern Ireland) 2011 Inland waters
2 Groundwater Drinking Water Protected Areas The River Basin Districts Typology, Standards and Groundwater threshold values (Water Framework Directive) (England and Wales) Directions 2010
3 Freshwater EQS (AA)

DWS

1 Council Directive on the quality of water intended for human consumption (Drinking Water Directive)
2 The Water Supply (Water Quality) Regulations (Northern Ireland) 2007 (as amended)

Jones Environmental Laboratory

Report:	Liquid
JE Job No:	15/6896
Client:	WYG
Client ref:	Citywaste
Location:	Citywaste
Contact	[redacted]

Sample ID	
Depth	
COC No / misc	
Containers	
Sample Type	
Sampled Date	
Sample Received Date	
J E Sample No	
Batch Number	

CAS Number	Test	Units	LOD	EQS	MAX	MIN	MEAN	No. Samples	No. >EQS	% >EQS	Magnitude of exceedance	SW5	SW5	SW6	SW6	SW6	SW6	SW6	SW6	SW7	SW7	SW7	SW7@BRIDGE	SW7	SW7	SW7	SW8	SW8	SW8	SW8	SW8
												V H N P G Ground Water 08/03/2016 11/03/2016 159 165 1	V H N P G Surface Water 22/06/2016 25/06/2016 199 204 5	V H P B O D G Surface Water 06/05/2015 09/05/2015 265 271 3	V H P G Ground Water 03/06/2015 05/06/2015 9 14 1	V P G Surface Water 25/08/2015 27/08/2015 22 26 1	V P G Surface Water 24/11/2015 27/11/2015 90 93 1	V H N P G Surface Water 08/03/2016 11/03/2016 121 128 1	V H N P G Surface Water 22/06/2016 25/06/2016 241 246 6	V H P B O D G Surface Water 06/05/2015 09/05/2015 256 264 3	V H P G Ground Water 03/06/2015 05/06/2015 15 20 1	V P G Surface Water 25/08/2015 27/08/2015 27 31 1	V P G Surface Water 25/08/2015 27/08/2015 32 37 1	V P G Surface Water 24/11/2015 27/11/2015 94 99 1	V H N P G Surface Water 08/03/2016 11/03/2016 129 136 1	V H N P G Surface Water 22/06/2016 25/06/2016 193 198 5	V H P B O D G Surface Water 06/05/2015 09/05/2015 226 234 3	V H P G Ground Water 03/06/2015 05/06/2015 21 26 1	V P G Surface Water 25/11/2015 27/11/2015 100 105 1	V H N P G Surface Water 09/03/2016 12/03/2016 242 248 2	V H N P G Surface Water 23/06/2016 25/06/2016 109 114 3
	Total Alkalinity as CaCO3	mg/l	<1		120	20	80 06	35	0	0%		96		20	64	66	68	76		40	96	64	64	116	80		22	72	62	48	
	Metals																														
7429 90 5	Dissolved Aluminium	ug/l	<20	150	95	1 5	30 42	27	0	0%	0 63		< 1 5	95	46		48		39 2	70	< 20			< 20	27	94	36	58		26 6
7440 38 2	Dissolved Arsenic	ug/l	<2 5	10	3 3	0 9	2 06	27	0	0%	0 33		< 0 9	< 2 5	< 2 5		< 2 5	< 2 5	< 0 9	< 2 5	< 2 5			< 2 5	< 0 9	< 2 5	< 2 5	< 2 5	< 0 9
7440 43 9	Dissolved Cadmium	ug/l	<0 5	0 08	0 5	0 03	0 41	43	1	2%	6 25	0 5	< 0 03	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5	< 0 03	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5	< 0 03	< 0 5	< 0 5	< 0 5	< 0 5	< 0 03
7440 47 3	Total Dissolved Chromium	ug/l	<1 5	4 7	1 5	< 0 2	< 1 5	< 1 5	3 4	< 1 5	< 1 5	< 0 2	< 1 5	< 1 5	< 1 5	< 1 5	< 1 5	< 0 2	< 1 5	< 1 5	< 1 5	< 1 5	< 1 5	< 1 5	< 0 2	< 1 5	< 1 5	< 1 5	< 1 5	< 1 5	< 0 3
7440 50 8	Dissolved Copper	ug/l	<7	1	10	3	6 42	43	1	2%	10 00	7	< 3	< 7	< 7	< 7	< 7	< 7	< 3	< 7	< 7	< 7	< 7	< 7	< 3	< 7	< 7	< 7	< 7	< 7	< 3
7439 89 6	Total Dissolved Iron	ug/l	<20	200	852	20	239 55	43	16	37%	4 26	97	171 9	373	481	852	453	314	757 9	272	79	692	846	126	300	654 2	372	453	456	301	747 7
7439 92 1	Dissolved Lead	ug/l	<5	7 2	5	0 4	4 14	43	0	0%	0 69	5	< 0 4	< 5	< 5	< 5	< 5	< 5	< 0 4	< 5	< 5	< 5	< 5	< 5	< 0 4	< 5	< 5	< 5	< 5	< 5	< 0 4
7440 02 0	Dissolved Nickel	ug/l	<2	20	3	0 7	1 82	27	0	0%	0 15		< 1 2	< 2	< 2		< 2		< 1 5	< 2	< 2			< 2	< 1 6	< 2	< 2	< 2		< 1 4
7782 49 2	Dissolved Selenium	ug/l	<3	10	5	1 2	2 54	27	0	0%	0 50		< 1 2	< 3	< 3		< 3		< 1 2	< 3	< 3			< 3	< 1 2	< 3	< 3	< 3		< 1 2
7440 66 6	Dissolved Zinc	ug/l	<3	8	8	2	4 06	43	1	2%	1 00	3	4 2	5	4	8	3	3	2	5	4	5	7	3	4	2	4	6	5	4	4 6
7439 97 6	Mercury Dissolved by CVAF	ug/l	<0 01	0 05	0 01	0 01	0 01	27	0	0%	0 20		< 0 01	< 0 01	< 0 01		< 0 01		< 0 01	< 0 01	< 0 01			< 0 01	< 0 01	< 0 01	< 0 01	< 0 01		< 0 01
	PAH MS																														
83 32 9	Acenaphthene	ug/l	<0 013		0 013	0 013	0 01	20	0	0%		0 013					< 0 013	< 0 013		< 0 013				< 0 013	< 0 013		< 0 013	< 0 013	< 0 013		
208 96 8	Acenaphthylene	ug/l	<0 013		0 03	0 013	0 01	20	0	0%		0 013					< 0 013	< 0 013		< 0 013				< 0 013	< 0 013		< 0 013	< 0 013	< 0 013		
120 12 7	Anthracene	ug/l	<0 013	0 1	0 013	0 013	0 01	20	0	0%	0 13	0 013					< 0 013	< 0 013		< 0 013				< 0 013	< 0 013		< 0 013	< 0 013	< 0 013		
56 55 3	Benzo(a)anthracene	ug/l	<0 015		0 015	0 015	0 02	20	0	0%		0 015					< 0 015	< 0 015		< 0 015				< 0 015	< 0 015		< 0 015	< 0 015	< 0 015		
50 32 8	Benzo(a)pyrene	ug/l	<0 016	0 01	0 016	0 016	0 02	20	0	0%	1 60	0 016					< 0 016	< 0 016		< 0 016				< 0 016	< 0 016		< 0 016	< 0 016	< 0 016		
205 99 2	Benzo(b)fluoranthene	ug/l	<0 01	0 03	0 01	0 01	0 01	20	0	0%	0 33	0 01					< 0 01	< 0 01		< 0 01				< 0 01	< 0 01		< 0 01	< 0 01	< 0 01		
191 24 2	Benzo(ghi)perylene	ug/l	<0 011	0 002	0 011	0 011	0 01	20	0	0%	5 50	0 011					< 0 011	< 0 011		< 0 011				< 0 011	< 0 011		< 0 011	< 0 011	< 0 011		
207 08 9	Benzo(k)fluoranthene	ug/l	<0 01	0 03	0 01	0 01	0 01	20	0	0%	0 33	0 01					< 0 01	< 0 01		< 0 01				< 0 01	< 0 01		< 0 01	< 0 01	< 0 01		
218 01 9	Chrysene	ug/l	<0 011		0 011	0 011	0 01	20	0	0%		0 011					< 0 011	< 0 011		< 0 011				< 0 011	< 0 011		< 0 011	< 0 011	< 0 011		
53 70 3	Dibenzo(ah)anthracene	ug/l	<0 01		0 01	0 01	0 01	20	0	0%		0 01					< 0 01	< 0 01		< 0 01				< 0 01	< 0 01		< 0 01	< 0 01	< 0 01		
206 44 0	Fluoranthene	ug/l	<0 012	0 1	0 012	0 012	0 01	20	0	0%	0 12	0 012					< 0 012	< 0 012		< 0 012				< 0 012	< 0 012		< 0 012	< 0 012	< 0 012		
86 73 7	Fluorene	ug/l	<0 014		0 02	0 014	0 01	20	0	0%		0 014					< 0 014	< 0 014		< 0 014				< 0 014	< 0 014		< 0 014	< 0 014	< 0 014		
193 39 5	Indeno(123cd)pyrene	ug/l	<0 011	0 002	0 011	0 011	0 01	20	0	0%	5 50	0 011					< 0 011	< 0 011		< 0 011				< 0 011	< 0 011		< 0 011	< 0 011	< 0 011		
91 20 3	Naphthalene	ug/l	<0 014	2 4	1 15	0 014	0 14	20	0	0%	0 48	0 1					< 0 1	< 0 1		0 05				< 0 1	< 0 1		0 07	< 0 1	0 1		
85 01 8	Phenanthrene	ug/l	<0 011		0 02	0 011	0 01	20	0	0%		0 011					< 0 011	< 0 011		< 0 011				< 0 011	< 0 011		< 0 011	< 0 011	< 0 011		
129 00 0	Pyrene	ug/l	<0 013		0 013	0 013	0 01	20	0	0%		0 013					< 0 013	< 0 013		< 0 013				< 0 013	< 0 013		< 0 013	< 0 013	< 0 013		
	PAH 16 Total	ug/l	<0 195		1 22	0 195	0 25	20	0	0%		0 195					< 0 195	< 0 195		< 0 195				< 0 195	< 0 195		< 0 195	< 0 195	< 0 195		
	PAH Surrogate % Recovery	%	<0		106	70	75 00	20	0	0%		76					71	73		70				76	71		71		73		70
	Benzo(bk)fluoranthene	ug/l	<0 018		0 018	0 018	0 02	20	0	0%		0 018					< 0 018	< 0 018		< 0 018				< 0 018	< 0 018		< 0 018		< 0 018		< 0 018
	TPH CWG																														
	Aliphatics																														
	>C5 C6	ug/l	<5		5	5	5 00	20	0	0%		5					< 5	< 5		< 5				< 5	< 5		< 5		< 5		< 5
	>C6 C8	ug/l	<5		5	5	5 00	20	0	0%		5					< 5	< 5		< 5				< 5	< 5		< 5		< 5		< 5
	>C8 C10	ug/l	<5		5	5	5 00	20	0	0%		5					< 5	< 5		< 5				< 5	< 5		< 5		< 5		< 5
	>C10 C12	ug/l	<5		5	5	5 00	20	0	0%		5					< 5	< 5		< 5				< 5	< 5		< 5		< 5		< 5
	>C12 C16	ug/l	<10		10	10	10 00	20	0	0%		10					< 10	< 10		< 10				< 10	< 10		< 10		< 10		< 10
	>C16 C21	ug/l	<10		10	10	10 00	20	0	0%		10					< 10	< 10		< 10				< 10	< 10		< 10		< 10		< 10
	>C21 C35	ug/l	<10		10	10	10 00	20	0	0%		10					< 10	< 10		< 10				< 10	< 10		< 10		< 10		< 10
	Total aliphatics C5 35	ug/l	<10		10	10	10 00	20	0	0%		10					< 10	< 10		< 10				< 10	< 10		< 10		< 10		< 10
	Aromatics																														
	>C5 EC7	ug/l	<5		5	5	5 00	20	0	0%		5					< 5	< 5		< 5				< 5	< 5		< 5		< 5		< 5
	>EC7 EC8	ug/l	<5		5	5	5 00	20	0	0%		5					< 5	< 5		< 5				< 5	< 5		< 5		< 5		< 5
	>EC8 EC10	ug/l	<5		5	5	5 00	20	0	0%		5					< 5	< 5		< 5				< 5	< 5		< 5		< 5		< 5
	>EC10 EC12	ug/l	<5		5	5	5 00	20	0	0%		5					< 5	< 5		< 5				< 5	< 5		< 5		< 5		< 5
	>EC12 EC16	ug/l	<10		10	10	10 00	20	0	0%		10					< 10	< 10		< 10				< 10	< 10		< 10		< 10		< 10
	>EC16 EC21	ug/l	<10		10	10	10 00	20	0	0%		10					< 10	< 10		< 10				< 10	< 10		< 10		< 10		< 10
	>EC21 EC35	ug/l	<10		10	10	10 00	20	0	0%		10					< 10	< 10		< 10				< 10	< 10		< 10		< 10		< 10
	Total aromatics C5 35	ug/l	<10		10	10	10 00	20	0	0%		10					< 10	< 10		< 10				< 10	< 10		< 10		< 10		< 10
	Total aliphatics and aromatics(C5 35)	ug/l	<10	10	10	10	10 00	20	0	0%	1 00	10					< 10	< 10		< 10				< 10	< 10		< 10		< 10		< 10
	BTEX/MTBE MS																														
1634 04 4	Methyl Tertiary Butyl Ether	ug/l	<0 1	30	5	0 1	4 14	17	0	0%	0 17	5					< 5	< 5		< 0 1				< 5	< 5		< 0 1		< 5		< 5
71 43 2	Benzene	ug/l	<0 5	1	5	0 5	4 21	17	0	0%	5 00	5					< 5	< 5		< 0 5				< 5	< 5		< 0 5		< 5		< 5
108 88 3	Toluene	ug/l	<0 5	50	5	0 5	4 21	17	0	0%	0 10	5					< 5	< 5		< 0 5				< 5	< 5		< 0 5		< 5		< 5
100 41 4	Ethylbenzene	ug/l	<0 5	20	5	0 5	4 21	17	0	0%	0 25	5					< 5	< 5		< 0 5				< 5	< 5		< 0 5		< 5		< 5
	p/m Xylene	ug/l	<1	30	5	1	4 29	17	0	0%	0 17	5					< 5	< 5		< 1				< 5	< 5		< 1		< 5		< 5
95 47 6	o Xylene	ug/l	<0 5	30	5	0 5	4 21	17	0	0%	0 17	5					< 5	< 5		< 0 5				< 5	< 5		< 0 5		< 5		< 5
2037 26 5	Surrogate Recovery Toluene D8	%	<0		98	96	97 00	3	0	0%										98							97				
460 00 4	Surrogate Recovery 4 Bromofluorobenzene	%	<0		105	97	100 33	3	0	0%										99							97				
7440 70 2	Dissolved Calcium	mg/l	<0 2		45 5	10 3	30 97	43	0	0%		39	45 5	10 3	19 8	17 2	17 5	21 2	25 1	19 1	42 9	20 3	19 4	40 4	23 3	26 1	10 9	20 9	15 6	12 4	27 2
7439 95 4	Dissolved Magnesium	mg/l	<0 1		8	1 8	4 91	43	0	0%		6	7 8	1 8	3 6	3 2	3 2	3 7	4 5	3	6 9	3 6	3 4	6 4	4	4 8	1 9	3 6	2 9	2 3	4 9
7439 96 5	Dissolved Manganese	ug/l	<2	50	1093	1 5	80 38	43	13	30%	21 86	302	354 7	2	3	3	2	28	54 2	4	168	3	2	176	36	< 1 5	< 2	5	< 2	8	100 7
7723 14 0	Dissolved Phosphorus	ug/l	<5		123	5	27 83	27	0	0%			21	31	20		23		30 3	54	< 5			8		25 7	28	14	25		28 2
07/09/7440	Dissolved Potassium	mg/l	<0 1		5 5	1 3	3 31	43	0	0%		3 6	4 7	1 3	1 4	1 7	2 1	1 8	1 6	2 8	4 1	2 3	1 9	4 3	2 1	1 9	1 3	1 6	2 1	1 5	1 9
7440 23 5	Dissolved Sodium	mg/l	<0 1	200	20 3	8 4	12 77	43	0	0%	0 10	14 4	15 9	8 4	10 2	9 2	10 3	14 2	10 7	9 3	15 1	10	10 1	13 8	13 8	11 5	8 9	11	9 2	9 3	11 7
7723 14 0	Total Phosphorus	ug/l	<5		2977	35	294 71	27	0	0%			390 7	64	57		51		82 2	105	35			58		130	71	42	67		153 8
	Total Phenols HPLC	mg/l	<0 1		0 1	0 1	0 10	16	0	0%		0 1			< 0 1		< 0 1					< 0 1	< 0 1		< 0 1				< 0 1		
	VOC MS																														
75 71 8	Dichlorodifluoromethane	ug/l	<2		2	2	2 00	3	0	0%										< 2							< 2				
1634 04 4	Methyl Tertiary Butyl Ether	ug/l	<0 1		5	0 1	1 33	4	0	0%										< 0 1							< 0 1				
74 87 3	Chloromethane	ug/l	<3		3	3	3 00	3	0	0%										< 3							< 3				
75 01 4	Vinyl Chloride	ug/l	<0 1	0 5	0 1	0 1	0 10	3	0	0%	0 20									< 0 1							< 0 1				
74 83 9	Bromomethane	ug/l	<1		1	1	1 00	3	0	0%										< 1							< 1				
75 00 3	Chloroethane	ug/l	<3		3	3	3 00	3	0	0%										< 3							< 3				
75 69 4	Trichlorofluoromethane	ug/l	<3		3	3	3 00	3	0	0%										< 3							< 3				
75 35 4	1,1 Dichloroethene (1,1 DCE)	ug/l	<3		3	3	3 00	3	0	0%										< 3							< 3				
75 09 2	Dichloromethane (DCM)	ug/l	<3	20	3	3	3 00	3	0	0%	0 15									< 3							< 3				
156 60 5	trans 1 2 Dichloroethene	ug/l	<3		3	3	3 00	3	0	0%										< 3							< 3				
75 34 3	1,1 Dichloroethane	ug/l	<3	3	3	3	3 00	3	0	0%	1 00									< 3							< 3				
156 59 2	cis 1 2 Dichloroethene	ug/l	<3		3	3	3 00	3	0	0%										< 3							< 3				
594 20 7	2,2 Dichloropropane	ug/l	<1		1	1	1 00	3	0	0%										< 1							< 1				
74 97 5	Bromochloromethane	ug/l	<2		2	2	2 00	3	0	0%										< 2							< 2				
67 66 3	Chloroform	ug/l	<2		2	2	2 00	3	0	0%										< 2							< 2				
71 55 6	1,1,1 Trichloroethane	ug/l	<2	100	2	2	2 00	3	0	0%	0 02									< 2							< 2				
563 58 6	1,1 Dichloropropene	ug/l	<3		3	3	3 00	3	0	0%										< 3							< 3				
56 23 5	Carbon tetrachloride	ug/l	<2	12	2	2	2 00	3	0	0%	0 17									< 2							< 2				
107 06 2	1,2 Dichloroethane	ug/l	<2		2	2	2 00	3	0	0%										< 2							< 2				
71 43 2	Benzene	ug/l	<0 5	1	5	0 5	1 63	4	0	0%	5 00									< 0 5							< 0 5				
79 01 6	Trichloroethene (TCE)	ug/l	<3		3	3	3 00	3	0	0%										< 3							< 3				
78 87 5	1,2 Dichloropropane	ug/l	<2		2	2	2 00	3	0	0%										< 2							< 2				
74 95 3	Dibromomethane	ug/l	<3		3	3	3 00	3	0	0%										< 3							< 3				
75 27 4	Bromodichloromethane	ug/l	<2		2	2	2 00	3	0	0%										< 2							< 2				
10061 01 5	cis 1 3 Dichloropropene	ug/l	<2		2	2	2 00	3	0	0%										< 2							< 2				
108 88 3	Toluene	ug/l	<0 5	50	5	0 5	1 63	4	0	0%	0 10									< 0 5							< 0 5				
10061 02 6	trans 1 3 Dichloropropene	ug/l	<2		2	2	2 00	3	0	0%										< 2							< 2				
79 00 5	1,1,2 Trichloroethane	ug/l	<2	400	2	2	2 00	3	0	0%	0 01									< 2							< 2				
127 18 4	Tetrachloroethene (PCE)	ug/l	<3	10	3	3	3 00	3	0	0%	0 30									< 3							< 3				
142 28 9	1,3 Dichloropropane	ug/l	<2		2	2	2 00	3	0	0%										< 2							< 2				
124 48 1	Dibromochloromethane	ug/l	<2		2	2	2 00	3	0	0%										< 2							< 2				
106 93 4	1,2 Dibromoethane	ug/l	<2		2	2	2 00	3	0	0%										< 2							< 2				
108 90 7	Chlorobenzene	ug/l	<2		2	2	2 00	3	0	0%										< 2							< 2				
630 20 6	1,1,1,2 Tetrachloroethane	ug/l	<2		2	2	2 00	3	0	0%										< 2							< 2				
100 41 4	Ethylbenzene	ug/l	<0 5	20	5	0 5	1 63	4	0	0%	0 25									< 0 5							< 0 5				
	p/m Xylene	ug/l	<1	30	5	1	2 00	4	0	0%	0 17									< 1							< 1				

Report:	Liquid		Sample ID								SW5	SW5	SW6	SW6	SW6	SW6	SW6	SW6	SW7	SW7	SW7	SW7@BRIDGE	SW7	SW7	SW7	SW8	SW8	SW8	SW8	SW8
JE Job No:	15/6896		Depth																											
Client:	WYG		COC No / misc																											
Client ref:	Citywaste		Containers								V H N P G	V H N P G	V H P BOD G	V H P G	V P G	V P G	V H N P G	V H N P G	V H P BOD G	V H P G	V P G	V P G	V P G	V H N P G	V H HN P G	V H P BOD G	V H P G	V P G	V H N P G	V H HN P G
Location:	Citywaste		Sample Type								Ground Water	Surface Water	Surface Water	Ground Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Ground Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Ground Water	Surface Water	Surface Water	Surface Water
Contact	[redacted]		Sampled Date								08/03/2016	22/06/2016	06/05/2015	03/06/2015	25/08/2015	24/11/2015	08/03/2016	22/06/2016	06/05/2015	03/06/2015	25/08/2015	25/08/2015	24/11/2015	08/03/2016	22/06/2016	06/05/2015	03/06/2015	25/11/2015	09/03/2016	23/06/2016
			Sample Received Date								11/03/2016	25/06/2016	09/05/2015	05/06/2015	27/08/2015	27/11/2015	11/03/2016	25/06/2016	09/05/2015	05/06/2015	27/08/2015	27/08/2015	27/11/2015	11/03/2016	25/06/2016	09/05/2015	05/06/2015	27/11/2015	12/03/2016	25/06/2016
			J E Sample No								159 165	199 204	265 271	9 14	22 26	90 93	121 128	241 246	256 264	15 20	27 31	32 37	94 99	129 136	193 198	226 234	21 26	100 105	242 248	109 114
			Batch Number								1	5	3	1	1	1	1	6	3	1	1	1	1	1	5	3	1	1	2	3
95 47 6	o Xylene	ug/l	<0 5	30	5	0 5	1 63	4	0	0%	0 17								< 0 5							< 0 5				
100 42 5	Styrene	ug/l	<2	50	2	2	2 00	3	0	0%	0 04								< 2							< 2				
75 25 2	Bromoform	ug/l	<2	100	2	2	2 00	3	0	0%	0 02								< 2							< 2				
98 82 8	Isopropy benzene	ug/l	<3		3	3	3 00	3	0	0%									< 3							< 3				
79 34 5	1,1,2,2 Tetrachloroethane	ug/l	<4		4	4	4 00	3	0	0%									< 4							< 4				
108 86 1	Bromobenzene	ug/l	<2		2	2	2 00	3	0	0%									< 2							< 2				
96 18 4	1,2,3 Trichloropropane	ug/l	<3		3	3	3 00	3	0	0%									< 3							< 3				
103 65 1	Propylbenzene	ug/l	<3		3	3	3 00	3	0	0%									< 3							< 3				
95 49 8	2 Chlorotoluene	ug/l	<3		3	3	3 00	3	0	0%									< 3							< 3				
108 67 8	1,3,5 Trimethylbenzene	ug/l	<3		3	3	3 00	3	0	0%									< 3							< 3				
106 43 4	4 Chlorotoluene	ug/l	<3		3	3	3 00	3	0	0%									< 3							< 3				
98 06 6	tert Butylbenzene	ug/l	<3		3	3	3 00	3	0	0%									< 3							< 3				
95 63 6	1,2,4 Trimethylbenzene	ug/l	<3		3	3	3 00	3	0	0%									< 3							< 3				
135 98 8	sec Butylbenzene	ug/l	<3		3	3	3 00	3	0	0%									< 3							< 3				
99 87 6	4 Isopropyltoluene	ug/l	<3		3	3	3 00	3	0	0%									< 3							< 3				
541 73 1	1,3 Dichlorobenzene	ug/l	<3		3	3	3 00	3	0	0%									< 3							< 3				
106 46 7	1,4 Dichlorobenzene	ug/l	<3		3	3	3 00	3	0	0%									< 3							< 3				
104 51 8	n Butylbenzene	ug/l	<3		3	3	3 00	3	0	0%									< 3							< 3				
95 50 1	1,2 Dichlorobenzene	ug/l	<3	1000	3	3	3 00	3	0	0%	0 00								< 3							< 3				
96 12 8	1,2 Dibromo 3 chloropropane	ug/l	<2		2	2	2 00	3	0	0%									< 2							< 2				
120 82 1	1,2,4 Trichlorobenzene	ug/l	<3	0 4	3	3	3 00	3	0	0%	7 50								< 3							< 3				
87 68 3	Hexachlorobutadiene	ug/l	<3	0 1	3	3	3 00	3	0	0%	30 00								< 3							< 3				
87 61 6	1,2,3 Trichlorobenzene	ug/l	<3		3	3	3 00	3	0	0%									< 3							< 3				
2037 26 5	Surrogate Recovery Toluene D8	%	<0		98	96	97 00	3	0	0%									98							97				
460 00 4	Surrogate Recovery 4 Bromofluorobenzene	%	<0		105	97	100 33	3	0	0%									99							97				
	Pesticides MS																													
	Organochlorine Pesticides																													
309 00 2	Aldrin	ug/l	<0 01	0 03	0 01	0 01	0 01	3	0	0%	0 33								< 0 01							< 0 01				
319 84 6	Alpha HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
319 85 7	Beta HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
1897 45 6	Chlorothalonil	ug/l	<0 01	0 1	0 01	0 01	0 01	3	0	0%	0 10								< 0 01							< 0 01				
5103 71 9	cis Chlordane	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
319 86 8	Delta HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
60 57 1	Dieldrin	ug/l	<0 01	0 03	0 01	0 01	0 01	3	0	0%	0 33								< 0 01							< 0 01				
959 98 8	Endosulphan I	ug/l	<0 01	0 005	0 01	0 01	0 01	3	0	0%	2 00								< 0 01							< 0 01				
33213 65 9	Endosulphan II	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
1031 07 8	Endosulphan sulphate	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
72 20 8	Endrin	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
58 89 9	Gamma HCH (BHC)	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
76 44 8	Heptachlor	ug/l	<0 01	0 03	0 01	0 01	0 01	3	0	0%	0 33								< 0 01							< 0 01				
1024 57 3	Heptachlor Epoxide	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
118 74 1	Hexachlorobenzene	ug/l	<0 01	0 01	0 01	0 01	0 01	3	0	0%	1 00								< 0 01							< 0 01				
465 73 6	Isodrin	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
3424 82 6	o,p' DDE	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
789 02 6	o,p' DDT	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
30667 99 3	o,p' Methoxychlor	ug/l	<0 01	20	0 01	0 01	0 01	3	0	0%	0 00								< 0 01							< 0 01				
53 19 0	o,p' TDE	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
72 55 9	p,p' DDE	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
50 29 3	p,p' DDT	ug/l	<0 01	0 01	0 01	0 01	0 01	3	0	0%	1 00								< 0 01							< 0 01				
72 43 5	p,p' Methoxychlor	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
72 54 8	p,p' TDE	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
40487 42 1	Pendimethalin	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
61949 76 6	Permethrin I	ug/l	<0 01	0 01	0 01	0 01	0 01	3	0	0%	1 00								< 0 01							< 0 01				
61949 77 7	Permethrin II	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
82 68 8	Quintozene (PCNB)	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
117 18 0	Tecnazene	ug/l	<0 01	1	0 01	0 01	0 01	3	0	0%	0 01								< 0 01							< 0 01				
297 78 9	Telodrin	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
	Total Methoxychlor				0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
5103 74 2	trans Chlordane	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
43121 43 3	Triadimefon	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
2303 17 5	Triallate	ug/l	<0 01	0 25	0 01	0 01	0 01	3	0	0%	0 04								< 0 01							< 0 01				
1582 09 8	Trifluralin	ug/l	<0 01	0 03	0 01	0 01	0 01	3	0	0%	0 33								< 0 01							< 0 01				
	Organophosphorus Pesticides																													
2642 71 9	Azinphos ethyl	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
86 50 0	Azinphos methyl	ug/l	<0 01	0 01	0 01	0 01	0 01	3	0	0%	1 00								< 0 01							< 0 01				
786 19 6	Carbophenothion	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
470 90 6	Chlorfenvinphos	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
2921 88 2	Chlorpyrifos	ug/l	<0 01	0 03	0 01	0 01	0 01	3	0	0%	0 33								< 0 01							< 0 01				
5598 13 0	Chlorpyrifos methyl	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
333 41 5	Diazinon	ug/l	<0 01	0 01	0 01	0 01	0 01	3	0	0%	1 00								< 0 01							< 0 01				
62 73 7	Dichlorvos	ug/l	<0 01	0 001	0 01	0 01	0 01	3	0	0%	10 00								< 0 01							< 0 01				
298 04 4	Disulfoton	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
60 51 5	Dimethoate	ug/l	<0 01	0 48	0 01	0 01	0 01	3	0	0%	0 02								< 0 01							< 0 01				
563 12 2	Ethion	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
56 38 2	Ethyl Parathion (Parathion)	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
38260 54 7	Etrimphos	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
122 14 5	Fenitrothion	ug/l	<0 01	0 01	0 01	0 01	0 01	3	0	0%	1 00								< 0 01							< 0 01				
55 38 9	Fenthion	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
121 75 5	Malathion	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
298 00 0	Methyl Parathion	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
7786 34 7	Mevinphos	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
2310 17 0	Phosalone	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
29232 93 7	Pirimiphos Methyl	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
31218 83 4	Propetamphos	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
24017 47 8	Triazophos	ug/l	<0 01		0 01	0 01	0 01	3	0	0%	#DIV/0!								< 0 01							< 0 01				
06/05/3813	Benazolin	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!								< 0 1							< 0 1				

Citywaste Monitoring - Final - Surface Water

Report: Liquid
JE Job No: 15/6896
Client: WYG
Client ref: Citywaste
Location: Citywaste
Contact [redacted]

			Sample ID									SW5	SW5	SW6	SW6	SW6	SW6	SW6	SW6	SW7	SW7	SW7	SW7@BRIDGE	SW7	SW7	SW7	SW8	SW8	SW8	SW8	SW8
			Depth																												
			COC No / misc																												
			Containers									V H N P G	V H HN P G	V H P BOD G	V H P G	V P G	V P G	V H N P G	V H HN P G	V H P BOD G	V H P G	V P G	V P G	V P G	V H N P G	V H HN P G	V H P BOD G	V H P G	V P G	V H N P G	V H HN P G
			Sample Type									Ground Water	Surface Water	Surface Water	Ground Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Ground Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Ground Water	Surface Water	Surface Water	Surface Water
			Sampled Date									08/03/2016	22/06/2016	06/05/2015	03/06/2015	25/08/2015	24/11/2015	08/03/2016	22/06/2016	06/05/2015	03/06/2015	25/08/2015	25/08/2015	24/11/2015	08/03/2016	22/06/2016	06/05/2015	03/06/2015	25/11/2015	09/03/2016	23/06/2016
			Sample Received Date									11/03/2016	25/06/2016	09/05/2015	05/06/2015	27/08/2015	27/11/2015	11/03/2016	25/06/2016	09/05/2015	05/06/2015	27/08/2015	27/08/2015	27/11/2015	11/03/2016	25/06/2016	09/05/2015	05/06/2015	27/11/2015	12/03/2016	25/06/2016
			J E Sample No									159 165	199 204	265 271	9 14	22 26	90 93	121 128	241 246	256 264	15 20	27 31	32 37	94 99	129 136	193 198	226 234	21 26	100 105	242 248	109 114
			Batch Number									1	5	3	1	1	1	1	6	3	1	1	1	1	1	5	3	1	1	2	3
25057 89 0	Bentazone	ug/l	<0 1	500	0 1	0 1	0 10	3	0	0%	0 00									< 0 1							< 0 1				
1689 84 5	Bromoxynil	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
1702 17 6	Clopyralid	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
122 88 3	4 CPA	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
94 75 7	2,4 D	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
94 80 4	2,4 DB	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
1918 00 9	Dicamba	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
120 36 5	Dichloroprop	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
40843 25 2	Diclofop	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
93 72 1	Fenoprop	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
58667 63 3	Flamprop	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
52756 22 6	Flamprop isopropyl	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
1689 83 4	Ioxynil	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
94 74 6	MCPA	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
94 81 5	MCPB	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
7085 19 0	Mecoprop	ug/l	<0 1	18	0 1	0 1	0 10	3	0	0%	0 01									< 0 1							< 0 1				
01/02/1918	Picloram	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
87 86 5	Pentachlorophenol	ug/l	<0 1	0 4	0 1	0 1	0 10	3	0	0%	0 25									< 0 1							< 0 1				
93 76 5	2,4,5 T	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
50 31 7	2,3,6 TBA	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
55335 06 3	Triclopyr	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
1912 24 9	Atrazine	ug/l	<1	0 6	1	1	1 00	3	0	0%	1 67									< 1							< 1				
122 34 9	Simazine	ug/l	<1	1	1	1	1 00	3	0	0%	1 00									< 1							< 1				
32598 13 3	PCB 77	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
70362 50 4	PCB 81	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
32598 14 4	PCB 105	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
74472 37 0	PCB 114	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
31508 00 6	PCB 118	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
65510 44 3	PCB 123	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
57465 28 8	PCB 126	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
38380 08 4	PCB 156	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
69782 90 7	PCB 157	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
52663 72 6	PCB 167	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
32774 16 6	PCB 169	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
39635 31 9	PCB 189	ug/l	<0 1		0 1	0 1	0 10	3	0	0%	#DIV/0!									< 0 1							< 0 1				
	Total 12 PCBs	ug/l	<1 2		1 2	1 2	1 20	3	0	0%	#DIV/0!									< 1 2							< 1 2				
16984 48 8	Fluoride	mg/l	<0 3	1 5	0 3	0 3	0 30	19	0	0%	0 20			< 0 3	< 0 3		< 0 3			< 0 3	< 0 3			< 0 3			< 0 3	< 0 3	< 0 3		
95 57 8	2 Chlorophenol	ug/l	<0 5	50	0 5	0 5	0 50	3	0	0%	0 01									< 0 5							< 0 5				
95 48 7	2 Methylphenol	ug/l	<0 5	100	0 5	0 5	0 50	3	0	0%	0 01									< 0 5							< 0 5				
88 75 5	2 Nitrophenol	ug/l	<0 5		0 5	0 5	0 50	3	0	0%	#DIV/0!									< 0 5							< 0 5				
120 83 2	2,4 Dichlorophenol	ug/l	<0 5	20	0 5	0 5	0 50	3	0	0%	0 03									< 0 5							< 0 5				
105 67 9	2,4 Dimethylphenol	ug/l	<0 5	100	0 5	0 5	0 50	3	0	0%	0 01									< 0 5							< 0 5				
95 95 4	2,4,5 Trichlorophenol	ug/l	<0 5		0 5	0 5	0 50	3	0	0%	#DIV/0!									< 0 5							< 0 5				
88 06 2	2,4,6 Trichlorophenol	ug/l	<0 5	200	0 5	0 5	0 50	3	0	0%	0 00									< 0 5							< 0 5				
59 50 7	4 Chloro 3 methylphenol	ug/l	<0 5	40	0 5	0 5	0 50	3	0	0%	0 01									< 0 5							< 0 5				
106 44 5	4 Methylphenol	ug/l	<0 5	100	0 5	0 5	0 50	3	0	0%	0 01									< 0 5							< 0 5				
100 02 7	4 Nitrophenol	ug/l	<0 5		0 5	0 5	0 50	3	0	0%	#DIV/0!									< 0 5							< 0 5				
87 86 5	Pentachlorophenol	ug/l	<0 5	2	0 5	0 5	0 50	3	0	0%	0 25									< 0 5							< 0 5				
108 95 2	Phenol	ug/l	<0 5	7 7	0 5	0 5	0 50	3	0	0%	0 06									< 0 5							< 0 5				
	Total Speciated Phenols MS	ug/l	<6		6	6	6 00	3	0	0%	#DIV/0!									< 6							< 6				
	Sulphate	mg/l	<0 05	250	28 98	0 05	14 73	43	0	0%	0 12	21 75	23 42	< 0 05	10 26	1 02	6 71	9 05	8 7	9 62	21 33	7 91	4 86	19 72	10 91	10 11	< 0 05	7 76	5	3 82	9 36
16887 00 6	Chloride	mg/l	<0 3	250	70 4	13 2	24 47	43	0	0%	0 28	29 8	25 8	13 2	17 5	15 1	17 9	24 8	16 2	16 9	28 3	16 4	15 4	26 2	26 1	18 2	13 9	19 4	16 4	17 4	18 4
14797 55 8	Nitrate as NO3	mg/l	<0 2	25	28 8	1 6	13 41	43	5	12%	1 15	27 9	16 7	1 6	3 1	3 2	2 1	4 7	3 8	7 3	23 9	4 9	3 5	19	6 9	4 7	1 8	3 7	2	2 4	4 3
14797 65 0	Nitrite as NO2	mg/l	<0 02	0 1	0 61	0 02	0 11	43	18	42%	6 10	0 04	0 61	< 0 02	< 0 02	< 0 02	< 0 02	< 0 02	0 03	0 03	0 14	0 06	0 04	0 16	0 03	0 05	< 0 02	< 0 02	< 0 02	< 0 02	0 05
	Ortho Phosphate as P	mg/l	<0 03		0 07	0 03	0 04	27	0	0%	#DIV/0!		< 0 06	< 0 03	0 07		< 0 03		< 0 06	< 0 03	< 0 06			< 0 03		< 0 06	< 0 03	< 0 06	< 0 03		< 0 06
	Total Oxidised Nitrogen as N	mg/l	<0 2	1	6 5	0 4	3 05	43	33	77%	6 50	6 3	3 9	0 4	0 7	0 7	0 5	1 1	0 9	1 7	5 4	1 1	0 8	4 3	1 6	1 1	0 4	0 8	0 5	0 6	1
57 12 5	Total Cyanide	mg/l	<0 01	0 001	0 02	0 01	0 01	19	4	21%	20 00			< 0 01	< 0 01		< 0 01			< 0 01	< 0 01			< 0 01			< 0 01	< 0 01	0 01		
	Ammoniacal Nitrogen as N	mg/l	<0 03	0 39	0 47	0 03	0 14	43	2	5%	1 21	0 32	0 31	0 04	< 0 03	0 05	0 05	0 06	0 03	0 16	0 26	0 06	0 09	0 16	0 1	0 07	0 05	0 08	0 05	0 41	0 09
	Ammoniacal Nitrogen as NH3	mg/l			0 5	0 04	0 17	24	0	0%	#DIV/0!	0 39	0 38			0 07		0 08	0 04			0 08	0 1		0 12	0 08				0 5	0 1
	Ammoniacal Nitrogen as NH4	mg/l		0 39	0 604285714	0 038571429	0 18	40	2	5%	1 55	0 41	0 4	0 05		0 07	0 06	0 08	0 04	0 21		0 08	0 11	0 21	0 13	0 09	0 06		0 06	0 53	0 11
	Electrical Conductivity @25C	uS/cm	<2		371	117	267 06	35	0	0%	#DIV/0!	337		117	192	165	177	222		189	367	186	171	333	229		123	206	156	144	
	pH	pH units	<0 01		7 5	6 53	6 83	35	0	0%	#DIV/0!	6 72		6 93	7 5	6 97	6 76	7 17		6 82	6 64	6 84	6 95	6 72	7 04		6 94	6 98	7 25	6 69	
	Total Organic Carbon	mg/l	<2		20	2	6 66	35	0	0%	#DIV/0!	2		14	10	20	9	5		12	3	19	19	2	5		14	10	11	9	
	Total Cations	mmolc/l	<0 00		3 47	1 06	2 52	35	0	0%	#DIV/0!	3 16		1 06	1 76	1 56	1 64	2 03		1 68	3 47	1 8	1 74	3 25	2 15		1 12	1 86	1 47	1 25	
	Total Anions	mmolc/l	<0 00		5 17	0 8	2 82	35	0	0%	#DIV/0!	3 66		0 8	2 04	1 82	2 04	2 48		1 6	3 55	1 99	1 87	3 78	2 67		0 86	2 21	1 84	1 57	
	BOD (Settled) #				2	1	1 13	8	0	0%	#DIV/0!						1							< 1					< 1		
	BOD (Settled) #				5	1	2 00	19	0	0%	#DIV/0!			< 1	2	2				1	< 1	2	2				3	1			
	COD (Settled) #				63	7	30 00	27	0	0%	#DIV/0!			62	28	53	35			59	< 7	47	47	14			63	18	32		
	Total Suspended Solids #				1343	10	112 97	35	0	0%	#DIV/0!	10		< 10	< 10	11	< 10	< 10		< 10	< 10	< 10	11	13	< 10		< 10	12	12	< 10	
												11				9		11				9	9		11					11	

EQS

1 The Water Framework Directive (Priority Substances and Classification) Regulations (Northern Ireland) 2011 Inland waters
2 Groundwater Drinking Water Protected Areas The River Basin Districts Typology, Standards and Groundwater threshold values (Water Framework Directive) (England and Wales) Directions 2010
3 Freshwater EQS (AA)

DWS

1 Council Directive on the quality of water intended for human consumption (Drinking Water Directive)
2 The Water Supply (Water Quality) Regulations (Northern Ireland) 2007 (as amended)

Lagoons & Pond Monitoring

Citywaste Monitoring Final - Lagoons Ponds

Jones Environmental Laboratory

Report: **Liquid**
JE Job No: 15/6896
Client: WYG
Client ref: Citywaste
Location: Citywaste
Contact [redacted]

	Sample ID											POND 1	POND 1	POND 1	POND 1	POND 2	POND2	POND 3	POND 3	POND 3	POND 4	POND 4	POND 4	POND 5	POND 5	POND 5	CAMPSIE BREAKOUT
	Depth																										
	COC No / misc																										
	Containers											V H P BOD G	V P G	V P G	V H N G	V H P BOD G	V H N P G	V H P BOD G	V N P G	V H HN P G	V H P BOD G	V H N P G	V H HN P G	V H P BOD G	V H N P G	V H HN P G	V H N P G
	Sample Type											Surface Water	Surface Water	Surface Water	Liquid	Surface Water	Ground Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Ground Water	Surface Water	Surface Water	Ground Water	Ground Water
	Sampled Date											06/05/2015	25/08/2015	25/11/2015	07/03/2016	06/05/2015	08/03/2016	06/05/2015	09/03/2016	22/06/2016	06/05/2015	09/03/2016	23/06/2016	06/05/2015	09/03/2016	23/06/2016	10/03/2016
	Sample Received Date											09/05/2015	27/08/2015	27/11/2015	10/03/2016	09/05/2015	11/03/2016	09/05/2015	12/03/2016	25/06/2016	09/05/2015	12/03/2016	25/06/2016	09/05/2015	12/03/2016	25/06/2016	11/03/2016
	J E Sample No											307-313	38-42	106-111	65-70	314-320	137-144	235-241	236-241	217-222	249-255	263-269	97-102	242-248	270-276	103-108	15-21
	Batch Number											3	1	1	1	3	1	3	2	5	3	2	2	3	2	2	1
CAS Number	**Test**	**Units**	**LOD**	**EQS**	**MAX**	**MIN**	**MEAN**	**No. Samples**	**No. >EQS**	**% >EQS**	**Magnitude of exceedance**																
	Total Alkalinity as CaCO3	mg/l	<1		196	8	120.46	13	0			196	124	152	152	8	156	108	114		92	94		98	98		174
	Metals																										
7429-90-5	Dissolved Aluminium	ug/l	<20	150	20	1.5	14.30	9	0	0%	0.13	< 20		< 20		< 20		< 20		< 1.5	< 20		5.7	< 20		< 1.5	
7440-38-2	Dissolved Arsenic	ug/l	<2.5	10	4	0.9	2.38	9	0	0%	0.40	4		< 2.5		< 2.5		< 2.5		< 0.9	< 2.5		< 0.9	3		2.6	
7440-43-9	Dissolved Cadmium	ug/l	<0.5	0.08	0.5	0.03	0.41	16	0	0%	6.25	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.03	< 0.5	< 0.5	< 0.03	< 0.5	< 0.5	< 0.03	< 0.5
7440-47-3	Total Dissolved Chromium	ug/l	<1.5	4.7	6.5	0.3	2.53	16	4	25%	1.38	< 1.5	< 1.5	< 1.5	6.5	< 1.5	< 1.5	< 1.5	5.7	0.3	< 1.5	< 1.5	6.5	< 1.5	< 1.5	4.9	< 1.5
7440-50-8	Dissolved Copper	ug/l	<7	1	9	3	6.38	16	1	6%	9.00	< 7	9	< 7	< 7	< 7	< 7	< 7	< 7	< 3	< 7	< 7	< 3	< 7	< 7	< 3	< 7
7439-89-6	Total Dissolved Iron	ug/l	<20	200	381.7	20	83.30	16	2	13%	1.91	< 20	97	< 20	< 20	< 20	< 20	< 20	< 20	33.4	23	< 20	194.7	< 20	61	381.7	362
7439-92-1	Dissolved Lead	ug/l	<5	7.2	5	0.4	4.14	16	0	0%	0.69	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 0.4	< 5	< 5	< 0.4	< 5	< 5	< 0.4	< 5
7440-02-0	Dissolved Nickel	ug/l	<2	20	9	1.5	3.83	9	0	0%	0.45	9		6		7		< 2		2	2		2	3		1.5	
7782-49-2	Dissolved Selenium	ug/l	<3	10	3	1.2	2.40	9	0	0%	0.30	< 3		< 3		< 3		< 3		< 1.2	< 3		< 1.2	< 3		< 1.2	
7440-66-6	Dissolved Zinc	ug/l	<3	8	29	1.5	9.33	16	5	31%	3.63	19	25	21	24	4	29	< 3	< 3	2.2	< 3	< 3	< 1.5	< 3	4	< 1.5	< 3
7439-97-6	Mercury Dissolved by CVAF	ug/l	<0.01	0.05	0.01	0.01	0.01	9	0	0%	0.20	< 0.01		< 0.01		< 0.01		< 0.01		< 0.01	< 0.01		< 0.01	< 0.01		< 0.01	
	PAH MS																										
83-32-9	Acenaphthene	ug/l	<0.013		0.013	0.013	0.01	7	0					< 0.013	< 0.013		< 0.013		< 0.013			< 0.013			< 0.013		< 0.013
208-96-8	Acenaphthylene	ug/l	<0.013		0.013	0.013	0.01	7	0					< 0.013	< 0.013		< 0.013		< 0.013			< 0.013			< 0.013		< 0.013
120-12-7	Anthracene	ug/l	<0.013	0.1	0.013	0.013	0.01	7	0	0%	0.13			< 0.013	< 0.013		< 0.013		< 0.013			< 0.013			< 0.013		< 0.013
56-55-3	Benzo(a)anthracene	ug/l	<0.015		0.015	0.015	0.02	7	0					< 0.015	< 0.015		< 0.015		< 0.015			< 0.015			< 0.015		< 0.015
50-32-8	Benzo(a)pyrene	ug/l	<0.016	0.01	0.016	0.016	0.02	7	0	0%	1.60			< 0.016	< 0.016		< 0.016		< 0.016			< 0.016			< 0.016		< 0.016
205-99-2	Benzo(b)fluoranthene	ug/l	<0.01	0.03	0.01	0.01	0.01	7	0	0%	0.33			< 0.01	< 0.01		< 0.01		< 0.01			< 0.01			< 0.01		< 0.01
191-24-2	Benzo(ghi)perylene	ug/l	<0.011	0.002	0.011	0.011	0.01	7	0	0%	5.50			< 0.011	< 0.011		< 0.011		< 0.011			< 0.011			< 0.011		< 0.011
207-08-9	Benzo(k)fluoranthene	ug/l	<0.01	0.03	0.01	0.01	0.01	7	0	0%	0.33			< 0.01	< 0.01		< 0.01		< 0.01			< 0.01			< 0.01		< 0.01
218-01-9	Chrysene	ug/l	<0.011		0.011	0.011	0.01	7	0					< 0.011	< 0.011		< 0.011		< 0.011			< 0.011			< 0.011		< 0.011
53-70-3	Dibenzo(ah)anthracene	ug/l	<0.01		0.01	0.01	0.01	7	0					< 0.01	< 0.01		< 0.01		< 0.01			< 0.01			< 0.01		< 0.01
206-44-0	Fluoranthene	ug/l	<0.012	0.1	0.012	0.012	0.01	7	0	0%	0.12			< 0.012	< 0.012		< 0.012		< 0.012			< 0.012			< 0.012		< 0.012
86-73-7	Fluorene	ug/l	<0.014		0.02	0.014	0.01	7	0					< 0.014	< 0.014		< 0.014		0.02			< 0.014			< 0.014		< 0.014
193-39-5	Indeno(123cd)pyrene	ug/l	<0.011	0.002	0.011	0.011	0.01	7	0	0%	5.50			< 0.011	< 0.011		< 0.011		< 0.011			< 0.011			< 0.011		< 0.011
91-20-3	Naphthalene	ug/l	<0.014	2.4	0.2	0.1	0.11	7	0	0%	0.08			< 0.1	< 0.1		< 0.1		< 0.1			0.2			0.1		< 0.1
85-01-8	Phenanthrene	ug/l	<0.011		0.011	0.011	0.01	7	0					< 0.011	< 0.011		< 0.011		< 0.011			< 0.011			< 0.011		< 0.011
129-00-0	Pyrene	ug/l	<0.013		0.013	0.013	0.01	7	0					< 0.013	< 0.013		< 0.013		< 0.013			< 0.013			< 0.013		< 0.013
	PAH 16 Total	ug/l	<0.195		0.2	0.195	0.20	7	0					< 0.195	< 0.195		< 0.195		< 0.195			0.2			< 0.195		< 0.195
	PAH Surrogate % Recovery	%	<0		84	70	75.43	7	0					73	73		70		84			70			78		80
	Benzo(bk)fluoranthene	ug/l	<0.018		0.018	0.018	0.02	7	0					< 0.018	< 0.018		< 0.018		< 0.018			< 0.018			< 0.018		< 0.018
	TPH CWG																										
	Aliphatics																										
	>C5-C6	ug/l	<5		5	5	5.00	7	0					< 5	< 5		< 5		5			< 5			< 5		< 5
	>C6-C8	ug/l	<5		5	5	5.00	7	0					< 5	< 5		< 5		5			< 5			< 5		< 5
	>C8-C10	ug/l	<5		5	5	5.00	7	0					< 5	< 5		< 5		5			< 5			< 5		< 5
	>C10-C12	ug/l	<5		5	5	5.00	7	0					< 5	< 5		< 5		5			< 5			< 5		< 5
	>C12-C16	ug/l	<10		10	10	10.00	7	0					< 10	< 10		< 10		10			< 10			< 10		< 10
	>C16-C21	ug/l	<10		10	10	10.00	7	0					< 10	< 10		< 10		10			< 10			< 10		< 10
	>C21-C35	ug/l	<10		10	10	10.00	7	0					< 10	< 10		< 10		10			< 10			< 10		< 10
	Total aliphatics C5-35	ug/l	<10		10	10	10.00	7	0					< 10	< 10		< 10		10			< 10			< 10		< 10
	Aromatics																										
	>C5-EC7	ug/l	<5		5	5	5.00	7	0					< 5	< 5		< 5		5			< 5			< 5		< 5
	>EC7-EC8	ug/l	<5		5	5	5.00	7	0					< 5	< 5		< 5		5			< 5			< 5		< 5
	>EC8-EC10	ug/l	<5		5	5	5.00	7	0					< 5	< 5		< 5		5			< 5			< 5		< 5
	>EC10-EC12	ug/l	<5		5	5	5.00	7	0					< 5	< 5		< 5		5			< 5			< 5		< 5
	>EC12-EC16	ug/l	<10		10	10	10.00	7	0					< 10	< 10		< 10		10			< 10			< 10		< 10
	>EC16-EC21	ug/l	<10		10	10	10.00	7	0					< 10	< 10		< 10		10			< 10			< 10		< 10
	>EC21-EC35	ug/l	<10		10	10	10.00	7	0					< 10	< 10		< 10		10			< 10			< 10		< 10
	Total aromatics C5-35	ug/l	<10		10	10	10.00	7	0					< 10	< 10		< 10		10			< 10			< 10		< 10
	Total aliphatics and aromatics(C5-35)	ug/l	<10	10	10	10	10.00	7	0	0%	1.00			< 10	< 10		< 10		10			< 10			< 10		< 10

Citywaste Monitoring Final - Lagoons Ponds

Report:	**Liquid**
JE Job No:	15/6896
Client:	WYG
Client ref:	Citywaste
Location:	Citywaste
Contact	[redacted]

												POND 1		POND 1		POND 1		POND 1		POND 2		POND2		POND 3		POND 3		POND 3		POND 4		POND 4		POND 4		POND 5		POND 5		POND 5		CAMPSIE BREAKOUT	
												V H P BOD G		V P G		V P G		V H N G		V H P BOD G		V H N P G		V H P BOD G		V N P G		V H HN P G		V H P BOD G		V H N P G		V H HN P G		V H P BOD G		V H N P G		V H HN P G		V H N P G	
												Surface Water		Surface Water		Surface Water		Liquid		Surface Water		Ground Water		Surface Water		Surface Water		Surface Water		Surface Water		Surface Water		Ground Water		Surface Water		Surface Water		Ground Water		Ground Water	
												06/05/2015		25/08/2015		25/11/2015		07/03/2016		06/05/2015		08/03/2016		06/05/2015		12/03/2016		25/06/2016		06/05/2015		09/03/2016		23/06/2016		06/05/2015		09/03/2016		23/06/2016		10/03/2016	
												09/05/2015		27/08/2015		27/11/2015		10/03/2016		09/05/2015		11/03/2016		09/05/2015		12/03/2016		25/06/2016		09/05/2015		12/03/2016		25/06/2016		09/05/2015		12/03/2016		25/06/2016		11/03/2016	
												307-313		38-42		106-111		65-70		314-320		137-144		235-241		236-241		217-222		249-255		263-269		97-102		242-248		270-276		103-108		15-21	
												3		1		1		1		3		1		3		2		5		3		2		2		3		2		2		1	
	BTEX/MTBE MS																																										
1634-04-4	Methyl Tertiary Butyl Ether	ug/l	<0.1	30	5	5	5.00	6	0	0%	0.17				<	5			<	5			<	5			<	5			<	5			<	5			<	5			<	5
71-43-2	Benzene	ug/l	<0.5	1	5	5	5.00	6	0	0%	5.00				<	5			<	5			<	5			<	5			<	5			<	5			<	5			<	5
108-88-3	Toluene	ug/l	<0.5	50	5	5	5.00	6	0	0%	0.10				<	5			<	5			<	5			<	5			<	5			<	5			<	5			<	5
100-41-4	Ethylbenzene	ug/l	<0.5	20	5	5	5.00	6	0	0%	0.25				<	5			<	5			<	5			<	5			<	5			<	5			<	5			<	5
	p/m-Xylene	ug/l	<1	30	5	5	5.00	6	0	0%	0.17				<	5			<	5			<	5			<	5			<	5			<	5			<	5			<	5
95-47-6	o-Xylene	ug/l	<0.5	30	5	5	5.00	6	0	0%	0.17				<	5			<	5			<	5			<	5			<	5			<	5			<	5			<	5
2037-26-5	Surrogate Recovery Toluene D8	%	<0																																									
460-00-4	Surrogate Recovery 4 Bromofluorobenzene	%	<0																																									
7440-70-2	Dissolved Calcium	mg/l	<0.2		49.4	21.2	35.79	16	0				46.1		28.3		42.4		48.4		21.2		49.4		41.4		38.7		32.2		34.4		30		31.1		34.5		29.2		31		34.4	
7439-95-4	Dissolved Magnesium	mg/l	<0.1		13.3	2.3	7.24	16	0				10.8		6.1		6.8		8.1		2.3		8.6		6.8		7.2		6.6		7.1		6.5		6.4		7		6		6.3		13.3	
7439-96-5	Dissolved Manganese	ug/l	<2	50	4810	2	330.78	16	5	31%	96.20		4		6	<	2	<	2	<	2	<	9	<	2	<	2		29.8		230	<	2		64.5		63		6		58.2		4810	
7723-14-0	Dissolved Phosphorus	ug/l	<5		26	5	9.68	9	0				26				8			<	5			<	5				8.2	<	5				16.2	<	5				8.7			
07/09/7440	Dissolved Potassium	mg/l	<0.1		28.9	2.4	9.90	16	0				28.9		18		15.5		14.8		2.4		15.8		7.9		9.8		7.2		5.9		7.1		5.5		6.1		5.3		4.6		3.6	
7440-23-5	Dissolved Sodium	mg/l	<0.1	200	52.1	4.3	20.78	16	0	0%	0.26		52.1		31.4		25.1		28		4.3		29.5		20.3		22.4		18.7		15.7		15.6		14.1		16.4		13.6		13.5		11.7	
7723-14-0	Total Phosphorus	ug/l	<5		228.6	42	90.17	9	0				119				112				48				42				228.6		55				62.2		65				79.7			
	Total Phenols HPLC	mg/l	<0.1		0.1	0.1	0.10	7	0					<	0.1			<	0.1			<	0.1			<	0.1					<	0.1					<	0.1					<	0.1
16984-48-8	Fluoride	mg/l	<0.3	1.5	0.3	0.3	0.30	6	0	0%	0.20	<	0.3			<	0.3			<	0.3			<	0.3					<	0.3					<	0.3							
	Sulphate	mg/l	<0.05	250	56.86	8.59	26.81	16	0	0%	0.23		56.86		32.46		53.37		52.68		49.55		53.13		15.62		14.86		12.41		14.34		15.22		14.89		13.12		13.14		8.59		8.74	
16887-00-6	Chloride	mg/l	<0.3	250	52.8	3.5	28.69	16	0	0%	0.21		52.8		28.6		25.3		32		3.5		34.5		31.2		31.9		29.5		31		30		27.3		31.3		27		26.5		16.6	
14797-55-8	Nitrate as NO3	mg/l	<0.2	25	24.1	0.3	7.16	16	0	0%	0.96		24.1		7.7		6.2		21.7		0.3		22.2		6		8.7		0.9		2.3		6.1		1		1.2		4.7		0.6		0.8	
14797-65-0	Nitrite as NO2	mg/l	<0.02	0.1	0.52	0.02	0.09	16	4	25%	5.20		0.52		0.31		0.07		0.1	<	0.02		0.1	<	0.02		0.04		0.08		0.03		0.03		0.04	<	0.02	<	0.02	<	0.02		0.03	
	Ortho Phosphate as P	mg/l	<0.03		0.06	0.03	0.04	9	0			<	0.03			<	0.03			<	0.03			<	0.03			<	0.06	<	0.03			<	0.06	<	0.03			<	0.06			
	Total Oxidised Nitrogen as N	mg/l	<0.2	1	5.6	0.2	1.65	16	9	56%	5.60		5.6		1.8		1.4		4.9	<	0.2		5		1.4		2		0.2		0.5		1.4		0.2		0.3		1.1	<	0.2	<	0.2	
57-12-5	Total Cyanide	mg/l	<0.01	0.001	0.01	0.01	0.01	6	2	33%	10.00		0.01				0.01			<	0.01				0.01					<	0.01					<	0.01							
	Ammoniacal Nitrogen as N	mg/l	<0.03	0.39	8.92	0.03	1.48	16	5	31%	22.94		8.92		1.8		3.94		5.54	<	0.03	<	0.03		0.06		0.13		0.36		0.32		0.19		0.3		0.36		0.12		0.1		1.53	
	Ammoniacal Nitrogen as NH3	mg/l			6.73	0.03	1.23	10	0						2.19				6.73			<	0.03				0.16		0.44				0.24		0.36				0.15		0.12		1.86	
	Ammoniacal Nitrogen as NH4	mg/l		0.39	11.46857143	0.03	1.91	16	4	25%	29.41		11.47		2.32		5.07		7.13		0.04	<	0.03		0.08		0.17		0.47		0.41		0.25		0.38		0.46		0.16		0.13		1.97	
	Electrical Conductivity @25C	uS/cm	<2		718	173	388.23	13	0				718		389		442		491		173		502		363		366				339		299				338		280				347	
	pH	pH un ts	<0.01		7.97	6.65	7.27	13	0				7.9		7.06		7.44		7.9		6.65		7.97		7.85		7.1				6.67		7.08				6.92		6.78				7.18	
	Total Organic Carbon	mg/l	<2		18	2	7.46	13	0				12		18		10		7		3		2	<	2		6				9		7				12		7			<	2	
	Total Cations	mmolc/l	<0.00		6.19	1.5	3.68	13	0				6.19		3.74		4.16		4.68		1.5		4.86		3.71		3.75				3.14		2.89				3.17		2.68				3.41	
	Total Anions	mmolc/l	<0.00		6.98	1.3	3.99	13	0				6.98		4.09		4.96		5.39		1.3		5.56		3.46		3.63				3.05		3.14				3.14		3.07				4.14	
	BOD (Settled) #				9	2	5.67	3	0				9				6				2																							
	BOD (Settled) #				8	1	5.25	4	0						6									<	1						8						6							
	COD (Settled) #				70	27	48.43	7	0				70		55		45				27				30						54						58							
	Total Suspended Solids #				3973	10	323.77	13	0			<	10		125		11	<	10	<	10	<	10	<	10	<	10			<	10	<	10			<	10	<	10				3973	
	Dissolved Oxygen	%			11	7	9.86	7	0						8				11				10				11						11						11				7	

EQS

1. The Water Framework Directive (Priority Substances and Classification) Regulations (Northern Ireland) 2011 - Inland waters
2. Groundwater Drinking Water Protected Areas - The River Basin Districts Typology, Standards and Groundwater threshold values (Water Framework Directive) (England and Wales) Directions 2010
3. Freshwater EQS (AA)

DWS

1. Council Directive on the quality of water intended for human consumption (Drinking Water Directive)
2. The Water Supply (Water Quality) Regulations (Northern Ireland) 2007 (as amended)

Appendix I – Hyporheic Water Level and Quality Monitoring

Hyporehic Monitoring

Citywaste - Final Hyporehic Monitoring

Report:	**Liquid**
JE Job No:	15/6896
Client:	WYG
Client ref:	Citywaste
Location:	Citywaste
Contact	[redacted]

	MDP4A	MDP4A	MDP1B	MDP1B	MDP1B	MDP1B	MDP2A	MDP2A	MDP2B	MDP2B
Sample ID										
Depth	H P	V P G	H P	V P G	V H N P G	V H HN P G	H P	V P G	H P	V P G
COC No / misc	Ground Water	Liquid	Ground Water	Liquid	Ground Water	Liquid	Ground Water	Liquid	Ground Water	Liquid
Containers	03/06/2015	08/09/2015	03/06/2015	08/09/2015	08/03/2016	22/06/2016	03/06/2015	08/09/2015	03/06/2015	08/09/2015
Sample Type	05/06/2015	11/09/2015	05/06/2015	11/09/2015	11/03/2016	25/06/2016	05/06/2015	11/09/2015	05/06/2015	11/09/2015
Sampled Date	31-32	55-60	33-34	49-54	25-32	157-162	27-28	67-72	35-36	43-48
Sample Received Date	1	1	1	1	1	4	1	1	1	1
J E Sample No										
Batch Number										

CAS Number	Test	Units	LOD	EQS	MAX	MIN	MEAN	No. Samples	No. >EQS	% >EQS	Magnitude of exceedance																	
	Total Alkalinity as CaCO3	mg/l	<1		240	54	130.97	29	0	0%			80		112		204		182		240			144		138		200		208
	Metals																													
7429-90-5	Dissolved Aluminium	ug/l	<20	150	31.2	1.5	4.65	20	0	0%	0.21		13			<	1.5						5.1	<	1.5				1.5		
7440-38-2	Dissolved Arsenic	ug/l	<2.5	10	5.1	0.9	1.74	20	0	0%	0.51		5.1			<	0.9					<	0.9		2.9				3.8		
7440-43-9	Dissolved Cadmium	ug/l	<0.5	0.08	0.65	0.03	0.35	36	13	36%	8.13		0.29	<	0.5	<	0.03	<	0.5	<	0.5	<	0.03		0.13	<	0.5		0.47	<	0.5
7440-47-3	Total Dissolved Chromium	ug/l	<1.5	4.7	5.1	0.2	1.24	36	1	3%	1.09	<	0.2	<	1.5	<	0.2	<	1.6	<	1.5		2.9		0.3		2	<	0.2		5.1
7440-50-8	Dissolved Copper	ug/l	<7	1	10	3	4.97	36	1	3%	10.00	<	3	<	7	<	3	<	7	<	7	<	3	<	3	<	7	<	3	<	7
7439-89-6	Total Dissolved Iron	ug/l	<20	200	18860	4.7	760.59	36	6	17%	94.30		60.4		335	<	4.7		66	<	20		1658		6.7		99		12.8	<	20
7439-92-1	Dissolved Lead	ug/l	<5	7.2	5	0.4	3.33	36	0	0%	0.69		1.9	<	5		3.1	<	5	<	5	<	0.4		3.7	<	5		3.4	<	5
7440-02-0	Dissolved Nickel	ug/l	<2	20	13.6	0.3	3.91	20	0	0%	0.68		13.6				5.6						4.4		0.6				4.9		
7782-49-2	Dissolved Selenium	ug/l	<3	10	1.2	1.2	1.20	20	0	0%	0.12	<	1.2			<	1.2					<	1.2	<	1.2			<	1.2		
7440-66-6	Dissolved Zinc	ug/l	<3	8	1679	4	189.19	36	27	75%	209.88		552.6		40		53.5		38		13		6.5		153		28		388.5		14
7439-97-6	Mercury Dissolved by CVAF	ug/l	<0.01	0.05	0.01	0.01	0.01	20	0	0%	0.20	<	0.01			<	0.01					<	0.01	<	0.01			<	0.01		
	PAH MS																													
83-32-9	Acenaphthene	ug/l	<0.013		0.013	0.013	0.01	16	0					<	0.013			<	0.013	<	0.013					<	0.013			<	0.013
208-96-8	Acenaphthylene	ug/l	<0.013		0.013	0.013	0.01	16	0					<	0.013			<	0.013	<	0.013					<	0.013			<	0.013
120-12-7	Anthracene	ug/l	<0.013	0.1	0.013	0.013	0.01	16	0	0%	0.13			<	0.013			<	0.013	<	0.013					<	0.013			<	0.013
56-55-3	Benzo(a)anthracene	ug/l	<0.015		0.015	0.015	0.02	16	0					<	0.015			<	0.015	<	0.015					<	0.015			<	0.015
50-32-8	Benzo(a)pyrene	ug/l	<0.016	0.01	0.016	0.016	0.02	16	0	0%	1.60			<	0.016			<	0.016	<	0.016					<	0.016			<	0.016
205-99-2	Benzo(b)fluoranthene	ug/l	<0.01	0.03	0.01	0.01	0.01	16	0	0%	0.33			<	0.01			<	0.01	<	0.01					<	0.01			<	0.01
191-24-2	Benzo(ghi)perylene	ug/l	<0.011	0.002	0.011	0.011	0.01	16	0	0%	5.50			<	0.011			<	0.011	<	0.011					<	0.011			<	0.011
207-08-9	Benzo(k)fluoranthene	ug/l	<0.01	0.03	0.01	0.01	0.01	16	0	0%	0.33			<	0.01			<	0.01	<	0.01					<	0.01			<	0.01
218-01-9	Chrysene	ug/l	<0.011		0.011	0.011	0.01	16	0					<	0.011			<	0.011	<	0.011					<	0.011			<	0.011
53-70-3	Dibenzo(ah)anthracene	ug/l	<0.01		0.01	0.01	0.01	16	0					<	0.01			<	0.01	<	0.01					<	0.01			<	0.01
206-44-0	Fluoranthene	ug/l	<0.012	0.1	0.012	0.012	0.01	16	0	0%	0.12			<	0.012			<	0.012	<	0.012					<	0.012			<	0.012
86-73-7	Fluorene	ug/l	<0.014		0.014	0.014	0.01	16	0					<	0.014			<	0.014	<	0.014					<	0.014			<	0.014
193-39-5	Indeno(123cd)pyrene	ug/l	<0.011	0.002	0.011	0.011	0.01	16	0	0%	5.50			<	0.011			<	0.011	<	0.011					<	0.011			<	0.011
91-20-3	Naphthalene	ug/l	<0.014	2.4	0.1	0.014	0.04	16	0	0%	0.04			<	0.014			<	0.014	<	0.1					<	0.014			<	0.014
85-01-8	Phenanthrene	ug/l	<0.011		0.011	0.011	0.01	16	0					<	0.011			<	0.011	<	0.011					<	0.011			<	0.011
129-00-0	Pyrene	ug/l	<0.013		0.013	0.013	0.01	16	0					<	0.013			<	0.013	<	0.013					<	0.013			<	0.013
	PAH 16 Total	ug/l	<0.195		0.195	0.195	0.20	16	0					<	0.195			<	0.195	<	0.195					<	0.195			<	0.195
	PAH Surrogate % Recovery	%	<0		88	70	78.44	16	0						86				82		80						83				85
	Benzo(bk)fluoranthene	ug/l	<0.018		0.018	0.018	0.02	16	0					<	0.018			<	0.018	<	0.018					<	0.018			<	0.018
	TPH CWG																													
	Aliphatics																													
	>C5-C6	ug/l	<5		5	5	5.00	16	0					<	5			<	5	<	5					<	5			<	5
	>C6-C8	ug/l	<5		5	5	5.00	16	0					<	5			<	5	<	5					<	5			<	5
	>C8-C10	ug/l	<5		5	5	5.00	16	0					<	5			<	5	<	5					<	5			<	5
	>C10-C12	ug/l	<5		5	5	5.00	16	0					<	5			<	5	<	5					<	5			<	5
	>C12-C16	ug/l	<10		10	10	10.00	16	0					<	10			<	10	<	10					<	10			<	10
	>C16-C21	ug/l	<10		10	10	10.00	16	0					<	10			<	10	<	10					<	10			<	10
	>C21-C35	ug/l	<10		10	10	10.00	16	0					<	10			<	10	<	10					<	10			<	10
	Total aliphatics C5-35	ug/l	<10		10	10	10.00	16	0					<	10			<	10	<	10					<	10			<	10
	Aromatics																													
	>C5-EC7	ug/l	<5		5	5	5.00	16	0					<	5			<	5	<	5					<	5			<	5
	>EC7-EC8	ug/l	<5		5	5	5.00	16	0					<	5			<	5	<	5					<	5			<	5
	>EC8-EC10	ug/l	<5		5	5	5.00	16	0					<	5			<	5	<	5					<	5			<	5
	>EC10-EC12	ug/l	<5		5	5	5.00	16	0					<	5			<	5	<	5					<	5			<	5
	>EC12-EC16	ug/l	<10		10	10	10.00	16	0					<	10			<	10	<	10					<	10			<	10
	>EC16-EC21	ug/l	<10		10	10	10.00	16	0					<	10			<	10	<	10					<	10			<	10
	>EC21-EC35	ug/l	<10		10	10	10.00	16	0					<	10			<	10	<	10					<	10			<	10
	Total aromatics C5-35	ug/l	<10		10	10	10.00	16	0					<	10			<	10	<	10					<	10			<	10
	Total aliphatics and aromatics(C5-35)	ug/l	<10	10	10	10	10.00	16	0					<	10			<	10	<	10					<	10			<	10

Citywaste - Final Hyporehic Monitoring

Report:	**Liquid**												MDP4A		MDP4A		MDP1B		MDP1B		MDP1B		MDP1B		MDP2A		MDP2A		MDP2B		MDP2B	
JE Job No:	15/6896											**Sample ID**																		
Client:	WYG											**Depth**																		
Client ref:	Citywaste											**COC No / misc**																		
Location:	Citywaste											**Containers**	H P		V P G		H P		V P G		V H N P G		V H HN P G		H P		V P G		H P		V P G	
Contact	[redacted]											**Sample Type**	Ground Water		Liquid		Ground Water		Liquid		Ground Water		Liquid		Ground Water		Liquid		Ground Water		Liquid	
												Sampled Date	03/06/2015		08/09/2015		03/06/2015		08/09/2015		08/03/2016		22/06/2016		03/06/2015		08/09/2015		03/06/2015		08/09/2015	
												Sample Received Date	05/06/2015		11/09/2015		05/06/2015		11/09/2015		11/03/2016		25/06/2016		05/06/2015		11/09/2015		05/06/2015		11/09/2015	
												J E Sample No	31-32		55-60		33-34		49-54		25-32		157-162		27-28		67-72		35-36		43-48	
												Batch Number	1		1		1		1		1		4		1		1		1		1	
	BTEX/MTBE MS																															
1634-04-4	Methyl Tertiary Butyl Ether	ug/l	<0.1	30	5	5	5.00	16	0	0%	0.17			<	5			<	5	<	5					<	5			<	5
71-43-2	Benzene	ug/l	<0.5	1	5	5	5.00	16	0	0%	5.00			<	5			<	5	<	5					<	5			<	5
108-88-3	Toluene	ug/l	<0.5	50	5	5	5.00	16	0	0%	0.10			<	5			<	5	<	5					<	5			<	5
100-41-4	Ethylbenzene	ug/l	<0.5	20	5	5	5.00	16	0	0%	0.25			<	5			<	5	<	5					<	5			<	5
	p/m-Xylene	ug/l	<1	30	5	5	5.00	16	0	0%	0.17			<	5			<	5	<	5					<	5			<	5
95-47-6	o-Xylene	ug/l	<0.5	30	5	5	5.00	16	0	0%	0.17			<	5			<	5	<	5					<	5			<	5
2037-26-5	Surrogate Recovery Toluene D8	%	<0																													
460-00-4	Surrogate Recovery 4-Bromofluorobenzene	%	<0																													
7440-70-2	Dissolved Calcium	mg/l	<0.2		70.1	20.4	43.35	36	0				24.9		32.1		61.4		60.9		70.1		67.9		47.8		40.6		56.3		58.7	
7439-95-4	Dissolved Magnesium	mg/l	<0.1		14.7	4.4	8.80	36	0				5.4		6.9		11.1		11.5		14.7		14.1		8.5		7.3		10.8		10.8	
7439-96-5	Dissolved Manganese	ug/l	<2	50	21610	1.5	5965.39	23	20	87%	432.20				2367				6886		13770		15630				9006				21610	
7723-14-0	Dissolved Phosphorus	ug/l	<5		115.1	4.6	25.73	7	0														24.2									
07/09/7440	Dissolved Potassium	mg/l	<0.1		4.8	1.2	3.04	36	0				1.2		2		4.8		4.3		3.5		3.5		3.2		2.7		4.3		4.6	
7440-23-5	Dissolved Sodium	mg/l	<0.1	200	25.4	11.4	16.90	36	0	0%	0.13		12.8		13.3		19.7		19.4		24.9		21.8		14.7		16.1		18.6		19.6	
7723-14-0	Total Phosphorus	ug/l	<5		664.8	154.9	314.20	7	0														225.3									
	Total Phenols HPLC	mg/l	<0.1		0.1	0.1	0.10	12	0					<	0.1			<	0.1							<	0.1			<	0.1	
	Sulphate	mg/l	<0.05	250	71.12	7.58	23.14	36	0	0%	0.28		11.95		7.58		22.46		21.54		26.61		23.59		29.98		20.25		20.12		21.95	
16887-00-6	Chloride	mg/l	<0.3	250	49.7	21.9	30.13	36	0	0%	0.20		22.7		21.9		29.7		32.4		49.7		31.6		23.1		25.1		27.8		28.8	
14797-55-8	Nitrate as NO3	mg/l	<0.2	25	28.3	0.2	6.05	36	2	6%	1.13		0.6	<	0.2		0.4	<	0.2		0.4		0.5		0.5	<	0.2		0.4	<	0.2	
14797-65-0	Nitrite as NO2	mg/l	<0.02	0.1	0.23	0.02	0.04	36	4	11%	2.30	<	0.02	<	0.02	<	0.02	<	0.02	<	0.02	<	0.02	<	0.02	<	0.02	<	0.02	<	0.02	
	Ortho Phosphate as P	mg/l	<0.03		0.15	0.06	0.07	20	0			<	0.06				0.15					<	0.06	<	0.06				0.06			
	Total Oxidised Nitrogen as N	mg/l	<0.2	1	6.4	0.2	1.42	36	15	42%	6.40	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	<	0.2	
57-12-5	Total Cyanide	mg/l	<0.01	0.001																												
	Ammoniacal Nitrogen as N	mg/l	<0.03	0.39	1.09	0.03	0.39	36	9	25%	2.80		0.16		0.5		0.36		0.31		0.93		0.87		0.95		0.71		0.54		0.53	
	Ammoniacal Nitrogen as NH3	mg/l			1.33	0.03	0.52	23	0						0.61				0.38		1.13		1.06				0.86				0.64	
	Ammoniacal Nitrogen as NH4	mg/l		0.39	1.41	0.03	0.50	36	14	39%	3.62		0.21		0.65		0.46		0.4		1.2		1.12		1.22		0.91		0.69		0.68	
64-19-7	Acetic Acid	mg/l	<1																													
79-09-4	Propanoic Acid	mg/l	<1																													
79 31 2 / 107 92 6	2-methyl propanoic acid / Butanoic acid	mg/l	<1																													
503-74-2	3-methyl butanoic acid	mg/l	<0.5																													
109-52-4	Pentanoic acid	mg/l	<0.5																													
646-07-1	4-methyl pentanoic acid	mg/l	<0.5																													
142-62-1	Hexanoic acid	mg/l	<0.5																													
111-14-8	Heptanoic acid	mg/l	<0.5																													
	Electrical Conductivity @25C	uS/cm	<2		585	288	394.31	16	0						292				462		585						352				470	
	pH	pH units	<0.01		6.89	6.18	6.47	29	0				6.22		6.2		6.68		6.44		6.89				6.53		6.52		6.76		6.53	
	Total Organic Carbon	mg/l	<2		6	2	3.81	16	0						6				6		5						5				5	
	Total Cations	mmolc/l	<0.00		5.88	2.28	3.69	29	0				2.28		2.8		4.96		4.94		5.88				3.81		3.4		4.62		4.79	
	Total Anions	mmolc/l	<0.00		6.76	2.5	4.06	29	0				2.5		3.02		5.39		5		6.76				4.16		3.89		5.21		5.43	
	BOD (Settled) #																															
	BOD (Settled) #				1	1	1.00	12	0					<	1			<	1							<	1			<	1	
	COD (Settled) #				35	7	15.33	12	0						19				21								19				35	
	Total Suspended Solids #				518	10	174.40	15	0						467				115		67										34	
	Dissolved Oxygen	mg/l	<1		9	2	4.19	16	0						2				4		5						2				4	

Ammoniacal Nitrogen as NH4 calculated as: Ammoniacal Nitrogen as N x 18/14)

EQS

1. The Water Framework Directive (Priority Substances and Classification) Regulations (Northern Ireland) 2011 - Inland waters
2. Groundwater Drinking Water Protected Areas - The River Basin Districts Typology, Standards and Groundwater threshold values (Water Framework Directive) (England and Wales) Directions 2010
3. Freshwater EQS (AA)

DWS

1. Council Directive on the quality of water intended for human consumption (Drinking Water Directive)
2. The Water Supply (Water Quality) Regulations (Northern Ireland) 2007 (as amended)

Citywaste - Final Hyporehic Monitoring

Report:	**Liquid**
JE Job No:	15/6896
Client:	WYG
Client ref:	Citywaste
Location:	Citywaste
Contact	[redacted]

CAS Number	Test	Units	LOD	EQS	MAX	MIN	MEAN	No. Samples	No. >EQS	% >EQS	Magnitude of exceedance
	Sample ID										
	Depth										
	COC No / misc										
	Containers										
	Sample Type										
	Sampled Date										
	Sample Received Date										
	J E Sample No										
	Batch Number										
	Total Alkalinity as CaCO3	mg/l	<1		240	54	130.97	29	0	0%	
	Metals										
7429-90-5	Dissolved Aluminium	ug/l	<20	150	31.2	1.5	4.65	20	0	0%	0.21
7440-38-2	Dissolved Arsenic	ug/l	<2.5	10	5.1	0.9	1.74	20	0	0%	0.51
7440-43-9	Dissolved Cadmium	ug/l	<0.5	0.08	0.65	0.03	0.35	36	13	36%	8.13
7440-47-3	Total Dissolved Chromium	ug/l	<1.5	4.7	5.1	0.2	1.24	36	1	3%	1.09
7440-50-8	Dissolved Copper	ug/l	<7	1	10	3	4.97	36	1	3%	10.00
7439-89-6	Total Dissolved Iron	ug/l	<20	200	18860	4.7	760.59	36	6	17%	94.30
7439-92-1	Dissolved Lead	ug/l	<5	7.2	5	0.4	3.33	36	0	0%	0.69
7440-02-0	Dissolved Nickel	ug/l	<2	20	13.6	0.3	3.91	20	0	0%	0.68
7782-49-2	Dissolved Selenium	ug/l	<3	10	1.2	1.2	1.20	20	0	0%	0.12
7440-66-6	Dissolved Zinc	ug/l	<3	8	1679	4	189.19	36	27	75%	209.88
7439-97-6	Mercury Dissolved by CVAF	ug/l	<0.01	0.05	0.01	0.01	0.01	20	0	0%	0.20
	PAH MS										
83-32-9	Acenaphthene	ug/l	<0.013		0.013	0.013	0.01	16	0		
208-96-8	Acenaphthylene	ug/l	<0.013		0.013	0.013	0.01	16	0		
120-12-7	Anthracene	ug/l	<0.013	0.1	0.013	0.013	0.01	16	0	0%	0.13
56-55-3	Benzo(a)anthracene	ug/l	<0.015		0.015	0.015	0.02	16	0		
50-32-8	Benzo(a)pyrene	ug/l	<0.016	0.01	0.016	0.016	0.02	16	0	0%	1.60
205-99-2	Benzo(b)fluoranthene	ug/l	<0.01	0.03	0.01	0.01	0.01	16	0	0%	0.33
191-24-2	Benzo(ghi)perylene	ug/l	<0.011	0.002	0.011	0.011	0.01	16	0	0%	5.50
207-08-9	Benzo(k)fluoranthene	ug/l	<0.01	0.03	0.01	0.01	0.01	16	0	0%	0.33
218-01-9	Chrysene	ug/l	<0.011		0.011	0.011	0.01	16	0		
53-70-3	Dibenzo(ah)anthracene	ug/l	<0.01		0.01	0.01	0.01	16	0		
206-44-0	Fluoranthene	ug/l	<0.012	0.1	0.012	0.012	0.01	16	0	0%	0.12
86-73-7	Fluorene	ug/l	<0.014		0.014	0.014	0.01	16	0		
193-39-5	Indeno(123cd)pyrene	ug/l	<0.011	0.002	0.011	0.011	0.01	16	0	0%	5.50
91-20-3	Naphthalene	ug/l	<0.014	2.4	0.1	0.014	0.04	16	0	0%	0.04
85-01-8	Phenanthrene	ug/l	<0.011		0.011	0.011	0.01	16	0		
129-00-0	Pyrene	ug/l	<0.013		0.013	0.013	0.01	16	0		
	PAH 16 Total	ug/l	<0.195		0.195	0.195	0.20	16	0		
	PAH Surrogate % Recovery	%	<0		88	70	78.44	16	0		
	Benzo(bk)fluoranthene	ug/l	<0.018		0.018	0.018	0.02	16	0		
	TPH CWG										
	Aliphatics										
	>C5-C6	ug/l	<5		5	5	5.00	16	0		
	>C6-C8	ug/l	<5		5	5	5.00	16	0		
	>C8-C10	ug/l	<5		5	5	5.00	16	0		
	>C10-C12	ug/l	<5		5	5	5.00	16	0		
	>C12-C16	ug/l	<10		10	10	10.00	16	0		
	>C16-C21	ug/l	<10		10	10	10.00	16	0		
	>C21-C35	ug/l	<10		10	10	10.00	16	0		
	Total aliphatics C5-35	ug/l	<10		10	10	10.00	16	0		
	Aromatics										
	>C5-EC7	ug/l	<5		5	5	5.00	16	0		
	>EC7-EC8	ug/l	<5		5	5	5.00	16	0		
	>EC8-EC10	ug/l	<5		5	5	5.00	16	0		
	>EC10-EC12	ug/l	<5		5	5	5.00	16	0		
	>EC12-EC16	ug/l	<10		10	10	10.00	16	0		
	>EC16-EC21	ug/l	<10		10	10	10.00	16	0		
	>EC21-EC35	ug/l	<10		10	10	10.00	16	0		
	Total aromatics C5-35	ug/l	<10		10	10	10.00	16	0		
	Total aliphatics and aromatics(C5-35)	ug/l	<10	10	10	10	10.00	16	0		

MDP3A	MDP3A	MDP3A	MDP3B	MDP3B	MDP3B	MDP3B	MDP4A	MDP4B	MDP4B	MDP4B	MDP1C	MDP1C
H P	V P G	V H HN P G	H P	V P G	V H N P G	V H HN P G	H P	H P	V P G	V H HN P G	H P	V P G
Ground Water	Liquid	Liquid	Ground Water	Liquid	Ground Water	Liquid	Ground Water	Ground Water	Liquid	Liquid	Ground Water	Liquid
03/06/2015	08/09/2015	22/06/2016	03/06/2015	08/09/2015	08/03/2016	22/06/2016	03/06/2015	03/06/2015	08/09/2015	22/06/2016	03/06/2015	08/09/2015
05/06/2015	11/09/2015	25/06/2016	05/06/2015	11/09/2015	11/03/2016	25/06/2016	05/06/2015	05/06/2015	11/09/2015	25/06/2016	05/06/2015	11/09/2015
29-30	61-66	253-258	37-38	37-42	33-40	163-168	31-32	39-40	31-36	169-174	41-42	19-24
1	1	6	1	1	1	4	1	1	1	4	1	1
	134			130	142	134		80	116	122		108	128
< 1.5		31.2	< 1.5			< 1.5	13	< 1.5		< 1.5	2.8		<
3.5		< 0.9	< 0.9			< 0.9	5.1	< 0.9		< 0.9	1.4		<
0.21	< 0.5	< 0.03	0.5	< 0.5	< 0.5	< 0.03	0.29	0.22	< 0.5	< 0.03	0.56	< 0.5	<
0.3	< 1.5	1	0.5	2.5	< 1.5	1.9	< 0.2	< 0.2	< 1.5	0.6	0.2	< 1.5	
< 3	< 7	10	< 3	< 7	< 7	< 3	< 3	< 3	< 7	< 3	< 3	< 7	<
25.9	< 20	18860	17.7	< 20	< 20	676.4	60.4	< 4.7	< 20	102.1	4324	34	<
4.3	< 5	< 0.4	2.6	< 5	< 5	< 0.4	1.9	2.9	< 5	< 0.4	2.6	< 5	<
1.6		2.6	3.8			4.6	13.6	0.4		1.3	2.5		
< 1.2		< 1.2	< 1.2			< 1.2	< 1.2	< 1.2		< 1.2	< 1.2		<
101	94	5.3	194.8	12	5	4.7	552.6	197.2	128	6.3	129.1	29	
< 0.01		< 0.01	< 0.01			< 0.01	< 0.01	< 0.01		< 0.01	< 0.01		<
	< 0.013			< 0.013	< 0.013				< 0.013			< 0.013	
	< 0.013			< 0.013	< 0.013				< 0.013			< 0.013	
	< 0.013			< 0.013	< 0.013				< 0.013			< 0.013	
	< 0.015			< 0.015	< 0.015				< 0.015			< 0.015	
	< 0.016			< 0.016	< 0.016				< 0.016			< 0.016	
	< 0.01			< 0.01	< 0.01				< 0.01			< 0.01	
	< 0.011			< 0.011	< 0.011				< 0.011			< 0.011	
	< 0.01			< 0.01	< 0.01				< 0.01			< 0.01	
	< 0.011			< 0.011	< 0.011				< 0.011			< 0.011	
	< 0.01			< 0.01	< 0.01				< 0.01			< 0.01	
	< 0.012			< 0.012	< 0.012				< 0.012			< 0.012	
	< 0.014			< 0.014	< 0.014				< 0.014			< 0.014	
	< 0.011			< 0.011	< 0.011				< 0.011			< 0.011	
	< 0.014			< 0.014	< 0.1				< 0.014			< 0.014	
	< 0.011			< 0.011	< 0.011				< 0.011			< 0.011	
	< 0.013			< 0.013	< 0.013				< 0.013			< 0.013	
	< 0.195			< 0.195	< 0.195				< 0.195			< 0.195	
	71			85	74				88			70	
	< 0.018			< 0.018	< 0.018				< 0.018			< 0.018	
	< 5			< 5	< 5				< 5			< 5	
	< 5			< 5	< 5				< 5			< 5	
	< 5			< 5	< 5				< 5			< 5	
	< 5			< 5	< 5				< 5			< 5	
	< 10			< 10	< 10				< 10			< 10	
	< 10			< 10	< 10				< 10			< 10	
	< 10			< 10	< 10				< 10			< 10	
	< 10			< 10	< 10				< 10			< 10	
	< 5			< 5	< 5				< 5			< 5	
	< 5			< 5	< 5				< 5			< 5	
	< 5			< 5	< 5				< 5			< 5	
	< 5			< 5	< 5				< 5			< 5	
	< 10			< 10	< 10				< 10			< 10	
	< 10			< 10	< 10				< 10			< 10	
	< 10			< 10	< 10				< 10			< 10	
	< 10			< 10	< 10				< 10			< 10	
	< 10			< 10	< 10				< 10			< 10	

Citywaste - Final Hyporehic Monitoring

			Sample ID									MDP3A	MDP3A	MDP3A	MDP3B	MDP3B	MDP3B	MDP3B	MDP4A	MDP4B	MDP4B	MDP4B	MDP1C	MDP1C	
Report:	**Liquid**		**Depth**																						
JE Job No:	15/6896		**COC No / misc**																						
Client:	WYG		**Containers**									H P	V P G	V H HN P G	H P	V P G	V H N P G	V H HN P G	H P	H P	V P G	V H HN P G	H P	V P G	
Client ref:	Citywaste		**Sample Type**									Ground Water	Liquid	Liquid	Ground Water	Liquid	Ground Water	Liquid	Ground Water	Ground Water	Liquid	Liquid	Ground Water	Liquid	
Location:	Citywaste		**Sampled Date**									03/06/2015	08/09/2015	22/06/2016	03/06/2015	08/09/2015	08/03/2016	22/06/2016	03/06/2015	03/06/2015	08/09/2015	22/06/2016	03/06/2015	08/09/2015	
Contact	[redacted]		**Sample Received Date**									05/06/2015	11/09/2015	25/06/2016	05/06/2015	11/09/2015	11/03/2016	25/06/2016	05/06/2015	05/06/2015	11/09/2015	25/06/2016	05/06/2015	11/09/2015	
			J E Sample No									29-30	61-66	253-258	37-38	37-42	33-40	163-168	31-32	39-40	31-36	169-174	41-42	19-24	
			Batch Number									1	1	6	1	1	1	4	1	1	1	4	1	1	
	BTEX/MTBE MS																								
1634-04-4	Methyl Tertiary Butyl Ether	ug/l	<0.1	30	5	5	5.00	16	0	0%	0.17		< 5			< 5	< 5				< 5			< 5	
71-43-2	Benzene	ug/l	<0.5	1	5	5	5.00	16	0	0%	5.00		< 5			< 5	< 5				< 5			< 5	
108-88-3	Toluene	ug/l	<0.5	50	5	5	5.00	16	0	0%	0.10		< 5			< 5	< 5				< 5			< 5	
100-41-4	Ethylbenzene	ug/l	<0.5	20	5	5	5.00	16	0	0%	0.25		< 5			< 5	< 5				< 5			< 5	
	p/m-Xylene	ug/l	<1	30	5	5	5.00	16	0	0%	0.17		< 5			< 5	< 5				< 5			< 5	
95-47-6	o-Xylene	ug/l	<0.5	30	5	5	5.00	16	0	0%	0.17		< 5			< 5	< 5				< 5			< 5	
2037-26-5	Surrogate Recovery Toluene D8	%	<0																						
460-00-4	Surrogate Recovery 4-Bromofluorobenzene	%	<0																						
7440-70-2	Dissolved Calcium	mg/l	<0.2		70.1	20.4	43.35	36	0			43.6	39.2	45.7	49.6	46.3	41.4	47.7	24.9	38.7	41.6	43.3	37.1	41.7	
7439-95-4	Dissolved Magnesium	mg/l	<0.1		14.7	4.4	8.80	36	0			8.8	7.1	8.1	10.4	8.1	10.3	9	5.4	9.2	9.9	10	6.6	7.1	
7439-96-5	Dissolved Manganese	ug/l	<2	50	21610	1.5	5965.39	23	20	87%	432.20		6527	8319		8881	3419	8161			2283	1125		4123	<
7723-14-0	Dissolved Phosphorus	ug/l	<5		115.1	4.6	25.73	7	0					115.1				7.3				10.7			
07/09/7440	Dissolved Potassium	mg/l	<0.1		4.8	1.2	3.04	36	0			2.5	2.5	3	2.8	3.5	2.1	3.4	1.2	2.1	2.3	2.3	4.2	4.8	
7440-23-5	Dissolved Sodium	mg/l	<0.1	200	25.4	11.4	16.90	36	0	0%	0.13	14.7	15.3	14.8	16.8	17	17.9	15.1	12.8	17.2	18.4	17.8	11.4	11.8	
7723-14-0	Total Phosphorus	ug/l	<5		664.8	154.9	314.20	7	0					302.3				488.6				176.5			
	Total Phenols HPLC	mg/l	<0.1		0.1	0.1	0.10	12	0				< 0.1			< 0.1					< 0.1			< 0.1	
	Sulphate	mg/l	<0.05	250	71.12	7.58	23.14	36	0	0%	0.28	33.37	14.62	11.68	56.84	29.03	16.62	37.14	11.95	19.16	25.15	21.48	12.93	11.83	
16887-00-6	Chloride	mg/l	<0.3	250	49.7	21.9	30.13	36	0	0%	0.20	23	23.6	28.4	25.4	28.2	39.5	23.7	22.7	30.6	31.3	30.5	29.3	27.5	
14797-55-8	Nitrate as NO3	mg/l	<0.2	25	28.3	0.2	6.05	36	2	6%	1.13	0.5	< 0.2	0.5	1.1	1.1	5.6	0.5	0.6	7.4	9.5	1.9	9.7	2.9	
14797-65-0	Nitrite as NO2	mg/l	<0.02	0.1	0.23	0.02	0.04	36	4	11%	2.30	< 0.02	< 0.02	< 0.02	< 0.02	0.03	< 0.02	0.04	< 0.02	0.05	< 0.02	0.03	< 0.02	0.06	<
	Ortho Phosphate as P	mg/l	<0.03		0.15	0.06	0.07	20	0			< 0.06		< 0.06	< 0.06			< 0.06	< 0.06	< 0.06		< 0.06	< 0.06		<
	Total Oxidised Nitrogen as N	mg/l	<0.2	1	6.4	0.2	1.42	36	15	42%	6.40	< 0.2	< 0.2	< 0.2	0.2	0.3	1.3	< 0.2	< 0.2	1.7	2.1	0.4	2.2	0.7	
57-12-5	Total Cyanide	mg/l	<0.01	0.001																					
	Ammoniacal Nitrogen as N	mg/l	<0.03	0.39	1.09	0.03	0.39	36	9	25%	2.80	0.97	0.69	1.07	0.24	0.45	0.09	0.76	0.16	0.06	0.07	0.11	0.35	0.3	<
	Ammoniacal Nitrogen as NH3	mg/l			1.33	0.03	0.52	23	0				0.84	1.3		0.55	0.11	0.93			0.08	0.13		0.37	<
	Ammoniacal Nitrogen as NH4	mg/l		0.39	1.41	0.03	0.50	36	14	39%	3.62	1.25	0.89	1.38	0.31	0.58	0.12	0.98	0.21	0.08	0.09	0.14	0.45	0.39	<
64-19-7	Acetic Acid	mg/l	<1																						
79-09-4	Propanoic Acid	mg/l	<1																						
79 31 2 / 107 92 6	2-methyl propanoic acid / Butanoic acid	mg/l	<1																						
503-74-2	3-methyl butanoic acid	mg/l	<0.5																						
109-52-4	Pentanoic acid	mg/l	<0.5																						
646-07-1	4-methyl pentanoic acid	mg/l	<0.5																						
142-62-1	Hexanoic acid	mg/l	<0.5																						
111-14-8	Heptanoic acid	mg/l	<0.5																						
	Electrical Conductivity @25C	uS/cm	<2		585	288	394.31	16	0				333			386	411				376			337	
	pH	pH units	<0.01		6.89	6.18	6.47	29	0			6.45	6.33		6.63	6.48	6.7		6.22	6.61	6.4		6.38	6.33	
	Total Organic Carbon	mg/l	<2		6	2	3.81	16	0				4			4	< 2				2			3	
	Total Cations	mmolc/l	<0.00		5.88	2.28	3.69	29	0			3.6	3.27		4.13	3.81	3.75		2.28	3.49	3.75		3	3.3	
	Total Anions	mmolc/l	<0.00		6.76	2.5	4.06	29	0			4.03	3.65		4.52	4.26	4.23		2.5	3.7	4		3.41	3.63	
	BOD (Settled)$^{\#}$																								
	BOD (Settled)$^{\#}$				1	1	1.00	12	0				1			< 1					< 1			< 1	
	COD (Settled)$^{\#}$				35	7	15.33	12	0				19			16					9			11	
	Total Suspended Solids$^{\#}$				518	10	174.40	15	0				518			64	92				96			58	
	Dissolved Oxygen	mg/l	<1		9	2	4.19	16	0				2			3	5				4			4	

Ammoniacal Nitrogen as NH4 calculated as: Ammoniacal Nitrogen as N x 18/14)

EQS

1. The Water Framework Directive (Priority Substances and Classification) Regulations (Northern Ireland) 2011 - Inland waters
2. Groundwater Drinking Water Protected Areas - The River Basin Districts Typology, Standards and Groundwater threshold values (Water Framework Directive) (England and Wales) Directions 2010
3. Freshwater EQS (AA)

DWS

1. Council Directive on the quality of water intended for human consumption (Drinking Water Directive)
2. The Water Supply (Water Quality) Regulations (Northern Ireland) 2007 (as amended)

Citywaste - Final Hyporehic Monitoring

Report:	**Liquid**
JE Job No:	15/6896
Client:	WYG
Client ref:	Citywaste
Location:	Citywaste
Contact	[redacted]

	MDP1C	MDP2C	MDP2C	MDP2C	MDP2C	MDP3C	MDP3C	MDP3C	MDP5C	MDP5C	MDP5B	MDP5B	MDP5B
Sample ID													
Depth													
COC No / misc													
Containers	V H HN P G	H P	V P G	V H N P G	V H HN P G	H P	V P G	V H N P G	H P	V P G	H P	V P G	V H HN P G
Sample Type	Liquid	Ground Water	Liquid	Ground Water	Liquid	Ground Water	Liquid	Ground Water	Ground Water	Liquid	Ground Water	Liquid	Liquid
Sampled Date	22/06/2016	03/06/2015	08/09/2015	08/03/2016	22/06/2016	03/06/2015	08/09/2015	08/03/2016	03/06/2015	08/09/2015	03/06/2015	08/09/2015	22/06/2016
Sample Received Date	25/06/2016	05/06/2015	11/09/2015	11/03/2016	25/06/2016	05/06/2015	11/09/2015	11/03/2016	05/06/2015	11/09/2015	05/06/2015	11/09/2015	25/06/2016
J E Sample No	181-186	43-44	13-18	41-48	187-192	45-46	7-12	49-56	47-48	1-6	60-61	25-30	175-180
Batch Number	4	1	1	1	4	1	1	1	1	1	1	1	4

CAS Number	Test	Units	LOD	EQS	MAX	MIN	MEAN	No. Samples	No. >EQS	% >EQS	Magnitude of exceedance	MDP1C	MDP2C	MDP2C	MDP2C	MDP2C	MDP3C	MDP3C	MDP3C	MDP5C	MDP5C	MDP5B	MDP5B	MDP5B
	Total Alkalinity as CaCO3	mg/l	<1		240	54	130.97	29	0	0%			116		100	156		106		108		154		54		60		100		108	
	Metals																													
7429-90-5	Dissolved Aluminium	ug/l	<20	150	31.2	1.5	4.65	20	0	0%	0.21	1.5	5.8				< 1.5	< 1.5					< 1.5				2.6			< 1.5
7440-38-2	Dissolved Arsenic	ug/l	<2.5	10	5.1	0.9	1.74	20	0	0%	0.51	0.9	< 0.9				< 0.9	< 0.9					< 1.1			<	0.9			< 1
7440-43-9	Dissolved Cadmium	ug/l	<0.5	0.08	0.65	0.03	0.35	36	13	36%	8.13	0.03	0.65	<	0.5	< 0.5	0.08	0.24	<	0.5	<	0.5	0.45	<	0.5		0.28	<	0.5	< 0.03
7440-47-3	Total Dissolved Chromium	ug/l	<1.5	4.7	5.1	0.2	1.24	36	1	3%	1.09	0.3	< 0.2	<	1.5	< 1.5	4.1	< 0.2	<	1.5	<	1.5	< 0.2	<	1.5	<	1.4	<	1.5	< 0.2
7440-50-8	Dissolved Copper	ug/l	<7	1	10	3	4.97	36	1	3%	10.00	3	< 3	<	7	< 7	< 3	< 3	<	7	<	7	< 3	<	7	<	3	<	7	< 3
7439-89-6	Total Dissolved Iron	ug/l	<20	200	18860	4.7	760.59	36	6	17%	94.30	4.7	7.6		52	< 20	58.2	< 4.7	<	20	<	20	< 4.7	<	20	<	4.7	<	20	676.7
7439-92-1	Dissolved Lead	ug/l	<5	7.2	5	0.4	3.33	36	0	0%	0.69	0.4	3.6	<	5	< 5	< 0.4	3.8	<	5	<	5	< 0.4	<	5		3	<	5	< 0.4
7440-02-0	Dissolved Nickel	ug/l	<2	20	13.6	0.3	3.91	20	0	0%	0.68	1.1	3.7				3.1	3					6.1				0.3			1.4
7782-49-2	Dissolved Selenium	ug/l	<3	10	1.2	1.2	1.20	20	0	0%	0.12	1.2	< 1.2				< 1.2	< 1.2					< 1.2			<	1.2			< 1.2
7440-66-6	Dissolved Zinc	ug/l	<3	8	1679	4	189.19	36	27	75%	209.88	4.2	985.6		17	4	6	1679		14		5	721.7		86		463.5		64	14.6
7439-97-6	Mercury Dissolved by CVAF	ug/l	<0.01	0.05	0.01	0.01	0.01	20	0	0%	0.20	0.01	< 0.01				< 0.01	< 0.01					< 0.01			<	0.01			< 0.01
	PAH MS																													
83-32-9	Acenaphthene	ug/l	<0.013		0.013	0.013	0.01	16	0					<	0.013	< 0.013			<	0.013	<	0.013		<	0.013			<	0.013	
208-96-8	Acenaphthylene	ug/l	<0.013		0.013	0.013	0.01	16	0					<	0.013	< 0.013			<	0.013	<	0.013		<	0.013			<	0.013	
120-12-7	Anthracene	ug/l	<0.013	0.1	0.013	0.013	0.01	16	0	0%	0.13			<	0.013	< 0.013			<	0.013	<	0.013		<	0.013			<	0.013	
56-55-3	Benzo(a)anthracene	ug/l	<0.015		0.015	0.015	0.02	16	0					<	0.015	< 0.015			<	0.015	<	0.015		<	0.015			<	0.015	
50-32-8	Benzo(a)pyrene	ug/l	<0.016	0.01	0.016	0.016	0.02	16	0	0%	1.60			<	0.016	< 0.016			<	0.016	<	0.016		<	0.016			<	0.016	
205-99-2	Benzo(b)fluoranthene	ug/l	<0.01	0.03	0.01	0.01	0.01	16	0	0%	0.33			<	0.01	< 0.01			<	0.01	<	0.01		<	0.01			<	0.01	
191-24-2	Benzo(ghi)perylene	ug/l	<0.011	0.002	0.011	0.011	0.01	16	0	0%	5.50			<	0.011	< 0.011			<	0.011	<	0.011		<	0.011			<	0.011	
207-08-9	Benzo(k)fluoranthene	ug/l	<0.01	0.03	0.01	0.01	0.01	16	0	0%	0.33			<	0.01	< 0.01			<	0.01	<	0.01		<	0.01			<	0.01	
218-01-9	Chrysene	ug/l	<0.011		0.011	0.011	0.01	16	0					<	0.011	< 0.011			<	0.011	<	0.011		<	0.011			<	0.011	
53-70-3	Dibenzo(ah)anthracene	ug/l	<0.01		0.01	0.01	0.01	16	0					<	0.01	< 0.01			<	0.01	<	0.01		<	0.01			<	0.01	
206-44-0	Fluoranthene	ug/l	<0.012	0.1	0.012	0.012	0.01	16	0	0%	0.12			<	0.012	< 0.012			<	0.012	<	0.012		<	0.012			<	0.012	
86-73-7	Fluorene	ug/l	<0.014		0.014	0.014	0.01	16	0					<	0.014	< 0.014			<	0.014	<	0.014		<	0.014			<	0.014	
193-39-5	Indeno(123cd)pyrene	ug/l	<0.011	0.002	0.011	0.011	0.01	16	0	0%	5.50			<	0.011	< 0.011			<	0.011	<	0.011		<	0.011			<	0.011	
91-20-3	Naphthalene	ug/l	<0.014	2.4	0.1	0.014	0.04	16	0	0%	0.04			<	0.014	< 0.1				0.02	<	0.1		<	0.014			<	0.014	
85-01-8	Phenanthrene	ug/l	<0.011		0.011	0.011	0.01	16	0					<	0.011	< 0.011			<	0.011	<	0.011		<	0.011			<	0.011	
129-00-0	Pyrene	ug/l	<0.013		0.013	0.013	0.01	16	0					<	0.013	< 0.013			<	0.013	<	0.013		<	0.013			<	0.013	
	PAH 16 Total	ug/l	<0.195		0.195	0.195	0.20	16	0					<	0.195	< 0.195			<	0.195	<	0.195		<	0.195			<	0.195	
	PAH Surrogate % Recovery	%	<0		88	70	78.44	16	0						84	71				82		73			70				71	
	Benzo(bk)fluoranthene	ug/l	<0.018		0.018	0.018	0.02	16	0					<	0.018	< 0.018			<	0.018	<	0.018		<	0.018			<	0.018	
	TPH CWG																													
	Aliphatics																													
	>C5-C6	ug/l	<5		5	5	5.00	16	0					<	5	< 5			<	5	<	5		<	5			<	5	
	>C6-C8	ug/l	<5		5	5	5.00	16	0					<	5	< 5			<	5	<	5		<	5			<	5	
	>C8-C10	ug/l	<5		5	5	5.00	16	0					<	5	< 5			<	5	<	5		<	5			<	5	
	>C10-C12	ug/l	<5		5	5	5.00	16	0					<	5	< 5			<	5	<	5		<	5			<	5	
	>C12-C16	ug/l	<10		10	10	10.00	16	0					<	10	< 10			<	10	<	10		<	10			<	10	
	>C16-C21	ug/l	<10		10	10	10.00	16	0					<	10	< 10			<	10	<	10		<	10			<	10	
	>C21-C35	ug/l	<10		10	10	10.00	16	0					<	10	< 10			<	10	<	10		<	10			<	10	
	Total aliphatics C5-35	ug/l	<10		10	10	10.00	16	0					<	10	< 10			<	10	<	10		<	10			<	10	
	Aromatics																													
	>C5-EC7	ug/l	<5		5	5	5.00	16	0					<	5	< 5			<	5	<	5		<	5			<	5	
	>EC7-EC8	ug/l	<5		5	5	5.00	16	0					<	5	< 5			<	5	<	5		<	5			<	5	
	>EC8-EC10	ug/l	<5		5	5	5.00	16	0					<	5	< 5			<	5	<	5		<	5			<	5	
	>EC10-EC12	ug/l	<5		5	5	5.00	16	0					<	5	< 5			<	5	<	5		<	5			<	5	
	>EC12-EC16	ug/l	<10		10	10	10.00	16	0					<	10	< 10			<	10	<	10		<	10			<	10	
	>EC16-EC21	ug/l	<10		10	10	10.00	16	0					<	10	< 10			<	10	<	10		<	10			<	10	
	>EC21-EC35	ug/l	<10		10	10	10.00	16	0					<	10	< 10			<	10	<	10		<	10			<	10	
	Total aromatics C5-35	ug/l	<10		10	10	10.00	16	0					<	10	< 10			<	10	<	10		<	10			<	10	
	Total aliphatics and aromatics(C5-35)	ug/l	<10	10	10	10	10.00	16	0					<	10	< 10			<	10	<	10		<	10			<	10	

Citywaste - Final Hyporehic Monitoring

Report: Liquid
JE Job No: 15/6896
Client: WYG
Client ref: Citywaste
Location: Citywaste
Contact [redacted]

	Sample ID											MDP1C	MDP2C	MDP2C	MDP2C	MDP2C	MDP3C	MDP3C	MDP3C	MDP5C	MDP5C	MDP5B	MDP5B	MDP5B
	Depth																							
	COC No / misc																							
	Containers											V H HN P G	H P	V P G	V H N P G	V H HN P G	H P	V P G	V H N P G	H P	V P G	H P	V P G	V H HN P G
	Sample Type											Liquid	Ground Water	Liquid	Ground Water	Liquid	Ground Water	Liquid	Ground Water	Ground Water	Liquid	Ground Water	Liquid	Liquid
	Sampled Date											22/06/2016	03/06/2015	08/09/2015	08/03/2016	22/06/2016	03/06/2015	08/09/2015	08/03/2016	03/06/2015	08/09/2015	03/06/2015	08/09/2015	22/06/2016
	Sample Received Date											25/06/2016	05/06/2015	11/09/2015	11/03/2016	25/06/2016	05/06/2015	11/09/2015	11/03/2016	05/06/2015	11/09/2015	05/06/2015	11/09/2015	25/06/2016
	J E Sample No											181-186	43-44	13-18	41-48	187-192	45-46	7-12	49-56	47-48	1-6	60-61	25-30	175-180
	Batch Number											4	1	1	1	4	1	1	1	1	1	1	1	4
	BTEX/MTBE MS																							
1634-04-4	Methyl Tertiary Butyl Ether	ug/l	<0.1	30	5	5	5.00	16	0	0%	0.17			< 5	< 5			< 5	< 5		< 5		< 5	
71-43-2	Benzene	ug/l	<0.5	1	5	5	5.00	16	0	0%	5.00			< 5	< 5			< 5	< 5		< 5		< 5	
108-88-3	Toluene	ug/l	<0.5	50	5	5	5.00	16	0	0%	0.10			< 5	< 5			< 5	< 5		< 5		< 5	
100-41-4	Ethylbenzene	ug/l	<0.5	20	5	5	5.00	16	0	0%	0.25			< 5	< 5			< 5	< 5		< 5		< 5	
	p/m-Xylene	ug/l	<1	30	5	5	5.00	16	0	0%	0.17			< 5	< 5			< 5	< 5		< 5		< 5	
95-47-6	o-Xylene	ug/l	<0.5	30	5	5	5.00	16	0	0%	0.17			< 5	< 5			< 5	< 5		< 5		< 5	
2037-26-5	Surrogate Recovery Toluene D8	%	<0																					
460-00-4	Surrogate Recovery 4-Bromofluorobenzene	%	<0																					
7440-70-2	Dissolved Calcium	mg/l	<0.2		70.1	20.4	43.35	36	0			22.8	40.9	41.5	56.5	38.2	40.6	45.3	53.5	20.4	21.8	36.1	41.4	40
7439-95-4	Dissolved Magnesium	mg/l	<0.1		14.7	4.4	8.80	36	0			5.2	7.7	7.3	10.6	7.2	9.1	9.5	10.5	4.4	4.7	9	10.2	10.4
7439-96-5	Dissolved Manganese	ug/l	<2	50	21610	1.5	5965.39	23	20	87%	432.20	1.5		3550	9194	3283		1004	7670		4		20	370.5
7723-14-0	Dissolved Phosphorus	ug/l	<5		115.1	4.6	25.73	7	0			4.6				5.3								12.9
07/09/7440	Dissolved Potassium	mg/l	<0.1		4.8	1.2	3.04	36	0			2.5	4	4.4	3.2	3.7	2.9	3.4	3.3	2.5	3	1.9	2	1.9
7440-23-5	Dissolved Sodium	mg/l	<0.1	200	25.4	11.4	16.90	36	0	0%	0.13	19.9	12	12.4	17.4	11.8	16.1	13.7	17.2	25.4	25.3	17.9	18.5	18.8
7723-14-0	Total Phosphorus	ug/l	<5		664.8	154.9	314.20	7	0			187				154.9								664.8
	Total Phenols HPLC	mg/l	<0.1		0.1	0.1	0.10	12	0					< 0.1				< 0.1			< 0.1		< 0.1	
	Sulphate	mg/l	<0.05	250	71.12	7.58	23.14	36	0	0%	0.28	14.54	18.26	21.91	71.12	13.87	21.13	17.12	47.52	14.64	16.88	21.01	25.92	21.4
16887-00-6	Chloride	mg/l	<0.3	250	49.7	21.9	30.13	36	0	0%	0.20	34.4	28.9	32	26.1	30.6	30.1	28.8	27	48.9	44.5	31.8	31.7	33.3
14797-55-8	Nitrate as NO3	mg/l	<0.2	25	28.3	0.2	6.05	36	2	6%	1.13	5	24	24.8	0.4	25.6	19.5	28.3	0.4	9.9	6.4	9.4	11.8	7.3
14797-65-0	Nitrite as NO2	mg/l	<0.02	0.1	0.23	0.02	0.04	36	4	11%	2.30	0.02	0.23	0.15	< 0.02	0.16	0.19	0.03	< 0.02	< 0.02	< 0.02	0.06	< 0.02	< 0.02
	Ortho Phosphate as P	mg/l	<0.03		0.15	0.06	0.07	20	0			0.06	0.08			< 0.06	0.07			< 0.06		< 0.06		< 0.06
	Total Oxidised Nitrogen as N	mg/l	<0.2	1	6.4	0.2	1.42	36	15	42%	6.40	1.1	5.5	5.6	< 0.2	5.8	4.5	6.4	< 0.2	2.2	1.4	2.1	2.7	1.6
57-12-5	Total Cyanide	mg/l	<0.01	0.001																				
	Ammoniacal Nitrogen as N	mg/l	<0.03	0.39	1.09	0.03	0.39	36	9	25%	2.80	0.03	0.04	0.05	1.09	0.04	0.16	0.11	1.07	< 0.03	< 0.03	< 0.03	< 0.03	0.03
	Ammoniacal Nitrogen as NH3	mg/l			1.33	0.03	0.52	23	0			0.03		0.06	1.33	0.05		0.13	1.3		< 0.03		< 0.03	0.04
	Ammoniacal Nitrogen as NH4	mg/l		0.39	1.41	0.03	0.50	36	14	39%	3.62	0.03	0.05	0.06	1.41	0.05	0.21	0.14	1.38	0.04	< 0.03	0.04	0.03	0.04
64-19-7	Acetic Acid	mg/l	<1																					
79-09-4	Propanoic Acid	mg/l	<1																					
79 31 2 / 107 92 6	2-methyl propanoic acid / Butanoic acid	mg/l	<1																					
503-74-2	3-methyl butanoic acid	mg/l	<0.5																					
109-52-4	Pentanoic acid	mg/l	<0.5																					
646-07-1	4-methyl pentanoic acid	mg/l	<0.5																					
142-62-1	Hexanoic acid	mg/l	<0.5																					
111-14-8	Heptanoic acid	mg/l	<0.5																					
	Electrical Conductivity @25C	uS/cm	<2		585	288	394.31	16	0					341	483			368	463		288		362	
	pH	pH units	<0.01		6.89	6.18	6.47	29	0				6.43	6.26	6.72		6.48	6.52	6.62	6.26	6.18	6.51	6.4	
	Total Organic Carbon	mg/l	<2		6	2	3.81	16	0					3	5			3	4		< 2		2	
	Total Cations	mmolc/l	<0.00		5.88	2.28	3.69	29	0				3.3	3.32	4.53		3.55	3.73	4.37	2.55	2.65	3.37	3.76	
	Total Anions	mmolc/l	<0.00		6.76	2.5	4.06	29	0				3.9	3.76	5.34		3.72	3.78	4.84	2.92	2.91	3.49	3.78	
	BOD (Settled) #																							
	BOD (Settled) #				1	1	1.00	12	0					< 1				< 1			< 1		< 1	
	COD (Settled) #				35	7	15.33	12	0					< 7				14			< 7		< 7	
	Total Suspended Solids #				518	10	174.40	15	0					52	222			10	509		244		68	
	Dissolved Oxygen	mg/l	<1		9	2	4.19	16	0					4	4			8	3		9		4	

Ammoniacal Nitrogen as NH4 calculated as: Ammoniacal Nitrogen as N x 18/14)

EQS

1. The Water Framework Directive (Priority Substances and Classification) Regulations (Northern Ireland) 2011 - Inland waters
2. Groundwater Drinking Water Protected Areas - The River Basin Districts Typology, Standards and Groundwater threshold values (Water Framework Directive) (England and Wales) Directions 2010
3. Freshwater EQS (AA)

DWS

1. Council Directive on the quality of water intended for human consumption (Drinking Water Directive)
2. The Water Supply (Water Quality) Regulations (Northern Ireland) 2007 (as amended)

Appendix J – Laboratory Certificates

DIGITAL APPENDIX