



Kildare County Council
Comhairle Contae Chill Dara

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Kerdiffstown Landfill Remediation Project

Kildare County Council

Environmental Impact Assessment Report (EIAR) Volume 4 of 4: Appendices (Part 3)

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Groundwater and Surface Water Monitoring Report - December 2016

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Executive Summary

This report presents the results and findings of a groundwater and surface water sampling exercise completed at Kerdiffstown Landfill (located near Naas in County Kildare) during December 2016 and has been completed by Jacobs on behalf of Kildare County Council (KCC). The landfill is situated within a sand and gravel overburden aquifer which overlies a limestone bedrock aquifer. The Morell River situated close to the site's eastern boundary has been identified as a sensitive surface water receptor.

This sampling round was a biannual round with more wells being sampled and a larger analytical suite than a normal monthly round. Therefore, during this sampling round, 34 groundwater samples (fourteen off-site, seven boundary and thirteen on-site) and sixteen surface water samples (five from the Morell River, six from waterbodies in Palmerstown Golf Course, four from the canal feeder and one from the site drainage discharge) were taken.

Rainfall during December was recorded at 49.2mm which is below the historical long term average for that month, noted to be 75.7mm. As five of the past six months were drier than average, groundwater levels fell between November and December in all but six groundwater wells.

As with previous monitoring rounds, concentrations of substances associated with landfill leachate such as ammoniacal nitrogen and chloride were found to be elevated in groundwater in the overburden deposits beneath the site and on the site's eastern boundary including in wells EMW03, EMW13 and BH26 where the highest concentrations are generally recorded. Lower concentrations of ammoniacal nitrogen and chloride were identified in boreholes installed between the site and the Morell River but with no discernible impact shown on the river water quality.

Key results, particularly exceedances of water quality standards (Interim Guideline Value (IGV) and/or Groundwater Threshold Value (GTV) for groundwater, and Environmental Quality Standards (EQS) for surface water), obtained during December 2016 are summarised in the table below.

Table 1: Summary of Groundwater Results recorded during December 2016

Locations	December 2016 Exceedances	Notable Results / Trends
On-Site Wells		
Exceedances of water quality standards are seen for many key determinands in all wells located on-site, e.g. chloride, ammoniacal nitrogen, iron, manganese, sulphate and arsenic. The majority of results in on-site wells were within previously recorded ranges.		
EMW13 (north-east)	Exceedances in calcium, potassium, sodium, chloride, ammoniacal nitrogen, boron, iron, manganese, arsenic, barium, nickel and zinc.	Barium at lowest ever concentration recorded in this well. Toluene detected at this well for the first time since monitoring began.
EMW15 (west)	Exceedances in calcium, potassium, sulphate, chloride, ammoniacal nitrogen, iron, manganese, arsenic and barium.	Arsenic at highest ever recorded in this well (up slightly from November).
EMW16 (north)	Exceedances in calcium, potassium, sulphate, chloride, ammoniacal nitrogen, nitrite, iron, manganese, barium and nickel.	Alkalinity at lowest recorded in this well. Alkalinity generally trending downwards since June 2012.
EMW17 (south-east)	Exceedances in ammoniacal nitrogen and manganese.	Chloride, alkalinity and barium at lowest recorded concentrations in this well.
BH42 (centre south)	Exceedances in calcium, potassium, sulphate, ammoniacal nitrogen, iron, manganese, arsenic, barium, lead and nickel.	Sulphate and magnesium both at lowest recorded concentrations in this well.
BH36	Exceedances in chloride, ammoniacal	Ammoniacal nitrogen and sulphide at highest recorded

Locations	December 2016 Exceedances	Notable Results / Trends
(centre north)	nitrogen, iron, manganese, arsenic, barium, copper, lead and nickel.	concentrations in this well; sulphate at lowest recorded concentration in this well.
BH6 (lower yard)	Exceedances in calcium, potassium, sulphate, boron, iron, manganese, arsenic, barium, chromium, copper, lead, mercury, nickel and zinc	Iron, manganese, alkalinity, arsenic, phosphate, boron, chromium, barium, nickel, copper, lead, mercury, zinc and vanadium at highest recorded concentrations in this well. However, the well dried up when taking the sample so silt within the sample is likely to account for the elevated concentrations.
BH7 (lower yard)	Exceedances in calcium, magnesium, potassium, chloride, ammoniacal nitrogen, boron, iron, manganese, arsenic, barium, cadmium, copper, lead, nickel and zinc.	Iron, manganese, sulphate, calcium, magnesium, phosphate, boron, barium, nickel, cadmium, copper, lead, zinc and sulphide at highest recorded concentrations in this well. However, the well had to be sampled using a bailer so additional silt within the sample is likely to account for the elevated concentrations.
GW1D (near site entrance)	Exceedances in chloride and manganese.	Chloride, alkalinity, chromium, barium, nickel and zinc at highest recorded concentrations in this well; iron, manganese, potassium, nitrate, sulphate and magnesium at lowest concentrations in this well.
GW2S (lower yard)	Exceedances in chloride, ammoniacal nitrogen, iron and manganese.	Ammoniacal nitrogen, manganese, potassium, sodium, alkalinity, arsenic, sulphate, calcium, magnesium and barium at lowest recorded concentrations in this well.
Boundary Wells		
EMW04, EMW07, EMW18 (all on the north-east and eastern boundary) and EMW24 (north) had results within normally observed ranges.		
EMW03 (north-east)	Exceedances in potassium, chloride, ammoniacal nitrogen, iron, manganese, arsenic, barium, lead and nickel.	Magnesium and boron at lowest recorded concentrations in this well; sulphide at highest recorded concentration. Calcium not exceeding IGV for the first time since December 2011.
EMW06 (north-east)	Exceedances in calcium, iron, manganese, barium, copper, lead and nickel.	This well continues to have lower concentrations in key determinands than nearby well EMW03. Sulphate, nickel, cadmium, lead, zinc and sulphide at highest recorded concentrations in this well.
EMW19 (east)	Exceedances in potassium, ammoniacal nitrogen, iron, manganese, arsenic and barium.	All elevated concentrations seen in previous months returning to more usually observed concentrations.
Off-Site Wells		
EMW05 (near Morell River), EMW08 (east), EMW21 (north-east), EMW22 (north), EMW28 (south) and EMW30 (Foley's Field) had results within normally observed ranges for all determinands.		
EMW02 (between site and Morell River)	Exceedances in nitrate, iron and manganese.	Sulphide at highest recorded concentration in this well.
EMW08 (between site and Morell River)	Exceedances in iron, manganese and barium.	Toluene detected at this well for the first time since monitoring began.
EMW20 (near Morell River)	Exceedances in ammoniacal nitrogen, iron, manganese and barium.	All major determinands have decreased further in December. The elevated results recorded in this well since late spring have now largely returned to more

Locations	December 2016 Exceedances	Notable Results / Trends
		"normal" concentrations for this well.
EMW23 (north)	Exceedances in potassium, iron, manganese and barium.	Chloride at lowest recorded concentration in this well.
EMW27 (Foley's Field)	Exceedances in calcium, ammoniacal nitrogen, iron, manganese, arsenic, barium, copper, mercury and nickel.	Chloride at lowest recorded concentration in this well; sulphide at highest recorded concentration in this well.
EMW29 (Foley's Field)	Exceedances in iron and manganese.	Ammoniacal nitrogen at highest recorded concentration in this well.
EMW31 (Palmerstown Golf Course)	Exceedances in ammoniacal nitrogen, iron, manganese and barium.	Sulphate at highest recorded concentration in this well.
EMW32 (Palmerstown Golf Course)	Exceedances in potassium, iron, manganese and barium.	Chloride and alkalinity at lowest recorded concentrations in this well; sulphate at highest recorded concentration in this well.
EMW33 (Palmerstown Golf Course)	Exceedances in ammoniacal nitrogen, iron, manganese, arsenic and barium.	Chloride at lowest recorded concentration in this well.

Table 2: Summary of Surface Water Results recorded during December 2016

Locations	December 2016 Exceedances	Notable Results / Trends
Morell River		
Upstream (SW01, SW02)	No exceedances	Chloride at SW01 at the highest concentration ever recorded here which is likely caused by road salt being washed in by rain on the day of sampling. Chloride reduced by SW02, after the Hartwell confluence.
Downstream (SW03-SW05)	No exceedances	The concentrations were generally within previously recorded ranges.
Canal Feeder		
Upstream (SW13)	Exceedance in copper	Previous higher exceedance in December 2015. Elevated chloride concentration due to road salt wash off.
Downstream (SW10-SW12)	Exceedances in cadmium, copper, lead and zinc.	Some similar exceedances seen in the past, except for lead.
Palmerstown Golf Course		
Lakes (SW06, SW07, SW14, SW15)	No exceedances	Results in the lake waterbodies were largely similar to previous monitoring rounds.
Hartwell (SW08, SW16)	No exceedances	Slightly elevated chloride concentrations were recorded, possibly caused by road runoff.

The following table highlights results which are particularly noteworthy due to detailed quantitative risk assessment (DQRA) trigger value exceedances, notable increasing pollutant trends, and/or unusual detections

or IGV/GTV exceedances where they don't usually occur. Suggested actions to address these results are included in the table.

Table 3: Noteworthy Groundwater Observations and Actions

Location	Description	RAG	Actions
EMW19	The elevation in many determinands recorded from late spring to autumn have returned to or are returning to more usually seen concentrations for this well. Similar trends were recorded in the summer of 2014 suggesting a likely seasonal effect. See Section 2.2.2.1 for further detail.		Continue to closely monitor subsequent results to determine if this is a seasonal elevation as seen previously in this well.
EMW20	DQRA trigger values for both ammoniacal nitrogen and chloride were not exceeded for the first time in nine months. See Section 2.2.2.1 and 2.2.2.2 for further detail.		No further action required.

Table 4: Noteworthy Surface Water Observations and Actions

Location	Description	RAG	Actions
Morell River	There was a high concentration of chloride recorded upstream at SW01. This was elevated above normal results for this monitoring point. The field electrical conductivity was also elevated. It had been cold and wet prior to sampling suggesting that the elevation may have been caused by road salts being washed into the river. Further downstream at SW02, after the Hartwell flows into the Morell, the chloride concentration had returned to normal. There continues to be no significant impact seen in the Morell River as it flows past the site. See Section 2.2.3.1 for further detail.		Continued monthly monitoring to take place as scheduled.
Canal Feeder	During December 2016 the recent trend of higher downstream concentrations in some determinands has reversed. There were elevations and exceedances in some trace metals and organic compounds both upstream and downstream of the site. Similar elevations were not seen in nearby wells. This increase may have been caused by runoff from roads and fields from heavy rain before and during some of the sampling. See Section 2.2.3.1 for further detail.		Continue to closely monitor stream results and nearby groundwater results to determine a possible explanation for any adverse impacts.
Palmerstown Golf Course	The waterbodies within Palmerstown Golf Course show no evidence of impact from the landfill. In December, SW08 and SW16 both contained their highest concentrations of chloride recorded since monitoring began here (although below IGVs). Both locations are on the Hartwell River, and may have been impacted by salt runoff from the local roads, as seen in the Morell.		Continued biannual monitoring to take place as scheduled.

Exceedances mentioned above are to be considered as part of the current scope of works updating the conceptual site model (CSM) for the site and subsequently revisiting the trigger values when new data have been collected in relation to soils, water levels and water quality.

EPA Contaminated Land & Groundwater Risk Assessment Methodology		Report Reference	Report Date	Status
STAGE 1: SITE CHARACTERISATION & ASSESSMENT				
1.1	PRELIMINARY SITE ASSESSMENT	Environmental Baseline Report Remedial Options Report	June 2013	Final
1.2	DETAILED SITE ASSESSMENT	Groundwater and Surface water Monitoring Reports	Monthly Reports from October 2013	Final
1.3	QUANTITATIVE RISK ASSESSMENT	Detailed Quantitative Risk Assessment	November 2014	Final
STAGE 2: CORRECTIVE ACTION FEASIBILITY & DESIGN				
2.1	OUTLINE CORRECTIVE ACTION STRATEGY			
2.2	FEASIBILITY STUDY & OUTLINE DESIGN			
2.3	DETAILED DESIGN			
2.4	FINAL STRATEGY & IMPLEMENTATION PLAN			
STAGE 3: CORRECTIVE ACTION IMPLEMENTATION & AFTERCARE				
3.1	ENABLING WORKS			
3.2	CORRECTIVE ACTION IMPLEMENTATION & VERIFICATION			
3.3	AFTERCARE			

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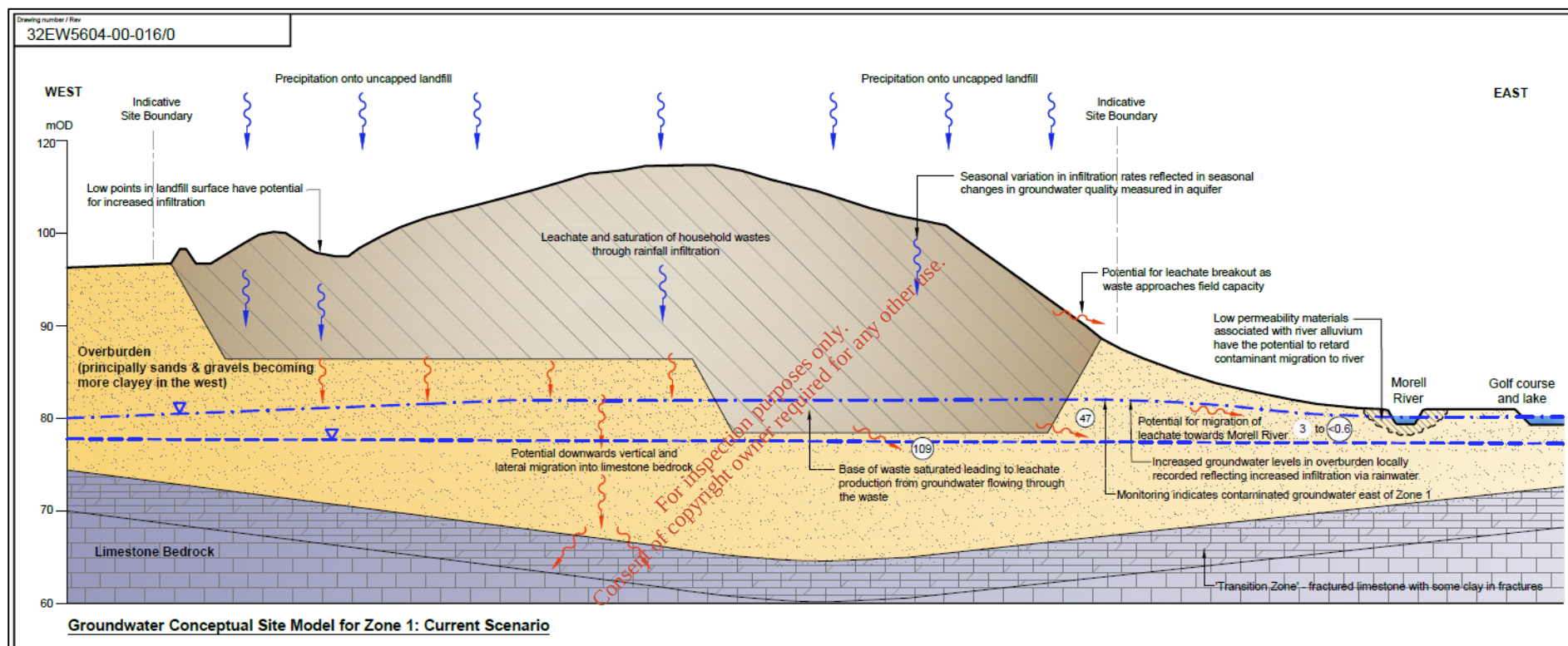


Diagram 1.1: Groundwater Conceptual Site Model (Version 4)

1. Introduction

1.1 Project Contractual Basis and Personnel Involved

In February 2013 SKM Enviros (now trading as Jacobs) was appointed as a framework contractor by the Environmental Protection Agency (EPA) to provide technical environmental support services in relation to the remediation of Kerdiffstown Landfill (hereafter referred to as the site). In June 2015 the control of the site was handed over to Kildare County Council (KCC) with the above mentioned framework contract being novated from the EPA to KCC.

Under the framework a Remedial Options Assessment was completed in July 2013. This assessment contained a number of key recommendations in relation to the future remediation of the site, which included a requirement to provide regular (monthly and six monthly¹) on-going assessment of groundwater and surface water conditions in advance of remedial works using an existing network of groundwater monitoring wells installed on and around the site and pre-defined surface water monitoring locations.

This report presents the results and findings of groundwater and surface water monitoring completed by Jacobs in December 2016. The monitoring was completed at the request of KCC and was completed in accordance with Jacob's proposal to KCC dated 25th March 2016. The monitoring results presented in this report were preceded by monthly rounds of monitoring completed since October 2013 the results of which have been reported separately.

Monitoring included the collection and analysis of groundwater samples for a range of potential contaminants. Samples were collected from on-site, boundary and off-site monitoring wells installed within overburden deposits and underlying bedrock. In addition, for this round, sixteen surface water samples were collected from the Morell River (located north-east of the site), from the canal feeder (a surface water course located south-west of the site), from the site's surface water discharge, and from water bodies located on Palmerstown Golf Course (located east and north-east of the site). Analysis of the samples was completed by ALS Environmental.

1.2 Background Information

Waste operations ceased and the site was vacated during June 2010. Prior to this, Jacobs had been commissioned by the EPA to conduct an evaluation of potential environmental liabilities and related remedial costs associated with various closure scenarios for the landfill site. The results and findings of this study are presented in a previous report dated October 2010².

Since completion of the environmental liabilities assessment in 2010, Jacobs has been working with the EPA and as highlighted above was appointed as Framework Contractor in February 2013. Prior to this point Geosyntec Consultants (formerly Ford Consulting Group) had been commissioned by the EPA during 2011 to assess the condition of the site from the perspective of contaminated land and groundwater, and specifically to assess potential impacts from the site on sensitive environmental receptors. The results and findings of Geosyntec Consultants preliminary study are presented in a report dated April 2012³.

Geosyntec subsequently completed groundwater and surface water monitoring rounds at the site in December 2011⁴, May 2012⁵, October 2012⁶ and February 2013⁷. Jacobs has subsequently completed groundwater and surface water monitoring on a monthly basis since October 2013⁸.

1 Monthly monitoring has been recommended from selected boreholes and for a reduced analytical suite. Six monthly sampling is recommended for all serviceable monitoring boreholes with analysis for an expanded suite. This report covers one monthly and one six-monthly rounds of sampling.

² SKM Enviros, October 2010; Evaluation of Environmental Liabilities at Kerdiffstown Landfill.

³ Ford Consulting Group, April 2012; Preliminary Environmental Site Assessment – Kerdiffstown Landfill.

⁴ Ford Consulting Group, May 2012: Groundwater & Surface Water Monitoring at Kerdiffstown Landfill – December 2011 (Draft).

⁵ Ford Consulting Group, September 2012: Groundwater & Surface Water Monitoring at Kerdiffstown Landfill – May 2012 (Draft).

⁶ Geosyntec Consultants Ltd, January 2013: Groundwater & Surface water Monitoring at Kerdiffstown Landfill – October 2012 (Draft report).

⁷ Geosyntec Consultants Ltd, April 2013: Groundwater & Surface water Monitoring at Kerdiffstown Landfill – February 2013 (Draft report).

1.2.1 Physical Site Setting

The site is located c. 3.5km northeast of Naas and approximately 0.5km northwest of the N7 and Johnstown village as shown in Figure 1. To the northeast is parkland associated with Kerdiffstown House, to the north is a golf course and to the south west and south east are a mixture of land uses including residential, agriculture and worked out quarries.

The L2005 County Road from Sallins to Johnstown runs adjacent to the western and southern site boundaries, with the nearest residential property approximately 10m from the site boundary, with the boundary being interpreted as the former redline boundary for waste licence W0047-02.

It should be noted that the redline boundary as shown on all figures in this report is the boundary of the waste facility authorised by, and as specified in, waste license number W0047-02 granted to 'Neiphin Trading Limited'. This redline boundary is used for illustrative purposes only in this report to show the location and approximate outline of the former waste facility and does not imply any legal ownership boundaries or any limitation on the area within which any action is being or can be taken by the KCC under Section 56 of the Waste Management Act 1996 (as amended).

The closest surface water body to the site is the Morell River, which flows generally northwards within 50 m of the north-eastern site boundary to flow into the River Liffey. The River Liffey itself lies approximately 3km north-west of the site at its closest point, also flowing generally northwards, before following a more eastward flow direction some 5 to 6 km north of the landfill site. There is a major public water supply abstraction from the River Liffey at Leixlip, which serves Fingal, Kildare and north Dublin, located approximately 15 km north-east of the landfill site.

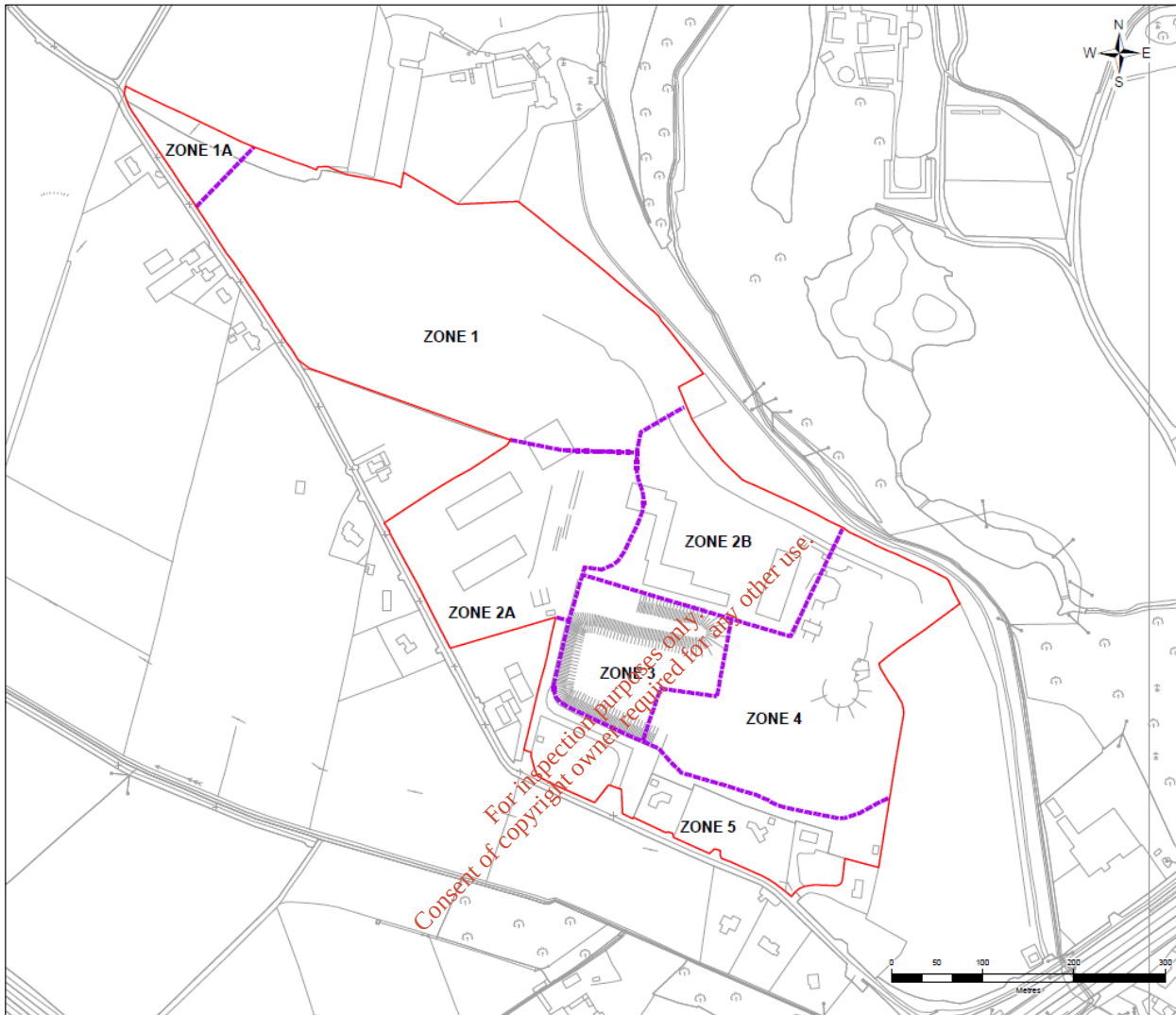
The canal feeder is an engineered feature that collects surface water run-off from lands generally to the south and south-west of the site. The canal feeder flows generally westward to the Grand Canal, which is located approximately 2 km west of the site.

1.2.2 Current Site Layout

The current site layout is attached in Figure 2. Plate 1 below which also shows the site sub-divided into a number of discrete geographical areas, or zones, each of which has their own unique characteristics. The layout of the various zones as shown below with information on the key characteristics of the materials within the zones summarised in the following table.

⁸ Groundwater and Surface Water Monitoring Reports at Kerdiffstown Landfill October 2013 to December 2016.

Plate 1: Site Layout



Key Characteristics of the Landfill Zones

Zone	Zone Key Characteristics
1	Wastes deposited in the north-west area of the site which account for approximately 65% of the entire estimated volume of waste on site. The wastes in this area are typically unprocessed, highly odorous and principally comprise non-hazardous mixed construction and demolition (C & D) wastes and household wastes. C & D wastes noted to contain varying amounts of clay, gravel, concrete, brick, wood, textile, plastic, rubber and metal. Wastes in this area of the site are uncapped and unlined and localised areas of free leachate are likely to be present within the wastes. In the south and east of this zone, wastes are present beneath the groundwater table.
1A	Sub-zone of Zone 1 where waste appears to be absent.
2A	Much of this zone in the west-central portion of the site is covered by thick, reinforced concrete pads, which form a low permeability layer over the wastes and reduce direct rainwater ingress. Wastes noted to be domestic waste mixed in with C & D materials with varying amounts of clay, gravel, brick, concrete, wood, textile, paper, plastic, rubber and metal. . The smaller area of wastes not covered by concrete allows rainwater to infiltrate in a similar manner to Zone 1.
2B	Much of this zone in the east-central portion of the site is covered by thick, reinforced concrete pads, which form a low permeability layer over the wastes and reduce direct rainwater ingress. Wastes noted to be principally unprocessed non-hazardous mixed C & D waste with varying amounts of clay, gravel, brick, concrete, wood, textile, paper, plastic, rubber and metal. The smaller area of wastes not covered by concrete allows rainwater to infiltrate in a similar manner to Zone 1. Below much of this zone some wastes are present beneath the groundwater table.
3	This area is lined (the 'lined cell') with processed waste materials filling 60% of the existing void space. Wastes in this area comprise processed non-hazardous C & D materials with domestic waste mixed through. C & D wastes contain varying amounts of clay, gravel, concrete, brick, wood, textile, plastic, rubber and metal. The leachate generated within the lined cell is contained and removed for off-site treatment/disposal. There will be a long term requirement for removal and treatment of leachate from the lined cell.
4	Containing redundant infrastructure and concrete tanks/bays/walls in the lower yard area. The area also contains a surface water soakaway lagoon which is cut into waste deposits and into which water from the adjacent waste stockpiles drains. The bottom 1 to 2m of a small amount of the wastes is below the water table in this area.
5	No significant waste deposits are present in this area. This area also has a number of residential properties located on it which are within the site red line boundary.

1.2.3 Groundwater Monitoring Network

Following vacation of the site in 2010, the EPA has commissioned a number of site investigations to establish groundwater conditions as summarised in the Table 1.1 with the locations of installed monitoring wells shown in Figure 3.

Investigations involved installation of approximately 90 groundwater monitoring wells on and off site to collect data to define the hydrogeological site setting and provide groundwater monitoring points. Subsequent rounds of groundwater monitoring have been undertaken to establish the chemical quality of the groundwater with the most recent round prior to this report being undertaken by Jacobs in November 2016. Further details of the groundwater quality monitoring are provided in Chapter 2 of this report.

Table 1.1: Summary of Groundwater Site Investigations

	Dates of Site Investigation	No. of boreholes drilled	No. of monitoring wells installed	On / off site	Monitoring Well Numbers
EPA SI	10/05/10 to 12/05/10	10	9	Off site	EMW01* to EMW10
EPA SI	06/06/11 to 19/06/11	7	7	On site	EMW11 to EMW17
Phase 1 SI	09/01/12 to 06/02/12	24	4	On site	BH2, BH6, BH7, BH24
Phase 2 SI	14/08/12 to 21/09/12	61	21 (17 GW, 1 leachate (now dry), 2 Inclinator, 1 Gas)	On and off site	BH26, BH36B, BH39B, BH40B, BH42, BH48, EMW18 to EMW24, BHEMW27 to EMW33.
Phase 3 SI	October 2016 (ongoing)	45	45	On and off site	RM01 to RM06, BB01 to BB04, DB01 to DB15 (excluding DB13), BH60 to BH80.
Former abstraction wells	Not relevant	2	2	On site	GW1D, GW2D

* EMW01 was backfilled due to health and safety concerns.

Figure 3 also shows a series of surface water monitoring locations, including the locations along the Morell River and the Canal Feeder where samples were collected during the December 2016 monitoring events.

1.3 Geological and Hydrogeological Conditions

1.3.1 Bedrock Geology

The majority of the site is underlain by bedrock in the Ballysteen Formation which is described as dark muddy limestone/shale. However, the far northwest corner of the site is underlain by the Waulsortian Limestone, which is described as a pale grey muddy limestone. The bedrock (both the Ballysteen Formation and Waulsortian Limestone) is classified by the Geological Survey of Ireland (GSI) as being a locally important aquifer which is moderately productive only in local zones.

The GSI's vulnerability classification for the bedrock aquifer in the vicinity of the site is 'high'. However, the limestone in this formation are stated to be quite 'muddy' and not susceptible to processes which would cause an increase in permeability such as karstification. As such groundwater abstractions from the bedrock are rare and have low yields where they are present. It is known, however, that there was an abstraction well on site which is described as being 'deep' although the details of it are not known and it is uncertain if this well did abstract from the limestone.

Investigations in 2012 reached the bedrock in four monitoring wells (EMW12, EMW19, EMW22 and EMW24) but at these locations no description of the rock type is provided in the borehole log. The recently undertaken investigation in 2016 installed a further eight boreholes which reached the bedrock. Cores recovered from the bedrock showed the limestone rock to be highly fractured near the surface with clay infilling some of the fractures. It is this upper fracture zone which will provide the principal pathways for groundwater movement in the bedrock.

The depth to bedrock has been recorded in the borehole logs as being between 6.7 and 26.8 m below ground level (mbgl).

1.3.2 Overburden Geology and Hydrogeology

On a regional scale the site is indicated to be in an area of glacio-fluvial sands and gravels which extend over an area of 2 km². However, the GSI overburden aquifer designation map does not show this deposit to be a recognised aquifer in the vicinity of the site.

In September 2010, Apex Geoservices provided a report which interpreted the geological data that was available at that time. They concluded that:

- To the west, northwest and south of the landfill, the upper 1.6 m comprised silt and clay type material overlying an average of 18.8 m of sand and gravel;
- To the east and northeast of the landfill the upper 1.5 m comprised dominantly alluvium, silt and clay overlying an average of 7.4m of silt/clay and sandy gravelly silt/clay overlying bedrock; and
- East and southeast of the landfill the rock levels generally range from 75 to 78mAOD. South and west of the landfill the rock levels generally range from 71 to 75mAOD.

Based on the information gained in previous site investigations, a greater thickness of glacial sands and gravels are found directly to the west, northwest and south of the landfill with a thickness in the region of 20 to 24m. In general, this glacial overburden is characterised by an initial, more silty, clayey sand and gravel horizon approximately 3m thick underlain by gravelly sands approximately 10m thick and then sandy gravels around 7m thick. To the east and northeast of the landfill the thickness of the sands and gravels decreases and in the Morell River valley, clayey alluvium is also present although the borehole logs do show that frequent sandy lenses are present in the clay-dominated alluvium.

Furthermore, it was noted that in monitoring wells located to the north-eastern site boundary within the grounds of Kerdiffstown House, significantly deeper superficial deposits were found and it appears that there is a buried channel in the bedrock surface.

The recently undertaken investigation in 2016 involved the drilling of over fifty boreholes at the site, with collection of data on the overburden geology. At the time of writing this report, the data from the boreholes are still being assessed, but will be considered in further assessments of groundwater and contaminant movement.

1.4 Project Objectives

The primary objectives of the December 2016 monitoring event were to collect data from existing monitoring wells and to use these data to update and refine the CSM developed from past investigations and monitoring events and to use the groundwater quality data set to observe if any emerging trends are notable in groundwater quality at the site and surrounding area.

1.5 Scope of Works

1.5.1 Rationale and Strategy

The scope of work completed for the December 2016 monitoring event is presented below:

December 2016 (Biannual Specification)
Collection of groundwater samples from 14 off-site monitoring wells EMW02, EMW05, EMW08, EMW20 to EMW23 and EMW27 to EMW33.
Collection of groundwater samples from seven boundary wells EMW03, EMW04, EMW06, EMW07, EMW18, EMW19 and EMW24.
Collection of groundwater samples from 13 on-site monitoring wells, BH6, BH7, GW1D, GW2S, EMW11 to EMW13, EMW15 to EMW17, BH26, BH36B, and BH42.
Collection of surface water samples from 16 monitoring locations SW01 to SW08 and SW10 to SW16 as well as a sample from the site discharge to the canal feeder.
Analysis of the collected groundwater and surface water samples for an expanded suite of inorganic parameters including major ions and metals/metalloids as well as a broad suite of organic compounds including polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), speciated phenols and pesticides.
Associated data assessment and reporting (i.e. this report).

Monitoring wells had been sampled previously by Geosyntec consultants in June 2011, September 2011, December 2011, May 2012, October 2012 and February 2013. Jacobs has completed monthly sampling of groundwater monitoring wells since October 2013. The results obtained from these monitoring rounds as well as previous rounds were reviewed to assess possible trends in groundwater levels and groundwater quality.

1.5.2 Meteorological Conditions

Weather conditions in December during the sampling period were as follows:

- 7th: Showery, mild (7-13°C), moderate breezes
- 8th: Showery, mild (7-13°C), moderate breezes
- 9th: Dry, mild (9-14°C), moderate breezes
- 12th: Dry, cold (4-10°C), gentle breezes
- 13th: Showery, mild (9-13°C), moderate breezes
- 14th: Heavy rainfall, cold (3-13°C), gentle breezes
- 15th: Dry, cold (2-11°C), moderate breezes

Details of rainfall during the month are presented below. December is shown to have received less than two-thirds of the average rainfall for the month.

Table 1.2: December 2016 Rainfall

	Casement Rainfall (mm)	Long Term Average Rainfall (1981 -2010) (mm)	% Above / Below Average
Dec-16	49.2	75.7	65%

1.5.3 Groundwater Monitoring Wells

Inertial lift foot-valves and tubing dedicated to each groundwater monitoring well were used to purge the wells prior to sample collection. Approximately three well volumes of water were purged from each monitoring well prior to sample collection. Monitoring well head parameters were monitored during purging and the samples collected for laboratory analysis were only collected once these parameters had stabilised. In the case of two wells (BH6 and BH7) bailers were used to purge and sample the groundwater due to a malfunction with the pump; while BH42 was hand-pumped as the well casing had been damaged preventing the pump from actuating. Samples collected for metals/metalloid analysis were filtered in the field into sample bottles containing dilute nitric acid preservative.

1.5.4 Surface Water

Surface water samples were collected either directly into laboratory-supplied sample bottles or through use of an extendable pole with a stainless steel sampling container.

1.6 Laboratory Analyses

The water samples were stored in cool boxes containing frozen ice packs following collection. They were dispatched from the site to the subcontracted laboratory via over-night courier on the day of sampling or by 14:00 the following day together with completed chain-of-custody documentation.

Table A.1 provides the sampling and analysis inventory for the December 2016 monitoring round.

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2. Results and Discussion of Monitoring Programme

2.1 Site Hydrogeology and Groundwater Flow

2.1.1 Groundwater Levels and Rainfall

Groundwater elevations have been used to update groundwater contour plans for the superficial overburden deposits and the underlying bedrock recorded in December 2016. For the purpose of this report Figures 4 and 5 show indicative flow directions in December 2016 for the overburden and bedrock aquifers respectively. Table A.2 provides details of the groundwater level data recorded for December 2016.

The patterns of groundwater flow identified are similar to those observed during previous sampling visits. There were decreases in groundwater levels recorded in all but six wells (EMW03, EMW12, EMW16, EMW17, GW1D and BH2) when compared to data for the November 2016 round in both overburden and bedrock monitoring wells. Decreases of between 0.01 m and 0.69 m were recorded during December, the greatest of which was measured in EMW27. EMW14 was dry for the first time since December 2015. This continues a trend of decreasing water levels seen across the majority of wells for much of 2016.

Five wells showed marginal increases in December, ranging from 0.01 m to 0.03 m. The largest increase was seen in EMW12 and EMW16 (0.03 m), with GW1D increasing by 0.02 m and both EMW17 and BH2 increasing by 0.01 m. EMW03 had no change.

Graph 2.2 shows the temporal variation in groundwater levels in selected monitoring wells sampled for this report up to and including December 2016. These monitoring wells are completed within the overburden and are located in the north-eastern and south-eastern areas of the site within the known footprint of the landfill.

Monitoring commenced in May 2011. The graphs show that there has been a gradual increase in overall water levels up to January 2013, by between approximately 0.5m and 2m. This is likely to be the result of increased rainfall during 2012 (which was a wet year relative to 2011, with 861mm recorded at Casement weather station in 2012 compared to 429mm in the previous year).

The observed fall in groundwater levels visible on the chart from January 2013 onwards are as a result of the reduction in rainfall and therefore infiltration through the spring and summer months coupled with drier antecedent conditions in advance of the 2013 October and November monitoring and sampling visits.

Between December 2013 and March 2014 above average rainfall was experienced and as would be anticipated has led to an increase in groundwater levels. In subsequent months when recharge reduced, the groundwater levels responded to relatively dry conditions (June and July 2014). Notwithstanding that August 2014 was a wet month in comparison to the monthly historical average, groundwater levels at the end of 2014 were relatively low in comparison to previous winter levels. Little change was observed between August 2015 and December 2015 besides those expected from seasonal variation.

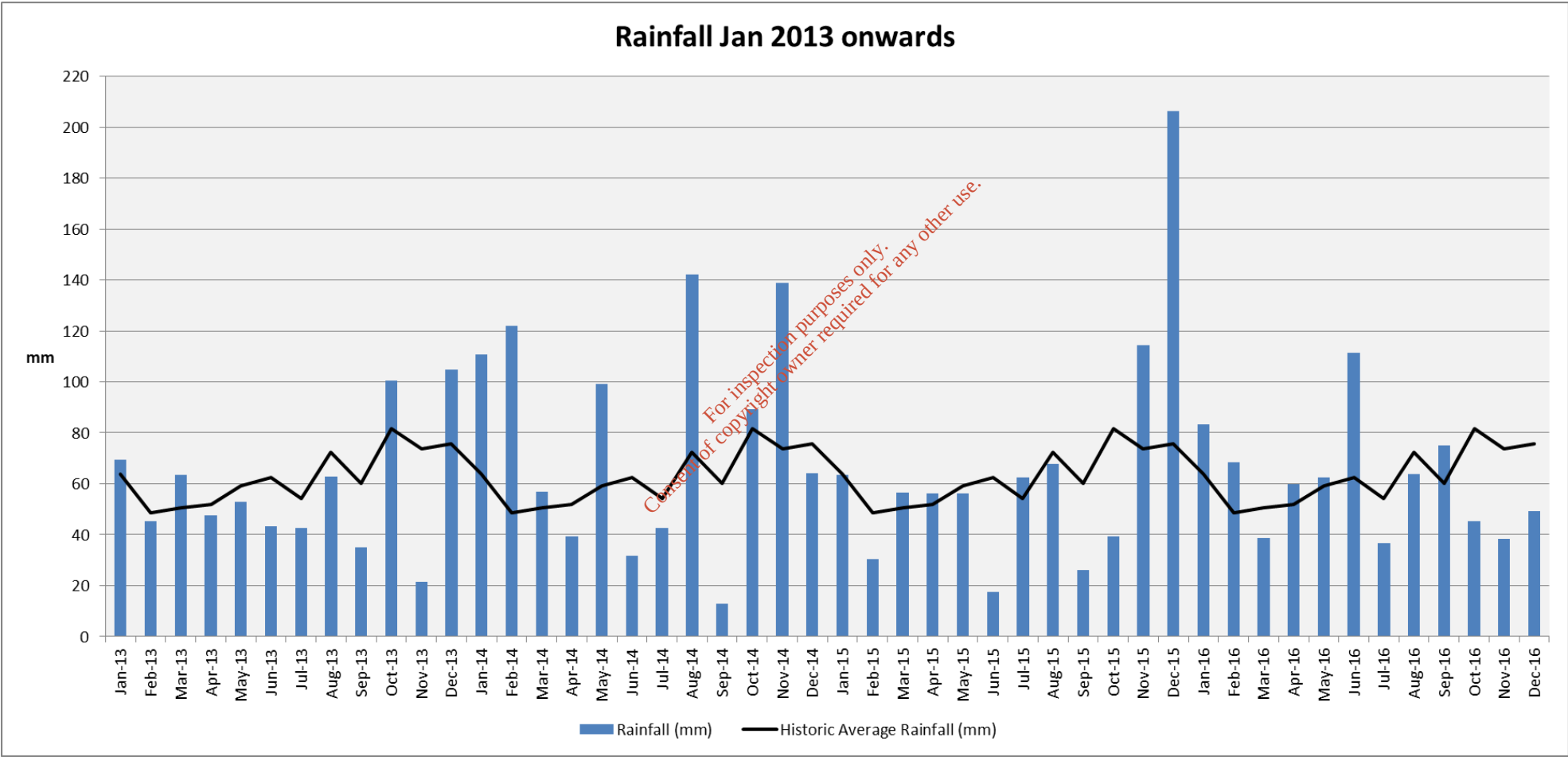
Between November 2015 and February 2016 there was a rise in water levels observed in the majority of the monitoring wells which is likely as a result of increased rainfall and groundwater recharge with above average rainfall being recorded. The levels have generally been decreasing from February to December 2016, with all but six monitoring wells showing a decrease in December compared to November 2016. This is due to the fact that rainfall reduced dramatically in March 2016 following four consecutive months of above average rainfall with April and May 2016 rainfall amounts being close to the long term average. Groundwater recharge (i.e. that rainwater which reaches the groundwater table) during the summer months usually falls to zero and the drop off in rainwater infiltration has caused decreases in water levels in the majority of monitoring wells. All but September 2016 had lower than average rainfall amounts in the second half of 2016.

Monthly rainfall data are shown in Table 2.1 and Graph 2.1.

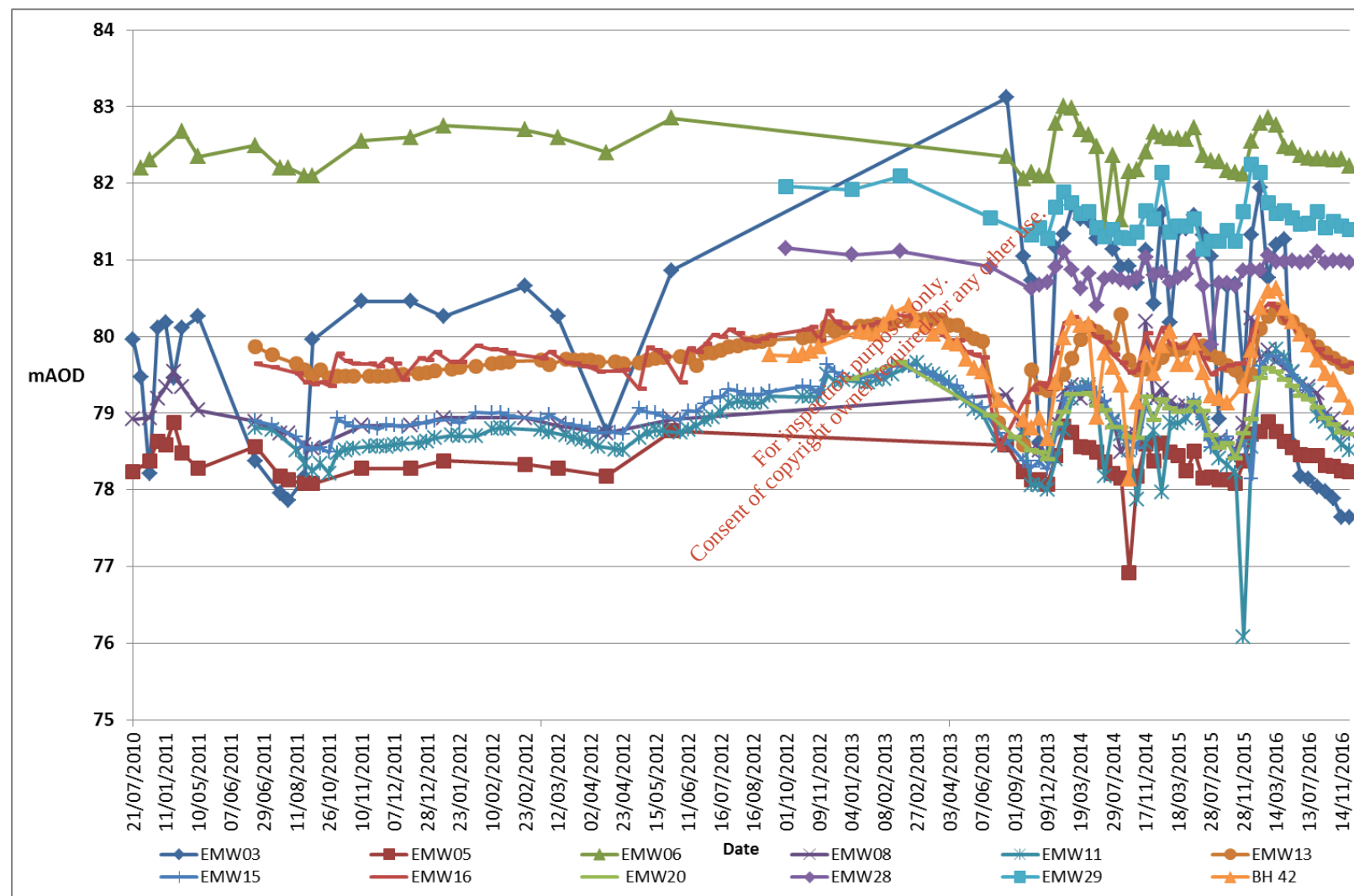
Table 2.1: Historical Rainfall Comparison

	Casement Rainfall (mm)	Long Term Average (mm) (1981 – 2010)	% of Average		Casement Rainfall (mm)	Long Term Average (mm) (1981 – 2010)	% of Average
Jan-13	69.5	63.8	109%	Jan-15	63.4	63.8	99%
Feb-13	45.2	48.5	93%	Feb-15	30.5	48.5	63%
Mar-13	63.3	50.7	125%	Mar-15	56.4	50.7	111%
Apr-13	47.5	51.9	92%	Apr-15	56.4	51.9	109%
May-13	52.8	59.1	89%	May-15	56.2	59.1	95%
Jun-13	43.2	62.5	69%	Jun-15	17.4	62.5	28%
Jul-13	42.7	54.2	79%	Jul-15	62.4	54.2	115%
Aug-13	62.9	72.3	87%	Aug-15	67.7	72.3	94%
Sep-13	35.1	60.3	58%	Sep-15	26.2	60.3	43%
Oct-13	100.4	81.6	123%	Oct-15	39.4	81.6	48%
Nov-13	21.6	73.7	29%	Nov-15	114.3	73.7	155%
Dec-13	104.7	75.7	138%	Dec-15	206.3	75.7	273%
Jan-14	110.7	63.8	174%	Jan-16	83.2	63.8	130%
Feb-14	122	48.5	252%	Feb-16	68.3	48.5	141%
Mar-14	56.7	50.7	112%	Mar-16	38.7	50.7	76%
Apr-14	39.3	51.9	76%	Apr-16	59.7	51.9	115%
May-14	99.1	59.1	168%	May-16	62.6	59.1	106%
Jun-14	31.7	62.5	51%	Jun-16	111.4	62.5	178%
Jul-14	42.6	54.2	79%	Jul-16	36.6	54.2	68%
Aug-14	142.2	72.3	197%	Aug-16	63.8	72.3	88%
Sep-14	12.8	60.3	21%	Sep-16	74.9	60.3	124%
Oct-14	89.1	81.6	109%	Oct-16	45.4	81.6	56%
Nov-14	138.9	73.7	188%	Nov-16	38.2	73.7	52%
Dec-14	64.9	75.7	86%	Dec-16	49.2	75.7	65%

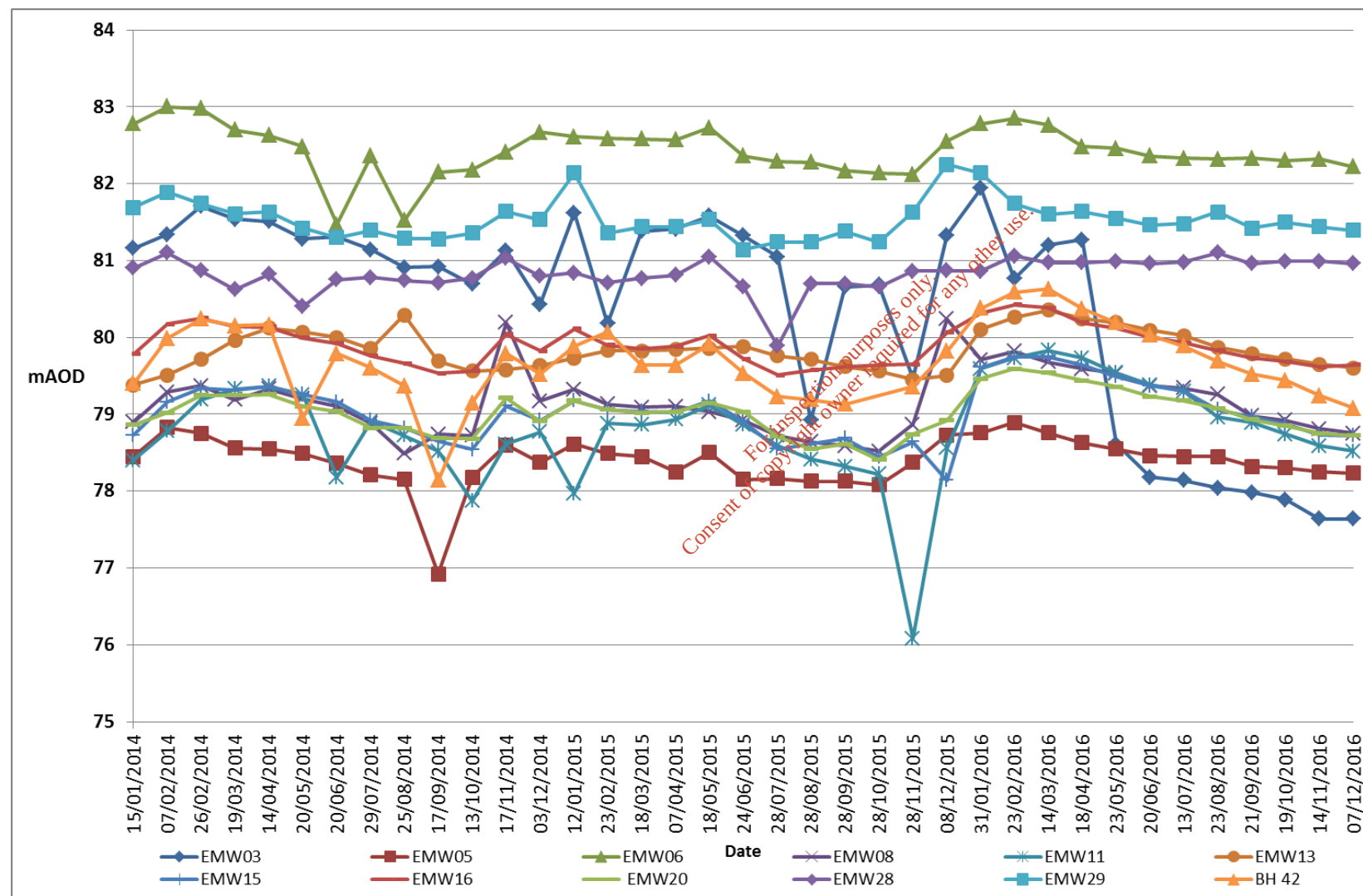
Graph 2.1: Rainfall since January 2013 compared to the historical average



Graph 2.2a: Variations in Water Levels 2011 – Present (Monthly Overburden Wells)



Graph 2.2b: Variations in Water Levels 2014 – Present (Monthly Overburden Wells)



With respect to groundwater levels recorded in overburden deposits during December 2016 relative to Ordnance Datum, these are shown in Figure 4. The pattern of groundwater contours indicate that in broad terms the water levels are similar to those observed in November 2016.

The groundwater levels in the overburden deposits show a similar pattern to those observed previously with a general fall from south to north indicating a broadly northerly flow. As with previous assessments the data also show a complex pattern of radial flow with an area of high groundwater levels across the northern area of the landfill (Zone 1) with the highest water level in this area being recorded in borehole EMW06 at 82.22 mAOD (albeit this appears to be monitoring a perched aquifer). The lowest groundwater level in the Zone 1 part of the site in December 2016 has been recorded in EMW03 at 77.64 mAOD and Figure 4 shows that this water level is a notable low point. This borehole has recorded the lowest groundwater level for the last seven months having previously shown fluctuations month-on-month.

A weir on the Morrell River adjacent to the site has an elevation of 79.79 mAOD indicating that groundwater to the east is likely to be in hydraulic connection with the river based upon the level and pattern of observed groundwater contours. EMW05 is closest in proximity to the Morrell River and in December 2016 EMW05 had a groundwater level of 78.23 mAOD.

To the south of the site, recorded groundwater levels in December 2016 were in the region of around 79 to 80 mAOD (BH2 does record a higher level (84.74 mAOD) although this is likely to be a perched water level). Previous spot measurement of the water level in the canal feeder drain has shown this feature to be at an elevation of around 80.6 mAOD adjacent to the site (monitoring point SW10). This suggests as previously that the canal feeder may be in hydraulic connection with groundwater, although the observed general groundwater flow direction (i.e. south to north) indicates that there is likely to be little groundwater input to this stream from the vicinity of the site. A very flat hydraulic gradient is observed in the south-east of the site in Zone 4.

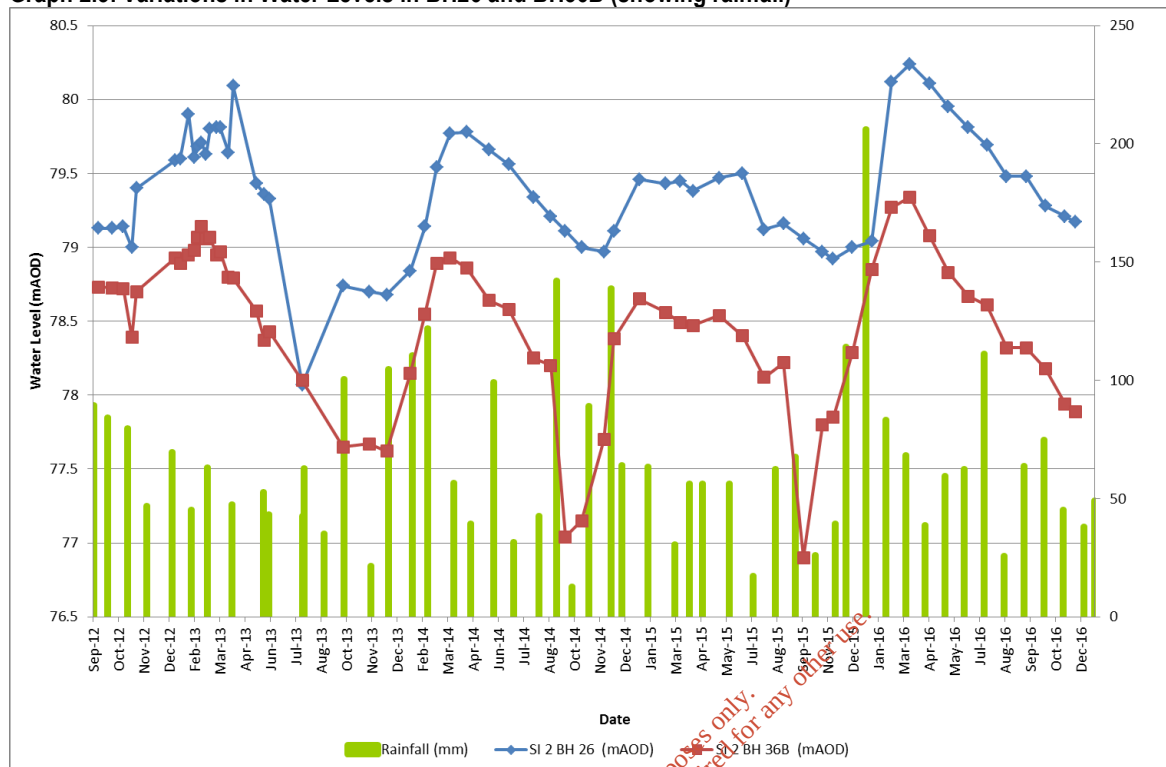
There are five monitoring wells in the bedrock aquifer from which water levels were obtained during the December 2016 sampling round (EMW12, EMW19, EMW22, EMW24 and GW1D). The pattern of inferred contours is shown in Figure 5 and as with previous monitoring rounds shows a generally south to north flow. Water levels measured in the bedrock in December 2016 had fallen slightly in all but two wells (EMW12 and GW1D) when compared to those measured in November 2016 with a drop of between 0.01 m and 0.05 m recorded. A slight increase of 0.03m was recorded in EMW12 and 0.02m in GW1D.

Comparison of measured water levels between the overburden and bedrock aquifers for December 2016 indicates higher water levels within the overburden across the site. This is consistent with previous observations and provides a mechanism for potential downward flow of groundwater (and potential contamination) from the wastes in the landfill into the bedrock aquifer.

With respect to groundwater levels and the base of the waste in Zone 1 (the unlined landfill), the data show that over much of the zone, the waste was above the groundwater level in December 2016. However, in a area in the north-east of Zone 1 (and parts of Zone 2B) as defined by the 80 mAOD contour on Figure 4, the waste is estimated to be at, or slightly deeper than 80 mAOD which would suggest that the wastes in these areas are below the groundwater table.

Graph 2.3 shows the groundwater levels recorded in BH26 and BH36B, situated in the north-eastern part of the site (Zone 1) since their installation in August 2012. It can be seen that the groundwater levels in December 2016 in both wells have continued to reduce since the highest levels recorded in March 2016. The above average rainfall from November 2015 to February 2016 (including almost three times the average in December 2015) is likely to have caused those high groundwater levels. The below average rainfall for the second half of 2016 has continued the downward trend in levels since March 2016.

Graph 2.3: Variations in Water Levels in BH26 and BH36B (showing rainfall)



2.1.2 Groundwater Flux

Previous estimates of the groundwater flux from Zone 1 to the Morell River have been made ranging from 160 to 640 m³/day with the data used in the calculations shown below.

Approximate width of groundwater flow to Morell River	500 m
Sand/Gravel aquifer thickness	2.5-5 m
Hydraulic gradient beneath north-east boundary	0.005-0.02 (unitless)
Hydraulic conductivity (median for 2012 off-site wells)	25.4 m/day
Darcy velocity (calculated)	0.13-0.51 m/day
Actual velocity (calculated) assuming 25-30% porosity	0.4-1.7 m/day
Groundwater flux estimate	160-640 m ³ /day

Estimated groundwater velocity is quite high at 0.4-1.7 m/day (146-620 m/year), even using the median hydraulic conductivity value. The sand and gravel aquifer seems to have high permeability and the hydraulic gradient is inevitably steep as the topographic gradient steeply falls away from the landfill to the river valley.

The resultant groundwater flux is therefore estimated at 160-640 m³/day. The mean flow in the Morell River adjacent to the site has been measured from 2009 to 2013 at 66,500 m³/day. Therefore, based on these data there is a dilution factor for any groundwater contaminants discharging to the river of between 415 and 104.

2.2 Groundwater Results

The following sections describe and relate observed groundwater parameters measured in the field and reported by the laboratory. The nature, magnitude and extent of contaminants of primary concern are discussed. Trend graphs are provided for key indicator parameters and the trends observed in each of the zones are discussed. The below section should be read in conjunction with Figure 3 Groundwater and Surface Water Monitoring Locations.

2.2.1 Field Measured Groundwater Parameters

Field-measured parameters comprising pH, dissolved oxygen, electrical conductivity (EC), temperature and redox potential, were recorded during purging and sample collection.

The measurements are presented in appended Table A.2 and summarised below.

Table 2.2: December 2016 Field Results

Parameter	Unit	Range	Location of min/max results	IGV
pH	-	6.6 to 8.5	EMW16, BH26 / GW2S	6.5-9.5
Dissolved Oxygen (DO)	mg/l	0.1 to 9.3	EMW19, EMW22, GW2S / EMW30	No abnormal change
Electrical conductivity (EC)	µS/cm	267 to 3515	GW2S / BH26	1,000
Redox potential (Eh)	mV	-148 to +302	GW2S/ EMW21	-
Temperature (T)	°C	9.5 to 28.2	BH6 / BH26	25

IGV –Interim Guideline Values

The following general observations are made in relation to the field-measured parameters. In common with earlier monitoring rounds, EC readings were generally above the IGV of 1,000 µS/cm in on-site monitoring wells and some boundary wells. In off-site monitoring wells the majority of readings were below the IGV.

Graph 2.4 shows the variation in EC readings for overburden monitoring wells that are monitored monthly. These include on-site locations in Zone 1 and near to the north-eastern site boundary. It can be seen that there are some seasonal variations in EC values, which is most pronounced in EMW03, EMW11, EMW13 and EMW15.

Electrical conductivity for the overburden monitoring wells were all within the range previously recorded for all overburden wells of 456 to 4581 µS/cm. As previously, BH26 recorded the highest EC value at 3,515 µS/cm which is a slight increase on November.

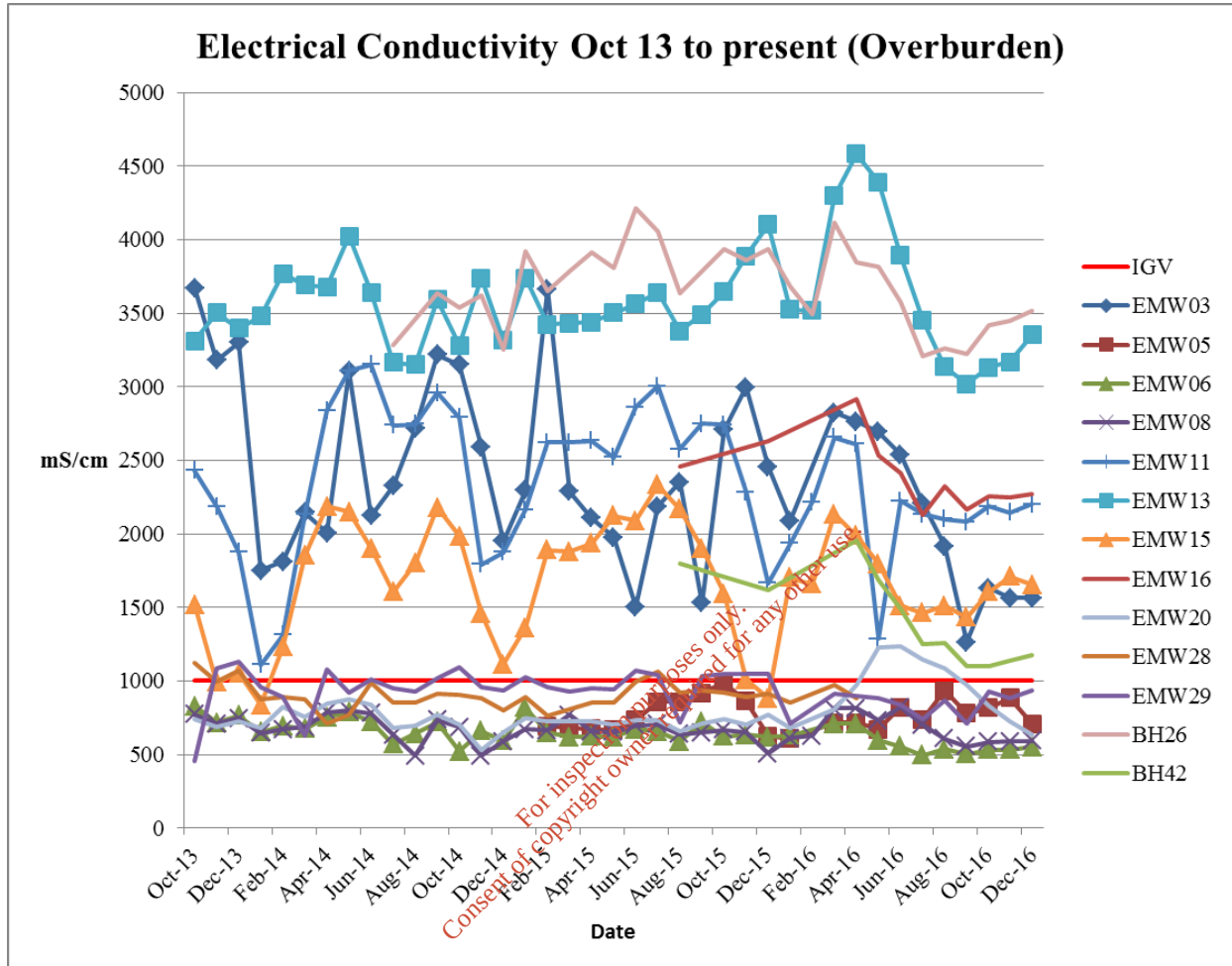
Some of the eastern and north-eastern boundary wells readings were above the IGV in some instances. The highest of these was recorded in boundary monitoring well EMW03 (1564 µS/cm in December 2016, almost identical to November's 1563 µS/cm). This monitoring well is very close to the north-east boundary of the landfill and the result is consistent with previous readings from earlier monitoring rounds (range from 1262 µS/cm to 3671 µS/cm). Similarly, boundary wells EMW04 (1408 µS/cm) and EMW07 (1162 µS/cm) had readings above the IGV. None of the 14 off-site wells had electrical conductivities above 1000 µS/cm.

The EMW04 result (1,408 µS/cm in December 2016) is down from the June 2016 result of 1995 µS/cm. The EMW07 reading is also down from 1576 µS/cm in June 2016 to 1162 µS/cm in December. The EMW20 readings have continued to fall, with the December 2016 reading of 632 µS/cm representing a return to the values seen prior to the elevated readings recorded between April and October 2016.

Graph 2.5 shows the EC values for samples from the bedrock. The value for the sample from EMW19D has decreased from November with the December 2016 reading of 952 µS/cm being the first time it has been below 1000 µS/cm since March 2016. The electrical conductivity measured at EMW12D has risen in December to

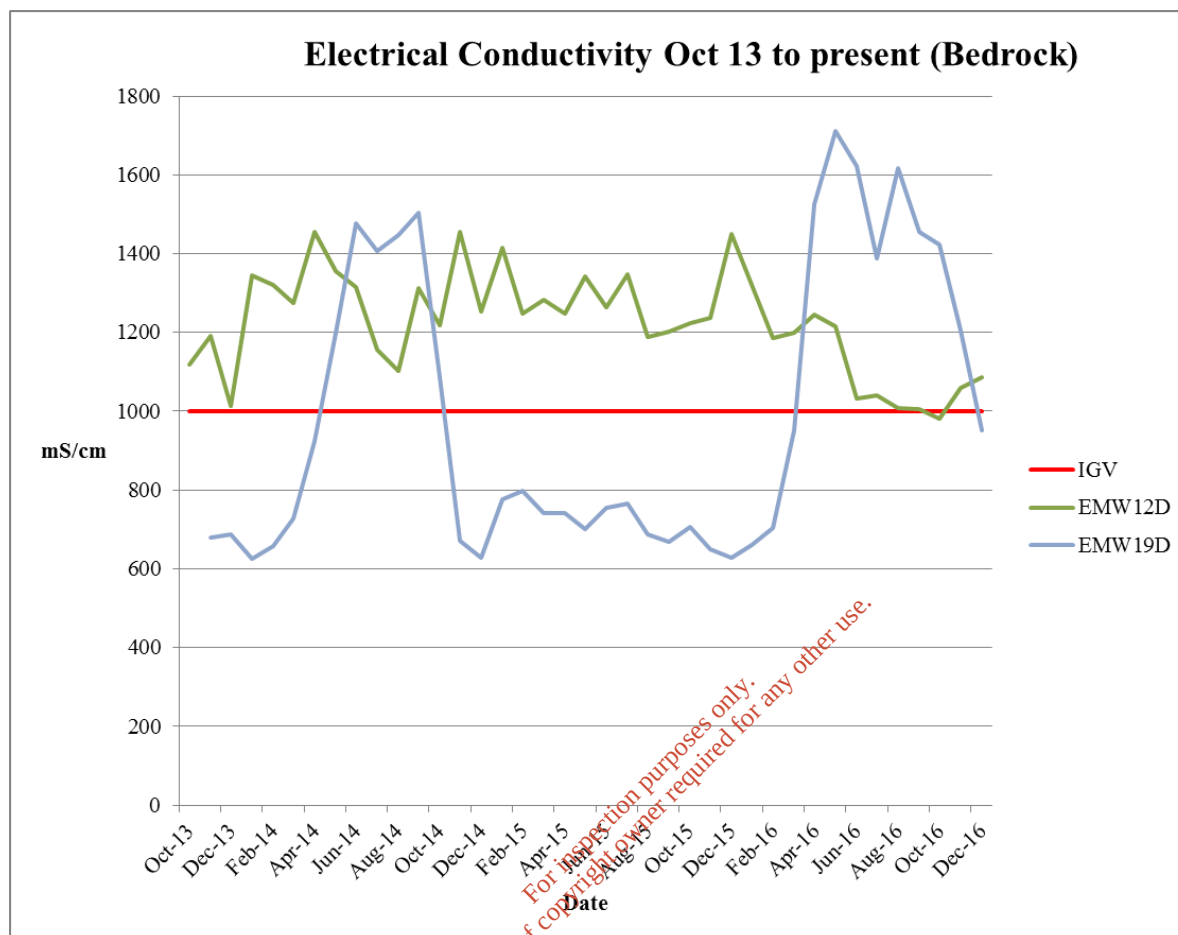
1085 $\mu\text{S}/\text{cm}$ following the drop in October below the IGV to 982 $\mu\text{S}/\text{cm}$ for the first time since monitoring began.

Graph 2.4: Overburden Electrical Conductivity Variations (Oct 2013 to present)



Note: Axes values are different between Graph 2.4 and 2.5

Graph 2.5: Bedrock Electrical Conductivity Variations (Oct 2013 to present)



Note: Axes values are different between Graph 2.4 and 2.5.

Groundwater redox potential was found to be significantly negative (reducing) in monitoring wells situated within Zone 1 of the site and also within monitoring wells close to the north-east and east of the site (e.g. EMW07, EMW15, EMW18). The on-site well EMW13 recorded a positive redox potential in June 2016. In December 2016 a negative redox potential was recorded which aligns with previous negative trends. Relatively low redox potential was also recorded in a number of overburden monitoring wells to the northeast of the landfill (e.g. boundary well EMW19, and off-site well EMW20). There were also negative redox potentials recorded in the wells located on Palmerstown Golf Course, namely EMW31 (-102.9 mV), EMW32 (-20.9 mV) and EMW33 (-96.7 mV). This aligns with previous results in these wells. Only occasional slight reducing-type odours were noted in monitoring wells where negative redox conditions were observed.

Dissolved oxygen (DO) readings show generally consistent concentrations month on month as shown in Graphs 2.6 and 2.7. The highest DO reading off-site was in EMW30 in a field to the south-east of the site, outside the site boundary (9.3 mg/l). This is almost identical to the concentration recorded in June 2016 (9.4 mg/l). As is typically the case, the highest DO reading of the boundary wells was EMW06 (7.9 mg/l). Many of the other off-site boreholes measured generally low DO concentrations (<3 mg/l) with the exception of EMW02 (3.3 mg/l), EMW04 (3.2 mg/l), EMW21 (6.9 mg/l) and EMW24 (5.9 mg/l). DO is generally low (<2mg/l) in off-site and boundary monitoring wells apart from EMW06 which has consistently had a higher DO.

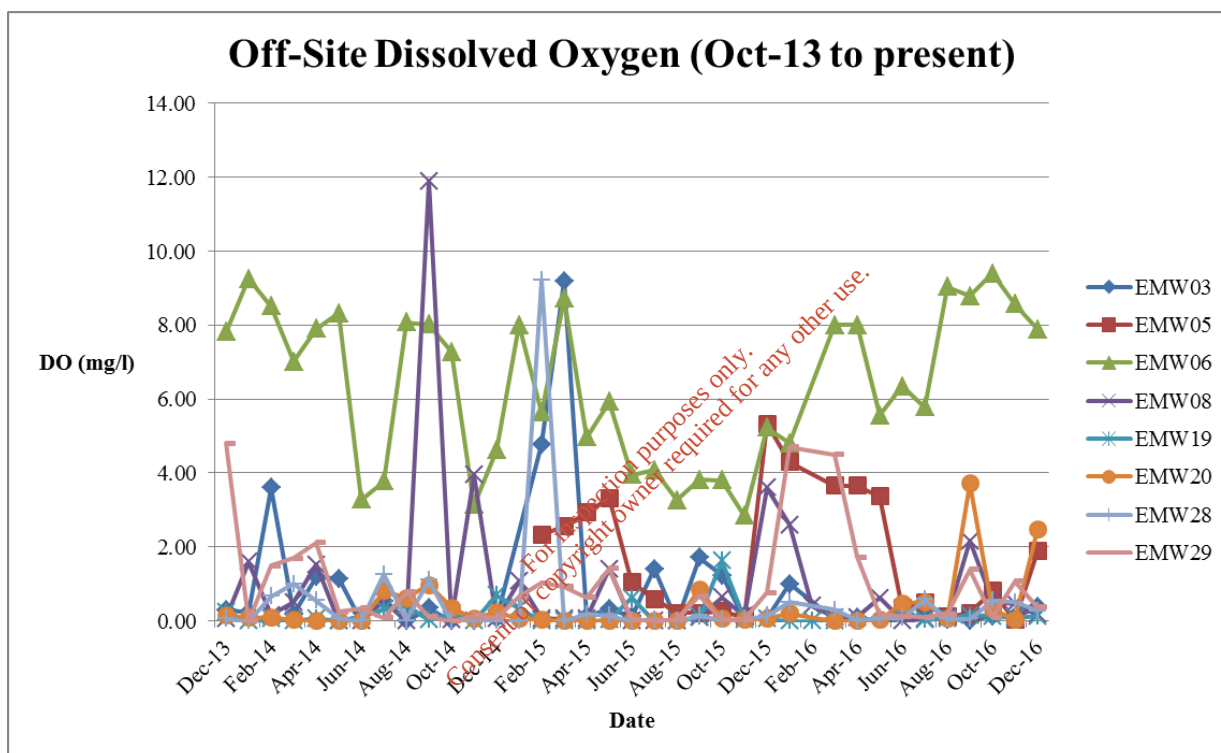
In EMW05, adjacent to the Morell River, the DO has increased on November from 0.02 mg/l to 1.9 mg/l, after decreasing significantly between May and June 2016 (from 3.37 mg/l to 0.3 mg/l). This is likely a seasonal variation in this well, with higher DO in winter months than summer months.

On site, BH7 shows the highest concentration of DO (7.3 mg/l), a small increase on the previous biannual

month of June 2016 (4.3 mg/l). EMW11 decreased slightly from 5.6 mg/l in November to 5.4 mg/l in December. Similarly EMW12 decreased slightly from 6.3 mg/l in November to 6.2 mg/l in December 2016. The remainder of the on-site wells show low DO concentrations, with all being below 2 mg/l, apart from wells BH6 (5.2 mg/l) and GW1D (6.5 mg/l).

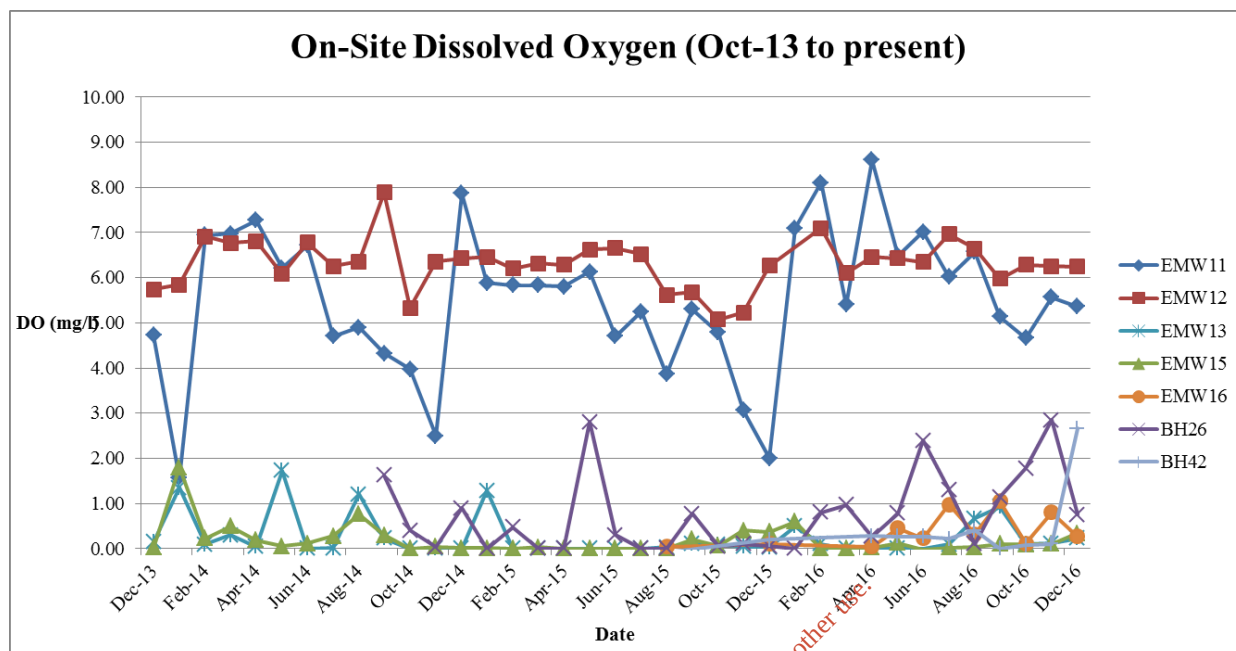
BH42 had a marked increase in DO from 0.1 in November to 2.7 mg/l in December. This is the highest DO recorded at this well. This is likely to be an inaccurate reading as the sampling method was changed during the December monitoring as the casing of the well was found to be damaged meaning that the pump could not be used and pumping through the low flow cell during purging was not possible. Instead, the well was hand pumped, with a number of grab samples taken during purging.

Graph 2.6: Field Recorded Dissolved Oxygen Readings – Off-Site



Note: Axes values are different between Graph 2.6 and 2.7

Graph 2.7: Field Recorded Dissolved Oxygen Readings – On-Site



Note: Axes values are different between Graph 2.6 and 2.7.

Groundwater temperatures in on and off-site monitoring wells were within the range of those recorded during previous sampling rounds. EMW13 (17.4°C in December 2016) has been noted as having a consistently high temperature previously. During sampling rounds completed since October 2013 high temperatures have also recorded in BH26 (28.2°C in December 2016) as well as BH36B (25.5°C in December 2016). These temperatures noted within Zone 1 are thought to be as a result of the microbial activity within the decomposing waste mass. The consistently elevated temperatures seen in EMW13 are likely being heated by groundwater flow from beneath the waste mass in the direction of EMW13.

pH displayed little variability when compared to previous sampling events recorded since October 2013.

2.2.2 Laboratory Analytical Results – Groundwater

During December 2016 samples were analysed for an expanded suite of determinands as outlined in Table A.1, including major ions, inorganic compounds and trace metals as key indicators of potential leachate impact at the site. The samples were also analysed for a broad range of organic compounds including VOCs, SVOCs, PAHs, phenols, formaldehyde, acid herbicides and organo-chlorine pesticides.

Summaries of the analytical results are presented in Tables A.3, A.5, A.6 and A.6a. For the organic compounds, only those compounds detected in at least one monitoring well are listed in the relevant table.

A summary of the December 2016 results is presented below. The laboratory reports containing the complete set of analytical data for the monitoring round are included in Appendix B.

In order to ensure consistency with previous monitoring rounds and in order to follow current best practice, analysis results for individual determinands have been screened against EPA Interim Guideline Values (IGVs)⁹ and Groundwater Threshold Values (GTVs)¹⁰ where they currently exist.

⁹ Environmental Protection Agency. Towards Setting Guideline Values for the Protection of Groundwater in Ireland. Interim Report.

¹⁰ Methodology for Establishing Groundwater Threshold Values and the Assessment of Chemical and Quantitative Status of Groundwater, Including an Assessment of Pollution Trends and Trend Reversal, EPA, 2010.

2.2.2.1 Ammoniacal Nitrogen, Major Ions, Alkalinity, COD and Chloride

Recovered groundwater samples have all been analysed for the following: ammoniacal nitrogen (as an indicator of ammonia presence), major ions, alkalinity, iron and manganese, TOC, BOD and COD. These determinands are often found to be elevated in groundwater which has mixed with landfill leachate and are therefore good indicators of potential leachate impact. Table A.3 includes major ion and ammoniacal nitrogen results. TOC, BOD and COD results are included in Table A.5. Trend graphs are provided for each of the determinands split between the overburden and bedrock monitoring wells (also refer to Figures 3, 7 and 8).

Ammoniacal Nitrogen

At sites such as Kerdiffstown where there is a history of disposal of municipal and commercial waste streams, ammoniacal nitrogen can typically be present at relatively high concentrations within leachate¹¹. Important groundwater nitrogen species include ammoniacal nitrogen (linked to ammonia and ammonium from landfill leachate), nitrate (NO₃) and nitrite (NO₂). The latter is a transitional species and is usually present at relatively trace concentrations (as has been the case at Kerdiffstown). The IGV for ammoniacal nitrogen is set at 0.12 mg/l.

Graphs 2.8 and 2.9 show the variation in ammoniacal nitrogen concentrations for a select number of overburden and bedrock wells. Figure 7 and Figure 8 provide a graphical interpretation of the ammoniacal nitrogen distribution across the site.

On-Site Wells

Graph 2.8 shows that EMW13, in Zone 1, consistently contains the highest ammoniacal nitrogen concentrations of all monthly wells. In December 2016 the concentration was 165 mg/l, identical to the November 2016 concentration.

BH26, also in Zone 1, consistently shows elevated concentrations of ammoniacal nitrogen well above the IGV of 0.12 mg/l. During December 2016 the result from BH26 was recorded as 129 mg/l, almost identical to the previous month's concentration of 130 mg/l. The concentrations in BH26 have steadily increased since monitoring began in October 2012 (29.7 mg/l) until June 2015 (142 mg/l). The concentrations were then seen to gradually decrease until April 2016 (100 mg/l), after which ammoniacal nitrogen concentrations were noted to increase gradually, possibly indicating a seasonal fluctuation.

As with EMW13 and BH26, there was no change in ammoniacal nitrogen concentration in EMW15 during December 2016, maintaining a concentration of 14.4 mg/l. Ammoniacal nitrogen concentrations in EMW15 have remained relatively steady since January 2016, with very little change month on month through the whole of 2016. Ammoniacal nitrogen has been similarly stable since June 2016 in nearby well EMW16. In December it decreased slightly from 6.08 mg/l in November to 5.18 mg/l in December. As with EMW15 and EMW16, BH42 has also remained relatively stable, with little change in concentration since April 2016. In December 2016 the ammoniacal nitrogen concentration here was detected at 3.42 mg/l, a slight increase on November's 3.08 mg/l.

EMW11 and EMW12 have continued to record concentrations below the limit of detection (0.06 mg/l), while wells BH6 and GW1D also had concentrations below the limit of detection, with this representing a large decrease for BH6 from a high of 6.06 mg/l during the previous round in June 2016.

Of the rest of the monitoring wells, the highest concentration was recorded in EMW17 at 1.39 mg/l. This represents a decrease on the June 2016 concentration of 3.81 mg/l, the highest ever recorded in this well. The rest of the ammoniacal nitrogen concentrations in the south and west of the site were less than 1mg/l. BH36 in Zone 1, at 1.65 mg/l in December 2016, continued to contain a higher concentration than previously seen in this well. Between October 2012 and December 2015 there was little change in the ammoniacal nitrogen concentration, staying between 0.23 mg/l and 0.39 mg/l. The concentration then increased in June 2016 to 1.59 mg/l. The December 2016 concentration is the highest ever recorded in this well.

11 This is evidenced by routine chemical analysis of the leachate which is currently collected and removed from the lined cell in Zone 3 of the site where ammonia is detected.

It should be noted that in the past the highest ammoniacal nitrogen concentration of the monitoring wells sampled six monthly has been in EMW14 (ranging from 110mg/l to 273mg/l) but this monitoring well could not be sampled in December 2016 as it was found to be dry.

Boundary Wells

Ammoniacal nitrogen concentrations remained elevated above the IGV at some monitoring boreholes along the north-eastern boundary area of Zone 1 (observed in previous monitoring rounds). At EMW03, the ammoniacal nitrogen concentration reduced slightly from 26.3 mg/l to 23.8 mg/l in December 2016. This represents the fifth month in a row where the concentration has fallen in this well from a peak concentration of 47mg/l in the summer of 2016. The concentration in EMW03 tends to fluctuate a great deal which may reflect seasonal fluctuations with higher concentrations generally observed when rainfall and groundwater recharge are lower.

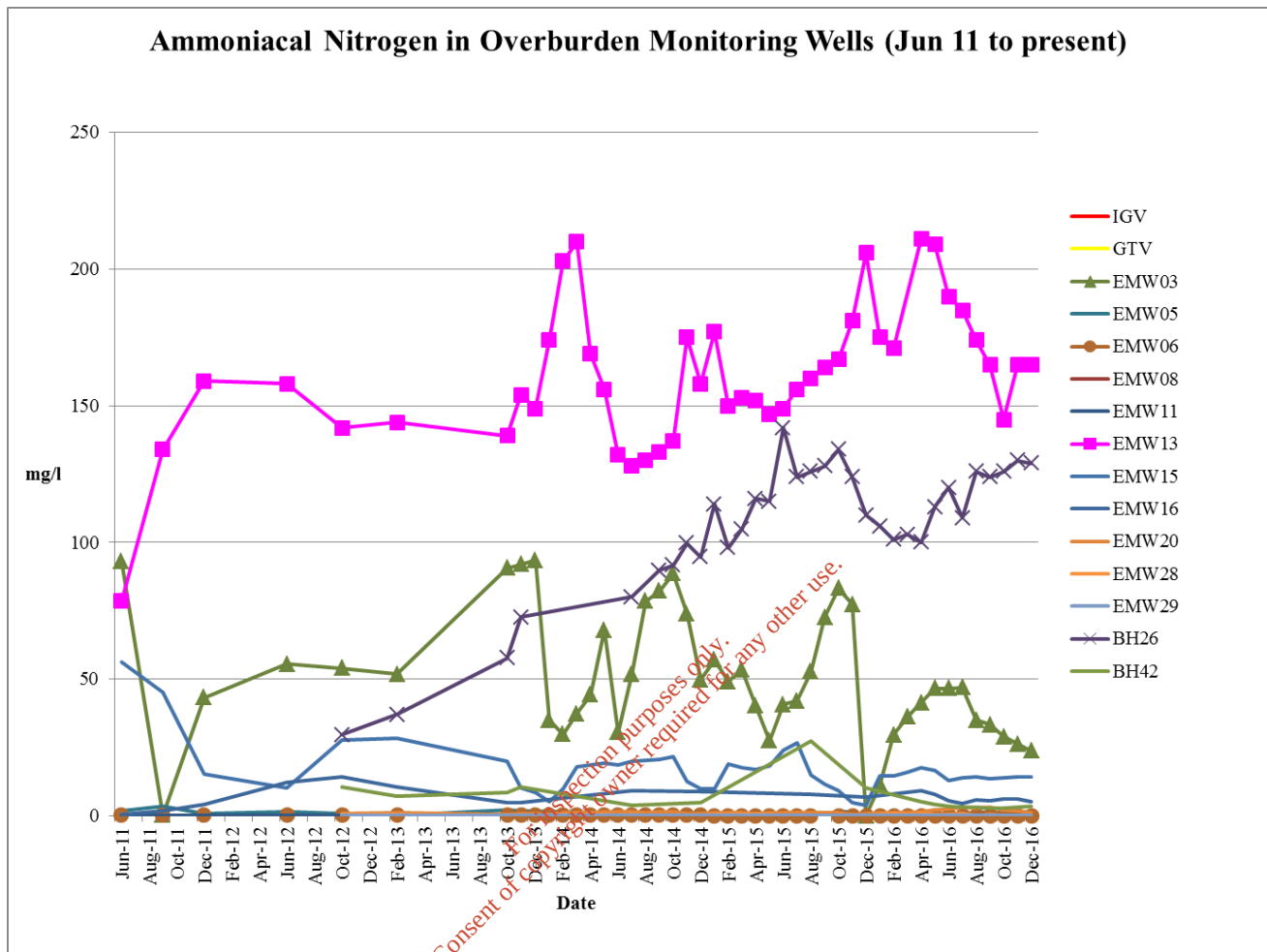
Ammoniacal nitrogen coupled with the presence of other analytes such as chloride (discussed later in this report) is indicative of the presence of landfill leachate in groundwater at EMW03 and is consistent with results obtained during earlier monitoring rounds. It is noted, however, that the ammoniacal nitrogen concentration recorded within EMW06, also located close to the north-eastern site boundary, continues to record concentrations below the detection limit (0.27 mg/l or 0.06 mg/l) since June 2011, suggesting that the off-site impact remains localised at present. However, EMW06 is relatively shallow and it is possible that the groundwater measured in this well is a perched aquifer and not representative of groundwater as a whole.

At EMW19 on the eastern boundary of the site the ammoniacal nitrogen concentration recorded during December 2016 was 3.83 mg/l, a marked decrease on November's 4.98 mg/l, and a continuation of the downward trend seen since concentrations peaked in October 2016 at 5.84 mg/l. This is still well above the IGV of 0.12 mg/l as has been consistently the case since monitoring began here. This reflects a trend recorded during the summer of 2014, where the peak concentration was 3.71 mg/l in July 2014 reducing to 1.11 mg/l by December 2014, and suggests a seasonal variation in this well.

As with nearby EMW03, there is a likely seasonal influence on ammoniacal nitrogen concentrations in EMW04, with concentrations tending to be higher in the summer and lower in the winter. This trend has continued to this round where the concentration fell from 14 mg/l in June 2016 to 0.27 mg/l in December 2016.

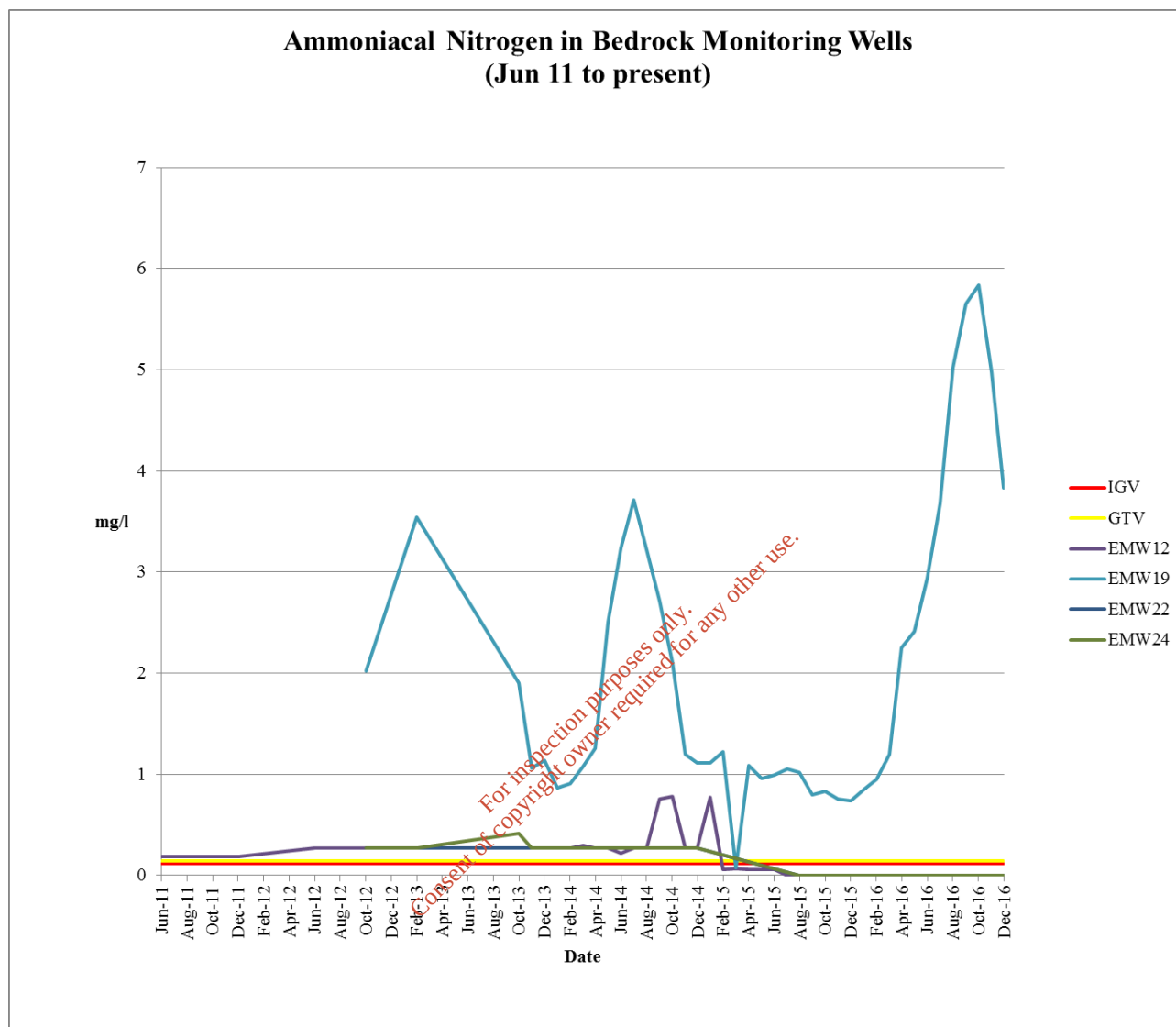
EMW07 and EMW18 showed similar decreases in ammoniacal nitrogen concentration from 8.63 mg/l in June 2016 to 4.89 mg/l in December 2016; and from 0.67 mg/l in June 2016 to 0.44 mg/l in December 2016 respectively. The decrease in EMW18 brings the ammoniacal nitrogen concentration close to the historical low of 0.41 mg/l recorded for this borehole in October 2012. EMW24, at the north-west site boundary, was again found to be below the limit of detection for ammoniacal nitrogen.

Graph 2.8: Ammoniacal Nitrogen in Overburden Monitoring Wells (June 2011 to present)



Note: Axes values are different between Graph 2.8 and 2.9

Graph 2.9: Ammoniacal Nitrogen in Bedrock Monitoring Wells (June 2011 to present)



Note: Axes values are different between Graphs 2.8 and 2.9.

Off-Site Wells

Reported ammoniacal nitrogen concentrations in all but one of the 14 off-site monitoring wells (EMW31) were less than 2 mg/l, with all but six wells having concentrations below the IGV of 0.12 mg/l. The discussion below looks at the offsite wells by location.

Kerdiffstown House

At EMW05, the ammoniacal nitrogen concentration in December 2016 was 1.45 mg/l, a slight reduction on November's 1.58 mg/l. During the summer of 2015, concentrations of ammoniacal nitrogen were observed to rise in this well to 1.95 mg/l by October 2015. However, the concentration subsequently fell back to below the limit of detection of 0.06 mg/l in December 2015. Similarly, in May 2016 the concentration at EMW05 rose from 0.07 mg/l to 1.58 mg/l in November 2016. Results recorded during December 2016 represent the seventh consecutive month in which the IGV of 0.12 mg/l has been exceeded in EMW05.

At EMW20, adjacent to the Morell River, the ammoniacal nitrogen concentration decreased again for the third consecutive month to 1.06 mg/l in December 2016, down from 1.87 mg/l in November. This represents a return

to the concentrations normally recorded in this well (~ 1mg/l) prior to the increases which began in April 2016 (1.5 mg/l) and peaked at 3.06 mg/l in July 2016.

EMW08 is generally seen to fluctuate in ammoniacal nitrogen concentration from a high of 0.62 mg/l in April of 2016 to below the limit of detection (0.06 mg/l) on multiple occasions. The December concentration fell to a concentration below the limit of detection from 0.11 mg/l in November 2016.

Of the biannual wells in the grounds of Kerdiffstown House, all four wells recorded concentrations under the limit of detection (0.06 mg/l). These were EMW02 located about half way between the site boundary and the Morell River, EMW21 located north-east of the site, and EMW22 (bedrock) and EMW23 to the north of the site at the rear of Kerdiffstown House. Ammoniacal nitrogen has typically not been detected in these wells during past monitoring rounds.

Foley's Fields

In the field to the south and west of the site, EMW28 recorded the highest concentration of ammoniacal nitrogen at 0.23 mg/l, up very slightly on the previous round of 0.22 mg/l (IGV of 0.12 mg/l). The concentration of ammoniacal nitrogen in this well has fluctuated a lot in the past. The December result was within the range normally seen here (0.14 mg/l to 0.7 mg/l).

EMW29, located directly south of the site, recorded a concentration of 0.12 mg/l, an increase on November noted below the limit of detection (0.06 mg/l). This is the highest concentration recorded here since monitoring began, and the first time ammoniacal nitrogen has been detected above the limit of detection since August 2015.

EMW27 (adjacent to EMW28) recorded a concentration above the IGV at 0.38 mg/l. However, this is down from the June 2016 result of 0.52 mg/l. This is the second consecutive round in which a decrease in concentration has been recorded here. At EMW30 near the south-eastern site boundary ammoniacal nitrogen was not found above the limit of detection, as has been the case during past monitoring rounds.

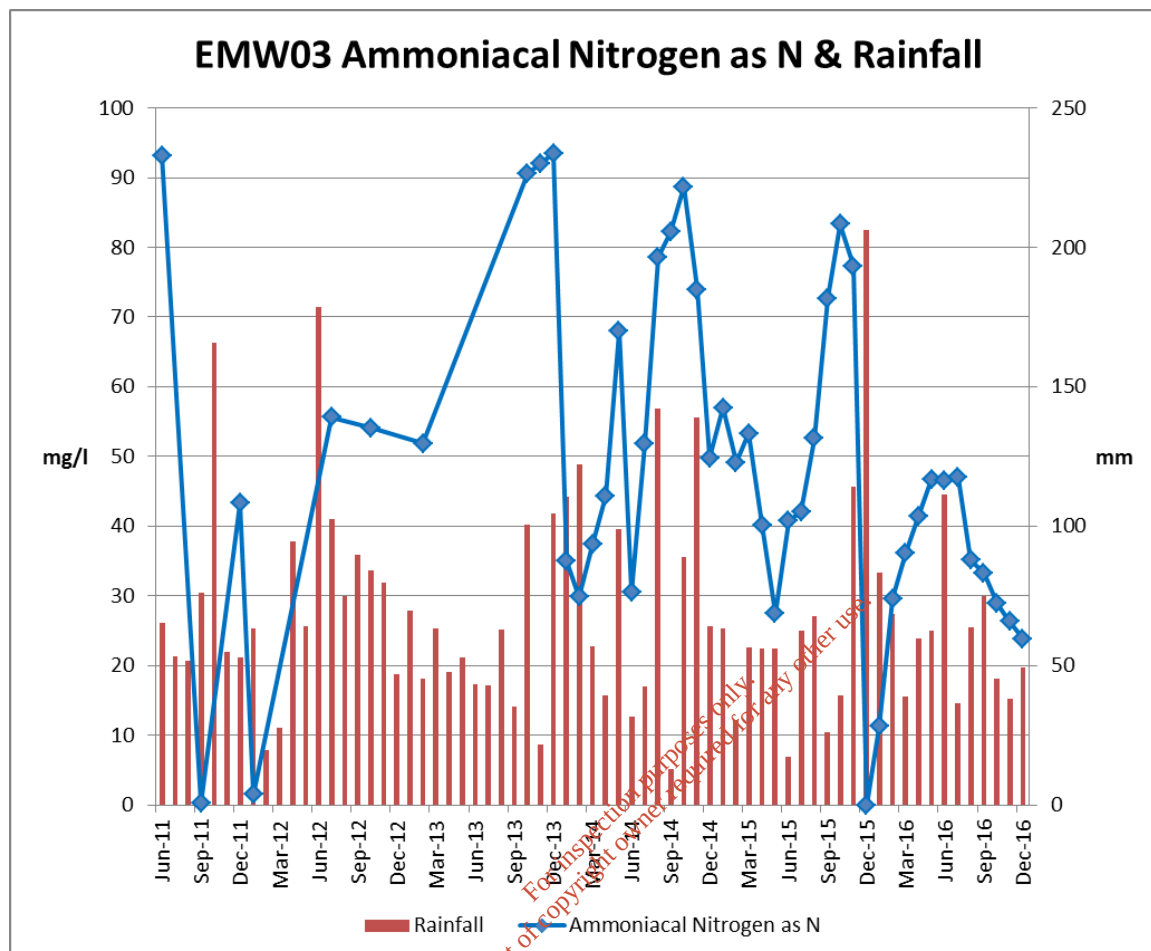
Palmerstown Golf Course

EMW31 and EMW33 recorded ammoniacal nitrogen concentrations at 2.82 mg/l and 0.20 mg/l respectively. The concentration recorded in EMW32 was noted to be 0.12 mg/l and at the IGV. The results represent increases at all three wells when compared to the previous sampling round in June 2016 but below maximum levels previously recorded at these locations.

Evidence of Seasonal Variation

At EMW03 (Graph 2.10) the concentration of ammoniacal nitrogen can be seen fluctuating with higher concentrations observed during drier periods (e.g. Q4 2013) followed by lower concentrations after increases in rainfall and groundwater recharge in Q1, 2014. In December 2015 rainfall was recorded at 206 mm, the highest monthly total since monitoring commenced by the EPA in 2011 and almost three times the historical monthly average of 76 mm (1981 to 2010). This followed a relatively wet November in 2015 (with 155% of the monthly average). The corresponding ammoniacal nitrogen concentration recorded in EMW03 during December 2015 was below the limit of detection (0.06 mg/l) for the first time since monitoring commenced. Given that the average concentration of ammoniacal nitrogen is approximately 52 mg/l this shows the diluting effect of rainfall on the observed concentrations. In 2016, concentrations again increased, peaking in June and have subsequently decreased, even though the rainfall following June has been below the long term average and groundwater levels have continued to fall.

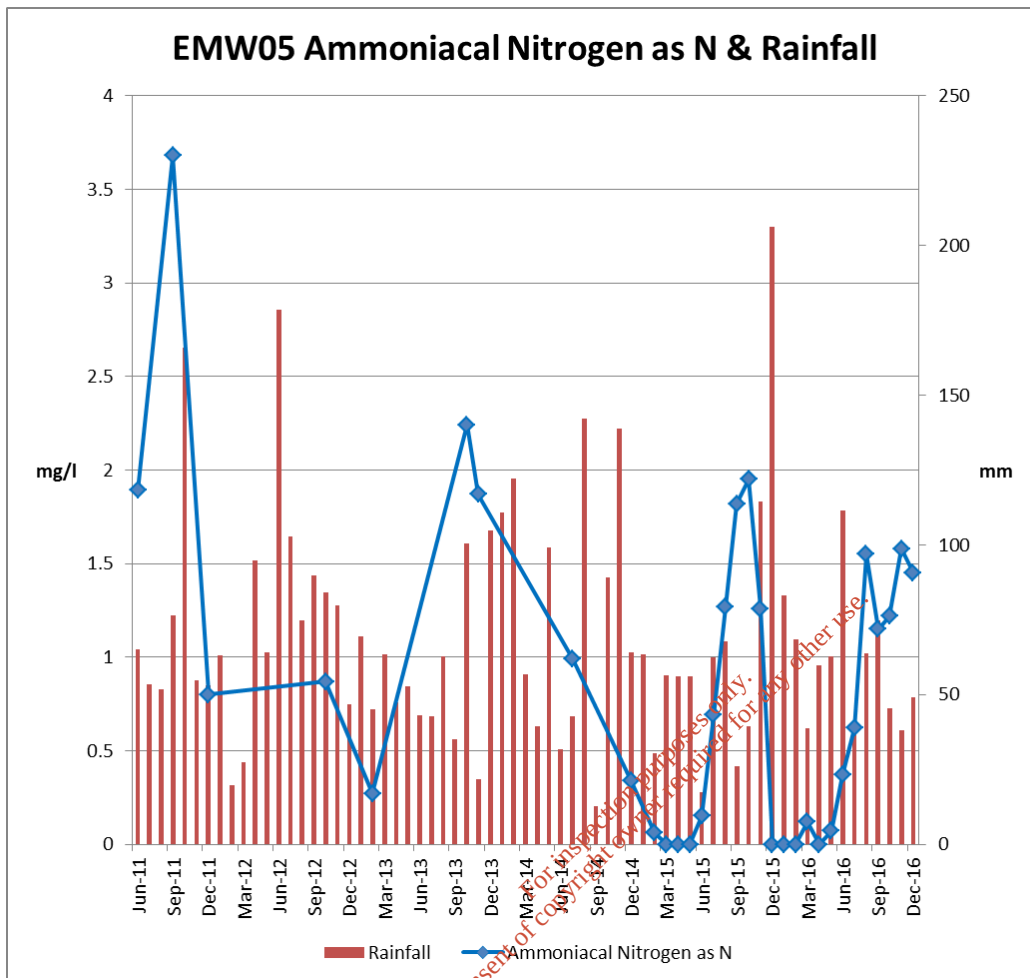
Graph 2.10: EMW03 Ammoniacal Nitrogen and Rainfall



Note: Axes values are different between Graphs 2.10, 2.11 and 2.12.

In EMW05 (Graph 2.11), a monitoring well completed relatively close to the Morell River, an ammoniacal nitrogen concentration of 1.45 mg/l was recorded in December 2016 which represents the seventh month in a row in which the IGv (0.12 mg/l) has been breached. Seasonal variation has been observed in this borehole previously with the IGv breached from June to November 2015 when concentrations were 0.15 mg/l to 1.95 mg/l, following which there were six months where ammoniacal nitrogen concentrations were recorded below the IGv.

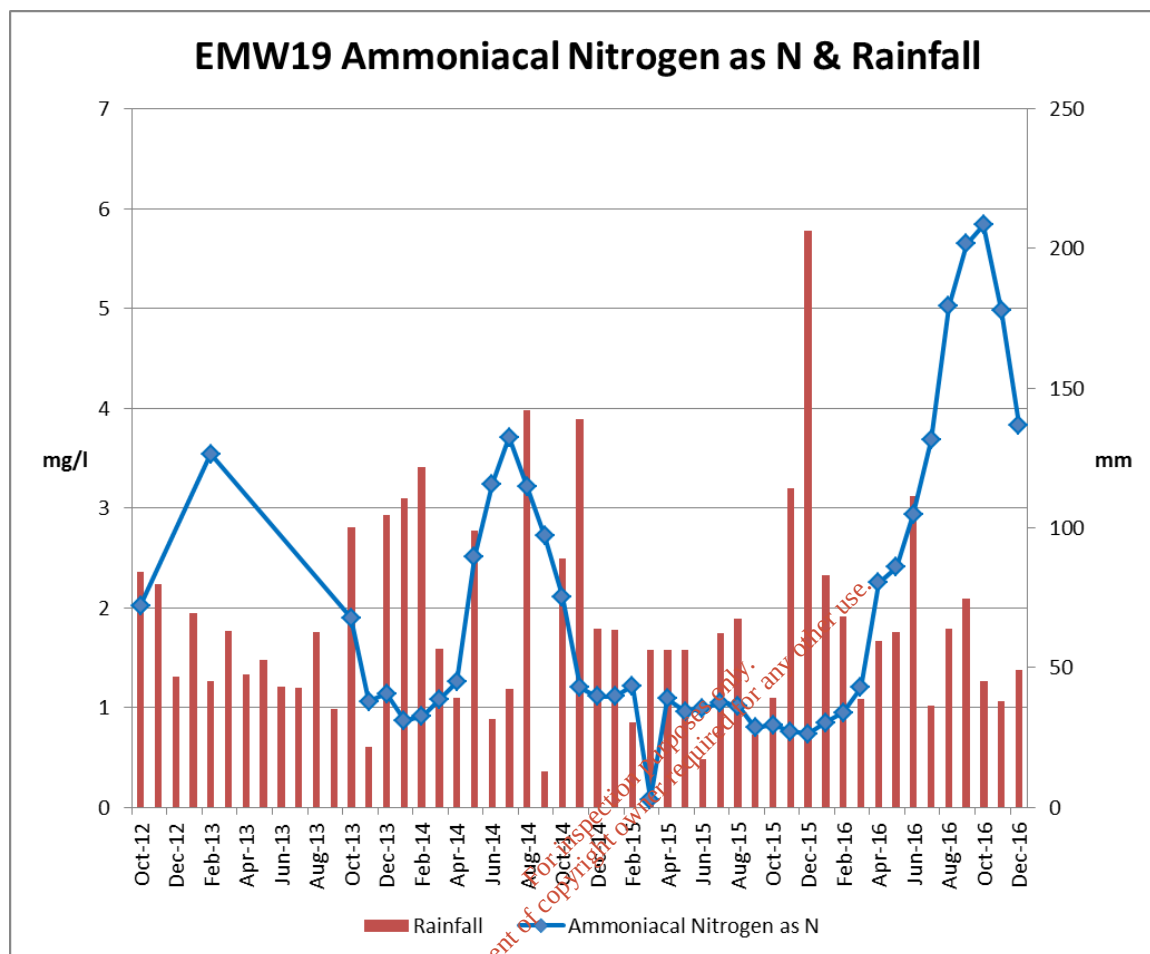
Graph 2.11: EMW05 Ammoniacal Nitrogen and Rainfall



Note: Axes values are different between Graphs 2.10, 2.11 and 2.12.

In December 2016, EMW19 recorded an ammoniacal nitrogen concentration of 3.83 mg/l which is a decrease from the November concentration of 4.98 mg/l. It is the only bedrock well to record ammoniacal nitrogen above the limit of detection and above the IGV (0.12 mg/l). The ammoniacal nitrogen concentration at EMW19 was noted to increase from December 2015 to October 2016 however in recent months the levels have decreased. This may be due to seasonal fluctuation as recorded during the spring-summer of 2014 when an increase in ammoniacal concentration was noted. Graph 2.12 shows ammoniacal nitrogen concentrations against rainfall since October 2012 when the well was installed. Decreasing amounts of rainfall and groundwater recharge since December 2015 have resulted in a gradual increase in concentrations up until October 2016. Although groundwater levels have continued to fall in November and December 2016, the ammoniacal nitrogen concentrations have also fallen.

Graph 2.12: EMW19 Ammoniacal Nitrogen and Rainfall



Note: Axes values are different between Graphs 2.10, 2.11 and 2.12.

Nitrate

The IGV for nitrate is 25 mg/l, while the limit of detection is 3.1 mg/l. Graphs 2.13 and 2.14 show nitrate concentrations in overburden and bedrock wells respectively.

On-Site Wells

Nitrate concentrations in on-site monitoring wells during December 2016 ranged from below the limit of detection (3.1 mg/l) to 71.3 mg/l. Nitrate was only detected above the limit of detection in four of the on-site wells during December 2016, namely EMW11, EMW12, EMW13 and GW1D. Of these, only EMW11 and EMW12 exceeded the IGV, a trend seen on-site since monitoring began.

At EMW11, nitrate concentrations were noted to be 71.3 mg/l during December 2016, representing a slight decrease from November 2016 (75.1 mg/l). This well almost consistently contains the highest nitrate concentrations of all on-site wells. There is a pattern of rise and fall seen in this well (from 16.7 mg/l at its lowest in February 2014 to its peak of 88.4 mg/l in October 2016) representing a seasonal variation, with a general rise in the summer and fall in the winter.

Bedrock well EMW12 (Graph 2.14) recorded a decrease in nitrate concentration from 39 mg/l in November to 29.2 mg/l in December 2016. This well typically fluctuates around the GTV of 37.5 mg/l, with the lowest recorded concentration at 23.7 mg/l in March 2016 and the highest at 47 mg/l in March 2015. As is usually the

case, most of the other on-site wells were found to have nitrate concentrations below the limit of detection (3.1 mg/l), namely EMW15, EMW16, BH26 and BH42.

The nitrate concentration increased at EMW13 from below the limit of detection in November 2016 to 5.9 mg/l in December. Nitrate concentrations at this well tend to fluctuate, with the highest concentration recorded at 10 mg/l in August 2016.

The nitrate concentration in GW1D decreased from 7.6 mg/l in December 2015 (the last round in which a sample was taken), to 4.5 mg/l in December 2016. This is the lowest concentration recorded here since monitoring began.

Boundary Wells

In December 2016 all boundary wells had nitrate concentrations below the IGV of 25 mg/l with the exception of EMW04. EMW03 and EMW06 near the north-eastern boundary, as well as EMW07 and EMW18, had nitrate concentrations below the limit of detection of 3.1 mg/l. In the case of EMW06, EMW07 and EMW18 the nitrate concentrations have always tended to be below the limit of detection.

In EMW03, there was a decrease in the nitrate concentration in December 2016 from 3.4 mg/l to below the limit of detection (3.1mg/l). Nitrate concentrations are seen to fluctuate in EMW03 and a pattern of seasonality is emerging as more data are gathered (Graph 2.13). The nitrate concentration in EMW03 peaked in December 2015 at 185 mg/l, and has dramatically decreased since to be below the limit of detection (3.1 mg/l) between May and October 2016. No other monitoring wells show evidence of such a marked change in nitrate during the monitoring period. An adjacent monitoring well, EMW02, has also shown some variability but not to the same extent (<3.1 mg/l to 83.3 mg/l), although this borehole is only sampled every six months so trends will not be as apparent.

At EMW04, situated along the boundary to the south of EMW03, contained the highest concentration of nitrate of all of the wells sampled in December 2016. The concentration has increased slightly since June 2016, up from 121 mg/l to 129 mg/l. The nitrate concentration has been found to fluctuate greatly in the past, with the December 2016 concentration within the previously recorded range for this well (between 6.64 mg/l and 176 mg/l).

At bedrock well EMW19 nitrate was detected above the limit of detection for the first time since March 2015 at 21.4 mg/l. As can be seen in Graph 2.14, this is the highest concentration ever recorded in this well. It is however still below the IGV of 25 mg/l.

Off-Site Wells

Nitrate was above the limit of detection in eight of the fourteen off-site wells in December 2016. All but one of these eight wells were below the IGV (EMW05, EMW20, EMW22, EMW23, EMW29, EMW30 and EMW32), with only EMW02 exceeding the IGV at 26.9 mg/l. EMW08, EMW21, EMW27, EMW28, EMW31 and EMW33 were below the limit of detection in December 2016. This is generally found to be the case in all of these wells.

Kerdiffstown House

The concentration of nitrate in EMW02 was 26.9 mg/l in December 2016, marginally exceeding the IGV of 25 mg/l. This was a reduction in nitrate compared to the June 2016 round of sampling at 41.5 mg/l. Nitrate concentrations in this well are found to fluctuate largely, with a range from below the limit of detection up to a maximum of 83.3 mg/l as recorded in November 2013. As with nearby boundary well EMW03, there is likely a seasonal component to the concentrations seen in this well.

At EMW05, near the Morell River, nitrate continues to remain below the IGV and was recorded at 9.7 mg/l, down from 13.1 mg/l during November 2016, and within the range previously recorded at this location from below the limit of detection in May 2015 and February 2016 up to 18.15 mg/l in June 2012.

In EMW20, located further upstream of the Morell River, nitrate was detected at 5.7 mg/l. This is the first time that nitrate has been detected above the limit of detection in this well since December 2014, and is the highest concentration ever recorded here.

EMW22 and EMW23, located north of the site, recorded a decrease in their respective nitrate concentrations when compared to June 2016. Bedrock well EMW22 recorded a slight decrease from 9 mg/l in June 2016 to 7.6 mg/l in December, below the peak of 43.6 mg/l recorded in December 2015. Adjacent overburden well EMW23 similarly showed a slight decrease from 19 mg/l to 15.6 mg/l, below the peak recorded in December 2015 of 33.7 mg/l.

Foley's Fields

Concentrations of nitrate remained below the IGV of 25 mg/l during December 2016 in all four monitoring wells located in Foley's fields.

EMW29 had a nitrate concentration of 18.3 mg/l in December 2016, a decrease on November's 22.8 mg/l and within the range normally recorded here (7.8 mg/l recorded in June 2015 to 27.7 mg/l recorded in January 2015). At EMW28 nitrate was below the limit of detection of 3.1 mg/l, as has always been the case.

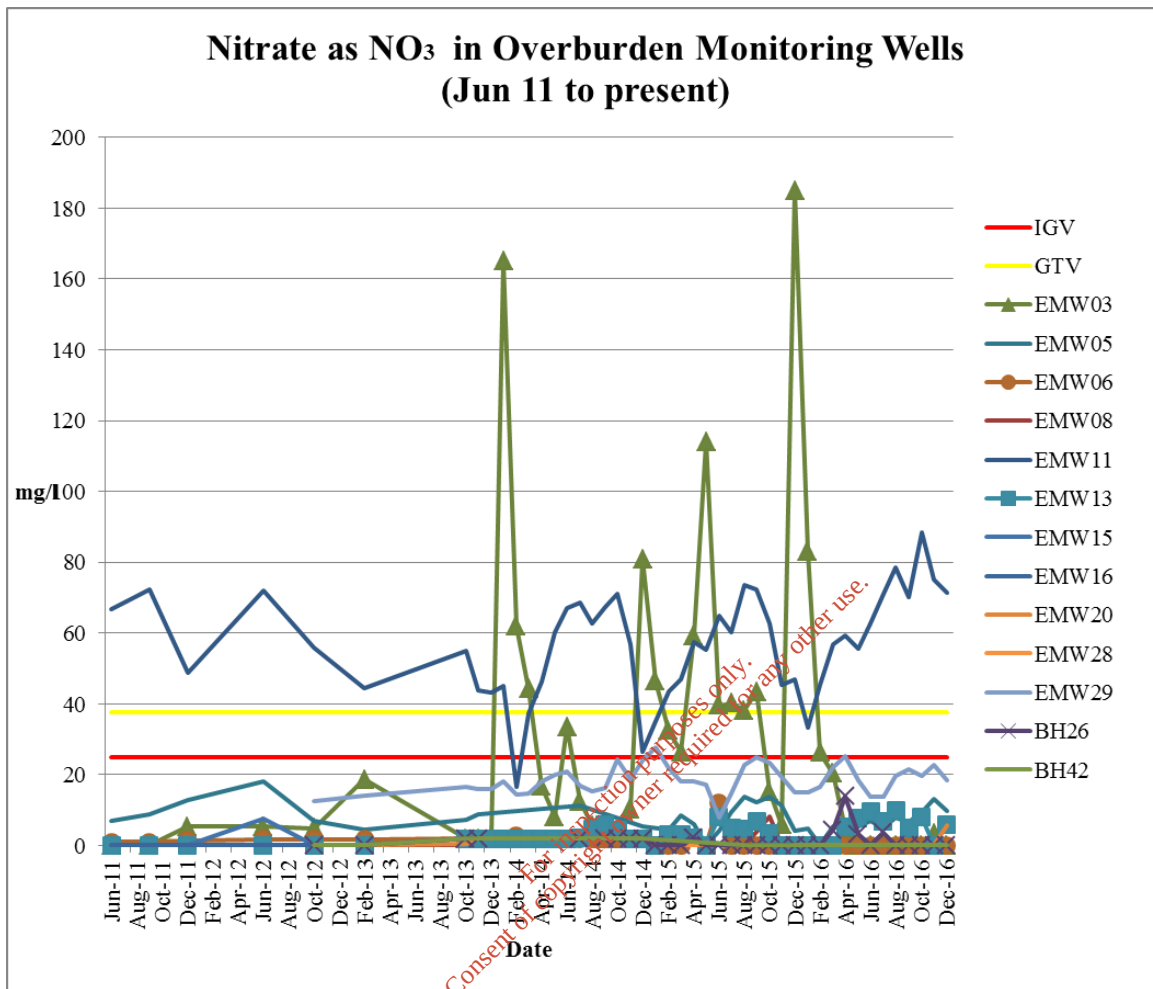
EMW30 had a nitrate concentration of 10.1 mg/l in December, a decrease on the previous monitoring round of 14.4 mg/l in June 2016, and well below the peak of 31.9 mg/l as recorded in October 2012. The nitrate concentration at EMW27 was also below 3.1 mg/l as has always been the case in this well since monitoring began.

Palmerstown Golf Course

EMW31 and EMW33 located at the golf course were found to have a nitrate concentration below the limit of detection of 3.1 mg/l. This has been consistently the case with these wells since monitoring began here in October 2012. EMW32 recorded an increase in nitrate from below the limit of detection (3.1 mg/l) in June 2016 to 10.1 mg/l in December and represents the highest nitrate concentration ever recorded in this well.

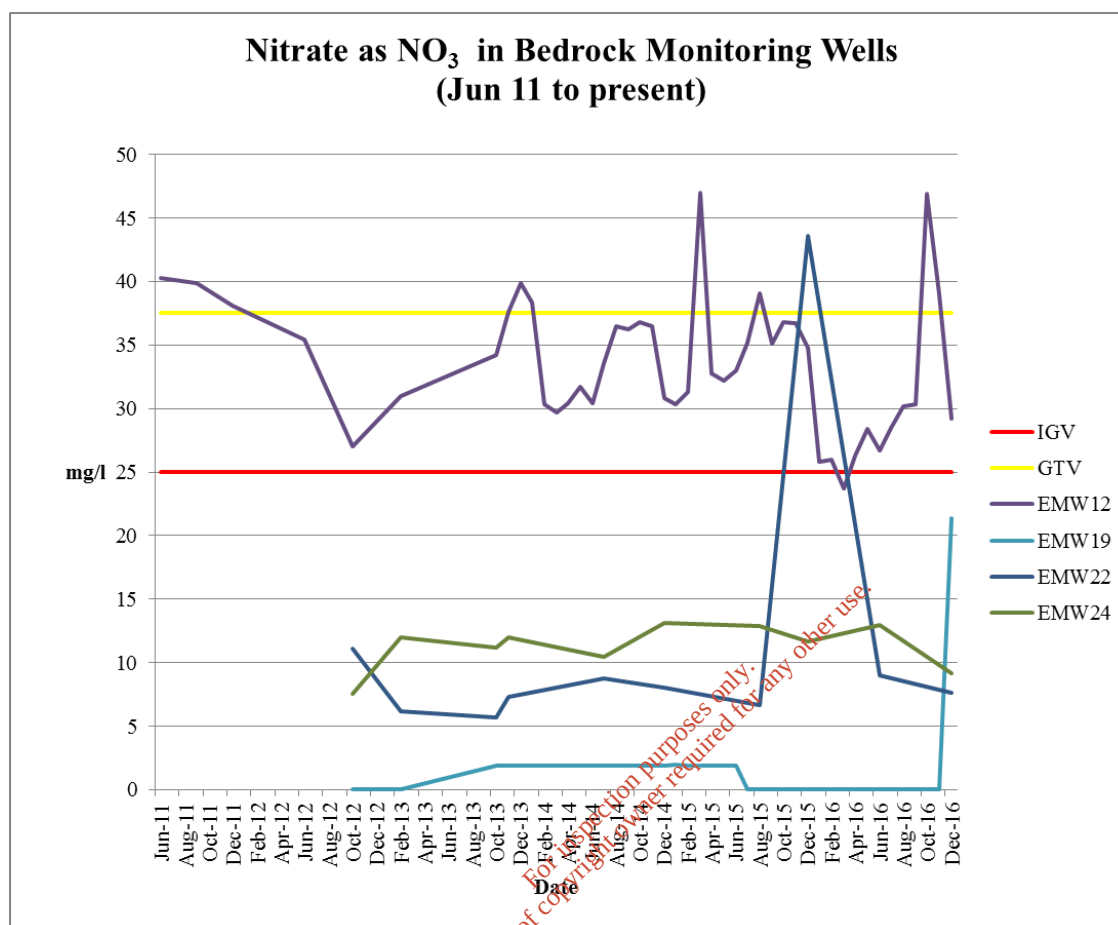
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Graph 2.13: Nitrate as NO₃ in Overburden Monitoring Wells (June 2011 to present)



Note: Axes values are different between Graphs 2.13 and 2.14.

Graph 2.14: Nitrate as NO₃ in Bedrock Monitoring Wells (June 2011 to present)



Note: Axes values are different between Graphs 2.13 and 2.14.

Phosphate

Phosphates (analysed as total phosphate) can be elevated in landfill leachates compared to background groundwater or surface water concentrations. There is currently no IGV for total phosphate, with 0.03 mg/l being the IGV for orthophosphate only. The limit of detection is 0.37 mg/l. Phosphate was detected above the limit of detection in 24 of the 34 wells sampled in December 2016.

On-Site Wells

Phosphate was detected in eight of the wells sampled on site. The highest concentration was recorded in BH7 in the lower yard of the site at 12.56 mg/l in December 2016. This is a large increase over the June 2016 concentration of 3.98 mg/l, and is the highest concentration ever recorded at this well. Nearby well BH6 was also at its highest concentration at 5.82 mg/l, a large increase on June 2016 which was below the limit of detection. In both cases bailers were used to sample, which may have impacted the results.

BH42 also increased in phosphate since June 2016, increasing from 0.46 mg/l to 0.92 mg/l. This is marginally lower than the well's highest phosphate concentration of 0.98 mg/l. All other wells showed little change in phosphate concentration when compared to June 2016.

Boundary Wells

Phosphate was detected above the limit of detection in all boundary wells located on the east and north-east boundary of the site. There was no phosphate detected at the northern boundary well EMW24, as has often been the case in the past.

EMW07 contained the highest concentration of phosphate of all the boundary wells at 6.44 mg/l. This is an increase on the June 2016 concentration (4.29 mg/l) but is below the peak for this well of 8.27 mg/l recorded in February 2013.

EMW06 similarly recorded an increase in phosphate concentration, increasing from below the limit of detection in June 2016 to 1.53 mg/l in December. This is below the peak for this well of 2.19 mg/l recorded in September 2011.

EMW04 recorded a significant decrease in phosphate when compare to June 2016, decreasing from 4.9 mg/l to 0.86 mg/l in December. Large fluctuations have been seen previously in this well.

There was little change in the other boundary wells when compared to June 2016, with phosphate concentrations remaining largely stable.

Off-Site Wells

Ten of the fourteen wells located away from the site had phosphate concentrations above the limit of detection in December 2016. The highest phosphate concentration of all of the off-site wells was recorded at EMW33 in Palmerstown Golf Course at 3.68 mg/l. This equals the previous peak of 3.68 mg/l at this well in August 2015 and is an increase on 2.48 mg/l recorded in June 2016. The other golf course wells, EMW31 and EMW32 recorded 1.35 mg/l and 0.52 mg/l respectively. The concentration in EMW31 increased slightly on the June concentration of 1.16 mg/l, while the EMW32 concentration decreased slightly from 0.86 mg/l.

The three wells in Foley's fields located south of the site all had phosphate concentrations below the limit of detection. This has often been the case in the past in these wells, with EMW27 and EMW29 being below the detection limit in June 2016 also. EMW28 tends to fluctuate more, with the range recorded here between the detection limit and 15.94 mg/l. In June 2016 EMW28 had a phosphate concentration of 4.29 mg/l.

There was very little change in concentration noted in the wells located within the grounds of Kerdiffstown House, with EMW02, EMW05, EMW20, EMW21, EMW22 and EMW23 all remaining stable when compared to June 2016. An exception was EMW08, which had the highest concentration of the Kerdiffstown House wells at 2.33 mg/l, an increase from the June concentration of 1.53 mg/l, but remaining below the peak for this well of 4.29 mg/l recorded in December 2014.

Major ions

In a landfill that received a mixture of municipal and commercial waste such as Kerdiffstown, leachate may be characterised by the presence of inorganic macro components which include commonly occurring cations and anions (including calcium, sodium, sulphate etc.).

The results for major ions were generally consistent with the field monitoring well head parameters summarised above, with key indicators of leachate impact being elevated in on-site overburden monitoring wells. As previously recorded, monitoring wells located close to the north-eastern site boundary (i.e. on-site well EMW13 and boundary well EMW03) contained relatively elevated concentrations of major ions. Key leachate indicators in monitoring wells to the north-east of the site (EMW06, EMW08, EMW19 and EMW20) were generally low relative to the results for most of the on-site monitoring wells. This indicates that the amount of leachate migration off-site has been low and remains localised.

Alkalinity

Where dissolved organic matter derived from decomposing waste is present in leachate this can lead to removal of oxygen and nitrate from groundwater following mixing with leachate, which in turn can lead to

increased concentrations of carbon dioxide in the groundwater and increased concentrations of alkalinity (a measure of carbonate and bicarbonate ion presence) due to dissolution of carbonate minerals in the aquifer, where they are present.

On-Site Wells

During December there was little to no fluctuation in alkalinity concentrations in any of the sampled wells when compared with previous rounds. EMW11 increased slightly in November from 523 mg/l to 538 mg/l, well below the peak of 1380 mg/l recorded in June 2012.

EMW12 decreased slightly from 295 in November 2016 to 272 mg/l in December, with the alkalinity in this bedrock well remaining stable since monitoring began here in June 2011. EMW13 contained the highest concentration of alkalinity of all of the on-site wells, as is often the case, at 1630 mg/l in December, up slightly from 1580 mg/l recorded the previous month. As with EMW12, the alkalinity concentrations at EMW13 have remained generally stable since monitoring began, with very little fluctuation seen. BH26 recorded a marginal decrease when compared to November 2016 from 1440 mg/l to 1410 mg/l. The alkalinity at BH26 decreased from 2500 mg/l in October 2012 to 1260 mg/l in July 2014, but has remained very stable since then with very little fluctuation in concentrations.

The on-site wells located in the south-east of the site, EMW15 and EMW16 also recorded very similar alkalinity concentrations to the previous months, with EMW15 decreasing slightly from 642 mg/l in November to 606 mg/l in December 2016; while further south-east EMW16 also recorded a slight decrease from 859 mg/l to 803 mg/l over the same period. As with other on-site wells there has been very little fluctuation recorded in either of these wells over recent years. The alkalinity concentration in EMW15 fell from the peak of 1570 mg/l in June 2011 to 467 mg/l in December 2011, followed by general stability since then. EMW16 peaked in early monitoring rounds at 2190 mg/l in June 2012 and following a large reduction by the next monitoring round at 1480 mg/l in October 2012, there has been a very gradual decrease recorded in this well since with the December 2016 concentration the lowest ever recorded here.

BH42, towards the centre of the southern half of the site, has shown very little fluctuation in recent monitoring rounds, with a slight decrease recorded in December 2016 from 333 mg/l in November 2016 to 320 mg/l. Unlike the other on-site wells, there has been more fluctuation in alkalinity recorded in the past, with the concentrations ranging from a peak of 547 mg/l in October 2013 to a low of 295 mg/l in October 2016.

EMW17 in the south-east corner of the site has similarly shown very little fluctuation in alkalinity since late 2013, with a slight decrease recorded between June 2016 and December from 326 mg/l to 264 mg/l. Similarly BH26 has fluctuated very little since November 2013, with a slight decrease recorded from 581 mg/l in June 2016 to 419 mg/l in December.

Two of the three wells in the lower yard of the site, BH6 and BH7, recorded large increases in alkalinity since June 2016, with fluctuations in these wells generally more pronounced than many of the other on-site wells. BH6 increased from 495 mg/l in June 2016 (the lowest ever recorded here) to 965 mg/l in December (the highest ever recorded here). In contrast, GW2S in the lower yard, recorded a very large decrease from 349 mg/l in June 2016 to 104 mg/l in December, by far the lowest concentration ever recorded in this well.

Bedrock well GW1D in the south of the site recorded a slight increase in alkalinity since the last time it was sampled, increasing from 318 mg/l in December 2015 to 327 mg/l in this round. This is the highest concentration ever recorded here.

Boundary Wells

The alkalinity concentration was found to have decreased in all boundary wells in December 2016, except for at EMW03. EMW03, located on the boundary with Zone 1, had the highest alkalinity concentration of all boundary wells in December at 835 mg/l. This is typically the case. It increased very slightly from 806 mg/l in November 2016 to 835 mg/l in December. The alkalinity concentration fluctuates greatly at this well with concentrations recorded between the low of 75.7 mg/l (January 2015) and the high of 1780 mg/l (October 2013). Nearby well,

EMW06, recorded a slight decrease in alkalinity from 696 mg/l in November to 486 mg/l in December 2016, with concentrations in this well remaining largely stable in this well since monitoring began in June 2011.

Bedrock well EMW19 has continued to decrease in alkalinity concentration since the recent summer high of 606 mg/l (July 2016), with it decreasing from 500 mg/l in November to 438 mg/l in December. This represents a continuation of the downward trend towards concentrations normally seen in this well of around 300 mg/l since the increase during the summer. A similar, albeit more pronounced increase was seen in the summer of 2014, with the alkalinity concentration peaking at 1100 mg/l in September 2014. This is likely a seasonal variation as seen in a number of other determinands in this well.

There were decreases in alkalinity recorded in all boundary wells. At EMW04, located south-east of EMW03, alkalinity decreased from 1410 mg/l in June 2016 to 626 mg/l in December. Fluctuations in this well have been far less pronounced in the past when compared to EMW03, with the December concentration within the range recorded since December 2011 of 379 mg/l to 1410 mg/l, and well below the peak here of 3460 mg/l recorded in September 2011.

EMW07, further to the south along the boundary, recorded a decrease from 587 mg/l in June 2016 to 470 mg/l in December. This is within the previously recorded range of between 136 mg/l and 667 mg/l. In EMW18, to the south-east along the site boundary, alkalinity decreased from 302 mg/l in June 2016 to 279 mg/l, with the alkalinity in this well being largely stable since monitoring began here in October 2012.

Bedrock well EMW24 on the northern boundary also decreased slightly in alkalinity concentration from 342 mg/l in June 2016 to 323 mg/l in December. This is the lowest concentration ever recorded in this well.

Off-Site Wells

There was little to no change noted in alkalinity concentrations in any of the off-site monitoring wells in December of 2016 with all being between 300 mg/l and 600 mg/l, lower than many of the on-site and boundary wells which show evidence of leachate contamination.

Iron and Manganese

Iron and manganese oxides which may be present within the matrix of the overburden and bedrock aquifers can also be reduced within leachate impacted groundwater where oxygen concentrations are low leading to increased concentrations of total iron and manganese.

The IGV of 0.2 mg/l for iron and 0.05 mg/l for manganese is consistently exceeded in the majority of wells, both on-site and off-site, and in the overburden and bedrock. During the December 2016 round of monitoring there were only three wells where the iron concentration was below the IGV, namely on-site bedrock well EMW12 and on-site wells EMW17 located to the south-east, and GW1D to the south-west section of the site, all being below the limit of detection of 0.23 mg/l. There was only one exception when it came to manganese concentrations, namely at EMW12 where a concentration of 0.007 mg/l was recorded.

On-Site Wells

In December all wells with the exception of bedrock well EMW12 recorded iron and manganese concentrations above the IGV reflecting little to no change in both iron and manganese concentrations when compared to the November 2016 results.

The highest concentration of manganese was observed at BH7 (10.3 mg/l), while nearby BH6 recorded the highest iron concentration at 48.7 mg/l, the highest concentrations ever recorded in these wells. Both wells, located in the lower yard of the site, recorded large increases in iron and manganese since the previous monitoring round in June 2016. BH6 increased from 1.34 mg/l to 48.7 mg/l in iron, and from 1.96 mg/l to 8.81 mg/l in manganese. BH7 increased from 13.5 mg/l to 27 mg/l in iron, and from 3.63 mg/l to 10.3 mg/l in manganese. In contrast, nearby well GW2S recorded a pronounced decrease from 5.05 mg/l to 0.6 mg/l in iron

(equalling the previous low in October 2013), and from 0.99 mg/l to 0.06 mg/l in manganese (the lowest ever recorded in this well).

The bedrock well GW1D also recorded pronounced decreases in both determinands, with iron falling from 0.58 mg/l to a low of <0.23 mg/l, and similarly manganese falling from 0.59 mg/l to the low of 0.06 mg/l in December 2016.

EMW17 and BH36 recorded iron and manganese concentrations on a par with previous results. In the case of EMW17, iron was below the limit of detection (0.23 mg/l), down from 0.38 mg/l in June, while manganese similarly reduced slightly from 1.5 mg/l in June to 1.37 mg/l. There were similarly slight reductions in both determinands at BH36, with iron decreasing from 7.97 mg/l in June 2016 to 7.54 mg/l, and manganese reducing from 3.57 mg/l in June 2016 to 2.94 mg/l.

Boundary Wells

As with previous monitoring rounds, dissolved iron was elevated (>5mg/l) in monitoring wells located close to the north-eastern site boundary (e.g. EMW03 59.8 mg/l, EMW06 8.55 mg/l, EMW07 18.2 mg/l and EMW19 14.4 mg/l in December 2016).

Some variability in dissolved iron concentrations has been observed in several monitoring wells. In EMW03 close to the north-eastern site boundary, iron concentrations have been shown to fluctuate month on month. The concentration peaked in January 2015 (523 mg/l) as shown in Graph 2.15. The record high iron concentration in January 2015 was followed by a marked decrease in February 2015 followed by fluctuating concentrations in subsequent months, with a concentration of 59.8 mg/l recorded in December 2016, up slightly from 42.9 mg/l in November. Manganese has also fluctuated in this well between a low of 0.62 mg/l recorded in September 2011 and peak of 2.69 mg/l recorded in February 2013. As with iron the concentration fell slightly from 1.87 mg/l in November 2016 to 1.82 in December.

Iron and manganese concentrations in EMW06 further increased in December 2016. Iron increased from 6.37 mg/l in November 2016 to 8.55 mg/l in December 2016, the highest concentration recorded here since the peak of 15.9 mg/l in September 2011. Similarly the manganese concentration increased from 1.25 mg/l in November to 2.08 mg/l in December, the highest since the peak of 2.24 in January 2015.

In the eastern boundary well EMW19, the iron concentration fell further from 16 mg/l in November 2016 to 14.4 mg/l in December, reflecting a decreasing trend in recent months. Manganese concentrations in EMW19 have also followed a decreasing trend following a high of 2.33 mg/l in June 2016 to 1.89 mg/l in December.

Manganese concentrations in the eastern boundary wells EMW04 and EMW07 showed a decrease in December 2016 to 0.427 mg/l and 1.32 mg/l respectively following the highest ever manganese concentrations at 4.31 mg/l and 1.9 mg/l respectively, recorded in June 2016. Iron concentrations in EMW04 decreased from 16.2 mg/l in June 2016 to 1.81 mg/l in December; while in EMW07 it increased slightly from 18.1 mg/l to 18.2 mg/l.

Bedrock well EMW24 at the northern site boundary recorded decreases in both iron and manganese. Iron reduced from 13.1 mg/l in June 2016 to 3.43 mg/l in December, the lowest concentration recorded here since November 2013 at 1.53 mg/l. Manganese reduced marginally from 0.83 mg/l in June to 0.76 mg/l in December.

Off-Site Wells

Kerdiffstown House

In EMW20, located between the site boundary and the Morell River, both iron and manganese have largely returned to the concentrations generally recorded before May 2016. In both cases the concentrations have been falling since their peaks in May 2016 (16.8 mg/l iron and 2.19 mg/l manganese), with iron reducing further from 9.63 mg/l in November to 7.39 mg/l in December, and manganese reducing further from 1.29 mg/l in November to 1.06 mg/l in December. This is the lowest ever recorded manganese concentration at this well.

EMW05 and EMW08 both recorded concentrations within normally recorded ranges in both iron and manganese. At EMW05 concentrations increased slightly in both determinands, with iron increasing from 4.03 mg/l in November to 4.53 mg/l in December; and manganese increasing from 0.84 mg/l to 0.93 mg/l. These concentrations are well below their respective peaks in February 2015 of 8.74 mg/l in iron and 2.09 mg/l in manganese. The concentration of iron in EMW08 increased slightly from 3.87 mg/l in November to 4.31 mg/l in December, still well below the peak of 70.8 mg/l in January 2015. Manganese fell slightly in EMW08 from 0.79 mg/l to 0.76 mg/l, and remained below the peak of 1.06 mg/l recorded in February 2013 and again in June 2014.

Results from all of the Kerdiffstown House wells were within previously recorded ranges in both iron and manganese. EMW02 recorded an increase in both iron and manganese concentrations, with iron increasing from the low of 0.35 mg/l in June 2016 to 1.89 mg/l in December; and manganese increasing from its low of 0.03 mg/l in June to 0.2 mg/l in December. Both concentrations are well below their respective peaks of 4.02 mg/l in iron and 0.69 mg/l in manganese. EMW22 and EMW23 to the north of the site, behind Kerdiffstown House recorded little change on recent results. Bedrock well EMW22 decreased in iron from 1.42 mg/l in June to 0.91 mg/l in December, and in manganese from 0.7 mg/l in June to 0.66 mg/l in December. Adjacent well EMW23 recorded slight increases in both determinands with iron increasing from 1.75 mg/l in June to 2.04 mg/l in December and manganese increasing from 0.36 mg/l in June to 0.39 mg/l in December.

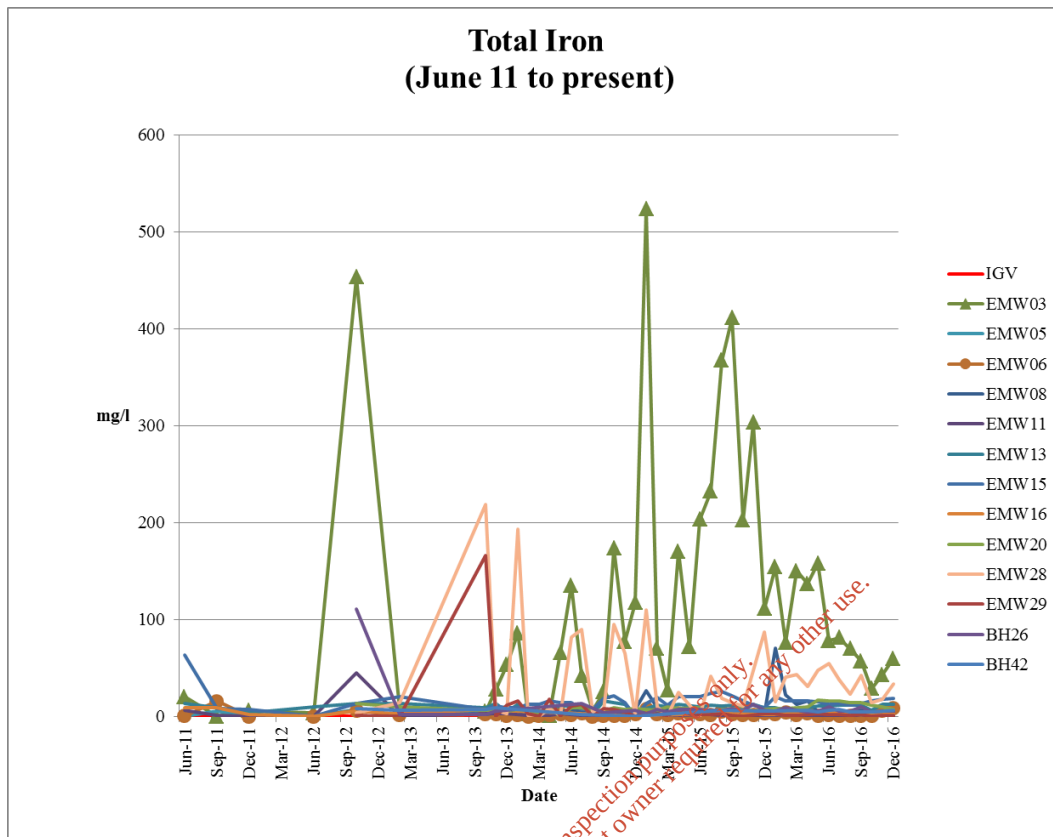
Foley's Fields

During December 2016, by far the highest off-site concentration of both iron and manganese was observed at EMW27 (56.4 mg/l and 13.7 mg/l respectively), located in the field to the south of the site. These are both the highest concentrations recorded in this well since October 2013. EMW28, located adjacent to EMW27, shows fluctuation in results with an increase in iron concentration to 33.4 mg/l in December 2016 from 17.6 mg/l recorded in November. Manganese similarly increased from 1.48 mg/l in November to 2.59 mg/l in December. Both results are well below their respective peaks of 219 mg/l in iron and 16 mg/l in manganese, both recorded in October 2013. The other well in the field, EMW29, recorded no significant change over concentrations recorded over the past two years, remaining in and around 2mg/l in iron and 0.16 mg/l in manganese.

Palmerstown Golf Course

There was little change in iron and manganese concentrations in the three wells in Palmerstown Golf Course. EMW31 increased slightly in both determinands compared to June 2016, from 21.1 mg/l to 22 mg/l in iron, and 1.99 mg/l to 2.13 mg/l in manganese. EMW32 decreased slightly in both determinands, from 3.88 mg/l to 1.9 mg/l in iron, and from 1.71 mg/l to 1.25 mg/l in manganese. EMW33 recorded an increase in iron concentration from 7.62 mg/l in June 2016 to 9.09 mg/l in December. This is the highest concentration here since the peak in August 2015 of 10.5 mg/l. In contrast, the manganese concentration decreased in EMW33 from 0.52 mg/l to 0.46 mg/l.

Graph 2.15: Total Iron in Selected Overburden Monitoring Wells (June 2011 to present)



Chemical Oxygen Demand (COD)

COD is a broad measure of the concentration of oxidizable organic contaminants present in the groundwater and therefore can be a useful indicator of the presence of landfill leachate.

On-Site Wells

BH26, generally the well with the highest COD, previously recorded a peak concentration of 4,160 mg/l in September 2015. COD values have since fallen, although there was a slight increase in December 2016 to 458 mg/l from November's concentration of 420 mg/l.

The COD concentration at EMW13 in the north of the site increased from 312 mg/l in November to 325 mg/l in December 2016. This is the second increase following six consecutive reductions since April 2016 when a high of 444 mg/l was recorded. Bedrock well EMW12 recorded a decrease from 20 mg/l in November to 18 mg/l in December. Prior to November, COD hadn't been detected in this well above the limit of detection of 11 mg/l since May 2016.

EMW11 in the west of the site recorded a concentration of 56 mg/l COD in December, an increase from 44 mg/l in November 2016.

COD in both EMW15 and EMW16 increased in December 2016 compared to November, with EMW15 up from 34 mg/l to 50 mg/l and EMW16 up slightly from 82 mg/l to 86 mg/l. However these concentrations are below both October 2016 concentrations of 64 mg/l in EMW15 and 11 mg/l in EMW16. Similarly BH42 increased from 45 mg/l in November to 49 mg/l, a concentration below the October result of 50 mg/l.

EMW17, GW1D and GW2S did not record COD above the limit of detection of 11 mg/l. The COD in BH36 decreased from 177 mg/l in June 2016 to 110 mg/l in December. There were large changes in both BH6 and

BH7 located in the lower yard, with BH6 increasing dramatically from 64 mg/l in June to 207 mg/l in December, and BH7 falling dramatically from 400 mg/l to 21 mg/l in the same period.

Boundary Wells

EMW03, the well with the highest COD concentration outside of the site, recorded a concentration of 186 mg/l in December 2016, an increase from November's result of 122 mg/l. These concentrations are well below the January 2016 peak concentration of 1,069 mg/l.

Nearby well EMW06 recorded a significant increase in the COD concentration to 153 mg/l in December, from 11 mg/l in November 2016. This is the highest concentration recorded for this well, although a concentration of 125 mg/l was recorded in December 2015.

In bedrock boundary well EMW19, a further decrease in COD was detected down to 20 mg/l in December 2016 from 27 mg/l in November from a high of 52 mg/l in October 2016.

EMW04 showed a decrease in COD concentration from 228 mg/l in June 2016 to 57 mg/l in December. Further south along the boundary, EMW07 decreased from 50 mg/l to 37 mg/l; and EMW18 decreased from 18 mg/l to 12 mg/l. The only biannual well to increase in COD was EMW24 to the north of the site, which increased slightly from 79 mg/l in June 2016 to 83 mg/l in December.

Off-Site Wells

In December 2016, the off-site wells generally had COD concentrations ranging from 14 mg/l to 62 mg/l which are within previously recorded ranges. Exceptions to this are the two adjacent wells in Foley's Field, south of the site, namely EMW27 and EMW28. EMW28 continued to have a high COD concentration compared to other off-site wells at 163 mg/l, up from 121 mg/l in November. In addition EMW27 recorded a notably elevated COD of 480 mg/l in December 2016 which is an increase from 172 mg/l recorded in June 2016 and is the highest concentration at this well since February 2013 when the concentration was recorded at 1440 mg/l.

Chloride

Chloride is also a common key indicator of landfill leachate presence. Graph 2.16 shows the variation in chloride concentrations for selected monitoring wells within the overburden. A very similar pattern of variation in chloride concentrations is shown for EC and ammoniacal nitrogen for the corresponding monitoring wells with decreased concentrations generally observed in those samples collected during the winter / spring months. As with EC and ammoniacal nitrogen this is particularly pronounced within EMW03.

Chloride concentrations recorded within bedrock monitoring wells are shown in Graph 2.17.

On-Site Wells

Chloride was found during December 2016 to be highest in the on-site monitoring wells BH26 (412 mg/l) and EMW13 (221 mg/l) in Zone 1 of the site, similar to concentrations recorded in November. The chloride concentration recorded at EMW11 was also above the IGV (30 mg/l) at 51.7 mg/l, and the concentration in bedrock well EMW12 increased marginally to above the IGV at 31 mg/l.

Towards the south-east of the site, EMW15 recorded a chloride concentration of 50.3 mg/l in December, a slight decrease from 51.6 mg/l in November 2016, while EMW16 recorded the highest concentration in the southern half of the site at 153 mg/l, a slight decrease from the November concentration (165 mg/l). Chloride concentrations in BH42 remained below the IGV at 25.1 mg/l.

BH36, also in Zone 1 of the site, recorded a concentration of 139 mg/l in December, a decrease in concentration from 189 mg/l in June 2016. The chloride concentration at BH7 in the south-east of the site increased to 64.7 mg/l in December 2016 following the lowest ever concentration of 50 mg/l recorded in June.

The chloride concentration in GW1D was 170 mg/l; the previous monitored concentration at this well was 21 mg/l in December 2015.

Boundary Wells

The concentration of chloride in EMW03 in December 2016 showed a slight further reduction to 59.3 mg/l compared to 60.4 mg/l during November 2016 which was the highest chloride concentration recorded in all boundary wells during that period. At EMW19, the bedrock well on the eastern boundary, the chloride concentration continued to decrease, decreasing to 27.5 mg/l in December from 32 mg/l in November which is below the IGV of 30 mg/l following eight months of exceedances. As with some of the overburden monitoring wells, EMW19 potentially shows seasonal fluctuation with lower chloride concentrations recorded during the winter months. The concentration in EMW06 was 5.7 mg/l in December having been below the limit of detection in November (3.7 mg/l).

Of the biannually monitored wells, chloride concentrations in the monitoring wells located near to the site boundary were relatively elevated and above the IGV. A concentration of 40.5 mg/l was recorded in EMW04 in December, which is a slight decrease from 47.5 mg/l in June 2016. A concentration slightly above the IGV of 31.1 mg/l was recorded in EMW07 during December, a decrease from 50.6 mg/l in June.

Off-Site Wells

All off-site monitoring wells remained below the IGV of 30 mg/l, with the exception of EMW22 located north of the site behind Kerdiffstown House (35 mg/l).

Kerdiffstown House

Chloride concentrations remained relatively low in off-site monitoring wells to the north-east e.g. EMW05 at 24.8 mg/l and EMW08 at 8.6 mg/l. EMW20 recorded a concentration of 19.5 mg/l, a further slight fall from November's 22.9 mg/l and the fifth consecutive month the concentration has been below the IGV of 30 mg/l following a rise in concentration over the summer.

Of the biannually monitored wells, EMW22 recorded a concentration of 35 mg/l, a decrease from 37.9 mg/l recorded in June 2016. This is the second lowest result ever recorded in this well, the lowest being 34.2 mg/l in October 2012. Adjacent well EMW23 had its lowest ever recorded chloride concentration at 11.4 mg/l.

Foley's Fields

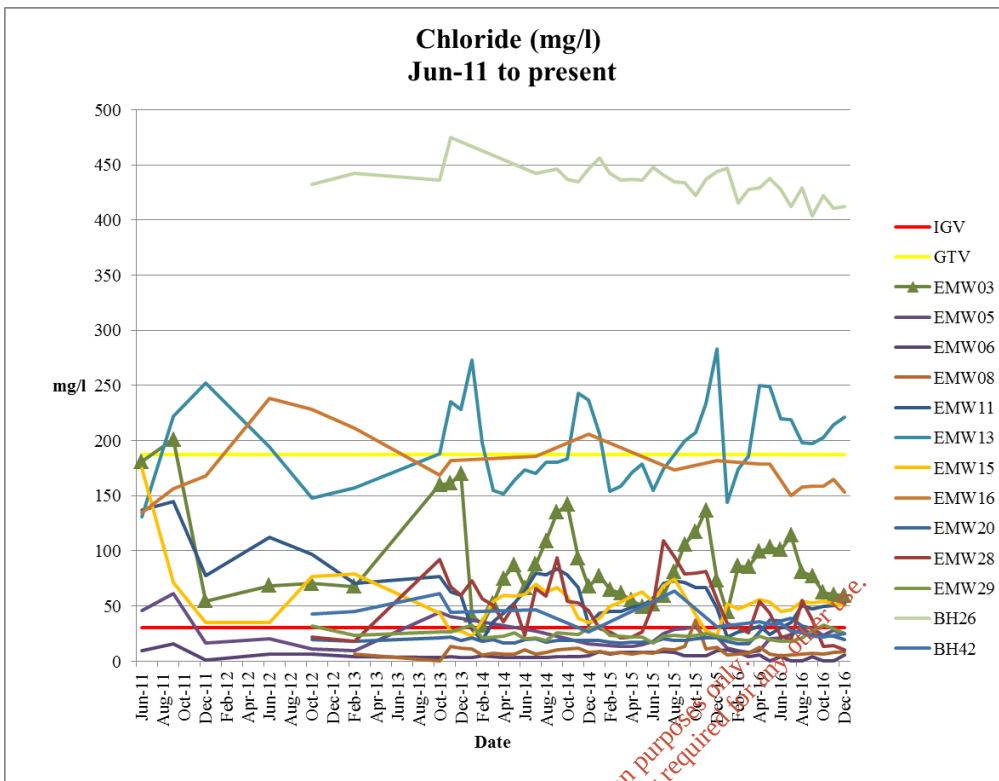
In other off-site wells to the south of the site in Foley's Field, EMW28 showed a concentration of 9.9 mg/l in December 2016 which is a decrease from 14.4 mg/l in November and the lowest concentration ever recorded at this well. Adjacent well EMW27 also recorded its lowest ever chloride concentration at 15.1 mg/l.

EMW29 recorded a further decrease in chloride concentration from 29.4 mg/l to 25.2 mg/l, remaining below the IGV of 30 mg/l. Chloride concentrations in this well have fluctuated between 16.6 mg/l and 33 mg/l in the past.

Palmerstown Golf Course

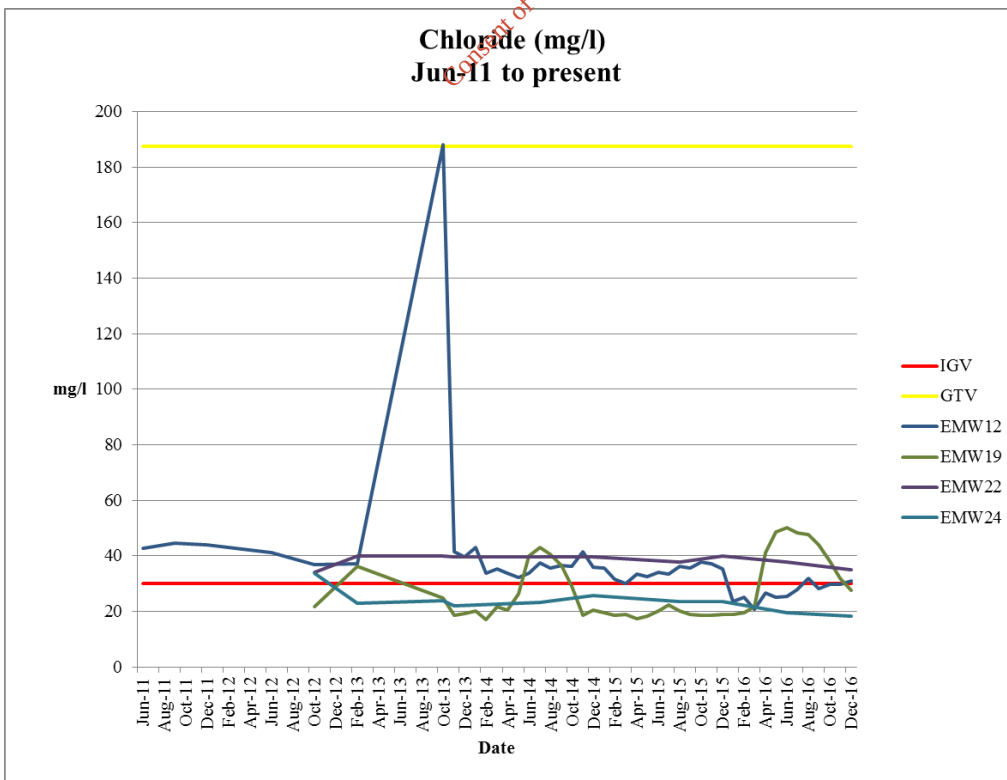
Chloride concentrations in all of the wells on the golf course remained below the IGV of 30 mg/l, as has always been the case with EMW31 at 19.9 mg/l (down from June's 21.7 mg/l), EMW32 at 18.2 mg/l (down from 19 mg/l in June and the lowest ever recorded in this well), and EMW33 at 16.1 mg/l (down from 20.1 mg/l in June and also the lowest ever for this well).

Graph 2.16: Chloride in Overburden Monitoring Wells (June 2011 to present)



Note: Axes values are different between Graph 2.16 and 2.17.

Graph 2.17: Chloride in Bedrock Monitoring Wells (June 2011 to present)

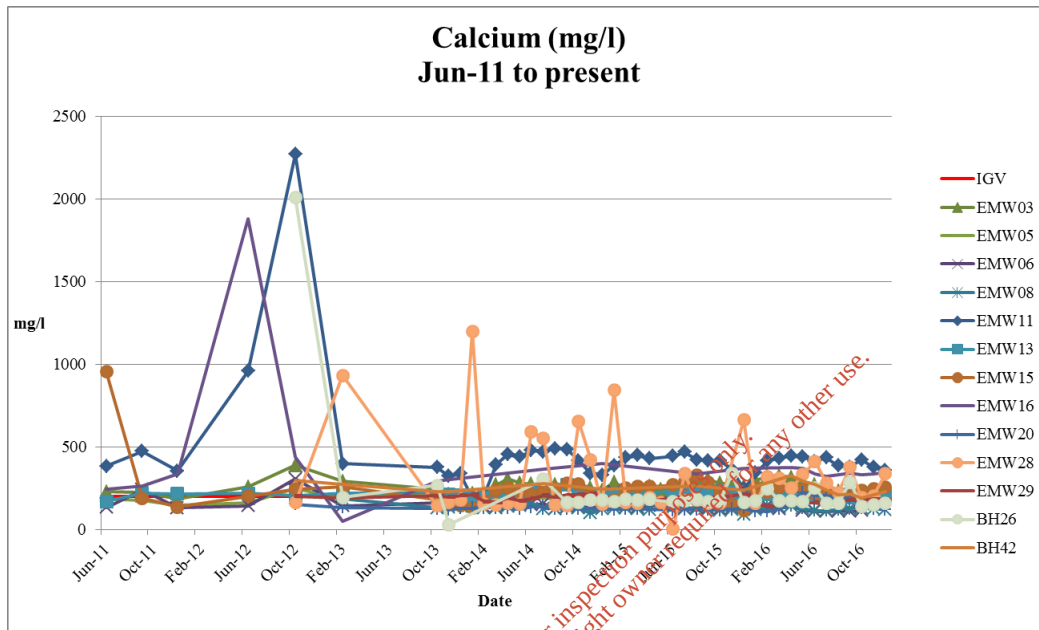


Note: Axes values are different between Graphs 2.16 and 2.17.

Calcium

Where geology of limestone bedrock and limestone dominated subsoils are common, groundwater is often hard, containing high concentrations of calcium, magnesium and bicarbonate. The IGV for calcium is set at 200mg/l. Eleven of the 34 calcium concentrations observed during December 2016 were above the IGV. Graph 2.18 shows calcium concentrations in selected wells.

Graph 2.18: Calcium in Selected Overburden Monitoring Wells (June 2011 to present)



On-Site Wells

The highest calcium concentration in December 2016 was recorded in on-site well BH7 at 1290 mg/l. This is an increase from the previously recorded concentration of 402 mg/l in June 2016 and the highest recorded at this well. Of the other on-site biannually monitored wells only BH6 recorded a concentration above the IGV of 200mg/l at 360 mg/l, an increase from 319 mg/l in June 2016.

The calcium concentration at EMW11 in December 2016 was 360 mg/l which has decreased further from 376 mg/l in November 2016. EMW11 had shown an increase in calcium concentrations during previous monitoring, peaking at 469 mg/l in July 2015 but concentrations reduced to 246 mg/l in December 2015. However, concentrations were noted to rise again to 342 mg/l in January 2016, with further increases to 445 mg/l in April 2016. This variation relates to seasonal fluctuations and greatly elevated concentrations for calcium have previously been observed at EMW11 with the highest recorded concentration of 2,200 mg/l measured during October 2012.

The calcium concentration at EMW13 increased in December to 216 mg/l from just below the IGV at 196 mg/l in November. Concentrations have fluctuated around the IGV since April 2016 with concentrations recorded being between 192 mg/l and 211 mg/l. Prior to July 2016, calcium concentrations were last recorded below the IGV in December 2015. As with EMW13, BH26 also tends to remain near the IGV of 200 mg/l, with a slight increase recorded in December from 152 mg/l in November to 158 mg/l.

As is generally the case, in December 2016, EMW15 and EMW16 in the east of the site recorded concentrations exceeding the IGV at 255 mg/l and 349 mg/l respectively. These represent slight reductions from November in both wells. BH42 near the centre of the site showed a slight increase in concentration to 232 mg/l, up from 211 mg/l in November 2016. Calcium has been gradually increasing in this well since October, when the concentration was recorded below the IGV for the first time in this well.

Bedrock well EMW12 had a calcium concentration marginally below the IGV at 195 mg/l in December 2016, a slight decrease from November's result of 200 mg/l. The calcium concentration in this well tends to fluctuate around the IGV of 200 mg/l.

Boundary Wells

Of the boundary wells, the highest calcium concentration was recorded in EMW04 (239 mg/l), at the eastern site boundary to the south of EMW03. This is a decrease from the highest calcium concentration recorded in this well of 615 mg/l.

Of the other six boundary wells, only EMW06 recorded calcium concentration above the IGV at 211 mg/l, an increase from 176 mg/l and the first time the IGV has been exceeded for this well since January 2015 when a concentration of 228 mg/l was recorded.

The calcium concentration at EMW19 decreased to 169 mg/l following a concentration above the IGV for the eighth consecutive month at 298 mg/l in November. This is a continuation of the decreases in calcium concentration recorded in this well since elevated results were recorded during late spring to early autumn, with calcium concentrations appearing to reduce towards more usual concentrations for this well, i.e. averaging approximately 120 mg/l. During the summer of 2014, EMW19 also showed similarly elevated concentrations and the elevation therefore may be related to seasonal fluctuations.

Off-Site Wells

Two of the fourteen off-site wells exceeded the IGV for calcium in December 2016. These were both adjacent to each other and located in Foley's Field, south of the site. At EMW28 a calcium concentration of 337 mg/l was recorded, a further increase from 204 mg/l in November but consistent with previous large concentration fluctuations at this location (concentrations range from 144 mg/l to 1200 mg/l). In the adjacent well, EMW27, a concentration above the IGV at 359 mg/l was recorded. This is an increase from 159 mg/l recorded in June 2016 and the first time the IGV of 200 mg/l has been exceeded since concentrations of 670 and 663 mg/l were recorded in October and November 2013.

EMW20 recorded a calcium concentration of 119 mg/l, the fifth consecutive month the IGV has not been exceeded here since being above the IGV from May to July 2016. This is the lowest concentration since 111 mg/l was recorded in February 2016, and represents a return to the more usual concentrations recorded in this well prior to the elevation during the summer months, i.e. averaging around 130 mg/l.

Sodium

Sodium is naturally present in groundwater and is also present in landfill leachate. Concentrations measured during December 2016 were similar to those recorded previously and all but two results were below the IGV of 150 mg/l. As with November, the exceptions were BH26 in Zone 1 with an elevated concentration of 306 mg/l compared to 302 mg/l in November and within the range previously observed in this well (211 mg/l to 2430 mg/l). EMW13, also in Zone 1, recorded a concentration of 204 mg/l compared to 222 mg/l in November. This too is within the previously recorded range for this well (86.4 mg/l to 270 mg/l).

The sodium concentration recorded in bedrock boundary well EMW19 in December 2016 decreased further to 25.2 mg/l from 33.6 mg/l in November. The highest concentration ever recorded in this well was 51.7 mg/l in September 2016. This concentration is still well below the IGV.

All of the biannually monitored wells recorded concentrations below the IGV consistent with previous results with the highest concentration recorded in boundary well EMW04 at 45 mg/l, a decrease from 63.6 mg/l in June 2016.

Sulphate

Sulphates exist in nearly all natural waters, the concentrations varying according to the nature of the terrain through which they flow. In polluted waters in which the dissolved oxygen is low, sulphate is readily reduced to sulphide causing noxious odours. The IGV for sulphate is 200 mg/l.

On-Site Wells

The highest concentration of sulphate on-site in December 2016 was detected in EMW11 at 805 mg/l, a slight increase from 790 mg/l in November. This well consistently has the highest concentration of all of the wells monitored, both on and off-site. EMW12 (321 mg/l), EMW15 (395 mg/l), EMW16 (410 mg/l) and BH42 (337 mg/l) were also noted to have sulphate concentrations above the IGV of 200 mg/l during December 2016, as is typical for all of these wells. In the case of BH42, the sulphate concentration reduced slightly from 342 mg/l in November, making it the lowest concentration of sulphate recorded in this well since monitoring began here.

For the on-site monitoring wells sampled six monthly, all but BH6 recorded concentrations below the IGV of 200 mg/l. BH6 recorded a concentration of 237 mg/l in December 2016. This is down from 544 mg/l in June 2016 and the lowest concentration ever recorded in this well. In the case of GW2S and BH36, they both recorded their lowest sulphate concentrations at below the limit of detection (4.4 mg/l) in GW2S and 25.6 mg/l in BH36. In contrast, BH7, in the lower yard near BH6 and GW2S, recorded its highest sulphate concentration at 167 mg/l although only marginally higher than the previous peak of 165 mg/l recorded in December 2015.

Boundary Wells

Eastern boundary well EMW07, has the highest sulphate concentration of any of the wells situated outside of the site. The concentration recorded during December 2016 was 188 mg/l, down from 231 mg/l in June 2016. This well tends to fluctuate greatly, with it previously breaching the IGV in summer 2014. All other biannual boundary wells continued to have sulphate concentrations below the IGV as has always been the case since monitoring began.

Of the other boundary wells, EMW19 recorded the highest sulphate concentration in December 2016. The concentration recorded during December 2016 was 142 mg/l down from 216 mg/l in November, a further decrease on the August highest ever concentration of 335 mg/l. This represents the first time that the sulphate concentration has been below the IGV in this well since March 2016. The other monthly monitored boundary wells had concentrations below the IGV of 200 mg/l, with EMW03 at 66.2 mg/l and EMW06 at 14.9 mg/l. In the case of EMW06, the December sulphate concentration was the highest ever for this well after increasing from November's 11.3 mg/l. This is still well below the IGV of 200 mg/l.

Off-Site Wells

All off-site wells recorded sulphate concentrations below the IGV. The sulphate concentration at EMW05, near the Morell River, decreased slightly from 24.1 mg/l in November 2016 to 23.5 mg/l in December. The sulphate concentration at EMW08 remained below the limit of detection of 8.6 mg/l. EMW20 recorded a relatively pronounced further decrease in sulphate concentration in December at 17.5 mg/l down from 43.5 mg/l in November. All other wells in Kerdiffstown House remained well below the IGV with little or no change when compared to the June 2016 concentrations.

There was a slight increase in the sulphate concentration recorded in Foley's Field well EMW29, with the concentration increasing to 88.3 mg/l in December 2016 from 79.9 mg/l in November. In the other Foley's Field well, EMW28, the sulphate concentration also increased slightly to 18.1 mg/l from 17.2 mg/l. The other wells in Foley's fields both had sulphate concentrations significantly below the IGV, as has always been the case. There was very little change when compared to the previous round of sampling in June 2016.

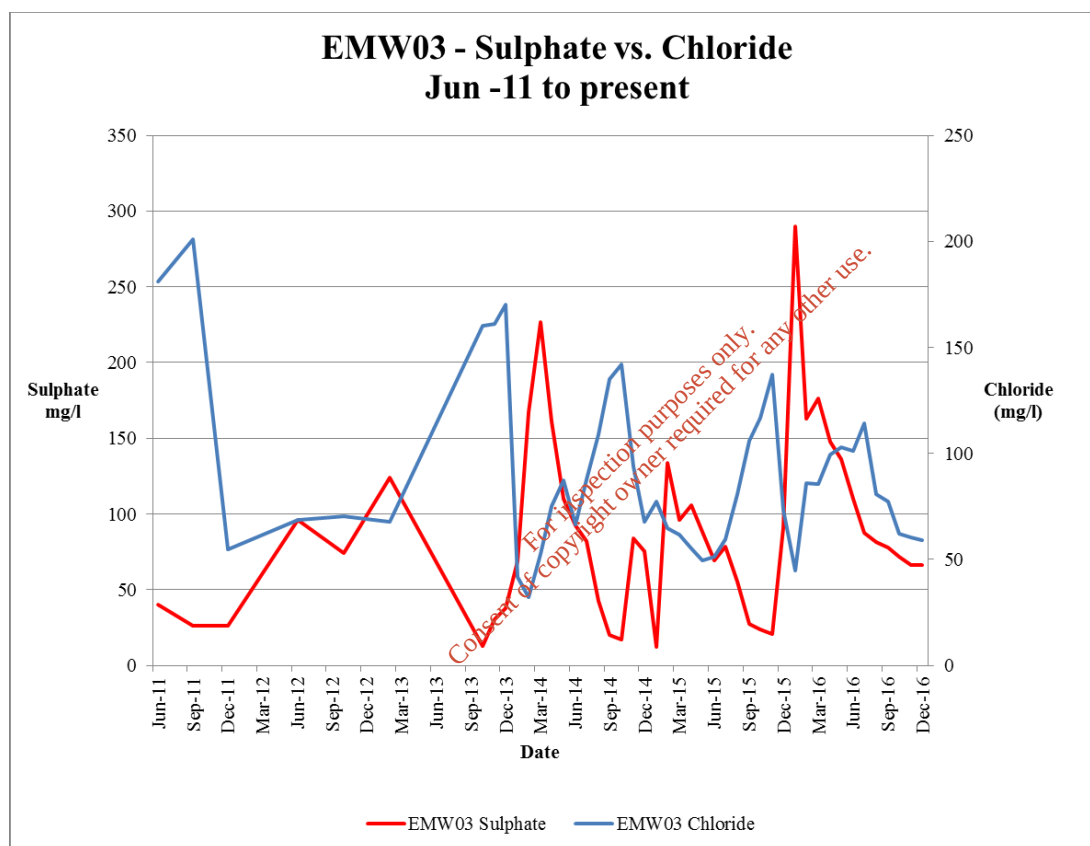
In Palmerstown Golf Course all three wells had sulphate concentrations significantly below the IGV, as has always been the case here since monitoring began. Both EMW31 and EMW32 however recorded their highest

ever sulphate concentrations in December 2016, at 30.8 mg/l (up from less than 4.4 mg/l in June) and 24.6 mg/l (up from 15.2 mg/l in June) respectively.

Sulphate v Chloride

As noted above, low sulphate concentrations may be indicative of landfill leachate as sulphate is reduced to sulphide. As such, an increase in parameters such as chloride and a reduction in sulphate concentrations may indicate the presence of landfill leachate and comparing the two determinands may show impacts from leachate. In EMW03 and EMW13, there has been an observed seasonal change when concentrations of sulphate are compared to chloride as can be seen in Graphs 2.19 and 2.20.

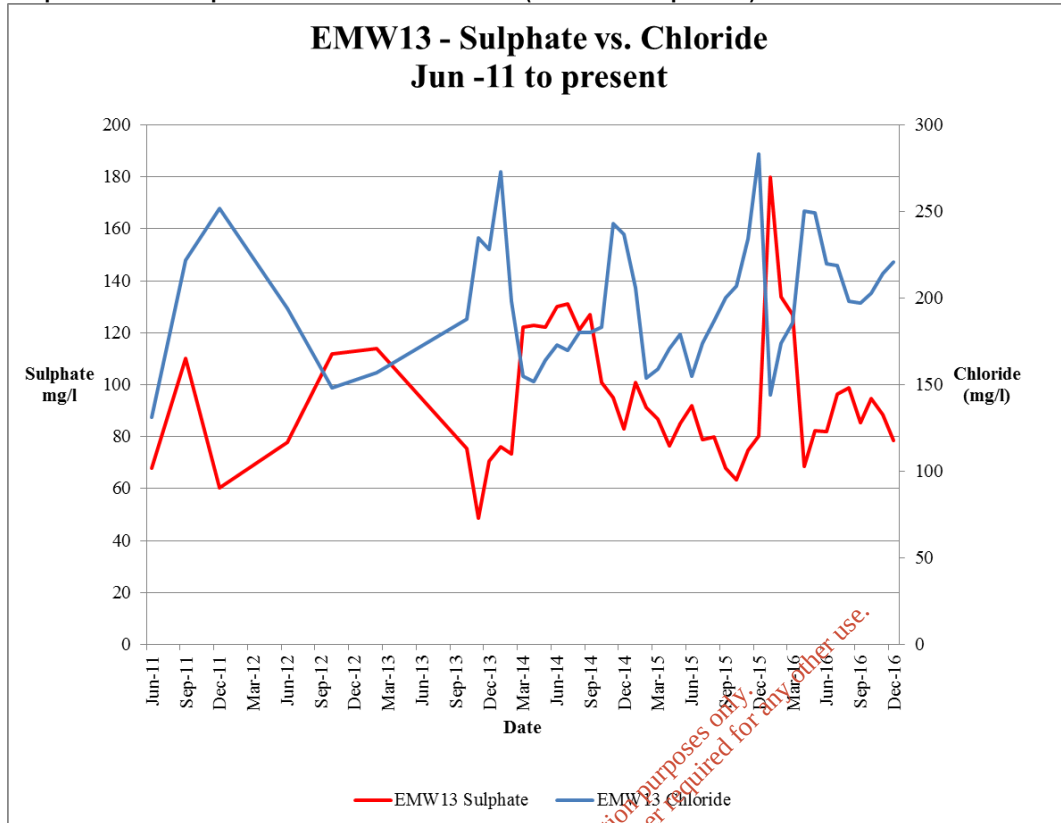
Graph 2.19: Sulphate and Chloride in EMW03 (June 2011 to present)



Note: Axes values are different between Graphs 2.19, 2.20 and 2.21.

In EMW03 during December 2016, there was little variation in both chloride and sulphate concentrations from November as shown below in Graph 2.19. However, on most occasions, as chloride concentrations increase, sulphate concentrations do decrease indicating impacts from landfill leachate at this location. The relationship is most pronounced from 2013 to 2015 and in 2016, both chloride and sulphate concentrations have shown a general decrease since June (this may relate to the relatively low rainfall that has occurred in the second half of 2016). However, the relative difference has decreased and it is likely that into 2017 sulphate concentrations will show an increase as has been observed in previous winters whilst chloride concentrations continue to decline.

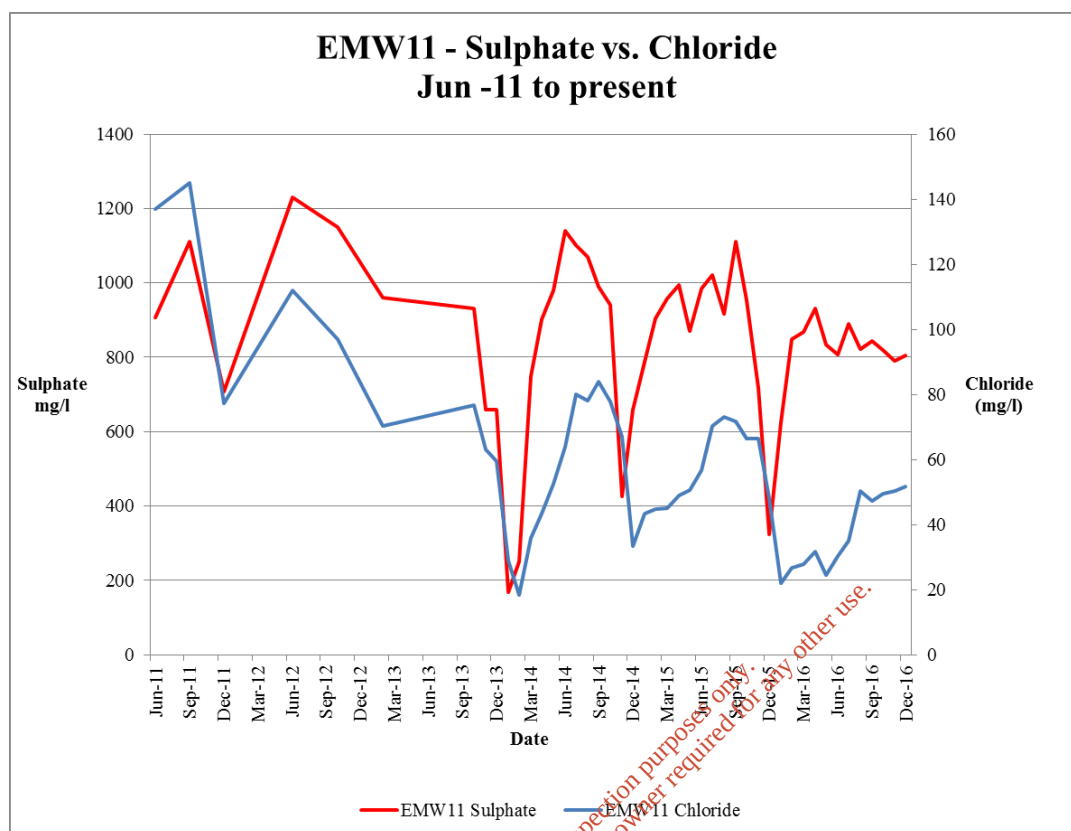
Graph 2.20: Sulphate and Chloride in EMW13 (June 2011 to present)



Note: Axes values are different between Graphs 2.19, 2.20 and 2.21.

In EMW13 a similar pattern to EMW03 is seen although not as pronounced. In December 2016 in EMW13 it is seen that the concentration of sulphate decreased whilst chloride increased as seen in Graph 2.20. This is a continuation of the trend in November which was a return to the inverse relationship normally seen in this well which wasn't so apparent earlier in the year.

Graph 2.21: Sulphate and Chloride in EMW11 (June 2011 to present)



Note: Axes values are different between Graphs 2.19, 2.20 and 2.21.

In EMW11 there is normally no observed 'inverse' seasonal fluctuation between chloride and sulphate concentrations with concentrations generally showing the same relative increase/decrease over the monitoring period as shown in Graph 2.21. Both chloride and sulphate show the lowest concentrations during the winter when groundwater recharge (and dilution) is higher. EMW11 is unusual for the site as the groundwater from this well has very low chloride concentrations (for a groundwater affected by landfill leachate) but high sulphate concentrations. This would suggest that the source of contamination in this well is different from elsewhere on site, possibly due to different waste types in Zone 2A to the rest of the site (high sulphate concentrations can be associated with construction-type wastes such as gypsum-based plasterboard).

Sulphide

As noted above, under reducing conditions, sulphate may be reduced to sulphide. Sulphide analysis is undertaken as part of the six monthly testing and in December 2016, sulphide was detected in nineteen boreholes.

On-Site Wells

Six boreholes where sulphide was detected were situated on site, with the highest concentrations detected in the southern part of the site. BH7 recorded a very high concentration of 9.9 mg/l, the highest ever in this well and of any of the wells monitored in December and a significant increase on the June result of 0.503 mg/l. BH42 also recorded an increase in sulphide concentration, albeit much less pronounced, from 0.076 mg/l in June 2016 to 0.14 mg/l. This was slightly below the peak for this well of 0.145 mg/l.

There was also sulphide detected in the eastern part of the site in EMW16 and EMW17 (0.112 mg/l and 0.024 mg/l respectively). This is the first time that sulphide has been detected in EMW17. Sulphide was also detected in two wells near the centre of Zone 1, at BH26 and BH36 (0.026 mg/l and 0.274 mg/l respectively).

Sulphide detection is not unusual in either well, however in the case of BH36, the sulphide concentration was at its highest concentration ever recorded here, up from 0.149 mg/l in June 2016.

Boundary Wells

Four of the boundary wells had sulphide detections, with three of these located near each other along the eastern site boundary with Kerdiffstown House; namely EMW03 (0.241 mg/l), EMW04 (0.103 mg/l) and EMW06 (0.067 mg/l). In the case of EMW03, there has been an increasing trend in sulphide concentration following on from 0.199 mg/l in June 2016 up to the new high for this well of 0.241 mg/l. EMW06, north of EMW03, also recorded its highest ever sulphide concentration in December 2016, the first time that sulphide has been detected above the limit of detection of 0.02 mg/l in this well since monitoring began. In contrast, the EMW04 sulphide concentration dropped from June's 0.435 mg/l.

The boundary well EMW24, at the northernmost site boundary, had a sulphide concentration of 0.3 mg/l, an increase on June 2016 (less than 0.2 mg/l), but significantly below the peak for this well of 1.06 mg/l.

Off-Site Wells

Four boreholes within the grounds of Kerdiffstown House had sulphide detections as follows: EMW02 (0.107 mg/l); EMW05 (0.04 mg/l), located between the site and the Morell River; the bedrock well EMW22 (0.059 mg/l) and the overburden well EMW23 (0.02 mg/l) located behind the house north of the site. In the case of EMW02, December's recorded concentration was the highest ever for this well, increasing from below the limit of detection of 0.02 mg/l in June 2016. Concentrations in this well have been seen to fluctuate between the limit of detection and 0.089 mg/l in the past, with the previous peak recorded in August 2015.

The other five boreholes in which sulphide was detected were located off-site and away from Kerdiffstown House, with the highest detection in off-site wells being in EMW27 south-west of the site at 4.34 mg/l. EMW27 had the highest concentration in the previous round in June 2016, with this December result being the highest ever recorded in this well, up from June's 0.88 mg/l. Adjacent well, EMW28, also recorded an increase in sulphide from below 0.02 mg/l in June 2016 to 0.097 mg/l, the highest concentration here since 0.619 mg/l was detected in October 2012. In the other Foley's field, to the south-east of the site, sulphide was detected in EMW30 at 0.064 mg/l, an increase on June's less than 0.02 mg/l but significantly below the peak concentration of 0.247 mg/l in October 2012.

Two of the Palmerstown Golf Course wells recorded sulphide concentrations, these being EMW32 and EMW33, at 0.026 mg/l and 0.023 mg/l respectively. EMW32 recorded a decrease on the previous round's peak of 0.283 mg/l, while EMW33 saw an increase in concentration from below the limit of detection although still remaining below the peak for this well of 0.049 mg/l recorded in August 2015. Sulphide was not detected at EMW31 following the highest concentration recorded at this well in June 2016.

Arsenic

In certain types of wastes when the pH is low the solubility of many metal and metalloid ions increases and they can become mobilised into the developing leachate. As such, elevated concentrations of trace metals can be indicative of leachate contamination within groundwater. Arsenic has previously been identified in the groundwater above the IGV concentration and is therefore included in the monthly analytical suite. In December 2016 there were a number of exceedances of the IGV (10 µg/l) and GTV (7.5 µg/l) for arsenic as shown in Table 2.3.

Table 2.3: December 2016 Arsenic Exceedances

	GTV	IGV	November 2016
On-Site Wells			
EMW13	7.5 µg/l	10 µg/l	13 µg/l
EMW15			31 µg/l
BH6			35 µg/l
BH7			15 µg/l
BH26			22 µg/l
BH36			23 µg/l
BH42			11 µg/l
Boundary Wells			
EMW03	7.5 µg/l	10 µg/l	15 µg/l
EMW07			16 µg/l
EMW19			14 µg/l
Off-Site Wells			
EMW27	7.5 µg/l	10 µg/l	56 µg/l
EMW28			27 µg/l
EMW33			27 µg/l

Exceedance of the IGV is common for the wells listed in Table 2.3. The concentration in EMW08 has continued to decrease since the all-time high of 84 µg/l in January 2016 and is now at 2.5 µg/l staying below the IGV and GTV for an eighth consecutive month. The concentration in EMW15 has been gradually increasing over the past six months, with the December 2016 concentration of 31 µg/l an all-time high for this well (the previous high concentration though was only marginally below this at 30 µg/l). On-site well BH42 exceeded the IGV for the first time since April 2016, when the value was also 11 µg/l. However, this is still below the peak for this well of 14.2 µg/l in October 2012. The arsenic concentration in EMW03 has increased slightly to 15 µg/l, following a decrease in November to 10 µg/l. A pattern of rise and fall has been observed previously in relation to arsenic concentrations in EMW03.

One exception however is BH6, where the IGV was exceeded for the first time ever in this well since monitoring began here. The December concentration of 35 µg/l was the highest ever recorded in this well and represents a 33.3 µg/l increase on June 2016 when the lowest ever concentration for the well was recorded.

Potassium

Potassium occurs naturally in groundwater but is also a constituent of landfill leachate. The IGV for potassium has been established at 5mg/l. Graph 2.22 illustrates the concentrations that have been recorded in the overburden monitoring wells.

On-Site Wells

In December 2016, the highest concentration of potassium was observed in on-site boundary well EMW13 with a result of 82.4 mg/l, significantly above the IGV of 5 mg/l. This compares to a concentration of 82.9 mg/l recorded during November 2016. Elevated concentrations have been consistently observed in this location since June 2011.

Concentrations of potassium also exceeded the IGV in on-site monitoring wells EMW11 (44.1 mg/l), EMW15 (30.2 mg/l), EMW16 (15.8 mg/l), BH26 (53.6 mg/l) and BH42 (16.1 mg/l). In all of these wells IGV exceedances in potassium are regularly recorded. In EMW12, fluctuating potassium concentrations have been observed

since monitoring began ranging from 1.92 mg/l to 6.95 mg/l. Potassium concentrations had been trending upwards since November 2015, when concentrations rose from 3.3 mg/l to the high of 6.95 mg/l in February 2016. Potassium concentrations have since fallen, but in December 2016 the concentration increased slightly over the previous month to 4.47 mg/l, from 3.71 mg/l while still remaining below the IGTV.

Of the biannually monitored on-site wells, both BH6 and BH7 recorded potassium concentrations above the IGTV at 13.7 mg/l and 21 mg/l respectively. Both of these wells have consistently recorded concentrations above the IGTV. For BH6, a reduction in concentration has been observed from the previous result of 36.6 mg/l in June 2016, with December's concentration being the lowest ever recorded in this well. The concentration in well BH7 is consistent with previous results; in June 2016 a concentration of 19.5 mg/l was recorded, with the range previously recorded here between 11.2 mg/l and 25 mg/l.

Boundary Wells

Concentrations of potassium also exceeded the IGTV (5 mg/l) in boundary monitoring wells EMW03 (18.5 mg/l), EMW19 (6.74 mg/l), EMW04 (15.3 mg/l) and EMW07 (11.3 mg/l). Concentrations in EMW03 have consistently exceeded the IGTV and there has been a generally decreasing trend following a high of 50.1 mg/l in November 2015. The December 2016 concentration is the lowest for this well since monitoring began here.

For the bedrock monitoring well EMW19, the concentration fell for the third consecutive month decreasing from 9.07 mg/l in November 2016. The concentration of potassium at EMW19 had been observed to rise month on month to above the IGTV of 5 mg/l in September 2014 at 6.72 mg/l (Graph 2.23). Concentrations subsequently fell to below the IGTV. However, concentrations had been increasing again from 1.48 mg/l in December 2015 and in April 2016 the concentration rose above the IGTV to 5.64 mg/l, with the rise continuing to 11.3 mg/l in September 2016, the highest level recorded in this well since monitoring began. With concentrations falling again, this pattern of rise and fall is likely an example of a seasonal fluctuation.

Concentrations in EMW04 are consistently above the IGTV and show a fluctuating trend, the previous recorded concentration was 21 mg/l in June 2016. For EMW07, the June 2016 result of 16.5 mg/l was the first time the IGTV had been exceeded in this well since July 2014 (16.7 mg/l). The December result was a slight decrease from June 2016.

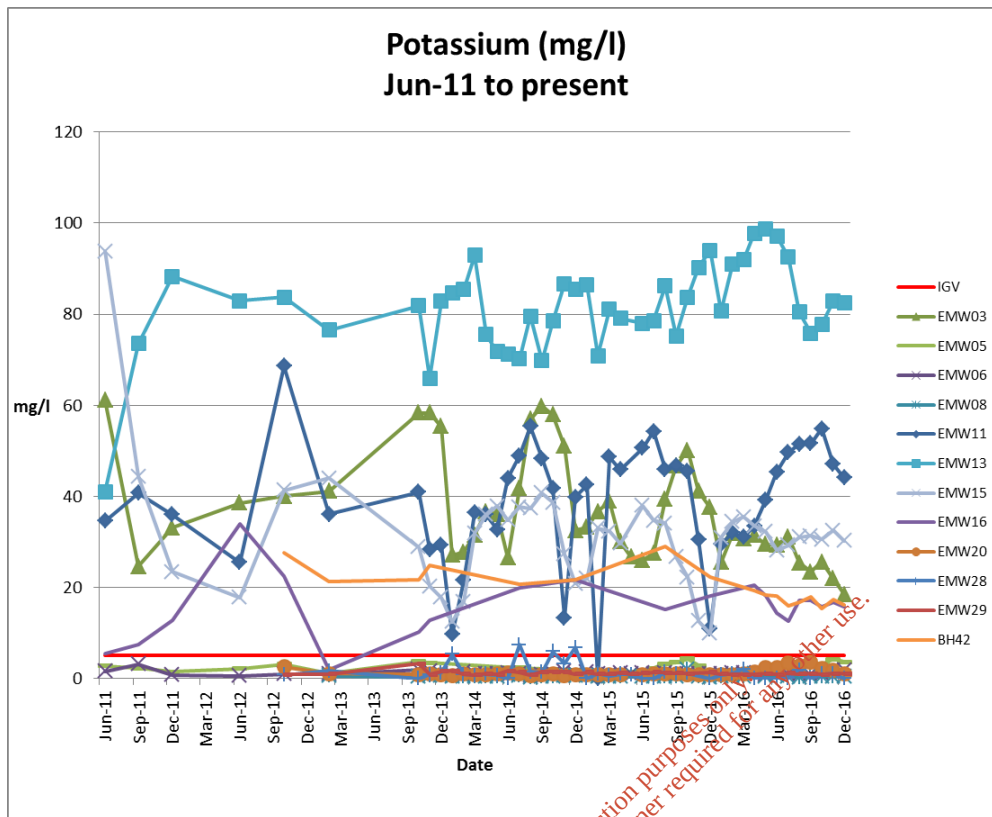
At EMW24, at the northern boundary, potassium was not detected above the limit of detection of 1.8 mg/l, a significant decrease on the June 2016 concentration of 7.83 mg/l, which was the first time the IGTV of 5 mg/l had been exceeded in this well.

Off-Site Wells

The IGTV was exceeded in two of the off-site wells consistent with previous results in June 2016. These were Kerdiffstown House well EMW23 at 11.7 mg/l, a slight increase from 10.9 mg/l in June, and a similar slight increase at Palmerstown Golf Course well EMW32, up to 6.73 mg/l from 5.55 mg/l recorded in June. In both cases they were within their previously recorded ranges of 10.9 mg/l to 14.2 mg/l and 1.86 mg/l to 45.7 mg/l respectively.

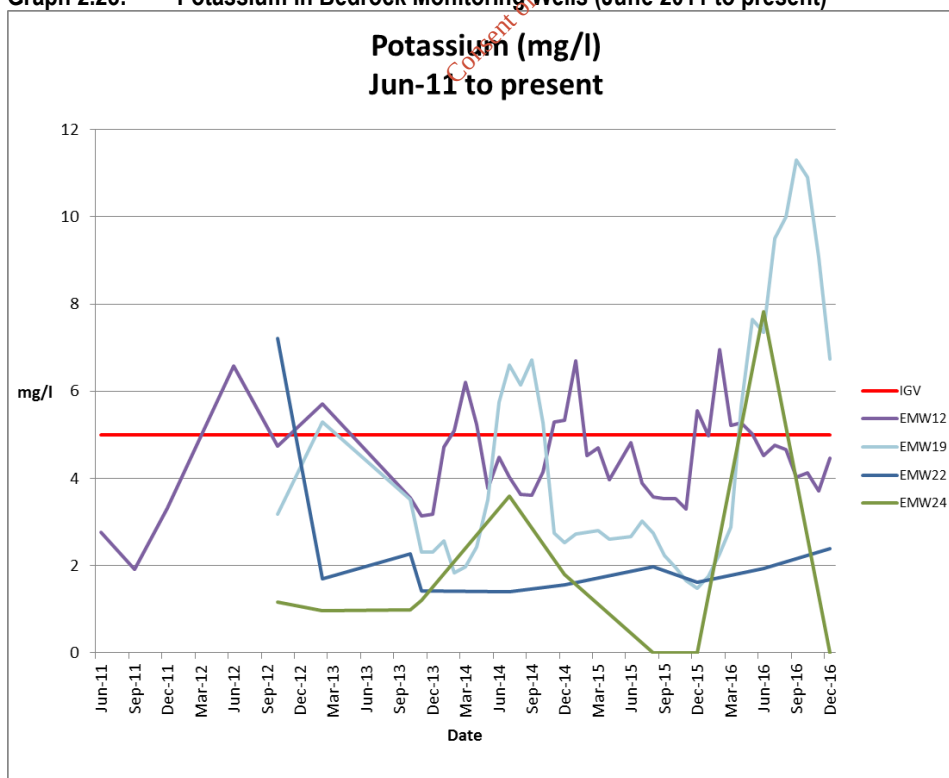
As was the case in November, and has generally been the case in past monitoring rounds, there were no other off-site wells where the potassium concentration exceeded the IGTV in December 2016, with the highest value being 3.68 mg/l in EMW05 which is a decrease from November's concentration of 4.23 mg/l.

Graph 2.22: Potassium in Overburden Monitoring Wells (June 2011 to present)



Note: Axes values are different between Graphs 2.22 and 2.23.

Graph 2.23: Potassium in Bedrock Monitoring Wells (June 2011 to present)



Note: Axes values are different between Graphs 2.22 and 2.23.

Total Organic Carbon (TOC)

Total organic carbon (TOC) is one of the key parameters that are tested on landfill sites such as Kerdiffstown to establish the overall organic content of leachates and groundwater. There is no guideline value assigned for TOC other than 'there should be no abnormal change in recorded concentrations'. The results are presented in Table A.5.

In December 2016, BH26 in Zone 1 again recorded the highest TOC concentration at 103 mg/l. This is consistent with previous high TOC results for this well with a concentration of 106 mg/l recorded in November. High TOC concentrations have also been observed at on-site well EMW13 which is situated close to BH26 to the north west of the site. A TOC concentration of 80 mg/l was recorded in December 2016 which is within the typical range for this well which has fluctuated between 30.9 mg/l and 124 mg/l in the past. These would be viewed as abnormal given the likely background concentrations of <10 mg/l as recorded in several other boreholes.

The TOC value recorded at boundary well EMW03 during December was noted to be 12.3 mg/l. At EMW03, the TOC concentration tends to fluctuate with a marked decrease observed in January 2014 (11.6 mg/l); concentrations subsequently increased up to October 2014 (49.1 mg/l) albeit with a small fall recorded in June 2014. Since June 2015 there was a rise in concentration from around 14 mg/l with the concentration in November 2015 observed at 56 mg/l. From November 2015 to January 2016 the concentration fell again to 14 mg/l. However, the TOC concentration was largely stable from February to July 2016 (range of 25.5 to 30 mg/l) before falling to the current concentration.

TOC concentrations in bedrock monitoring wells EMW12 and EMW19 recorded during December 2016 were relatively low at 2.4 mg/l and 5.1 mg/l respectively, both slight reductions on November's concentrations.

TOC concentrations in the biannually monitored wells were all relatively low at between 0.8 mg/l (GW1D and EMW22) and 12.7 mg/l (BH36B), which are typical of the biannually monitored wells.

Biochemical Oxygen Demand (BOD)

When biodegradable organic matter (including organic waste) is present in waters it provides nutrients for the growth of bacteria and other microorganisms causing them to multiply and, where bacterial numbers are sufficient causing a depletion of dissolved oxygen in the water. The BOD (5 day) test is a measure of the amount of oxygen consumed by microorganisms in breaking down the organic matter.

All of the results are presented in Table A.5. BOD values in the monitoring wells are presented in Table 2.4 for those wells that were above the applicable¹² LOD. 19 of the 34 wells sampled recorded BOD values above the LOD in December 2016.

In December 2016 the highest concentration was recorded in EMW33 at 54 mg/l. This is unusual for this well, having recorded BOD concentrations of 3 mg/l or less during the past sampling rounds. All other wells had concentrations of 10 mg/l or less, as has generally been seen in the past.

¹² The laboratory adjusts the applicable LOD depending on the dilution factor required as a result of interference in the sample such as silt of high chloride.

Table 2.4: December 2016 BOD Detections

Monitoring Well	December 2016	Monitoring Well	December 2016	Monitoring Well	December 2016
<i>On-Site Wells</i>		<i>Boundary Wells</i>		<i>Off-Site Wells</i>	
EMW11	2 mg/l	EMW24	2 mg/l	EMW05	3 mg/l
EMW13	10 mg/l			EMW21	1 mg/l
EMW15	1 mg/l			EMW22	2 mg/l
EMW16	1 mg/l			EMW23	2 mg/l
EMW17	1 mg/l			EMW28	2 mg/l
BH6	2 mg/l			EMW31	4 mg/l
BH7	1 mg/l			EMW33	54 mg/l
BH26	10 mg/l				
BH36	2 mg/l				
BH42	2 mg/l				
GW2S	1 mg/l				

Cyanide

Cyanide is a reactive, highly toxic entity which in excessive amount will cause mortality rapidly to humans and to fish. Cyanide was not detected above the limit of detection (0.009 mg/l) in any of the monitoring wells in December 2016. In most cases the cyanide concentration has been below the limit of detection. It has, however, in the past been detected above the limit of detection in BH26 at concentrations of 0.012 mg/l in December 2014 and at 0.01mg/l in July 2015, in EMW11 at concentrations of 0.135 mg/l in June 2014 and 0.016 mg/l in February 2015, and in EMW03 at 0.027 mg/l in April 2016.

Trace Metals/Elements

In certain types of wastes when the pH is low the solubility of many metal ions increases and therefore they can become mobilised into the developing leachate. As such, elevated concentrations of trace metals can be indicative of leachate contamination within groundwater.

Results for trace metals and metalloids during December 2016 are presented in Table A.3. There were a number of exceedances of the respective IGVs/GTVs for these metals, which are summarised in Table 2.5 below.

Table 2.5: Trace Metal and Metalloid Exceedances in December 2016

Parameter	Lower of IGV/GTV (mg/l)	Number of exceedances	Maximum result (mg/l)	Location of maximum result
Arsenic	0.0075	13	0.056	EMW27 (off-site, Foley's Field))
Barium	0.1	21	2.32	BH6 (on-site)
Boron	0.75	5	5.04	BH7 (on-site)
Cadmium	0.00375	1	0.0217	BH7 (on-site)
Chromium	0.03	1	0.052	BH6 (on-site)
Copper	0.03	6	0.646	BH6 (on-site)
Lead	0.01	8	0.621	BH6 (on-site)
Mercury	0.0001	3	0.00123	EMW27 (off-site, Foley's Field)
Nickel	0.015	14	0.543	EMW27 (off-site, Foley's Field)
Zinc	0.1	4	1.860	BH6 (on-site)

Analytical results for dissolved metals in groundwater were broadly similar to those recorded in previous monitoring rounds, both in terms of the number of exceedances against IGVs and GTVs and the location of the exceedances.

The principal exception to this is BH6 and BH7, which accounted for seven of the ten highest results in Table 2.5. There were large increases in the concentrations in a number of metals in these wells in December 2016 compared to the June monitoring round. They are both located in the lower yard in the south east of the site, where there were demolition works taking place at the time. These demolition works may account for some of the increases recorded in December. However, it should be noted that the boreholes had to be sampled with a bailer on this occasion rather than by low-flow pumping. Using a bailer is likely to create more sediment in the sample and even with filtering the finest particles will remain which would result in higher than normal metal concentrations.

As with the June 2016 results, EMW27 was the location for three of the maximum values recorded. The source of this contamination is unknown. Given the groundwater flow direction and metal concentrations identified elsewhere around the site the source does not appear to be landfill leachate and further detailed sampling on a regular basis may provide more data to determine the source.

Organic Compounds

Groundwater samples from all the monitoring wells included in the current monitoring round were analysed for a suite of VOCs, SVOCs, PAHs, TPH, phenols, formaldehyde, acid herbicides and organo-chlorine pesticides.

The results for organic compounds are summarised below and the data are shown in Table A.6.

Polycyclic Aromatic Hydrocarbons (PAHs)

PAH results are shown in Table A.6a. In common with previous monitoring results, PAHs were detected at low to trace concentrations in a small number of monitoring wells including on-site monitoring wells EMW11, EMW12, BH6, BH36 and BH42. As with the June 2016 monitoring, no PAHs were detected in BH26 which is only the second time since November 2013. The highest total PAH concentration reported was 3.71 µg/l in EMW29 located in Foley's Field, south of the site. PAHs are consistently detected at this well, with this being the highest total PAH concentration ever recorded here and representing an increase over the June 2016 concentration of 0.077 µg/l.

In overall terms, concentrations of PAHs detected in groundwater in on and off-site monitoring wells were similar to those in previous monitoring rounds. There are some exceptions, namely off-site and boundary wells EMW05, EMW06, EMW21, EMW22 and EMW24; and on-site well EMW17, all of which recorded their first detections of PAHs during December 2016.

PAHs were detected in the following monitoring wells:

Total PAHs (µg/l) December 2016							
On-Site Wells			Boundary Wells			Off-Site Wells	
EMW11	0.03		EMW03	0.034		EMW02	0.07
EMW12	0.173		EMW04	0.02		EMW05	0.072
BH6	0.01		EMW06	0.203		EMW08	0.32
BH36	0.422		EMW24	0.031		EMW21	0.023
BH42	0.469		For inspection purposes only. Consent of copyright owner required for any other use.			EMW22	0.014
						EMW27	0.143
						EMW28	0.162
						EMW29	3.71
						EMW30	0.042
		EMW32			0.084		

Total Petroleum Hydrocarbons (TPH)

TPH (as measured by the VPH/EPH C5-C44 analysis) is reported in the majority of monitoring boreholes to be below the limit of detection. TPH was detected in only one sample, namely EMW28 (off-site in Foley's Field) at 17 µg/l.

Semi Volatile Organic Compounds (SVOCs)

Excluding phenols (see below for consideration of phenolic compounds), SVOCs were absent in the groundwater samples.

Trace concentrations of target list compounds have been detected in past monitoring rounds in on-site monitoring wells. However, in all cases they have been reported close to the limit of detection and to date no compounds have been reported consistently at elevated concentrations in any of the monitoring wells monitored.

Volatile Organic Compounds (VOCs)

As with the SVOCs, VOCs were generally absent in the groundwater samples. Chloroform was detected in northern boundary well EMW24 at a concentration of 1.44 µg/l. Chloroform has previously been detected at this monitoring well at similar trace concentrations. Toluene was detected in two wells; EMW08 at 0.59 µg/l and EMW13 at 0.51 µg/l. This is the first time that toluene has been detected in both wells. Previously toluene was detected at Kerdiffstown House wells EMW02 at 1 µg/l, and EMW07 at 1.6 µg/l, but no toluene was detected in these wells for this monitoring round.

Phenolic Compounds

Phenol (identified within the SVOC suite) was reported above analysis detection limits in the following four on-site/boundary monitoring wells:

EMW04 Phenol = 4.3 µg/l

EMW07 Phenol = 2.3 µg/l

EMW15 Phenol = 1.2 µg/l

EMW12 Phenol = 2.5 µg/l

With respect to the speciated phenol analysis which is undertaken during the biannual sampling, phenolic compounds were identified in 7 of the 33 samples. Figure 10 shows an overview of the distribution of speciated phenols during December 2016. The highest total phenol concentration from the speciated analysis was for monitoring well EMW13 within the Zone 1 landfill at 98 µg/l. Phenols have been detected in this borehole on all sampling occasions and this well also recorded the highest phenol concentration in the June 2016 sampling round at 90 µg/l. The speciated analysis showed that trimethylphenols were the dominant species at 78 µg/l in this monitoring well.

Analysis results from earlier monitoring rounds have indicated the presence of phenolic compounds in on-site monitoring wells at similar concentrations to those identified in December 2016. However, in December 2016, the total speciated phenol concentration in BH26, while up on June's 5.2 µg/l to 36 µg/l, is still significantly lower than the high recorded here at 230 µg/l in August 2015. As with the June monitoring, no phenols were detected above the limit of detection at BH42. There were no phenols detected in BH36 in December after detection in June 2016 for the first time since July 2014. There was no phenol detected in off-site well EMW08 in December 2016, following detection for the first time in June 2016. The only off-site well where phenol was detected was in EMW27, in Foley's Field at a concentration of 3.2 µg/l. This was the first time that phenol has been detected above the limit of detection of 0.5 µg/l in this well.

Formaldehyde

During the current round of monitoring, formaldehyde was detected in a total of seven monitoring wells: on site in the following four wells; EMW13 (0.053 mg/l), EMW15 (0.143 mg/l), BH6 (0.136 mg/l) and BH26 (0.103 mg/l); at the site boundary in EMW07 (0.063 mg/l) only; and off-site in the following two wells; EMW28 (0.035 mg/l) and EMW31 (0.857). In this round EMW31 has the highest concentration, which is consistent with previous results, although no formaldehyde was detected in this well in June 2016.

Herbicides & Pesticides

The groundwater samples were analysed for a standard suite of acid herbicides and organo-chlorine pesticides. In December, three of the four compounds typically detected were detected above the respective laboratory detection limits. These are shown below and Figure 11 provides an overview of the distribution of mecoprop on and off site during December 2016.

Mecoprop is an active ingredient in many broadleaf weed killers and has previously been detected in past monitoring events. For the December 2016 monitoring round, concentrations in excess of the IGV of 10 µg/l are reported at two locations (EMW13 at 14.4 µg/l and BH26 at 28.6 µg/l) with concentrations above analysis detection limits in 15 of the groundwater samples analysed, including some from the off-site monitoring wells close to the north-eastern site boundary.

Off-site and in boundary wells, mecoprop was not detected above the IGV in any samples with the highest concentration being 1.62 µg/l in EMW03 along the north eastern boundary. Mecoprop was also detected in monitoring well EMW05 and EMW20, both adjacent to the Morell River. EMW05 had a concentration of 0.5 µg/l, an increase on 0.35 µg/l recorded in June 2016, and the highest concentration since July 2014 (0.63 µg/l). EMW20 had a mecoprop concentration of 0.04 µg/l, a decrease on the June 2016 concentration of 0.33 µg/l (the highest ever recorded at this well).

Dichlobenil is also used for weed control. Consistent with previous results, it was reported at trace concentration in four groundwater samples; specifically off site monitoring well EMW04 recorded a concentration 2 ng/l. On site in near boundary monitoring well EMW13 a concentration of 27 ng/l was recorded (below the IGV/GTV of 100ng/l). Also on site in Zone 1, BH26 recorded a concentration of 4 ng/l and in Zone 4 BH6 recorded a concentration of 56 ng/l.

Another compound, dieldrin, was detected in BH6 at a concentration of 7 µg/l during December 2016 (this compound has been detected in this monitoring well on previous occasions). A common use of dieldrin was as a soil insecticide prior to 1970. There is no IGV associated with dieldrin.

It should be noted that chlpyralid was not detected in any well during December 2016 having been detected in June 2016 at on-site borehole BH2 at a concentration of 0.06 µg/l, below the IGV of 0.1 µg/l. This broadleaf weed killer had been detected previously in this well.

2.2.2.2 Comparison of Results against Proposed DQRA Trigger Levels

The analytical results collected over the past 12 months have been compared to the trigger levels presented in the November 2014 groundwater DQRA report. Trigger levels were proposed in the DQRA for a small number of determinands in a small number of wells. These trigger levels have not been formally adopted in any licence or other regulatory document. Trigger levels were not exceeded in any of the wells as shown in Table 2.6. This is the first month since March 2016 that trigger levels for chloride and ammoniacal nitrogen were not exceeded in EMW20.

Table 2.6: Comparison of December 2016 Results against DQRA Trigger Levels

Determinand	Concentration (Last 12 months) (mg/l)		Concentration (mg/l) (December 2016)	Trigger Level (mg/l)	Comment
	Min	Max			
EMW02					
Chloride	<3.7	14.1	7.6	50.5	Monitored three times since December 2015; no exceedances
Ammoniacal nitrogen	<0.06	<0.06	<0.06	1.3	Monitored three times since December 2015; no exceedances
Phenol	<0.0001	0.00015	<1e-4	0.0001	Monitored three times since December 2015; one exceedance in December 2015
Mecoprop	<4e-5	<4e-5	<4e-5	0.00018	Monitored three times since December 2015; not detected above limit of detection
EMW03					
Chloride	44.6	114	59.3	237.7	Monitored monthly; no exceedances
Ammoniacal nitrogen	<0.06	47	23.8	130.7	Monitored monthly; no exceedances
Phenol	<0.0001	0.00078	<0.0001	0.0001	Monitored three times since December 2015; one exceedance in December 2015
Mecoprop	0.00162	0.00306	0.00162	0.032	Monitored three times since December 2015; no exceedances
EMW05					
Chloride	7.6	29.1	24.8	57.3	Monitored monthly, no exceedances
Ammoniacal nitrogen	<0.06	1.58	1.45	3.7	Monitored monthly, no exceedances
Phenol	<1e-4	<1e-4	<1e-4	0.00028	Monitored three times since December 2015; not detected above limit of detection

Determinand	Concentration (Last 12 months) (mg/l)		Concentration (mg/l) (December 2016)	Trigger Level (mg/l)	Comment
	Min	Max			
Mecoprop	5e-5	0.0005	0.0005	0.00153	Monitored three times since December 2015; no exceedances
EMW08					
Chloride	4.8	12.3	8.6	15.4	Monitored monthly; no exceedances
Ammoniacal nitrogen	<0.06	0.62	<0.06	0.4	Monitored monthly; one exceedance: April 2016
Phenol	<1e-4	0.00053	<1e-4	0.0001	Monitored three times since December 2015, one exceedance in June 2016
Mecoprop	<4e-5	<4e-5	<4e-5	0.00004	Monitored three times since December 2015, not detected above limit of detection
EMW20					
Chloride	15.5	39.1	19.5	22.6	Monitored monthly; 8 exceedances: April, May, June, July, August, September, October, November 2016
Ammoniacal nitrogen	0.94	3.06	1.06	1.4	Monitored monthly; 7 exceedances: April, May, June, July, August, September, October, November 2016
Phenol	<1e-4	<1e-4	<1e-4	0.0001	Monitored three times since December 2015; no exceedances.
Mecoprop	<4e-5	0.00033	<4e-5	0.00023	Monitored three times since December 2015; one exceedance in June 2016
EMW21					
Chloride	<3.7	7.3	4.1	32.4	Monitored three times since December 2015; no exceedances
Ammoniacal nitrogen	<0.06	<0.06	<0.06	0.3	Monitored three times since December 2015; no exceedances
Phenol	<1e-4	<1e-4	<1e-4	0.0119	Monitored three times since December 2015; not detected above limit of detection
Mecoprop	<4e-5	<4e-5	<4e-5	0.00014	Monitored three times since December 2015; not detected above limit of detection

2.2.3 Laboratory Analytical Results – Surface Water

In December 2016, grab water samples were collected from the Morell River, canal feeder and Palmerstown Golf Club estate at a total of fifteen locations upstream and downstream of the landfill (as shown on Figure 3) in order to assess any changes in water quality as a result of leachate generated from the waste materials on site. A sample of water from the site's surface water runoff discharge pipe was also collected.

The samples were analysed for the same suite of analytes as the groundwater samples including major ions, metals/metalloids and organic compounds. The inorganic results are presented in Table A.4. Results of analysis of COD, BOD and TOC are presented in Table A.5. The majority of the organic determinands are presented in Table A.6 whilst Table A.6a presents the results from analyses of PAHs detected in surface water samples.

Data obtained from the EPA's HydroNet shows that on the day of sampling, the flow in the Morell River was 0.329 m³/s. On the basis of the historical data (2009 to 2016), this is equivalent to a Q94 flow (i.e. the flow that is exceeded 94% of the time), indicating a low flow in the river at the time of sampling.

Ammoniacal Nitrogen

Morell River

As seen in Table 2.7, ammoniacal nitrogen was not detected above the limit of detection (LOD) (0.06 mg/l) in any sample taken from the Morell River during December 2016. This has consistently been the case since monitoring began here.

Canal Feeder

Ammoniacal nitrogen levels have been elevated at SW13 since monitoring commenced in October 2013. A concentration of 3.48 mg/l was detected in December 2016, an increase from 0.06 mg/l in November. This is the highest concentration seen here since July 2015. Ammoniacal nitrogen was below the LOD in all other canal feeder samples except for SW10 (downstream of the site discharge pipe) where 0.38 mg/l was detected which is within the typical range of fluctuation at this location. In June 2016 the sample from SW10 was below the LOD but in December 2015 the concentration was 0.37 mg/l. The site discharge sample was below the LOD, where concentrations tend to fluctuate month on month. Downstream locations SW11 and SW12 were below the LOD as is generally the case at these monitoring locations.

Palmerstown Golf Course

Samples taken from the watercourses on the PGC, namely two golf course lakes and the Hartwell River, showed low concentrations in the two downstream samples (maximum of 0.2 mg/l). The results at these two locations were similar to the June 2016 round of monitoring, with both being well below their respective peaks of December 2014 (0.5 mg/l in SW07 and 0.6 mg/l in SW14). Ammoniacal nitrogen was not detected above the limit of detection (0.06mg/l) in the upstream samples or samples taken from adjacent to the site.

Table 2.7: December 2016 Surface Water Ammoniacal Nitrogen Results

Water Body	Sampling Location	Ammoniacal Nitrogen (mg/l)	Orientation from site
		December 2016	
Morell River	SW01	<0.06	Upstream SE
	SW02	<0.06	Upstream E
	SW03	<0.06	Adjacent E
	SW04	<0.06	Adjacent E
	SW05	<0.06	Downstream NE
Canal Feeder	SW13	3.48	Upstream S
	Site Discharge	<0.06	Adjacent to S
	SW10	0.38	Downstream S
	SW11	<0.06	Downstream SW
	SW12	<0.06	Downstream SW
Watercourse on PGC	SW16	<0.06	Upstream SE (Hartwell)
	SW08	<0.06	Upstream SE (Hartwell)
	SW06	<0.06	Adjacent E (Lake)
	SW15	<0.06	Adjacent E (Lake)
Watercourse on PGC	SW14	0.19	Downstream NE (Lake)
	SW07	0.2	Downstream NE (Lake)

Major Ions

As discussed above, in terms of major ions, the presence of inorganic macro components which include commonly occurring cations and anions may be indicative of leachate generated from a landfill such as Kerdiffstown. The results for major ions in surface water samples were generally consistent with those observed since October 2013 with no indication of significant impact of leachate on the river quality.

Phosphate

Phosphates in surface waters can be from natural sources such as soils, but also man-made such as agricultural run-off and fertilisers. There is currently no EQS for total phosphate in surface waters.

Morell River

The Morell River continued to have phosphate concentrations below the limit of detection of 0.37 mg/l. Phosphate has never been detected at any of the monitoring points in the Morell River.

Canal Feeder

Phosphate was detected in the canal feeder during December 2016. Phosphate has been detected in all of the canal feeder monitoring points in the past. However, the concentrations measured in December were the highest ever for SW11, SW12 and SW13. The highest concentration was detected in SW13 where phosphate was measured at 2.45 mg/l, a large increase from the June 2016 concentration which was below the limit of detection, and marginally higher than the previous peak of 2.21 mg/l in August 2015.

Phosphate was also found downstream of the site in SW11 (at 0.64 mg/l) and SW12 (at 0.58 mg/l). In both cases this represents a large increase on the June round of monitoring with both having been below the limit of

detection during that round. The phosphate concentration is also significantly above the previous peaks at both points, with both having previously peaked in December 2015 (SW11 at 0.16 mg/l and SW12 at 0.18 mg/l).

The large increase in phosphate here during this monitoring round may have been due to the weather conditions before and during the sampling. There had been a period of dry weather followed by heavy and persistent rain. This rain may have washed in pollutants which had built up on the surrounding roads and fields during the dry period.

Palmerstown Golf Course

All of the waterbodies sampled in the golf course had phosphate concentrations below the limit of detection. This has generally always been the case in these waterbodies.

TOC, COD and BOD

Results of TOC analysis are presented in Table A.5 and summarised below in Table 2.8.

The determination of TOC is complementary to the oxygen demand analyses (biochemical and chemical) discussed below and, in strict terms, it is a better indicator of organic content in that it is a direct measurement of carbon.

Morell River

TOC results were noted to vary slightly between 1 mg/l and 1.3 mg/l as the river passes the site as shown in Table 2.8. In December the TOC concentration upstream at SW01 was the highest at 1.3 mg/l, while the lowest was at SW05, downstream of the site at 1 mg/l. There is therefore a tentative indication of decreasing TOC concentrations from upstream to downstream, although all TOC concentrations were low as has been the case in previous monitoring rounds.

Canal Feeder

A particularly high TOC reading of 8.4 mg/l was detected at SW13 upstream of the site in December 2016. This compares with a more typical result of 2.5 mg/l as recorded in November 2016. This is the highest TOC in SW13 since November 2015 when a concentration of 10 mg/l was detected. The sample from SW13 was taken on December 13th, following a spell of rainfall the night/morning before which may have washed in organic matter from the nearby roads and fields and increased the TOC. This is similarly seen with other determinands such as chloride, which is often elevated at SW13 during the summer due to road salt being washed in to the canal feeder.

TOC in the canal feeder is usually found to rise between SW13 to SW10 past the outflow from the site. A TOC in December 2016 at SW10 of 4 mg/l is similar to that recorded at SW10 in June 2016 (4.4 mg/l), but is a decrease on the upstream value at SW13. In December the TOC concentration generally falls as the stream flows past the site, with SW11 at 4.2 mg/l and SW12 (the furthest downstream sample) having the lowest concentration at 2.6 mg/l.

Palmerstown Golf Course

TOC concentrations were consistent with previous monitoring rounds on the PGC Estate at between 1.5 and 3.5 mg/l.

Table 2.8: December 2016 Surface Water TOC Results

Water Body	Sampling Location	TOC (mg/l)	Orientation from site
		December 2016	
Morell River	SW01	1.3	Upstream SE
	SW02	1.1	Upstream E
	SW03	1.1	Adjacent E
	SW04	1.1	Adjacent E
	SW05	1	Downstream NE
Canal Feeder	SW13	8.4	Upstream S
	Site Discharge	1.8	Adjacent to S
	SW10	4	Downstream S
	SW11	4.2	Downstream SW
	SW12	2.6	Downstream SW
Watercourse on PGC	SW16	3.5	Upstream SE (Hartwell)
	SW08	1.5	Upstream SE (Hartwell)
	SW06	2.8	Adjacent E (Lake)
	SW15	3.5	Adjacent E (Lake)
Watercourse on PGC	SW14	3.3	Downstream NE (Lake)
	SW07	3.4	Downstream NE (Lake)

BOD and COD

Results of BOD and COD analysis are presented in Table A.5 and summarised below in Table 2.9. The BOD concentrations in rivers often increase during periods of heavy rain and high river flows as organic matter is washed in from the land and farmyards.

Morell River

Results for the samples obtained from the Morell River in December 2016 were below the limit of detection of 1 mg/l, which is similar to the previous round. With respect to COD, and unlike the previous four rounds, the concentrations generally fell as the river flowed past the site. SW01 had a COD concentration of 13 mg/l, which increased to 18 mg/l at SW02, shortly after the inflow of the Hartwell. From SW03 to SW05 there was no COD detected above the LOD of 11 mg/l. This trend had more typically been seen in the Morell River prior to August 2016, with SW05 generally not having a COD above the applicable LOD.

Canal Feeder

The highest concentration of BOD (6 mg/l) in the canal feeder was recorded at SW13, upstream of the site discharge point. As with TOC, this was the highest at SW13 since November 2015. BOD was recorded as below the limit of detection (1 mg/l) in November 2016. The BOD was lower downstream of the site discharge with all results the same or reduced on the previous monitoring rounds.

Notably high COD concentrations were recorded at all monitoring points other than at the site discharge. At SW13, a concentration of 67 mg/l was recorded in December 2016 compared to 27 mg/l recorded in November. Elevated concentrations were also recorded at other locations. In all cases the COD concentrations were higher

than the previous round of sampling. As with the TOC, this may be explained by relatively heavy rainfall the morning before and during sampling in the canal feeder.

Palmerstown Golf Course

All six PGC samples contained BOD concentrations at or below the limit of detection. COD results in the PGC samples were above the limit of detection (11 mg/l) except at SW07 at the most northerly sampling point in one of the lakes in PGC. This contrasts with the previous monitoring results in June 2016, where SW07 was the only site in PGC where a COD above the limit of detection was recorded.

Table 2.9: December 2016 Surface Water BOD & COD Results

Water Body	Sampling Location	BOD (mg/l)	COD (mg/l)	Orientation from site
		Dec-16	Dec-16	
Morell River	SW01	<1	13	Upstream SE
	SW02	<1	18	Upstream E
	SW03	<1	<11	Adjacent E
	SW04	<1	<11	Adjacent E
	SW05	<1	<11	Downstream NE
Canal Feeder	SW13	6	6	Upstream S
	Site Discharge	<1	<11	Adjacent to S
	SW10	<1	23	Downstream S
	SW11	2	32	Downstream SW
	SW12	2	41	Downstream SW
Watercourse on PGC	SW16	<1	12	Upstream SE (Hartwell)
	SW08	1	13	Upstream SE (Hartwell)
	SW06	<1	17	Adjacent E (Lake)
	SW15	1	21	Adjacent E (Lake)
Watercourse on PGC	SW14	<1	24	Downstream NE (Lake)
	SW07	<1	<11	Downstream NE (Lake)

Chloride

Morell River

An unusually elevated chloride concentration of 33.5 mg/l was detected at upstream location SW01 in December 2016 as shown in Table 2.10. This is the highest chloride concentration ever recorded at this location or at any of the Morell River locations. There had been cold conditions and some rain previous to the sampling in the river and the elevated chloride concentration may therefore be attributed to road salt being washed into the river. The chloride had reduced to more typical concentrations in SW02, just upstream of the site and shortly after the inlet of the Hartwell tributary.

There is typically very little variation in chloride concentrations in the Morell River when comparing upstream to downstream concentrations as indicated in Graph 2.24, and concentrations at the other sampling sites are similar to previous monitoring rounds. On most occasions the chloride concentration is marginally higher downstream than upstream, although this wasn't observed in December 2016.

Canal Feeder

Similar to the TOC and COD concentrations, the December results show some particularly elevated chloride concentrations at locations in the canal feeder. In particular, a chloride concentration of 70.2 mg/l at SW13 upstream of the site was recorded in December compared with 23.3 mg/l in November. This is likely to be caused by road salt being washed into the stream upstream of the site as has been seen in past winters.

In a reverse to the trend seen in recent months, the chloride concentration at SW13 was higher than downstream concentrations, with the concentration falling from 70.2 mg/l at SW13, to 56mg/l at SW10, to 52.6 mg/l at SW11 and 25 mg/l at SW12. This is the first time since April 2016 that the chloride concentration has been lower at SW11 than at SW13.

Palmerstown Golf Course

Concentrations of chloride for samples obtained from watercourses on the PGC Estate ranged from 18.6 mg/l to 22.9 mg/l which is approximately similar to previous rounds of sampling although slightly higher than the June 2016 results which ranged from 16.2 mg/l to 18.2 mg/l.

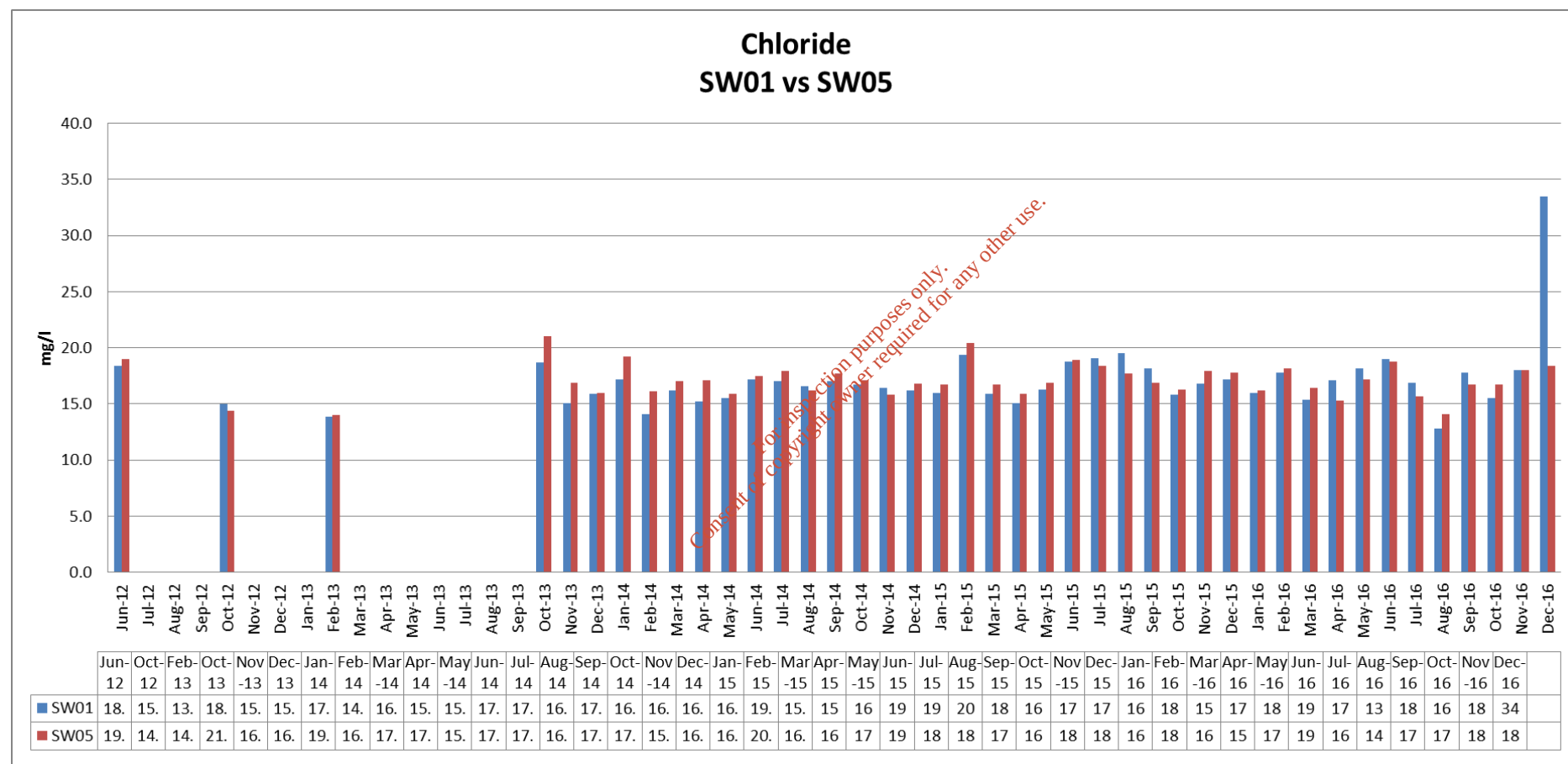
At two sampling points, namely SW08 and SW16, the highest chloride concentrations since monitoring began were recorded. The concentration at SW08 increased in December 2016 to 21.9 mg/l from 16.4 mg/l in June 2016, while SW16 increased to 22.2 mg/l from 18.2 mg/l. Both of these monitoring points are located in the Hartwell, the Morell River tributary flowing through the southern end of the golf course.

Table 2.10: December 2016 Surface Water Chloride Results

Water Body	Sampling Location	Chloride (mg/l)	Orientation from site
		December 2016	
Morell River	SW01	33.5	Upstream SE
	SW02	17.3	Upstream E
	SW03	18.9	Adjacent E
	SW04	18.3	Adjacent E
	SW05	18.4	Downstream NE
Canal Feeder	SW13	70.2	Upstream S
	Site Discharge	<3.7	Adjacent to S
	SW10	56	Downstream S
	SW11	52.6	Downstream SW
	SW12	25	Downstream SW
Watercourse on PGC	SW16	22.2	Upstream SE (Hartwell)
	SW08	21.9	Upstream SE (Hartwell)
	SW06	18.7	Adjacent E (Lake)
	SW15	18.6	Adjacent E (Lake)
Watercourse on PGC	SW14	18.8	Downstream NE (Lake)
	SW07	21.9	Downstream NE (Lake)

In comparison to the data from the Morell River, the data collected from the surface water features on the PGC show very similar chloride concentrations with no indication that there is significant impact of runoff from the golf course affecting the river quality in the Morell River.

Graph 2.24: Chloride in Morell River – Upstream (SW01) vs downstream (SW05) (June 2012 to Present)



Trace Metals/Elements

Results for trace metals and metalloids are presented in Table 4. There were exceedances of a small number of the respective surface water quality EQSs during December 2016 in the canal feeder. There were no exceedances recorded in any of the other waterbodies sampled, as has largely been the case since monitoring began. There were no trace metals detected in the site discharge.

The EQS for cadmium of 0.2 µg/l was exceeded at SW12, downstream of the site, with a concentration of 0.7 µg/l recorded. Cadmium is very rarely detected in the surface water samples around the landfill site, with this being the first time it has been detected at SW12. Sources of cadmium can include runoff from soils and agricultural runoff. The day in which SW12 was sampled was extremely wet, with persistent rain throughout the day, and so runoff from the surrounding fields may have been the source of this cadmium.

The EQS for copper of 5 µg/l was exceeded in samples from upstream (SW13 at 7.6 µg/l) and downstream (SW11 at 16 µg/l and SW12 at 17 µg/l) in the canal feeder. With the exception of SW10 just downstream of the site discharge outfall where copper was not detected above the limit of detection (1.9 µg/l), the copper concentrations increased from upstream to downstream. Copper has been detected in the canal feeder during previous sampling rounds, with both SW13 and SW10 exceeding the EQS in December 2015, and SW12 exceeding it in June 2016. Sources of copper, like cadmium, are both natural and anthropogenic, with it occurring naturally in soils but also in agricultural runoff and pesticides.

The EQS for lead of 7.2 µg/l was exceeded downstream in the canal feeder at SW11 (9 µg/l) and SW12 (10 µg/l). There was no lead detected upstream. This represents the first time that lead has been detected in the canal feeder since monitoring of it began in 2012.

The EQS for zinc (50 µg/l) was also substantially exceeded at the canal feeder downstream points SW11 (202 µg/l) and SW12 (184 µg/l). Zinc has been detected above the limit of detection (18 µg/l) at all locations in the canal feeder on occasion in the past monitoring rounds. This includes exceedances both upstream and downstream, with SW13 and SW10 recording exceedances in December 2015 (50 µg/l and 70 µg/l respectively), and SW11 and SW12 recording exceedances in October 2013 (60 µg/l and 80 µg/l respectively). The December 2016 concentrations are higher than recorded in this waterbody previously.

Organic Compounds

Surface water samples from the sixteen sampling locations included in the December 2016 monitoring round were analysed for a suite of VOCs, SVOCs, PAHs, phenols, formaldehyde, acid herbicides and organo-chlorine pesticides.

The results for organic compounds (where detected) are summarised below, and also in Table A.6 and Table A.6a.

There were a number of VOCs and SVOCs detected in December 2016, many for the first time. These are summarised in Table 2.11 below. They were predominantly found in the canal feeder, both upstream and downstream of the site.

Table 2.11: VOCs and SVOCs detected in December 2016

Parameter	IGV (µg/l)	Result (µg/l)	Location of result
Benzene	1.0	0.8	SW13 (Canal Feeder)
Chloroform	-	0.36	SW13 (Canal Feeder)
Bromoform	-	0.82	SW04 (Morell River)
		0.6	SW08 (PGC - Hartwell)
		0.26	SW10 (Canal Feeder)
		0.31	SW11 (Canal Feeder)
		0.25	SW12 (Canal Feeder)
1,2,4-Trimethylbenzene	-	28.2	SW13 (Canal Feeder)
1,3,5-Trimethylbenzene	-	5.2	SW13 (Canal Feeder)
Dichloromethane	10	16.4	SW11 (Canal Feeder)
		18.5	SW12 (Canal Feeder)
Toluene	10	0.62	SW13 (Canal Feeder)
Ethyl Benzene	10	11.4	SW13 (Canal Feeder)
m&p-Xylene	10	14.9	SW13 (Canal Feeder)
Isopropylbenzene	-	2.6	SW13 (Canal Feeder)
Naphthalene	1	8.3	SW13 (Canal Feeder)
n-Propylbenzene	-	2.6	SW13 (Canal Feeder)
o-Xylene	10	3.58	SW13 (Canal Feeder)

TPH (as measured by the VPH/EPH C5/C44 analysis) was above the limit of detection in a small number of samples, with detections mainly in the canal feeder. The following detections were made in December 2016:

- SW01 (upstream in the Morell River) = 11 µg/l
- SW13 (upstream in the canal feeder) = 220 µg/l
- SW11 (downstream in the canal feeder) = 93 µg/l
- SW12 (downstream in the canal feeder) = 58 µg/l

Polycyclic aromatic hydrocarbons (PAHs)

Trace concentrations of PAHs were recorded in the surface water samples as shown in the following table (Table 2.12). Please refer to Table A.6a for the breakdown of PAH results.

Table 2.12: December 2016 Surface Water Total PAH Results

Parameter	LOD (µg/l)	Result (µg/l)	Location of result
Total PAH	<0.01	0.153	SW01 (Morell)
		0.064	SW02 (Morell)
		0.024	SW08 (PGC)
		0.035	SW10 (Canal Feeder)
		0.74	SW13 (Canal Feeder)
		0.01	SW14 (PGC - Lake)
		0.01	SW15 (PGC - Lake)
		0.01	SW16 (PGC - Hartwell)

Formaldehyde, Herbicides & Pesticides

Formaldehyde was not detected in any of the surface water samples. Pesticides were recorded in two surface water samples as shown in Table 2.13, with both being downstream of the site in the canal feeder.

Table 2.13: December 2016 Surface Water Pesticide Results

Parameter	LOD	Result	Location of result
Diazinon	<0.003 µg/l	0.006 µg/l	SW11
		0.005 µg/l	SW12

The canal feeder (downstream of the site) was the only location in which any pesticides were found during December 2016. Only one compound was identified, namely Diazinon, at a concentration just above the limit of detection at two of monitoring points. There were no pesticides or herbicides detected in any of the other waterbodies.

Overall, the results indicate good surface water quality in all of the surface water samples with no indications of significant leachate impact (as evidenced by ammoniacal nitrogen, chloride, alkalinity, COD) in any of the samples. However, it is noted that there were trace metals and organic compounds detected in the canal feeder, both upstream and downstream, at higher concentrations than recorded previously. This has potentially occurred due to road runoff as it is noted that prior to sampling the weather had been relatively dry (as indicated by the low flow in the Morell River) with rain at the time of sampling washing off pollutants from roads.

2.3 Potential Pollutant Linkages

The groundwater CSM for Zone 1, considering contaminant sources, pathways and receptors is presented in Figure 6 and summarised below.

Overall the CSM remains the same to that identified during previous groundwater monitoring rounds as well as the DQRA.

Source

The ultimate source for contamination observed at the site is the waste that has been deposited across the site. As water percolates through waste in the uncapped areas of the landfill, leachate will be produced and monitoring of on-site monitoring wells (current and previous) shows clear evidence of leachate impacted groundwater within the overburden deposits beneath the site. However, on-site observations and earlier calculations of leachate generation would indicate that the wastes are currently not fully saturated and a large

proportion of rainfall that enters the waste soaks into the waste rather than generates leachate. However, this may change in the future and as the wastes become saturated more leachate will be produced.

A further source of leachate generation will be groundwater flowing through the wastes. Assessment of site investigation data shows that an area of waste in the north-western area is likely to be up to 5m below the groundwater table. There will be leaching directly from this waste into groundwater. Level data indicates a clear increase in groundwater levels within the overburden during the period from November 2013 through to March 2014 (acknowledging that levels drop again in March) as increased infiltration occurs across the site. More recent groundwater level data indicates a relatively stable level within the overburden. It is also noted that while an increase in groundwater levels increases the potential for direct leaching of contaminants from the waste mass into shallow groundwater, the increased flow of groundwater through the shallow aquifer caused by higher infiltration rates also has the effect of "diluting" leachate strength as evidenced by the decrease in chloride concentrations in monitoring wells installed along or near the north-eastern boundary during the period of higher water levels.

Pathways

The groundwater quality data collected in December 2016 show that leachate contaminated groundwater is present on the site's north-eastern boundary and groundwater level data indicates that groundwater is flowing from the site towards the Morell River. This is consistent with previous observations at the site. The pathway for leachate migration is via the landfill base and any subsequent natural routes connected to the receptor. These routes are considered to be movement of contaminants through the unsaturated zone to the groundwater underlying the site and subsequent movement of the contaminants within groundwater.

The pattern of groundwater flow between the site and the canal feeder suggest there is limited potential for leachate migration from the site through shallow groundwater although it should be noted that there is a direct connection to the site via a surface water drain. The groundwater therefore presents a pathway from the site to the river. If contamination were to enter the river then the river could also act as a pathway with the water being diverted from the river to the Grand Canal or flowing into the River Liffey.

It is noted, however, greatly elevated contaminant concentrations are not observed in groundwater samples from off-site monitoring wells closer to the river and it is possible that attenuation processes are reducing the concentrations of contaminants as they migrate from the site.

Receptors

Based on the groundwater flow direction and contaminant distribution, the principal receptor being considered for the identified contamination is the Morell River, situated to the west of the site. Other surface water features to the east of the site associated with the Palmerstown Golf Club and the canal feeder ditch may also be receptors for groundwater. If contamination were to enter the Morell River then receptors downstream of the river, including abstractions from the River Liffey, may be at risk.

The groundwater itself should also be considered as a receptor although to the east of the site where there is limited potential for use of the groundwater due to the relatively narrow strip of land between the site and the river, this may be considered more a pathway than a receptor. Groundwater can be regarded as potential receptors as future users of groundwater may seek to use this resource (while some of the golf courses in the area have abstraction wells for irrigation there are no known users of drinking water wells locally). It should be noted that while there is clearly impacted groundwater within the overburden deposits directly beneath the site, there is limited evidence of impact in the underlying bedrock.

Current monitoring has shown that while there is contamination in the groundwater beneath the site and near to the north-east site boundary, to date this has not migrated to the river to result in significant impacts on any surface waters as observed through the comparison of upstream and downstream samples collected from an extended network of monitoring points.

3. Summary, Conclusions and Recommendations

3.1 Summary and Conclusions

3.1.1 Groundwater Results

The conceptual model for the site shown in Figure 6 suggests dilution from winter rainfall and that the associated increased recharge is diluting leachate. The model also shows a general increase in groundwater levels within the overburden and bedrock aquifers in response to (likely) increased rates of infiltration.

Water levels recorded in both aquifer units in December 2016 show similar results to November. In summary, overall flow directions within the overburden are similar to those seen previously with a complex pattern of recharge evident over the footprint of the landfill. The bedrock flow directions have also maintained the previously observed direction of flow in a north or north-easterly direction. There is currently limited evidence of off-site movement of contamination through migration of leachate impacted groundwater though it is recommended that monitoring is continued in accordance with the strategy presented within the Groundwater Management Plan.

Groundwater quality data for December 2016 is largely consistent with results obtained during previous sampling rounds completed between June 2011 and November 2016. As with previous monitoring there is evidence of leachate impact in the north and north-eastern boundary areas of the site within the overburden aquifer beneath Zone 1 of the landfill and north of Zone 2B. The highest concentrations of key leachate indicators (EC, ammoniacal nitrogen and chloride) were recorded in monitoring wells close to the north-eastern boundary of Zone 1, rather than under the central area of this zone.

There were no abnormal results recorded in on-site wells during December 2016. As is normally seen, overburden wells recorded generally elevated concentrations of chloride and ammoniacal nitrogen, with EMW13 and BH26 in the northern part of the site being the most pronounced.

BH6 and BH7 in the lower yard to the south-east of the site were noteworthy in that they had elevated concentrations in a number of parameters on this occasion, particularly metals. However, these elevated concentrations were likely to have been caused by the sampling methods as in BH7 a bailer had to be used and in the case of BH6, the water level was very low and the well dried up during sampling resulting in the sample containing a considerable amount of silt.

As previously stated there is evidence of localised leachate impact along the north-eastern boundary of the site, with ammoniacal nitrogen and chloride concentrations in EMW03 being consistently above the IGV. Nearby boundary wells EMW04 and EMW07 show less evidence of contamination than EMW03, with the IGV exceeded in both chloride and ammoniacal nitrogen, but to a much lesser extent than in EMW03. This indicates that much of the leachate movement from Zone 1 along this boundary is localised.

At eastern boundary well EMW19 the determinands for the key leachate indicators have decreased in concentration over the past number of sampling rounds, with this being the case again in December. In the case of chloride it is back below the IGV while for ammoniacal nitrogen it remains above the IGV. Similar trends were seen in the summer of 2014 when many determinands were elevated during the summer months suggesting a possible seasonal effect (although such an effect was not seen in the summer of 2015).

As with previous sampling rounds, elevated ammoniacal nitrogen and chloride concentrations were present in some off-site groundwater monitoring wells located between the site and the Morell River such as EMW05 and EMW20. However the concentrations noted are low when compared to the concentrations recorded in a number of boundary and on-site wells with ammoniacal nitrogen in both wells being only slightly above the IGV.

At EMW20, trigger values for both ammoniacal nitrogen and chloride established as part of a detailed DQRA were not exceeded for first time in nine months. Decreases continued to be recorded in most determinands in EMW20 in December 2016, with determinands largely back to more 'normal' concentrations for this well, with chloride below the IGV and ammoniacal nitrogen slightly above. EMW21, located further north along the Morell

River, consistently remains below the IGV for the key determinands of ammoniacal nitrogen and chloride indicating that leachate migration from the north-eastern boundary is not making it to the river.

Elsewhere, there is currently little evidence to suggest significant off-site movement of contaminated groundwater towards the Morell River based on the results obtained in December 2016. The results obtained in December continue to suggest that while there is leachate contaminated groundwater flowing from the site, this is localised to the north-eastern boundary and is not impacting on the water quality in the Morell River. There are no indications of leachate impact to the north, west and south of the site. The inferred groundwater flow regime for the overburden groundwater shown on Figure 4 indicates an overall south to north or north-east movement of groundwater within the overburden and bedrock aquifer, which suggests that increased concentrations of certain substances in selected monitoring wells to the south and west are not linked to the landfill.

3.1.2 Surface Water Results

Monitoring of surface water samples from the Morell River and canal feeder has been undertaken at key strategic locations during the monthly monitoring rounds to assess whether the landfill is having an adverse impact upon water quality within these water bodies. For this biannual monitoring round additional surface water samples were collected, including samples from water courses on Palmerstown Golf Course.

Morell River

The analytical results from the surface water samples collected during the December 2016 monitoring indicate that water quality in the Morell River is generally good. This has also been the case during previous monitoring rounds since 2011. Water quality in the downstream samples was very similar to water quality in the respective upstream samples. The exception during December was in chloride concentrations. Chloride was elevated upstream of the site at SW01 above the concentrations normally recorded here. However, the chloride concentration was back to normal further downstream at SW02, past the confluence with the Hartwell. It had been cold and wet prior to sampling so it is possible that salt from the road had been washed in by the recent rainfall.

There was no significant increase in the key leachate indicators (ammoniacal nitrogen, chloride and alkalinity) between the respective upstream and downstream samples. For the first time since October, there was no significant fluctuation in COD recorded, with COD decreasing from SW02 to SW03 and remaining below the limit of detection from there.

Canal Feeder

During December 2016 the recent trend of higher downstream concentrations in some determinands has reversed. There were elevations and exceedances in some trace metals and organic compounds both upstream and downstream of the site. Similar elevations were not seen in nearby groundwater wells and this increase may have been caused by runoff from roads and fields from heavy rain shortly before and during the sampling.

Palmerstown Golf Course

The waterbodies within Palmerstown Golf Course show little evidence of impact from the landfill. In December, SW08 and SW16 both contained their highest concentrations of chloride recorded since monitoring began here. Both locations are on the Hartwell River, and may have been impacted by salt runoff from the local roads, as seen in the Morell River.

3.2 Recommended Way Forward

The observations from the monitoring indicate broadly similar conditions to those encountered previously and the previously defined groundwater CSM remains valid. It should be noted that the waste materials in the northern area of the site remain uncapped (and unlined) while the site remains in its current state. Therefore, increased leachate generation within this area of the site can be reasonably anticipated in the future as the

wastes become increasingly saturated through progressive rainfall infiltration. This may in turn lead to increased potential for off-site migration of a plume of groundwater contaminated by landfill leachate towards the Morell River.

Exceedances mentioned in this report are to be considered as part of the current scope of works updating the conceptual site model (CSM) for the site and subsequently revisiting the trigger values when new data have been collected in the on-going ground investigation and groundwater sampling in relation to soils, water levels and water quality.

On the above basis and whilst remediation proposals are being developed it is recommended that regular monthly groundwater sampling and analysis is continued in line with the recommendations made within the Groundwater Management Plan.

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4. Glossary of Abbreviations

BOD	Biochemical Oxygen Demand (mg/l)
C&D	Construction & Demolition
COD	Chemical Oxygen Demand (mg/l)
COPC	Contaminants of Potential Concern
CSM	Conceptual Site Model
DO	Dissolved Oxygen (mg/l)
DQRA	Detailed Quantitative Risk Assessment
EC	Electrical Conductivity ($\mu\text{S}/\text{cm}$)
Eh	Redox potential or oxidation reduction potential (mV)
EIS	Environmental Impact Statement
Fe	Iron
GTV	Groundwater Threshold Value (S.I No. 9 of 2010)
HDPE	High Density Polyethylene
IGV	Interim Groundwater Value
LOD	Limit of Detection
mAOD	metres above Ordnance Datum
Mn	Manganese
N	Nitrogen
NO₂	Nitrite
NO₃	Nitrate
PAH	Polycyclic Aromatic Hydrocarbon
SVOC	Semi volatile Organic Compound
TIC	Tentatively Identified Compound
TOC	Total Organic Carbon
TPH	Total Petroleum Hydrocarbons
VOC	Volatile Organic Compound

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Appendix A. Tables

Table A.1: Sampling and Analysis Inventory December 2016

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Table 1 - Sample Inventory

Analytical Suite	EMW02	EMW03	EMW04	EMW05	EMW 06	EMW07	EMW08	EMW11	EMW12	EMW13	EMW 15	EMW 16	EMW 17	EMW18	EMW19	EMW20	EMW21	EMW22	EMW23	EMW24	EMW27	EMW28	EMW29	EMW30	EMW31	EMW32	EMW33	BH6	BH7	GW1D	GW2S	BH26	BH36B	BH42	Samples
pH, conductivity	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	34
Anions & Cations	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	34
Metals	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	34
Free, total cyanide	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	34
VPH/EPH >C5 - C44	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	34
Alkalinity	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	34
COD, BOD, TOC	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	34
SVOCs with TICs	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	34
VOCs with TICs	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	34
Formaldehyde	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	34
Pesticides	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	34
PAHs	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	34
Speciated phenols	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	34

Analytical Suite	SW01	SW02	SW03	SW04	SW05	SW06	SW07	SW8	Site Discharge	SW10	SW11	SW12	SW13	SW14	SW15	SW16	Total
pH, conductivity	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	16
Anions & Cations	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	16
Metals (incl. Fe, Mn)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	16
Free, total cyanide	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	16
VPH/EPH >C5 - C44	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	16
Alkalinity	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	16
COD, BOD, TOC	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	16
SVOCs with TICs	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	16
VOCs with TICs	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	16
Formaldehyde	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	16
Pesticides	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	16
PAHs	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	16
Speciated phenols	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	16

Major Ions: Ca, Mg, K, Na, SO₄, Cl, F, PO₄, NO₃, NO₂, Alkalinity, Ammoniacal Nitrogen
Metals: Fe, Mn, As, Ba, Be, B, Cd, Cr, Cu, Pb, Se, Hg, Ni, V, Zn, Al, Sb
SVOC - Semi-Volatile Organic Compound
VOC - Volatile Organic Compound
TICs - Tentatively Identified Compounds
TPH - Total Petroleum Hydrocarbons
Pesticides comprises acid herbicides and organo-chlorine pesticides
Speciated phenols - Catechol, Total Cresol, Total Xylenol, Naphthol, Phenol

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Table A.2: Field-Based Measurements and Readings December 2016

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Table 2 - Groundwater Field Parameters and Observations

Piezometer	DTGW (mbct) - 2016	Depth to Base (mbct)	Casing Top Elevation (mAOD)	Groundwater Elevation (mAOD) November 2016	Temp (°C)	DO (mg/l)	Specific Conductivity (µS/cm)	Field pH (-)	Eh (mV)	Comment / Purged Volume
EMW02	1.61	5.90	81.06	79.45	10.4	3.3	728.7	7.0	+184.1	
EMW03	8.62	16.20	86.26	77.64	11.2	0.4	1563.7	6.8	-19.0	
EMW04	3.39	7.25	83.72	80.33	11.3	3.2	1408.0	6.8	+203.3	
EMW05	1.55	5.82	79.78	78.23	10.2	1.9	708.4	7.0	+257.9	
EMW06	4.98	7.23	87.20	82.22	11.3	7.9	549.7	7.1	+228.1	
EMW07	2.19	5.65	81.02	78.83	12.1	0.3	1162.0	7.0	-142.1	
EMW08	1.49	4.91	80.24	78.75	11.1	0.2	591.8	7.0	-55.4	
EMW11	19.41	22.42	97.93	78.52	11.6	5.4	2201.0	6.8	+272.1	
EMW12	15.14	19.42	91.88	76.74	13.8	6.2	1085.0	7.0	+225.4	
EMW13	15.83	19.60	95.43	79.60	17.4	0.2	3352.5	6.8	-87.7	
EMW14	Dry	22.73	100.81	Dry						Well dry - no sample possible
EMW15	13.37	17.89	92.09	78.72	15.9	0.3	1651.9	7.0	-109.3	
EMW16	12.60	17.98	92.24	79.64	13.9	0.3	2268.1	6.6	+47.1	
EMW17	12.96	20.72	92.93	79.97	11.4	0.3	558.1	7.3	+21.7	
EMW18	2.43	6.14	81.01	78.58	11.7	0.2	515.8	7.3	-119.0	
EMW19	2.71	15.85	80.75	78.04	11.7	0.1	951.7	6.9	-84.4	
EMW20	1.80	6.34	80.52	78.72	11.2	2.5	631.9	7.1	-83.1	
EMW21	4.60	6.82	82.36	77.76	11.0	6.9	563.1	7.0	+302.3	
EMW22	12.23	23.65	88.19	75.96	10.1	0.1	766.0	7.1	+224.5	
EMW23	9.21	14.76	88.51	79.30	10.2	1.9	708.0	7.0	+257.5	
EMW24	16.48	26.11	93.24	76.76	10.2	5.9	595.5	7.2	+269.0	
EMW27	1.90	15.20	82.21	80.31	10.6	0.2	736.0	6.9	-66.3	
EMW28	1.56	8.14	82.52	80.96	11.1	0.3	816.7	6.8	-44.0	
EMW29	0.75	7.83	82.14	81.39	10.5	0.4	933.4	6.9	+29.6	
EMW30	12.02	11.81	91.25	79.23	10.2	9.3	656.9	7.0	+231.4	
EMW31	1.65	6.39	80.30	78.65	11.3	0.2	915.2	6.9	-102.9	
EMW32	3.08	11.45	81.53	78.45	10.7	0.5	713.7	7.0	-20.9	
EMW33	1.81	5.71	81.53	79.72	10.2	0.8	585.0	7.4	-96.7	
BH26	27.42	36.28	106.59	79.17	28.2	0.8	3514.6	6.6	-70.4	
BH36B	35.51	39.02	113.40	77.89	25.5	1.6	1103.7	6.8	-79.1	
BH39B	Dry	13.84	97.58	Dry						Well dry - no sample possible
BH40B	Dry	16.30	94.76	Dry						Well dry - no sample possible
BH42	3.69	10.10	82.77	79.08	11.7	2.7	1172.0	7.3	-66.3	Hand pumped due to damaged casing
BH2	8.15	8.42	92.89	84.74						Insufficient water in well for sampling
BH6	1.84	2.38	81.13	79.29	9.5	5.2	1162.5	7.3	+127.9	Well dried during sampling - silty
BH7	2.11	5.04	81.11	79.00	11.6	7.3	837.9	7.5	+10.8	Bailer used - pump unavailable
GW1D	14.36	18.90	92.20	77.84	10.6	6.5	771.3	7.5	+63.0	
GW2S	2.23	11.28	80.98	78.75	10.9	0.1	267.2	8.5	-147.7	

Notes:

µS/cm - micro Siemens per centimetre

mAOD 0 metres above ordnance datum

DTGW - Depth to ground water mbct - metres below casing top

EMW18-EMW42 inclusive top of casing height is ground surface +0.3m

Table A.3: Inorganic Compounds in Groundwater

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Table 3 - Results of Laboratory Analysis of Groundwater for Inorganic Compounds

						Biannual	Monthly	Biannual	Monthly	Monthly	Biannual	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly (as of April 2016)	Biannual	Biannual	Monthly	Monthly	Biannual	Biannual
Analyte	Frequency	Units	IGV	GTV	IGV	EMW02	EMW03	EMW04	EMW05	EWM06	EMW07	EWM08	EMW11	EMW12	EMW13	EMW15	EMW16	EMW17	EMW18	EMW19	EMW20	EMW21	EMW22
					GTV																		
Sampling Date					Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16
Calcium , Total as Ca	M	mg/l	200	-	200	155	200	239	185	211	187	122	360	195	216	255	349	95.1	89.3	169	119	122	106
Magnesium, Total as Mg	B	mg/l	50	-	50	10	31.3	33.5	12.5	11.6	18.8	7	61.7	18.8		35.3	39.9	10.9	7.7	18	8.3	4.3	19.7
Potassium , Total as K	M	mg/l	5	-	5	1.74	18.5	15.3	3.68	1.9	11.3	0.53	44.1	4.47	82.4	30.2	15.8	3.6	1.06	6.74	1.09	0.61	2.38
Sodium , Total as Na	M	mg/l	150	150	150	11.2	38.5	45	21.4	2.1	29.2	4.09	74.8	23.2	204	54.5	110	11.2	8.74	25.2	10.1	3.08	15.5
Alkalinity as CaCO3	M	mg/l	-	-	-	399	835	626	470	486	470	333	538	272	1630	606	803	264	279	438	332	322	322
Sulphate as SO4	M	mg/l	200	187.5	200	32.2	66.2	135	23.5	14.9	188	8.6	805	321	78.6	295	410	8.8	10.5	142	17.5	6.1	84.1
					187.5																		
Chloride as Cl	M	mg/l	30	24-187.5	30	7.6	59.3	40.5	24.8	5.7	31.1	8.6	51.7	31	221	50.3	153	19.5	17.4	27.5	19.5	4.1	35
					187.5																		
Nitrate as NO3*	M	mg/l	25	37.5	25	26.9	<3.1	129	9.7	<3.1	<3.1	<3.1	71.3	29.2	5.9	<3.1	<3.1	<3.1	<3.1	21.4	5.7	<3.1	7.6
					37.5																		
Ammoniacal Nitrogen as N [#]	M	mg/l	0.12	0.05-0.14	0.12	<0.06	23.8	0.27	1.45	<0.06	4.89	<0.06	<0.06	<0.06	165	14.4	5.18	1.39	0.44	3.83	1.06	<0.06	<0.06
					0.14																		
Nitrite as NO2*	B	mg/l	0.10	0.38	0.10	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	1.09	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28
					0.38																		
Phosphates , Total as PO4*	B	mg/l	0.03	0.035	0.03	0.80	0.98	0.86	0.80	1.53	6.44	2.33	<0.37	<0.37	0.89	2.60	1.04	<0.37	0.86	2.20645161	1.23	<0.37	0.74
					0.035																		
Boron, Total as B	B	mg/l	1	0.75	1	0.26	0.42	0.84	0.29	<0.23	0.32	<0.23	1.09	<0.23	2.01	0.6	0.34	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23
					0.75																		
Sulphide as S	B	mg/l	-	-	-	0.107	0.241	0.103	0.04	0.067	<0.020	0.020	<0.02	<0.020	<0.020	<0.020	0.112	0.024	<0.020	<0.020	<0.020	<0.020	0.059
Iron , Total as Fe	M	mg/l	0.2	-	0.2	1.89	59.8	1.81	4.53	8.55	18.2	4.31	0.66	<0.23	12.5	18.9	2.9	<0.23	3.55	14.4	7.39	0.28	0.91
Manganese , Total as Mn	M	mg/l	0.05	-	0.05	0.199	1.82	0.427	0.933	2.08	1.32	0.756	0.059	0.007	1.17	6.4	4.01	1.37	0.824	1.53	1.06	0.075	0.657
Arsenic, Total as As	M	µg/l	10	7.5	10	2.2	15	2.5	4.4	5.4	16	2.5	<1	<1	13	31	3.8	1.1	7.2	14	3.4	<1	<1
					7.5																		
Barium, Total as Ba	B	µg/l	100	-	100	34	610	148	74	141	290	108	35	49	495	289	170	54	82	264	120	23	80
Beryllium, Total as Be	B	µg/l	-	-	-	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1
Cadmium , Total as Cd	B	µg/l	5	3.75	5	0.8	1.7	1.2	<0.6	3.3	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	1.4	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
					3.75																		
Chromium , Total as Cr	B	µg/l	30	37.5	30	2	7	2	3	7	3	<2	4	2	8	<2	3	<2	<2	<2	<2	<2	<2
					37.5																		
Copper, Total as Cu	B	µg/l	30	1500	30	6.5	24	9.3	5.9	31	8.6	4.8	5.8	2.1	9.1	2.2	23	<1.9	<1.9	<1.9	<1.9	<1.9	8.2
					1500																		
Lead , Total as Pb	B	µg/l	10	18.75	10	8	20	8	10	38	10	<6	<6	<6	10	<6	10	<6	<6	<6	<6	<6	7
					18.75																		
Mercury, Total as Hg	B	µg/l	0.1	0.75	0.1	<0.10	<0.10	<0.10	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
					0.75																		
Nickel , Total as Ni	B	µg/l	20	15	20	10	53	21	11	46	8	5	27	31	38	7	33	5	5	4	4	<3	8
					15																		
Selenium, Total as Se	B	µg/l	-	-	-	0.8	<0.8	<0.8	1.2	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	2	<0.8
Vanadium , Total as V	B	µg/l	-	-	-	4	9	<4	5	15	4	<4	<4	<4	6	<4	4	<4	<4	<4	<4	<4	<4
Zinc, Total as Zn	B	µg/l	100	-	100	30	80	40	20	100	40	<18	30	30	127	<18	30	<18	<18	<18	<18	<18	30
Cyanide, Total	M	µg/l	-	-	-	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9

49

35

Concentration exceeds IGV

Concentration exceeds GTV

* Concentration converted into concentration to correspond with IGV and GTV concentrations:

[#] IGV is for ammonia (as ammonium, reported as NH3 and this has been compared to ammonical-N results. IGV/GTVs converted to appear as N in this table

Phosphate as P → Phosphate as PO4 [Conversion Factor = 95/31]

Freq* = Monthly or bi annual Parameter

LOD VALUE symbol removed for graphs

Table 3 - Results of Laboratory Analysis of Groundwater for Inorganic Compounds

Analyte	Frequency	Units	IGV	GTV	Biannual	Biannual	Biannual	Monthly	Monthly	Biannual	Biannual	Biannual	Biannual	Monthly (as of September 2014)	Biannual	Monthly (as of April 2016)	Biannual	Biannual	Biannual
					EMW23	EMW24	EMW27	EMW28	EMW29	EMW30	EMW31	EMW32	EMW33	BH26	BH36	BH42	GW1D	GW2S	BH6
Sampling Date					Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16
Calcium , Total as Ca	M	mg/l	200	-	141	153	359	337	178	175	172	149	113	158	185	232	145	21.4	360
Magnesium, Total as Mg	B	mg/l	50	-	11.8	17.4	<60.0	8.2	12	10.1	10.6	15.7	11.3	34.2	18.9	21.7	21	10.7	38
Potassium , Total as K	M	mg/l	5	-	11.7	<1.8	<18.0	<1.80	1.1	1.17	1.49	6.73	1.4	53.6	4.85	16.1	1.81	2.15	13.7
Sodium , Total as Na	M	mg/l	150	150	7.79	7.39	<30.0	6.48	15.3	5.42	12.2	9.75	9.18	306	38.4	28.5	14.2	15.6	18.6
Alkalinity as CaCO3	M	mg/l	-	-	389	323	533	571	423	446	467	408	310	1410	419	320	327	104	965
Sulphate as SO4	M	mg/l	200	187.5	26.8	36.6	26	18.1	88.3	8	30.8	24.6	11.1	23.3	25.6	337	108	<4.4	237
Chloride as Cl	M	mg/l	30	24-187.5	11.4	18.4	15.1	9.9	25.2	12.1	19.9	18.2	16.1	412	139	25.1	170	31.8	26
Nitrate as NO3*	M	mg/l	25	37.5	15.6	9.2	<3.1	<3.1	18.3	10.1	<3.1	10.1	<3.1	<3.1	<3.1	<3.1	4.5	<3.1	<3.1
Ammoniacal Nitrogen as N [#]	M	mg/l	0.12	0.05-0.14	<0.06	<0.06	0.38	0.23	0.12	<0.06	2.82	0.12	0.2	129	1.65	3.42	<0.06	0.32	<0.06
Nitrite as NO2*	B	mg/l	0.10	0.38	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28
Phosphates , Total as PO4*	B	mg/l	0.03	0.035	0.58	<3.7	<36.77	<3.68	<0.37	0.77	1.35	0.52	3.68	0.77	1.35	0.92	<0.37	<0.37	1.90
Boron, Total as B	B	mg/l	1	0.75	<0.23	<2.3	<23.0	<2.3	<0.23	<0.23	<0.23	<0.23	<0.23	2.46	<0.23	0.4	<0.23	<0.23	3.94
Sulphide as S	B	mg/l	-	-	0.02	0.3	4.34	0.097	<0.020	0.064	<0.020	0.026	0.023	0.026	0.274	0.14	<0.020	<0.020	<0.020
Iron , Total as Fe	M	mg/l	0.2	-	2.04	3.43	56.4	33.4	0.99	4.2	22	1.9	9.09	5.42	7.54	6.36	<0.23	0.6	48.7
Manganese , Total as Mn	M	mg/l	0.05	-	0.389	0.763	13.7	2.59	0.035	0.728	2.13	1.25	0.459	1.78	2.94	4.39	0.06	0.061	8.81
Arsenic, Total as As	M	µg/l	10	7.5	<1	2.2	56	27	<1	<1	2.6	<1	27	22	23	11	<1	<1	35
Barium, Total as Ba	B	µg/l	100	-	107	0.102	1210	328	46	0.104	229	189	120	698	330	113	96	16	2320
Beryllium, Total as Be	B	µg/l	-	-	<2.1	<21	<210	<21	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1
Cadmium , Total as Cd	B	µg/l	5	3.75	<0.6	<6	<60	<6	<0.6	0.8	<0.6	<0.6	<0.6	<0.6	2.7	1.3	<0.6	<0.6	<0.6
Chromium , Total as Cr	B	µg/l	30	37.5	3	<20	<200	25	<2	5	<2	3	<2	6	6	5	<2	<2	52
Copper, Total as Cu	B	µg/l	30	1500	7.7	16	187	66	5.3	8.7	10	9.8	2.8	13	38	19	2.2	<1.9	646
Lead , Total as Pb	B	µg/l	10	18.75	7	<60	<600	110	<6	26	7	<6	<6	9	23	21	<6	<6	621
Mercury, Total as Hg	B	µg/l	0.1	0.75	<0.10	0.2	1.23	<0.10	<0.10	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.59
Nickel , Total as Ni	B	µg/l	20	15	9	<30	543	117	6	15	4	11	3	79	37	21	5	3	107
Selenium, Total as Se	B	µg/l	-	-	2.6	1.6	<0.8	1	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	1	<0.8	1.2
Vanadium , Total as V	B	µg/l	-	-	5	<40	<400	<40	<4	7	<4	5	4	<4	9	5	<4	<4	93
Zinc, Total as Zn	B	µg/l	100	-	30	<180	<1800	339	20	60	<18	30	<18	60	80	60	<18	<18	1860
Cyanide, Total	M	µg/l	-	-	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9

49

35

Concentration exceeds IGV

Concentration exceeds GTV

* Concentration converted into concentration to correspond with IGV and GTV concentrations:
IGV is for ammonia (as ammonium, reported as NH3 and this has been compared to ammonical-
Phosphate as P → Phosphate as PO4 [Conversion Factor = 95/31]
Freq* = Monthly or bi annual Parameter

LOD VALUE symbol removed for graphs

Table A.4: Inorganic Compounds in Surface Water

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Table 4 - Inorganic Compounds in Surface Water

Analyte	Freq	Units	Fresh Water EQS (AA)	SW01	SW02	SW03	SW04	SW05	SW06	SW07	SW08	Site Discharge	SW10 (Canal Feeder upstream)	SW11
Sampling Date				Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16
Calcium , Total as Ca	M	mg/l	-	108	99.9	99.5	101	99.1	96.2	102	102	31.9	118	43
Magnesium, Total as Mg	B	mg/l	-	12.5	10.8	10.9	10.9	10.6	8.7	8.8	9.1	0.9	7.6	2.7
Potassium , Total as K	M	mg/l	-	1.48	1.47	1.61	1.5	1.41	1.94	2.4	2.04	2.09	3.9	2.25
Sodium , Total as Na	M	mg/l	-	15	9.3	9.11	8.1	8.46	8.85	9.7	11.8	3.22	34.9	27.2
Alkalinity as CaCO3	M	mg/l	-	301	287	286	286	286	271	283	274	76	346	96.8
Sulphate as SO4	M	mg/l	-	11.6	11.6	11.6	11.8	11.8	18.3	18.8	19.2	6.9	27.3	8.5
Chloride as Cl	M	mg/l	-	33.5	17.3	18.9	18.3	18.4	18.7	18.3	21.9	<3.7	56	52.6
Nitrate as NO3*	M	mg/l	-	13.9	12.6	12.9	12.9	12.7	<3.1	<3.1	9.3	<3.1	<3.1	<3.1
Ammoniacal Nitrogen as N [#]	M	mg/l	-	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	0.2	<0.06	<0.06	0.38	<0.06
Nitrite as NO2*	B	mg/l	-	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28	<0.28
Phosphates , Total as PO4*	B	mg/l	-	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	0.643548387
Boron, Total as B	B	mg/l	-	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23
Fluoride as F	B	mg/l	-	0.114	<1	0.107	0.1	0.067	0.113	0.1	0.063	0.1	0.242	0.075
Iron , Total as Fe	M	mg/l	-	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	0.7	<0.23	<0.23	<0.23	1.61
Manganese , Total as Mn	M	mg/l	-	<0.007	0.007	0.01	0.01	0.016	0.162	0.43	<0.007	<0.007	0.37	0.325
Arsenic, Total as As	M	µg/l	25	<1	<1	<1	<1	<1	<1	1.1	<1	1.7	<1	2.3
Barium, Total as Ba	B	µg/l	-	74	68	69	69	67	55	75	64	19	63	47
Beryllium, Total as Be	B	µg/l	-	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1
Cadmium , Total as Cd	B	µg/l	0.2	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Chromium , Total as Cr	B	µg/l	5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	3
Copper, Total as Cu	B	µg/l	5	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	2	<1.9	16
Lead , Total as Pb	B	µg/l	7.2	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	9
Nickel , Total as Ni	B	µg/l	20	<3	<3	10	5	4	<3	6	<3	4	3	8
Selenium, Total as Se	B	µg/l	-	1.3	1.2	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Vanadium , Total as V	B	µg/l	-	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Zinc, Total as Zn	B	µg/l	50	<18	<18	20	<18	<18	<18	<18	<18	<18	<18	202
Cyanide, Total	M	µg/l	-	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9

Table 4 - Inorganic Compounds in Surface Water

Analyte	Freq	Units	Fresh Water EQS (AA)	SW12	SW13	SW14	SW15	SW16
Sampling Date				Dec-16	Dec-16	Dec-16	Dec-16	Dec-16
Calcium , Total as Ca	M	mg/l	-	38.7	141	97.7	91.7	99.2
Magnesium, Total as Mg	B	mg/l	-	2.9	7.6	8.6	8.5	8.9
Potassium , Total as K	M	mg/l	-	1.49	3.52	2.05	2.14	2.05
Sodium , Total as Na	M	mg/l	-	13.6	36.7	8.21	8.47	10.7
Alkalinity as CaCO3	M	mg/l	-	85.6	402	282	261	279
Sulphate as SO4	M	mg/l	-	5	20.3	19.3	18.2	24.6
Chloride as Cl	M	mg/l	-	25	70.2	18.8	18.6	22.2
Nitrate as NO3*	M	mg/l	-	<3.1	<3.1	<3.1	<3.1	9.4
Ammoniacal Nitrogen as N [#]	M	mg/l	-	<0.06	3.48	0.19	<0.06	<0.06
Nitrite as NO2*	B	mg/l	-	<0.28	<0.28	<0.28	<0.28	<0.28
Phosphates , Total as PO4*	B	mg/l	-	0.582258	2.4516129	<0.37	<0.37	<0.37
Boron, Total as B	B	mg/l	-	0.23	<0.23	<0.23	<0.23	<0.23
Fluoride as F	B	mg/l	-	0.041	0.23	0.075	0.068	<1
Iron , Total as Fe	M	mg/l	-	1.29	7.41	0.62	<0.23	<0.23
Manganese , Total as Mn	M	mg/l	-	0.143	1.9	0.229	0.035	<0.007
Arsenic, Total as As	M	µg/l	25	1.4	10	<1	<1	<1
Barium, Total as Ba	B	µg/l	-	37	127	64	51	62
Beryllium, Total as Be	B	µg/l	-	<2.1	<2.1	<2.1	<2.1	<2.1
Cadmium , Total as Cd	B	µg/l	0.2	0.7	<0.6	<0.6	<0.6	<0.6
Chromium , Total as Cr	B	µg/l	5	3	<2	<2	<2	<2
Copper, Total as Cu	B	µg/l	5	17	7.6	<1.9	<1.9	<1.9
Lead , Total as Pb	B	µg/l	7.2	10	<6	<6	<6	<6
Nickel , Total as Ni	B	µg/l	20	8	4	<3	3	<3
Selenium, Total as Se	B	µg/l	-	<0.8	<0.8	<0.8	<0.8	0.8
Vanadium , Total as V	B	µg/l	-	<4	<4	<4	<4	<4
Zinc, Total as Zn	B	µg/l	50	184	30	<18	<18	<18
Cyanide, Total	M	µg/l	-	<9	<9	<9	<9	<9

Table A.5: TOC, COD and BOD in Groundwater and Surface Water

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Table 5 - TOC & COD in Groundwater & Surface Water

Analyte	Units	IGV	GTV	EMW02
				Dec-16
TOC (Filtered)	mg/l	-	-	2.1
COD (Total)	mg/l	-	-	36
BODS + ATU				<1

Analyte	Units	IGV	GTV	EWM03
				Dec-16
TOC (Filtered)	mg/l	-	-	12.3
COD (Total)	mg/l	-	-	186
BODS + ATU	mg/l			<1

Analyte	Units	IGV	GTV	EMW04
				Dec-16
TOC (Filtered)	mg/l	-	-	10.8
COD (Total)	mg/l	-	-	57
BODS + ATU				<1

Analyte	Units	IGV	GTV	EMW05
				Dec-16
TOC (Filtered)	mg/l	-	-	4
COD (Total)	mg/l	-	-	44
BODS + ATU	mg/l			3

Analyte	Units	IGV	GTV	EMW06
				Dec-16
TOC (Filtered)	mg/l	-	-	1
COD (Total)	mg/l	-	-	153
BODS + ATU	mg/l			<1

Analyte	Units	IGV	GTV	EMW07
				Dec-16
TOC (Filtered)	mg/l	-	-	5.6
COD (Total)	mg/l	-	-	37
BODS + ATU				<1

Analyte	Units	IGV	GTV	EMW08
				Dec-16
TOC (Filtered)	mg/l	-	-	1.3
COD (Total)	mg/l	-	-	33
BODS + ATU	mg/l			<1

Analyte	Units	IGV	GTV	EMW11
				Dec-16
TOC (Filtered)	mg/l	-	-	10.6
COD (Total)	mg/l	-	-	56
BODS + ATU	mg/l			2

Table 5 - TOC & COD in Groundwater & Surface Water

Analyte	Units	IGV	GTV	EMW12D
				Dec-16
TOC (Filtered)	mg/l	-	-	2.4
COD (Total)	mg/l	-	-	18
BODS + ATU	mg/l			<1

Analyte	Units	IGV	GTV	EMW13
				Dec-16
TOC (Filtered)	mg/l	-	-	80
COD (Total)	mg/l	-	-	325
BODS + ATU	mg/l			10

Analyte	Units	IGV	GTV	EMW15
				Dec-16
TOC (Filtered)	mg/l	-	-	11.3
COD (Total)	mg/l	-	-	50
BODS + ATU	mg/l			1

Analyte	Units	IGV	GTV	EMW16
				Dec-16
TOC (Filtered)	mg/l	-	-	18.4
COD (Total)	mg/l	-	-	86
BODS + ATU				1

Analyte	Units	IGV	GTV	EMW17
				Dec-16
TOC (Filtered)	mg/l	-	-	1.8
COD (Total)	mg/l	-	-	<11
BODS + ATU				1

Analyte	Units	IGV	GTV	EMW18
				Dec-16
TOC (Filtered)	mg/l	-	-	2.3
COD (Total)	mg/l	-	-	12
BODS + ATU				<1

Analyte	Units	IGV	GTV	EMW19
				Dec-16
TOC (Filtered)	mg/l	-	-	5.1
COD (Total)	mg/l	-	-	20
BODS + ATU	mg/l			<1

Table 5 - TOC & COD in Groundwater & Surface Water

Analyte	Units	IGV	GTV	EMW20
				Dec-16
TOC (Filtered)	mg/l	-	-	2.5
COD (Total)	mg/l	-	-	14
BODS + ATU	mg/l			<1

Analyte	Units	IGV	GTV	EMW21
				Dec-16
TOC (Filtered)	mg/l	-	-	0.9
COD (Total)	mg/l	-	-	18
BODS + ATU				1

Analyte	Units	IGV	GTV	EMW22
				Dec-16
TOC (Filtered)	mg/l	-	-	0.8
COD (Total)	mg/l	-	-	18
BODS + ATU				2

Analyte	Units	IGV	GTV	EMW23
				Dec-16
TOC (Filtered)	mg/l	-	-	1.1
COD (Total)	mg/l	-	-	48
BODS + ATU				2

Analyte	Units	IGV	GTV	EMW24
				Dec-16
TOC (Filtered)	mg/l	-	-	1.6
COD (Total)	mg/l	-	-	83
BODS + ATU				2

Analyte	Units	IGV	GTV	EMW27
				Dec-16
TOC (Filtered)	mg/l	-	-	6
COD (Total)	mg/l	-	-	480
BODS + ATU				<1

Analyte	Units	IGV	GTV	EMW28
				Dec-16
TOC (Filtered)	mg/l	-	-	13.4
COD (Total)	mg/l	-	-	163
BODS + ATU	mg/l			2

Analyte	Units	IGV	GTV	EMW29
				Dec-16
TOC (Filtered)	mg/l	-	-	2.6
COD (Total)	mg/l	-	-	16
BODS + ATU	mg/l			<1

Table 5 - TOC & COD in Groundwater & Surface Water

Analyte	Units	IGV	GTV	EMW30
				Dec-16
TOC (Filtered)	mg/l	-	-	0.9
COD (Total)	mg/l	-	-	62
BODS + ATU				<1

Analyte	Units	IGV	GTV	EMW31
				Dec-16
TOC (Filtered)	mg/l	-	-	5.2
COD (Total)	mg/l	-	-	31
BODS + ATU				4

Analyte	Units	IGV	GTV	EMW32
				Dec-16
TOC (Filtered)	mg/l	-	-	1.2
COD (Total)	mg/l	-	-	52
BODS + ATU				<1

Analyte	Units	IGV	GTV	EMW33
				Dec-16
TOC (Filtered)	mg/l	-	-	1.6
COD (Total)	mg/l	-	-	<11
BODS + ATU				54

Analyte	Units	IGV	GTV	BH6
				Dec-16
TOC (Filtered)	mg/l	-	-	6.6
COD (Total)	mg/l	-	-	207
BODS + ATU				2

Analyte	Units	IGV	GTV	BH7
				Dec-16
TOC (Filtered)	mg/l	-	-	5.8
COD (Total)	mg/l	-	-	21
BODS + ATU				1

Analyte	Units	IGV	GTV	BH26
				Dec-16
TOC (Filtered)	mg/l	-	-	103
COD (Total)	mg/l	-	-	458
BODS + ATU	mg/l			10

Analyte	Units	IGV	GTV	BH36B
				Dec-16
TOC (Filtered)	mg/l	-	-	12.7
COD (Total)	mg/l	-	-	110
BODS + ATU				2

Table 5 - TOC & COD in Groundwater & Surface Water

Analyte	Units	IGV	GTV	BH42
				Dec-16
TOC (Filtered)	mg/l	-	-	8.2
COD (Total)	mg/l	-	-	49
BODS + ATU	mg/l			2

Analyte	Units	IGV	GTV	GW1D
				Dec-16
TOC (Filtered)	mg/l	-	-	0.8
COD (Total)	mg/l	-	-	<11
BODS + ATU				<1

Analyte	Units	IGV	GTV	GW2S
				Dec-16
TOC (Filtered)	mg/l	-	-	1.9
COD (Total)	mg/l	-	-	<11
BODS + ATU				1

Analyte	Units	IGV	GTV	SW01
				Dec-16
TOC (Filtered)	mg/l	-	-	1.3
COD (Total)	mg/l	-	-	13
BODS + ATU	mg/l			<1

Analyte	Units	IGV	GTV	SW02
				Dec-16
TOC (Filtered)	mg/l	-	-	1.1
COD (Total)	mg/l	-	-	18
BODS + ATU	mg/l			<1

Analyte	Units	IGV	GTV	SW03
				Dec-16
TOC (Filtered)	mg/l	-	-	1.1
COD (Total)	mg/l	-	-	<11
BODS + ATU	mg/l			<1

Analyte	Units	IGV	GTV	SW04
				Dec-16
TOC (Filtered)	mg/l	-	-	1.1
COD (Total)	mg/l	-	-	<11
BODS + ATU				<1

Analyte	Units	IGV	GTV	SW05
				Dec-16
TOC (Filtered)	mg/l	-	-	1
COD (Total)	mg/l	-	-	<11
BODS + ATU	mg/l			<1

Table 5 - TOC & COD in Groundwater & Surface Water

Analyte	Units	IGV	GTV	SW06
				Dec-16
TOC (Filtered)	mg/l	-	-	2.8
COD (Total)	mg/l	-	-	17
BODS + ATU				<1

Analyte	Units	IGV	GTV	SW07
				Dec-16
TOC (Filtered)	mg/l	-	-	3.4
COD (Total)	mg/l	-	-	<11
BODS + ATU				<1

Analyte	Units	IGV	GTV	SW08
				Dec-16
TOC (Filtered)	mg/l	-	-	1.5
COD (Total)	mg/l	-	-	13
BODS + ATU				1

Analyte	Units	IGV	GTV	Site Discharge
				Dec-16
TOC (Filtered)	mg/l	-	-	1.8
COD (Total)	mg/l	-	-	<11
BODS + ATU	mg/l			<1

Analyte	Units	IGV	GTV	SW10
				Dec-16
TOC (Filtered)	mg/l	-	-	4
COD (Total)	mg/l	-	-	23
BODS + ATU				<1

Analyte	Units	IGV	GTV	SW11
				Dec-16
TOC (Filtered)	mg/l	-	-	4.2
COD (Total)	mg/l	-	-	32
BODS + ATU	mg/l			2

Analyte	Units	IGV	GTV	SW12
				Dec-16
TOC (Filtered)	mg/l	-	-	2.6
COD (Total)	mg/l	-	-	41
BODS + ATU				2

Analyte	Units	IGV	GTV	SW13
				Dec-16
TOC (Filtered)	mg/l	-	-	8.4
COD (Total)	mg/l	-	-	67
BODS + ATU	mg/l			6

Table 5 - TOC & COD in Groundwater & Surface Water

Analyte	Units	IGV	GTV	SW14
				Dec-16
TOC (Filtered)	mg/l	-	-	3.3
COD (Total)	mg/l	-	-	24
BODS + ATU				<1

Analyte	Units	IGV	GTV	SW15
				Dec-16
TOC (Filtered)	mg/l	-	-	3.5
COD (Total)	mg/l	-	-	21
BODS + ATU				1

Analyte	Units	IGV	GTV	SW16
				Dec-16
TOC (Filtered)	mg/l	-	-	1.6
COD (Total)	mg/l	-	-	12
BODS + ATU				<1

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Table A.6: Organic Compounds in Groundwater and Surface Water

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Table 6 - Organic Compounds in Groundwater & Surface Water

[illegible]

*	Newly detected in December 2016
13.6	Concentration exceeds IC
0.31	Concentration exceeds GTV

Note: Only samples where there was at least one positive detection of the compounds listed are included in this table, and only compounds detected in at least one sample are listed. Refer to the laboratory reports for the full set of results.

Table 6 - Organic Compounds in Groundwater & Surface Water

Analyte	Units	IGV	GTV	BH7	GW1D	GW2S	BH42	SW04	SW08	SW10	SW11	SW12	SW13
Sampling Date				Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16
Benzene	ug/l	1.0	0.75	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.8
Chlorobenzene*	ug/l	1.0	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chloroform	ug/l	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.36
Chloromethane*	ug/l	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromoform*	ug/l	-	-	<0.2	<0.2	<0.2	<0.2	0.82	0.6	0.26	0.31	0.25	<0.2
1,1-Dichloroethane	ug/l	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-Trimethylbenzene	ug/l	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	28.2
1,3,5-Trimethylbenzene*	ug/l	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5.2
Bromodichloromethane*	ug/l	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibromochloromethane*	ug/l	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dichloromethane*	ug/l	10	-	<6.0	9.3	<6.0	<6.0	<6.0	<6.0	<6.0	16.4	18.5	<0.1
cis-1,2-Dichloroethene*	ug/l	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobutadiene	ng/l	-	-	<1.0	<7	<1.0	<1.0	<1.0	<7	<7	<7	<7	<7
1,4-Dichlorobenzene	ug/l	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis (2-chloroisopropyl) ether	ug/l	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<1.0	<2.0
1,2,4-Trichlorobenzene	ng/l	0.4	-	<0.1	<0.1	<0.1	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1
Toluene	ug/l	10	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.62
Ethyl Benzene	ug/l	10	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	11.4
m&p-Xylene	ug/l	10	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	14.9
Isopropylbenzene*	ug/l	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.6
Naphthalene*	ug/l	1		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	8.3
n-Propylbenzene*	ug/l	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.5
o-Xylene*	ug/l	10	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	3.58
Vinyl Chloride*	ug/l	-	0.375	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dieldrin	ug/l	-	-	<4	<4		<4	<4	<4	<4	<4	<4	<4
Azinphos-methyl*	ug/l	-	-	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Diazinon*	ug/l	-	-	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.006	0.005	<0.003
2,3,6 - TBA	ug/l	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
Bentazone	ug/l	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
Dicamba	ug/l	-	-	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
Formaldehyde	mg/l	-	-	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029	<0.029
Chlopyralid	ug/l	0.1	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
Dichlobenil	ng/l	100	100	<2	<2	<2		<2	<2	<2	<2	<2	<2
Dichlorprop	ug/l	0.1	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1
Mecoprop	ug/l	10	0.075	0.05	<0.04	0.05	0.25	<0.04	<0.04	<0.04	<0.04	<0.04	<0.08
Phenol	ug/l	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Cresols	ug/l	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Phenols	ug/l	0.5	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Xylenol, Total	ug/l	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Total Trimethylphenol	ug/l	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Naphthol	ug/l	-	-	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

*

13.6

0.31

Newly detected in Decen
Concentration exceeds IC
Concentration exceeds G

Note:

Only samples where then
compounds listed are incl
at least one sample are lis
of results.

Table A.6a: PAHs in Groundwater and Surface Water

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Table 6a - PAHs in
Groundwater & Surface Water

Analyte	Units	EMW02	EMW03	EMW04	EMW05	EMW06	EMW07	EMW08	EMW11	EMW12	EMW13	EMW21	EMW22	EMW24	BH6	EMW 27
		Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Jun-16	Dec-16	Jun-16	Dec-16	Dec-16
Acenaphthene	ug/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.04	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthylene	ug/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.04	<0.01	<0.01	<0.01	<0.01	<0.01
Anthracene	ug/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.04	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo (a) anthracene	ug/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.04	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo (g,h,i) perylene	ug/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.04	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo (a) pyrene	ug/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.04	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo (b) fluoranthene	ug/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.04	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo (k) fluoranthene	ug/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.04	<0.01	<0.01	<0.01	<0.01	<0.01
Chrysene	ug/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.04	<0.01	<0.01	<0.01	<0.01	<0.01
Dibenz (a,h) anthracene	ug/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.04	<0.01	<0.01	<0.01	<0.01	<0.01
Fluoranthene	ug/l	0.04	0.034	0.02	0.043	0.084	<0.01	0.148	0.016	0.089	<0.04	0.011	0.014	0.015	<0.01	0.062
Fluorene	ug/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.04	<0.01	<0.01	<0.01	<0.01	<0.01
Indeno (1,2,3) cd pyrene	ug/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.04	<0.01	<0.01	<0.01	<0.01	<0.01
Naphthalene	ug/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.04	<0.01	<0.01	<0.01	<0.01	<0.01
Phenanthrene	ug/l	0.013	<0.01	<0.01	0.015	0.097	<0.01	0.128	0.014	0.05	<0.04	0.012	<0.01	0.016	<0.01	0.058
Pyrene	ug/l	0.016	<0.01	<0.01	0.014	0.022	<0.01	0.045	<0.01	0.033	<0.04	<0.01	<0.01	<0.01	0.01	0.023
Total PAHs	ug/l	0.07	0.034	0.02	0.072	0.203	<0.01	0.32	0.03	0.173	<0.04	0.023	0.014	0.031	0.01	0.143

Table 6a - PAHs in
Groundwater & Surface Water

Analyte	Units	EMW 28	EMW 29	EMW 30	EMW 32	BH 26	BH 36	BH 42	SW01	SW02	SW08	SW10	SW 13	SW14	SW 15	SW16
		Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16	Dec-16
Acenaphthene	ug/l	<0.02	0.041	<0.01	<0.01	<0.04	0.037	<0.01	0.013	<0.01	<0.01	<0.01	0.102	<0.01	<0.01	<0.01
Acenaphthylene	ug/l	<0.02	<0.01	<0.01	<0.01	<0.04	<0.10	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01
Anthracene	ug/l	<0.02	<0.01	<0.01	<0.01	<0.04	<0.10	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01
Benzo (a) anthracene	ug/l	<0.02	<0.01	<0.01	<0.01	<0.04	<0.10	0.032	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01
Benzo (g,h,i) perylene	ug/l	<0.02	<0.01	<0.01	<0.01	<0.04	<0.10	0.051	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01
Benzo (a) pyrene	ug/l	<0.02	<0.01	<0.01	<0.01	<0.04	<0.10	0.049	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01
Benzo (b) fluoranthene	ug/l	<0.02	<0.01	<0.01	<0.01	<0.04	<0.10	0.053	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01
Benzo (k) fluoranthene	ug/l	<0.02	<0.01	<0.01	<0.05	<0.04	<0.10	0.026	<0.01	<0.01	<0.01	<0.01	0.032	<0.01	<0.01	<0.01
Chrysene	ug/l	<0.02	0.011	<0.01	<0.01	<0.04	<0.10	0.036	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01
Dibenz (a,h) anthracene	ug/l	<0.02	<0.01	<0.01	<0.01	<0.04	<0.10	0.012	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01
Fluoranthene	ug/l	0.065	1.65	0.022	0.022	<0.04	<0.10	0.067	0.041	0.032	0.011	0.012	0.03	<0.01	<0.01	<0.01
Fluorene	ug/l	<0.02	0.043	<0.01	<0.01	<0.04	0.022	<0.01	0.016	<0.01	<0.01	<0.01	0.084	<0.01	<0.01	<0.01
Indeno (1,2,3) cd pyrene	ug/l	<0.02	<0.01	<0.01	<0.01	<0.04	<0.10	0.041	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01
Naphthalene	ug/l	<0.02	0.029	<0.01	<0.01	<0.04	0.363	<0.01	0.038	<0.01	<0.01	<0.01	0.45	<0.01	<0.01	<0.01
Phenanthrene	ug/l	0.072	1.29	0.02	0.028	<0.04	<0.10	0.034	0.033	0.019	0.013	0.023	0.042	0.01	0.01	0.01
Pyrene	ug/l	0.025	0.652	<0.01	0.034	<0.04	<0.10	0.068	0.016	0.014	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01
Total PAHs	ug/l	0.162	3.71	0.042	0.084	<0.04	0.422	0.469	0.156	0.064	0.024	0.035	0.74	0.01	0.01	0.01

Only samples where there was at least one positive detection of the compounds listed are included in this table, and only

Appendix B. Figures

Figure 1: Site Location

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KEY:
 Former W0047-02 Waste Licence Boundary



Rev	Rev. Date	Purpose of revision	Drawn	Checked	Rev'd	Approved
0	11/03/2016	FIRST ISSUE	AR	UD	DM	SJM

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 **Kildare County Council**
Comhairle Contae Chill Dara

**KERDIFFSTOWN LANDFILL
SITE REMEDIATION PROJECT**

**FIGURE 1
SITE LOCATION**

FIRST ISSUE

Scale 1:20,000 @ A3 DO NOT SCALE

Jacobs No. 32EW5602

Client no.

Drawing number 32EW5602-008_9

Rev 0

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Figure 2: Site Layout

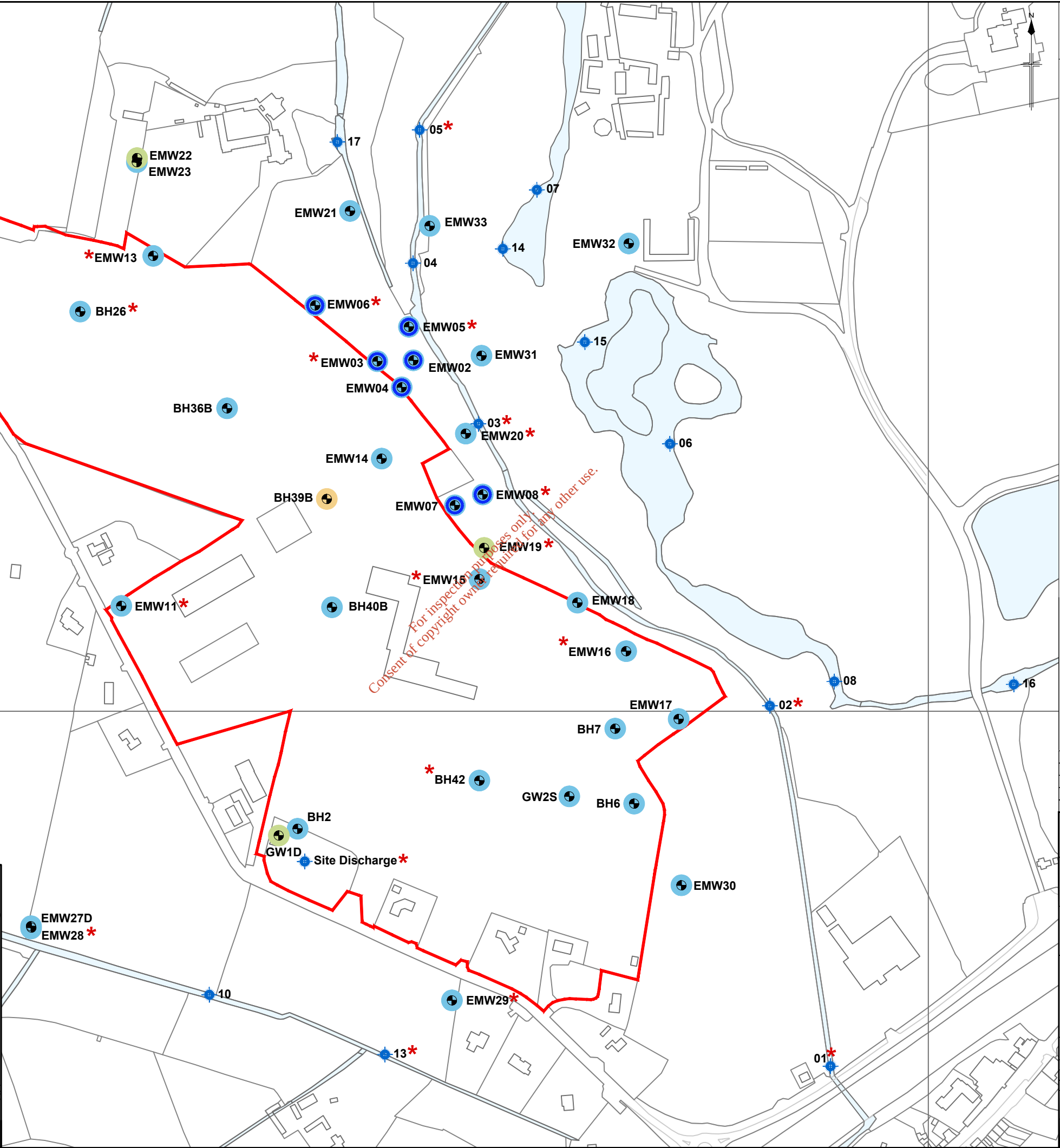
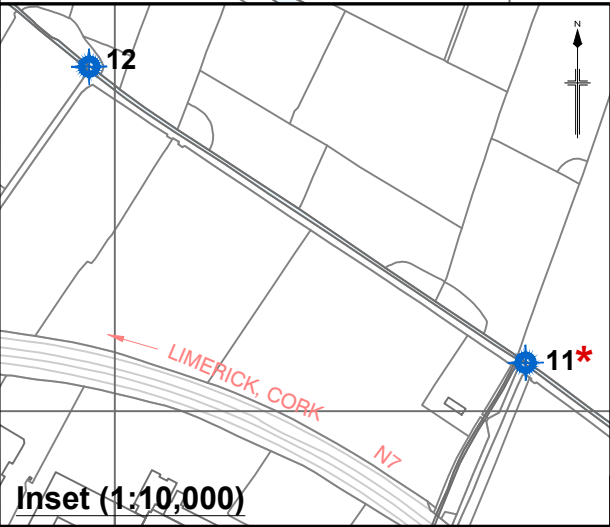
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Figure 3: Groundwater and Surface Water Monitoring Locations

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Inset



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KEY:

- Former WA0047-02 Waste Licence Boundary
- Surface Water Monitoring Point
- Groundwater Monitoring Point
- Gas/Groundwater Monitoring
- Overburden GW
- Bedrock
- Leachate

Proposed Sampling Frequency

- Monthly Only

0 50 100 150
METRES

Rev	Rev. Date	Purpose of revision	Drawn	Checked	Rev'd	Appr'd
0	11/03/2016	FIRST ISSUE	AR	UD	DM	SJM

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Client: **Kildare County Council**
Comhairle Contae Chill Dara

Project: **KERDIFFSTOWN LANDFILL
SITE REMEDIATION PROJECT**

Drawing title: **FIGURE 3
GROUNDWATER, SURFACE WATER
AND OFF-SITE GAS MONITORING
LOCATIONS**

Drawing status: **FIRST ISSUE**

Scale	AS SHOWN	DO NOT SCALE
Jacobs No.	32EW5602	
Client no.		
Drawing number	32EW5602.008_11	Rev 0

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Figure 4: Inferred Shallow Groundwater Flow Regime

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291000

EMW24
EMW12

EMW23
79.30

EMW22

EMW13
79.60

BH26
79.17

EMW06
82.22

EMW21
77.76

EMW33
79.72

EMW32
78.45

EMW05
78.23

EMW02
79.45

EMW31
78.65

EMW03
77.64

EMW04
80.33

EMW20
78.72

EMW07
78.83

EMW08
78.75

EMW19

EMW11
78.52

BH40B

EMW15
78.72

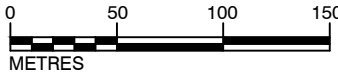
EMW18
78.58

EMW16
79.64

BH7
79.00

EMW17
79.97

222000



79m

80m

EMW28
80.96

EMW27
80.31

82m

BH2
84.74

GW1D

BH42
79.08

GW2S
78.75

BH6
79.29

EMW29
81.39

EMW30
79.23

82m

81m

80m



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- Former WA0047-02 Waste Licence Boundary
- Surface Water Monitoring Point
- Groundwater Monitoring Point
- Leachate Monitoring Point
- Landfill Gas Monitoring Well
- Inferred Groundwater Contour (mAOD)

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Drawing title
FIGURE 4
INFERRED SHALLOW GROUNDWATER
FLOW REGIME. DECEMBER 2016

Drawing status

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Drawing number

32EW5602-00X_XX

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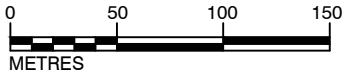
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Figure 5: Inferred Groundwater Flow Regime in Bedrock

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- Surface Water Monitoring Point
- Groundwater Monitoring Point
- Leachate Monitoring Point
- Landfill Gas Monitoring Well
- Inferred Groundwater Contour (mAOD)



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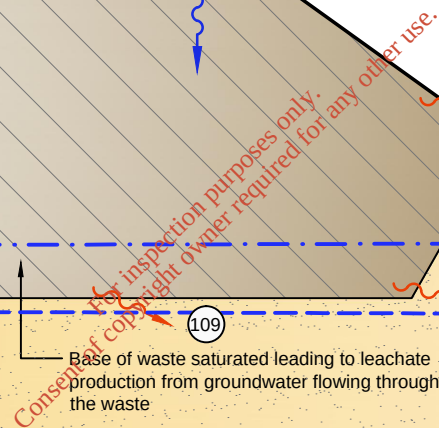
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FIGURE 5
INFERRED BEDROCK GROUNDWATER
FLOW REGIME. DECEMBER 2016

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Drawing number	32EW5602-00X_XX	Rev 0
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Figure 6: Updated Conceptual Site Model (Version 4)

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\\vedub1-fil001\i\ Sustainable Solutions\Kerdliffstown Landfill\5 - Drawings\CAD\Engineering Design - EIS\32EW5604-00-016.dwg - 05/05/2017 09:23:59 - FIGURE 6 GW - alroberts

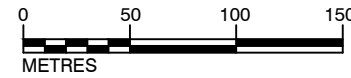
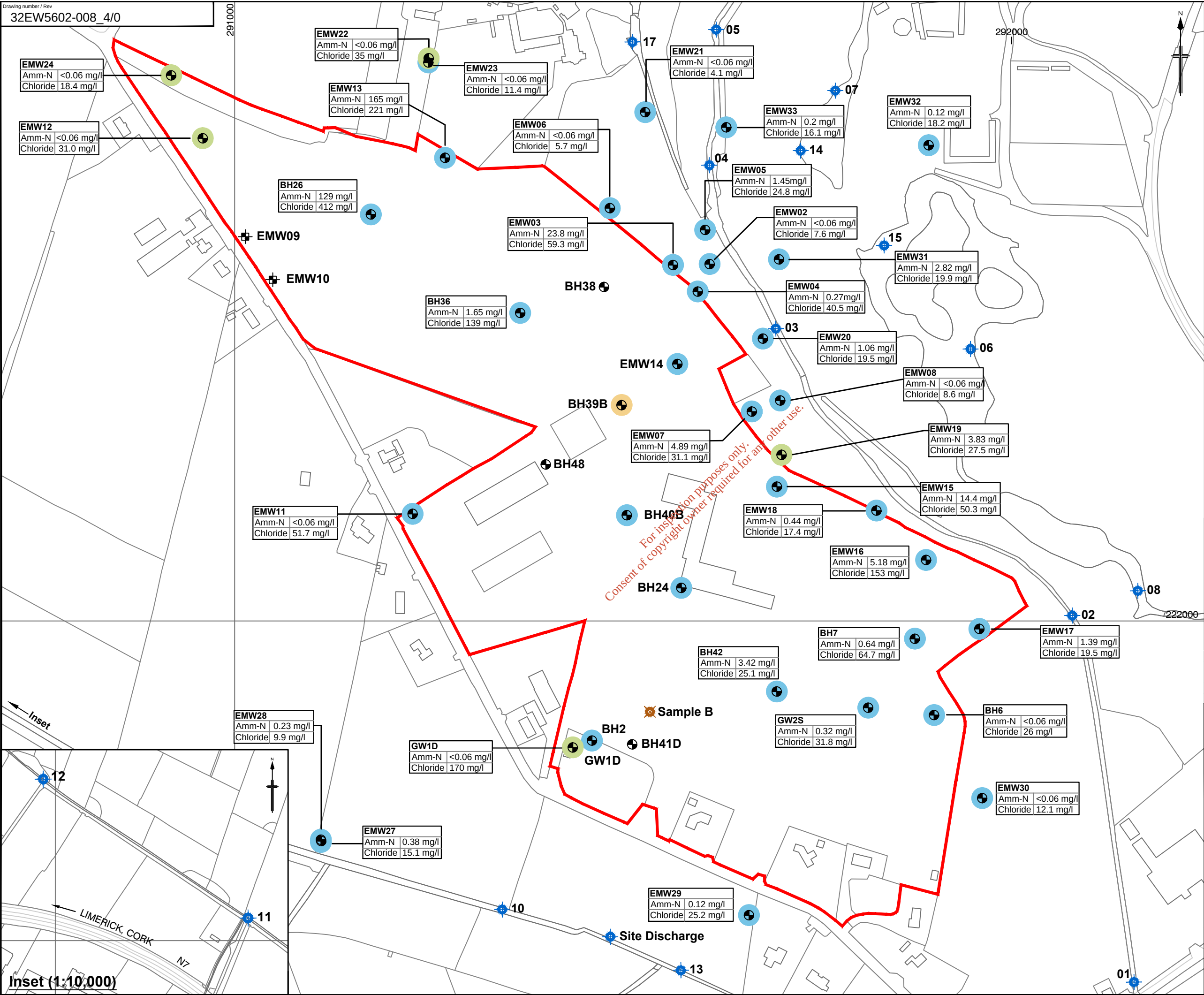
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Drawing title		FIGURE 6 HYDROGEOLOGY CONCEPTUAL SITE MODEL (ZONE 1)					
Drawing status							
Scale	NTS			DO NOT SCALE			
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Drawing number							Rev
32EW5604-00-016							0
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Figure 7: Groundwater Ammoniacal Nitrogen and Chloride Concentrations (December 2016)

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KEY:

- Former WA0047-02 Waste Licence Boundary
- Surface Water Monitoring Point
- Groundwater Monitoring Point
- Landfill Gas Monitoring Well
- Leachate Monitoring Point
- Overburden GW
- Bedrock
- Leachate (Currently Dry)



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**KERDIFFSTOWN LANDFILL
SITE REMEDIATION PROJECT**

Drawing title
**FIGURE 7
GROUNDWATER AMMONIACAL N,
CHLORIDE RESULTS. DECEMBER 2016**

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Scale	Jacobs No. 32EW5602	
Client no.	Drawing number 32EW5602-008_4	Rev 0
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Figure 8: Groundwater Ammoniacal Nitrogen Distribution (December 2016)

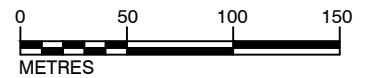
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- KEY:
- Former WA0047-02 Waste Licence Boundary
 - Surface Water Monitoring Point
 - Groundwater Monitoring Point
 - Leachate Monitoring Point
 - Landfill Gas Monitoring Well
 - Inferred Groundwater Contour (mAOD)

- Ammoniacal Nitrogen Concentrations
- <0.5mg/l
 - 0.5 - 5mg/l
 - 5 - 50mg/l
 - >50mg/l



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Drawing title
FIGURE 8
AMMONIACAL NITROGEN
DISTRIBUTION. DECEMBER 2016

Drawing status

Scale
AS SHOWN
DO NOT SCALE

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Drawing number
32EW5602-00X_XX

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Figure 9: Groundwater Chloride Concentrations (December 2016)

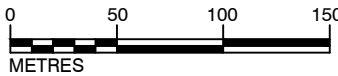
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- Former WA0047-02 Waste Licence Boundary
- Surface Water Monitoring Point
- Groundwater Monitoring Point
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- Landfill Gas Monitoring Well
- Inferred Groundwater Contour (mAOD)

Chloride

- <30mg/l
- 30mg/l - 100mg/l
- 100mg/l - 200mg/l
- >200mg/l



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**FIGURE 9
GROUNDWATER CHLORIDE
DISTRIBUTION. DECEMBER 2016**

Drawing status

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EMW24
18.4

EMW12
31

EMW23
11.4

EMW22
35

EMW13
221

BH26
412

EMW21
4.1

EMW33
16.1

EMW32
18.2

EMW06
5.7

EMW05
24.8

EMW31
19.9

EMW03
59.3

EMW02
7.6

EMW04
40.5

BH36
139

EMW14

BH39B

EMW07
37.1

EMW08
8.6

EMW19
27.5

EMW18
17.4

EMW11
51.7

BH40B

EMW15
50.3

EMW16
153

EMW17
19.5

BH7
64.7

BH42
25.1

GW2S
31.8

BH6
26

BH2

GW1D
170

EMW28
9.9

EMW27
15.1

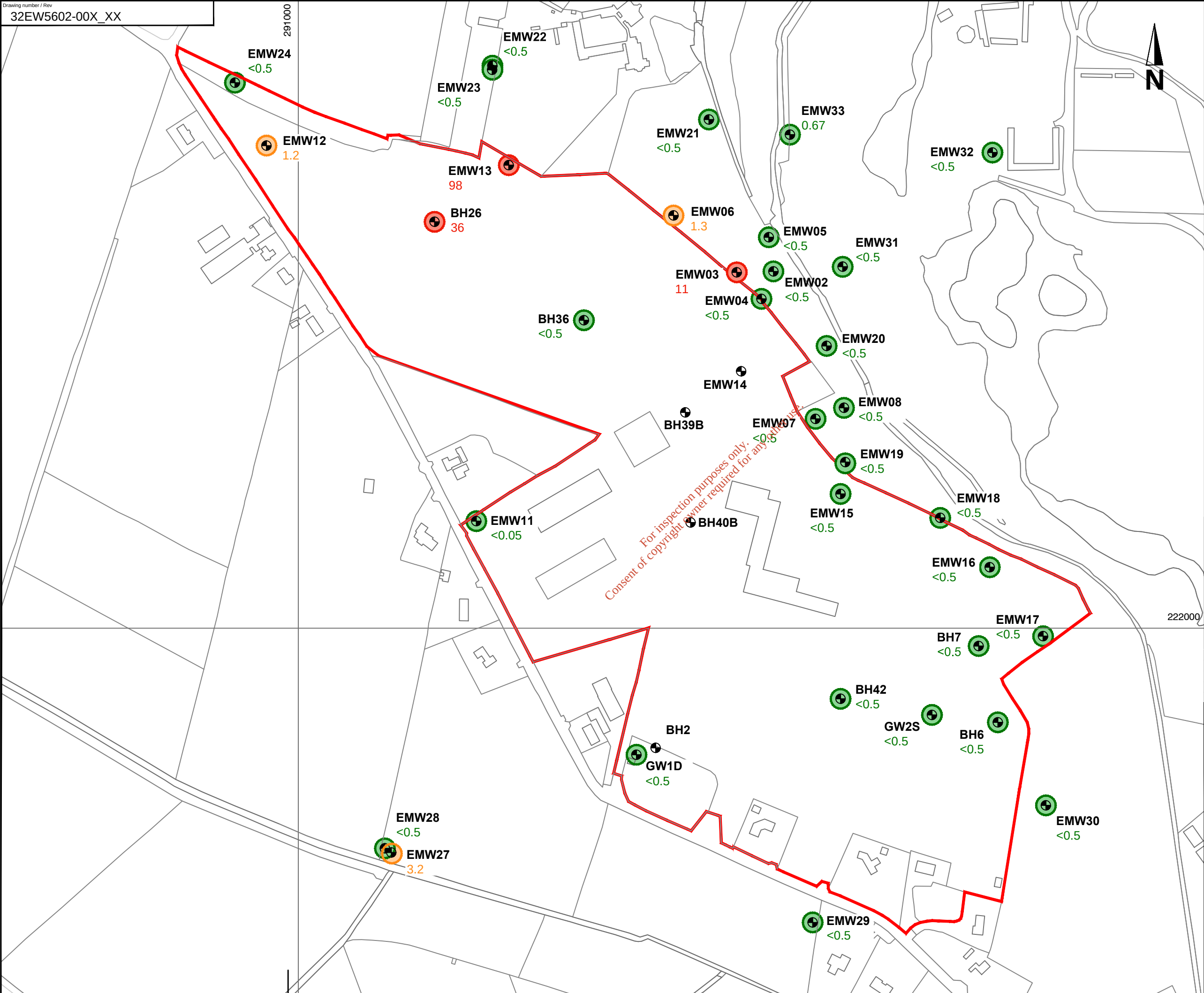
EMW30
12.1

EMW29
25.2

Figure 10: Groundwater Total Phenol Distribution (December 2016)

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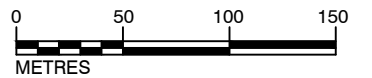
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- KEY:
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 - Groundwater Monitoring Point
 - Leachate Monitoring Point
 - Landfill Gas Monitoring Well
 - Inferred Groundwater Contour (mAOD)

- Total Phenol
- <1 $\mu\text{g/l}$
 - 1 $\mu\text{g/l}$ - <10 $\mu\text{g/l}$
 - >10 $\mu\text{g/l}$



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FIGURE 10
GROUNDWATER TOTAL PHENOL
DISTRIBUTION. DECEMBER 2016

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Figure 11: Groundwater Mecoprop Distribution (December 2016)

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291 000

EMW24
<0.04

EMW12
<0.04

EMW23
<0.04

EMW13
14.4

BH26
28.6

EMW22
0.05

EMW21
<0.04

EMW06
<0.04

EMW33
<0.04

EMW32
<0.04

EMW03
1.62

EMW05
0.5

EMW31
<0.04

EMW02
<0.04

EMW04
0.4

EMW20
<0.04

EMW14

BH39B

EMW07
0.16

EMW08
<0.04

EMW19
0.27

EMW18
<0.04

EMW11
<0.04

BH40B

EMW15
0.42

EMW16
0.74

EMW17
<0.04

BH7
0.05

BH42
0.25

GW2S
0.05

BH6
0.11

BH2

GW1D
<0.04

EMW28
<0.4

EMW27
<0.08

EMW29
<0.04

EMW30
<0.04

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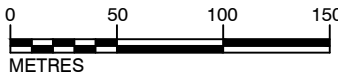
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KEY:

- Former WA0047-02 Waste Licence Boundary
- Surface Water Monitoring Point
- Groundwater Monitoring Point
- Leachate Monitoring Point
- Landfill Gas Monitoring Well
- Inferred Groundwater Contour (mAOD)

Mecoprop

- <0.25 µg/l
- 0.25 µg/l - 10 µg/l
- >10 µg/l



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Drawing title
FIGURE 11
GROUNDWATER MECOPROP
DISTRIBUTION. DECEMBER 2016

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Appendix C. Borehole Logs

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Glover Site Investigations Ltd						Site Kerdiffstown Landfill		Borehole Number W0047EMW01	
Boring Method Cable Percussion		Casing Diameter 200mm cased to 7.30m		Ground Level (mOD) 81.15		Client		Job Number 10-161	
		Location 291473.8 E 222320.7 N		Dates 10/05/2010		Engineer EPA		Sheet 1/1	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	D1								

[illegible]

Glover Site Investigations Ltd							Site Kerdiffstown Landfill		Borehole Number W0047EMW02	
Boring Method Cable Percussion		Casing Diameter 200mm cased to 6.00m		Ground Level (mOD) 81.21		Client		Job Number 10-161		
		Location 291462.4 E 222360.1 N		Dates 10/05/2010		Engineer EPA		Sheet 1/1		
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.60	D1				80.61	(0.60)	TOPSOIL			
1.00	D2					0.60	Brown orange slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is subrounded to subangular fine to coarse			
2.00	D3					(2.80)				
3.00	D4									
3.40	D5				77.81	3.40	Grey brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse			
3.80	D6				77.41	3.80	Brown orange sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse			
4.00	D7				77.21	4.00	Grey clayey very gravelly fine to coarse SAND. Gravel is angular to subrounded fine to coarse			
5.00	D8			Water Strike(1) at 4.80m.		(1.50)			▽1	
					75.71	5.50	Dark grey sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse			
6.00	D9			10/05/2010:	75.21	6.00	Complete at 6.00m			
Remarks Standpipe installed. Double security lockable cover fitted with security tags.								Scale (approx) 1:50	Logged By JC/HH	
								Figure No. 10-161.W0047EMW02		

[illegible]

Glover Site Investigations Ltd							Site Kerdiffstown Landfill		Borehole Number W0047EMW03
Boring Method Symmetrix Drilling		Casing Diameter 150mm cased to 17.50m		Ground Level (mOD) 86.26		Client EPA		Job Number 10-161	
		Location 291418 E 222372.8 N		Dates 10/05/2010		Engineer EPA		Sheet 1/2	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-1.00	D1					(1.00)	Brown sandy subangular to subrounded fine to coarse GRAVEL. Sand is fine to coarse		
1.00-2.50	D2				85.26	1.00 (1.50)	Brown fine to medium SAND with occasional lenses of silt		
2.50-4.00	D3				83.76	2.50 (1.50)	Brown orange gravelly silty fine to coarse SAND. Gravel is subangular to subrounded fine to coarse		
4.00-5.50	D4				82.26	4.00 (1.50)	Brown grey sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse		
5.50-7.00	D5				80.76	5.50	Dark grey and black sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse (damp)		
7.00-8.50	D6					(3.00)			
8.50-9.00	D7				77.76	8.50 (1.50)	Grey sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse (damp)		
					76.26	10.00			
Remarks Double security lockable cover fitted with security tags. Standpipe installed.								Scale (approx) 1:50	Logged By JC/HH
								Figure No. 10-161.W0047EMW03	

Glover Site Investigations Ltd							Site Kerdiffstown Landfill		Borehole Number W0047EMW03	
Boring Method Symmetrix Drilling		Casing Diameter 150mm cased to 17.50m		Ground Level (mOD) 86.26		Client		Job Number 10-161		
		Location 291418 E 222372.8 N		Dates 10/05/2010		Engineer EPA		Sheet 2/2		
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
10.00-11.50	D8						Grey sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse (damp) becoming wet below 11.50m			
11.50-13.00	D9					(4.00)				
13.00-14.50	D10									
14.50-16.00	D11				72.26	14.00	Grey sandy silty subangular to subrounded fine to coarse GRAVEL. Sand is fine to coarse (wet)			
16.00-17.50	D12					(2.50)				
					69.76	16.50	Grey sandy gravelly CLAY with low cobble and boulder content. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse. Cobbles and boulders are subangular to subrounded			
				10/05/2010:	68.76	17.50	Complete at 17.50m			
Remarks							Scale (approx) 1:50	Logged By JC/HH		
							Figure No. 10-161.W0047EMW03			

Glover Site Investigations Ltd							Site Kerdiffstown Landfill						Borehole Number W0047EMW03					
Installation Type Gas and Water Monitoring				Dimensions Internal Diameter of Tube [A] = 50 mm Diameter of Filter Zone = 150 mm				Client								Job Number 10-161		
				Location 291418 E 222372.8 N			Ground Level (mOD) 86.26		Engineer EPA								Sheet 1/1	
Legend		Water	Instr (A)	Level (mOD)	Depth (m)	Description	Groundwater Strikes During Drilling											
				85.91	0.35	Concrete Bentonite Seal	Date	Time	Depth Struck (m)	Casing Depth (m)	Inflow Rate		Readings				Depth Sealed (m)	
				84.96 84.76	1.30 1.50	Fine Gravel Filter			6.00		Water Strike							
							Groundwater Observations During Drilling											
							Date	Start of Shift						End of Shift				
							Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)		
							10/05/10						17.50					
							Instrument Groundwater Observations											
							Inst. [A] Type :											
						Slotted Standpipe	Date	Instrument [A]			Remarks							
							Time	Depth (m)	Level (mOD)									
				68.76	17.50													
Remarks Two lockable flush covers fitted. Geosock fitted. Gas tap fitted.																		

Glover Site Investigations Ltd							Site Kerdiffstown Landfill		Borehole Number W0047EMW04	
Boring Method Cable Percussion		Casing Diameter 200mm cased to 7.00m		Ground Level (mOD) 83.72		Client		Job Number 10-161		
		Location 291446.8 E 222346.7 N		Dates 10/05/2010		Engineer EPA		Sheet 1/1		
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.50	D1			Slight Flow(1) at 3.00m.	83.42	(0.30) 0.30	TOPSOIL		▽1	
1.00	D2						Brown slightly clayey gravelly fine to coarse SAND with rootlets. Gravel is subrounded to rounded fine to coarse			
1.50	D3					(2.30)				
2.00	D4									
2.60	D5					81.12	2.60	Grey brown sandy subrounded to rounded fine to coarse GRAVEL. Sand is medium to coarse		
3.40	D6					80.32	3.40	Brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is subrounded to subangular fine to coarse (damp)		
3.90	D7					79.82	3.90	Grey sandy gravelly CLAY. Sand is fine to coarse. Gravel is subrounded to angular fine to coarse (damp)		
4.50	D8									
5.50	D9						(3.10)			
7.00	D10				10/05/2010:	76.72	7.00	Complete at 7.00m		
Remarks Standpipe installed. Double security lockable cover fitted with security tags. Water added from 2.60m to 3.00m.								Scale (approx) 1:50	Logged By JC/HH	
								Figure No. 10-161.W0047EMW04		

[illegible]

Glover Site Investigations Ltd							Site Kerdiffstown Landfill		Borehole Number W0047EMW05	
Boring Method Cable Percussion		Casing Diameter 200mm cased to 6.00m		Ground Level (mOD) 79.78		Client			Job Number 10-161	
		Location 291461.5 E 222398.7 N		Dates 10/05/2010		Engineer EPA			Sheet 1/1	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.50	D1				79.38	(0.40)	TOPSOIL			
						0.40	Brown sandy CLAY with rootlets. Sand is fine to coarse			
1.00	D2				78.78	(0.60)				
1.60	D3					(1.00)	Brown mottled orange slightly gravelly sandy silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse (damp)			
2.00	D4				77.78	2.00	Orange brown clayey gravelly fine to coarse SAND. Gravel is subrounded to subangular fine to coarse			
3.00	D5			Slight Seepage(1) at 3.00m.		(1.50)				∇1
3.50	D6				76.28	3.50	Orange brown sandy gravelly CLAY with low cobble content. Sand is fine to coarse. Gravel is subrounded to angular fine to coarse. Cobbles are subrounded to angular			
4.00	D7									
5.00	D8					(2.50)				
6.00	D9			Water Strike(2) at 6.00m. 10/05/2010:	73.78	6.00				∇2
							Complete at 6.00m			
Remarks Standpipe installed. Double security lockable cover fitted with security tags. Water added from 2.00m to 3.00m.								Scale (approx) 1:50	Logged By JC/HH	
								Figure No. 10-161.W0047EMW05		

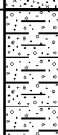
Glover Site Investigations Ltd										Site Kerdiffstown Landfill				Borehole Number W0047EMW05		
Installation Type Gas and Water Monitoring			Dimensions Internal Diameter of Tube [A] = 50 mm Diameter of Filter Zone = 200 mm					Client					Job Number 10-161			
			Location 291461.5 E 222398.7 N			Ground Level (mOD) 79.78		Engineer EPA					Sheet 1/1			
Legend		Water	Instr (A)	Level (mOD)	Depth (m)	Description	Groundwater Strikes During Drilling									
				79.43	0.35	Concrete	Date	Time	Depth Struck (m)	Casing Depth (m)	Inflow Rate	Readings				Depth Sealed (m)
						3.00		Slight Seepage								
						6.00		Water Strike								

Glover Site Investigations Ltd							Site Kerdiffstown Landfill		Borehole Number W0047EMW06
Boring Method Cable Percussion		Casing Diameter 200mm cased to 7.30m		Ground Level (mOD) 87.20		Client EPA		Job Number 10-161	
		Location 291359.8 E 222419.7 N		Dates 11/05/2010		Engineer EPA		Sheet 1/1	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	D1				87.00	(0.20)	TOPSOIL		
					86.70	(0.30)	Brown silty gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse		
1.00	D2					(1.40)	Orange brown slightly silty slightly gravelly medium to coarse SAND. Gravel is subrounded to subangular fine to coarse		
1.50	D3								
2.00	D4				85.30	1.90	Grey slightly clayey very gravelly fine to coarse SAND with low cobble and boulder content. Gravel is subangular to rounded fine to coarse. Cobbles and boulders are subangular to rounded		
2.50	D5				84.70	2.50	Grey sandy subrounded to angular fine to coarse GRAVEL with low to medium cobble and boulder content. Sand is fine to coarse. Cobbles and boulders are subrounded to angular		
3.00	D6								
4.00	D7					(3.40)			
5.00	D8								
6.00	D9				81.30	5.90	Grey sandy gravelly CLAY with low to medium cobble content. Sand is medium to coarse. Gravel is subrounded to subangular fine to coarse. Cobbles are subrounded to subangular		
						(1.40)			
7.00	D10								
				11/05/2010:	79.90	7.30	Complete at 7.30m		
Remarks Standpipe installed. Double security lockable cover fitted with security tags. Chiselling from 2.10m to 2.40m for 0.5 hours. Water added from 1.00m to 7.30m.								Scale (approx) 1:50	Logged By JC/HH
								Figure No. 10-161.W0047EMW06	

[illegible]

Glover Site Investigations Ltd							Site Kerdiffstown Landfill		Borehole Number W0047EMW07
Boring Method Cable Percussion		Casing Diameter 200mm cased to 6.00m		Ground Level (mOD) 81.02		Client EPA		Job Number 10-161	
		Location 291513.1 E 222208.2 N		Dates 11/05/2010		Engineer EPA		Sheet 1/1	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.50	D1				80.77	(0.25)	TOPSOIL		
						0.25			
						(0.35)			
					80.42	0.60	Brown slightly gravelly sandy CLAY with roots, rootlets and occasional decayed organic matter. Sand is fine to coarse. Gravel is subangular fine to medium (Possible Made Ground)		
1.00	D2					(0.70)			
							Brown sandy gravelly CLAY with roots. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse		
1.40	D3				79.72	1.30			
							Brown mottled grey sandy gravelly silty CLAY. Sand is fine to coarse. Gravel is subrounded to subangular fine to coarse (damp)		
2.50	D4					(1.70)			
3.00	D5				78.02	3.00			
							Brown grey slightly clayey slightly gravelly fine to coarse SAND. Gravel is subrounded fine to coarse		
						(1.00)			
4.00	D6			Water Strike(1) at 3.80m.	77.02	4.00			
							Grey slightly silty sandy subangular to rounded fine to coarse GRAVEL. Sand is fine to coarse (wet)		
5.00	D7					(2.00)			
6.00	D8			11/05/2010:	75.02	6.00			
							Complete at 6.00m		
Remarks Water strike at 3.80m rose to 3.0m after 1.0min. Standpipe installed. Double security lockable cover fitted with security tags.								Scale (approx) 1:50	Logged By JC/HH
								Figure No. 10-161.W0047EMW07	

Glover Site Investigations Ltd					Site Kerdiffstown Landfill					Borehole Number W0047EMW07							
Installation Type Gas and Water Monitoring			Dimensions Internal Diameter of Tube [A] = 50 mm Diameter of Filter Zone = 200 mm					Client					Job Number 10-161				
			Location 291513.1 E 222208.2 N			Ground Level (mOD) 81.02		Engineer EPA					Sheet 1/1				
Legend		Water	Instr (A)	Level (mOD)	Depth (m)	Description		Groundwater Strikes During Drilling									
				80.67	0.35	Concrete		Date	Time	Depth Struck (m)	Casing Depth (m)	Inflow Rate	Readings				Depth Sealed (m)
						Bentonite Seal				3.80		Water Strike	5 min	10 min	15 min	20 min	
				80.12 80.02	0.90 1.00	Fine Gravel Filter		Groundwater Observations During Drilling									
						Instrument Groundwater Observations											
				80.12 80.02	0.90 1.00	Fine Gravel Filter		Groundwater Observations During Drilling									
						Instrument Groundwater Observations											
				80.12 80.02	0.90 1.00	Fine Gravel Filter		Groundwater Observations During Drilling									
						Instrument Groundwater Observations											
				80.12 80.02	0.90 1.00	Fine Gravel Filter		Groundwater Observations During Drilling									
						Instrument Groundwater Observations											
				80.12 80.02	0.90 1.00	Fine Gravel Filter		Groundwater Observations During Drilling									
						Instrument Groundwater Observations											
				80.12 80.02	0.90 1.00	Fine Gravel Filter		Groundwater Observations During Drilling									
						Instrument Groundwater Observations											
				80.12 80.02	0.90 1.00	Fine Gravel Filter		Groundwater Observations During Drilling									
						Instrument Groundwater Observations											
				80.12 80.02	0.90 1.00	Fine Gravel Filter		Groundwater Observations During Drilling									
						Instrument Groundwater Observations											
				80.12 80.02	0.90 1.00	Fine Gravel Filter		Groundwater Observations During Drilling									
						Instrument Groundwater Observations											
				80.12 80.02	0.90 1.00	Fine Gravel Filter		Groundwater Observations During Drilling									
						Instrument Groundwater Observations											
				80.12 80.02	0.90 1.00	Fine Gravel Filter		Groundwater Observations During Drilling									
						Instrument Groundwater Observations											
				80.12 80.02	0.90 1.00	Fine Gravel Filter		Groundwater Observations During Drilling									
						Instrument Groundwater Observations											
				80.12 80.02	0.90 1.00	Fine Gravel Filter		Groundwater Observations During Drilling									
						Instrument Groundwater Observations											
				80.12 80.02	0.90 1.00	Fine Gravel Filter		Groundwater Observations During Drilling									
						Instrument Groundwater Observations											
				80.12 80.02	0.90 1.00	Fine Gravel Filter		Groundwater Observations During Drilling									
						Instrument Groundwater Observations											
				80.12 80.02	0.90 1.00	Fine Gravel Filter		Groundwater Observations During Drilling									
						Instrument Groundwater Observations											
				80.12 80.02	0.90 1.00	Fine Gravel Filter		Groundwater Observations During Drilling									
						Instrument Groundwater Observations											
				80.12 80.02	0.90 1.00	Fine Gravel Filter		Groundwater Observations During Drilling									
						Instrument Groundwater Observations											

Glover Site Investigations Ltd							Site Kerdiffstown Landfill		Borehole Number W0047EMW08	
Boring Method Cable Percussion		Casing Diameter 200mm cased to 5.00m		Ground Level (mOD) 80.34		Client		Job Number 10-161		
		Location 291539.3 E 222230.6 N		Dates 12/05/2010		Engineer EPA		Sheet 1/1		
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.50	D1			Water Strike(1) at 2.50m, rose to 2.00m in 5 mins.	80.14	(0.20) 0.20	TOPSOIL			
1.00	D2				79.34	1.00	Grey brown slightly silty very gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse			
1.50	D3					(1.00)	Brown slightly sandy slightly silty gravelly CLAY. Sand is fine to medium. Gravel is subangular to subrounded fine to coarse			
2.00	D4					78.34	2.00	Grey slightly silty slightly gravelly fine to medium SAND. Gravel is subangular to subrounded fine to coarse		▼1
3.00	D5					(1.10)	Grey slightly silty slightly gravelly fine to medium SAND. Gravel is subangular to subrounded fine to coarse		▽1	
4.00	D6			12/05/2010:	77.24	3.10	Grey very gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse			
5.00	D7					76.34	5.00	Complete at 5.00m		
Remarks Standpipe installed. Double security lockable cover fitted with security tags.								Scale (approx)	Logged By	
								1:50	JC/HH	
								Figure No. 10-161.W0047EMW08		

Glover Site Investigations Ltd										Site Kerdiffstown Landfill				Borehole Number W0047EMW08			
Installation Type Gas and Water Monitoring			Dimensions Internal Diameter of Tube [A] = 50 mm Diameter of Filter Zone = 200 mm					Client					Job Number 10-161				
			Location 291539.3 E 222230.6 N			Ground Level (mOD) 80.34		Engineer EPA					Sheet 1/1				
Legend		Water	Instr (A)	Level (mOD)	Depth (m)	Description		Groundwater Strikes During Drilling									
				79.99	0.35	Concrete	Date	Time	Depth Struck (m)	Casing Depth (m)	Inflow Rate	Readings				Depth Sealed (m)	
									2.50		Water Strike	2.00					
				79.54	0.80	Bentonite Seal											
				79.34	1.00	Fine Gravel Filter											
							Groundwater Observations During Drilling										
							Date	Start of Shift					End of Shift				
Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)	Time	Depth Hole (m)		Casing Depth (m)	Water Depth (m)	Water Level (mOD)							
							12/05/10						5.00				
							Instrument Groundwater Observations										
							Inst. [A] Type :										
					Slotted Standpipe	Date	Instrument [A]			Remarks							
							Time	Depth (m)	Level (mOD)								
				75.34	5.00												
Remarks Two lockable flush covers fitted. Geosock fitted. Gas tap fitted.																	

Glover Site Investigations Ltd							Site Kerdiffstown Landfill		Borehole Number W0047EMW09
Boring Method Symmetrix Drilling		Casing Diameter 150mm cased to 20.50m		Ground Level (mOD) 98.27		Client EPA		Job Number 10-161	
		Location 290988.2 E 222399.1 N		Dates 11/05/2010		Engineer EPA		Sheet 1/3	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-1.00	D1						Brown orange slightly clayey slightly gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse		
1.00-2.50	D2					(2.50)			
2.50-4.00	D3				95.77	2.50	Brown slightly clayey gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse		
						(1.50)			
4.00-5.50	D4				94.27	4.00	Grey brown gravelly clayey fine to coarse SAND. Gravel is subangular to subrounded fine to coarse		
5.50-7.00	D5								
7.00-8.50	D6					(6.00)			
8.50-10.00	D7								
					88.27	10.00			
Remarks Standpipe installed. Double security lockable cover fitted with security tags.								Scale (approx) 1:50	Logged By JC/HH
								Figure No. 10-161.W0047EMW09	

Glover Site Investigations Ltd							Site Kerdiffstown Landfill		Borehole Number W0047EMW09
Boring Method Symmetrix Drilling		Casing Diameter 150mm cased to 20.50m		Ground Level (mOD) 98.27		Client EPA		Job Number 10-161	
		Location 290988.2 E 222399.1 N		Dates 11/05/2010		Engineer EPA		Sheet 2/3	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
10.00-11.50	D8						Grey brown gravelly clayey fine to coarse SAND. Gravel is subangular to subrounded fine to coarse		
						(1.50)			
11.50-13.00	D9				86.77	11.50	Grey brown slightly gravelly clayey fine to coarse SAND. Gravel is subangular to subrounded fine to coarse		
						(1.50)			
13.00-14.50	D10				85.27	13.00	Grey brown sandy subangular to subrounded fine to coarse GRAVEL. Sand is fine to coarse		
14.50-16.00	D11					(4.50)			
16.00-17.50	D12								
17.50-19.00	D13				80.77	17.50	Grey sandy subangular to subrounded fine to coarse GRAVEL. Sand is fine to coarse		
						(1.50)			
19.00-20.50	D14				79.27	19.00	Possible weathered BEDROCK or BOULDERS		
						(1.00)			
					78.27	20.00			
Remarks								Scale (approx) 1:50	Logged By JC/HH
								Figure No. 10-161.W0047EMW09	

Glover Site Investigations Ltd							Site Kerdiffstown Landfill		Borehole Number W0047EMW09	
Boring Method Symmetrix Drilling		Casing Diameter 150mm cased to 20.50m		Ground Level (mOD) 98.27		Client EPA		Job Number 10-161		
		Location 290988.2 E 222399.1 N		Dates 11/05/2010		Engineer EPA		Sheet 3/3		
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
				11/05/2010: DRY	77.77	(0.50) 20.50	Possible weathered BEDROCK or BOULDERS			
							Complete at 20.50m			
Remarks							Scale (approx) 1:50		Logged By JC/HH	
							Figure No. 10-161.W0047EMW09			

Glover Site Investigations Ltd						Site Kerdiffstown Landfill				Borehole Number W0047EMW09						
Installation Type Gas and Water Monitoring			Dimensions Internal Diameter of Tube [A] = 50 mm Diameter of Filter Zone = 150 mm				Client				Job Number 10-161					
			Location 290988.2 E 222399.1 N		Ground Level (mOD) 98.27		Engineer EPA				Sheet 1/1					
Legend		Water	Instr (A)	Level (mOD)	Depth (m)	Description	Groundwater Strikes During Drilling									
				97.92	0.35	Concrete Bentonite Seal	Date	Time	Depth Struck (m)	Casing Depth (m)	Inflow Rate	Readings				Depth Sealed (m)
				96.97 96.77	1.30 1.50	Fine Gravel Filter							5 min	10 min	15 min	20 min
						Slotted Standpipe	Groundwater Observations During Drilling									
							Date	Start of Shift					End of Shift			
	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)	Time		Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)					
							11/05/10						20.50		DRY	
							Instrument Groundwater Observations									
							Inst. [A] Type :									
							Date	Instrument [A]			Remarks					
								Time	Depth (m)	Level (mOD)						
				77.77	20.50											
Remarks Two lockable flush covers fitted. Geosock fitted. Gas tap fitted.																

Glover Site Investigations Ltd						Site Kerdiffstown Landfill		Borehole Number W0047EMW10	
Boring Method Rotary Symmetrix		Casing Diameter 150mm cased to 20.50m		Ground Level (mOD) 99.17		Client EPA		Job Number 10-161	
		Location 291023.2 E 222348.6 N		Dates 11/05/2010		Engineer EPA		Sheet 1/3	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
1.00	D1					(2.30)	Brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse		
2.50	D2				96.87	2.30	Brown grey slightly silty slightly gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to medium		
4.00	D3								
5.50	D4								
7.00	D5					(7.70)			
8.50	D6								
					89.17	10.00			
Remarks Standpipe installed. Double security lockable cover fitted with security tags.								Scale (approx)	Logged By
								1:50	JC/HH
								Figure No. 10-161.W0047EMW10	

Glover Site Investigations Ltd							Site Kerdiffstown Landfill		Borehole Number W0047EMW10
Boring Method Rotary Symmetrix		Casing Diameter 150mm cased to 20.50m		Ground Level (mOD) 99.17		Client EPA		Job Number 10-161	
		Location 291023.2 E 222348.6 N		Dates 11/05/2010		Engineer EPA		Sheet 2/3	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
10.00	D7						Brown grey slightly silty slightly gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to medium		
						(1.20)			
					87.97	11.20			
11.50	D8						Grey brown silty sandy subangular to subrounded fine to medium GRAVEL. Sand is fine to coarse		
						(3.40)			
13.00	D9								
14.50	D10				84.57	14.60	Grey brown silty gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse		
						(3.00)			
16.00	D11								
17.50	D12				81.57	17.60	Brown silty sandy subangular to subrounded fine to medium GRAVEL. Sand is fine to coarse		
						(2.40)			
19.00	D13								
					79.17	20.00			
Remarks								Scale (approx) 1:50	Logged By JC/HH
								Figure No. 10-161.W0047EMW10	

Glover Site Investigations Ltd							Site Kerdiffstown Landfill		Borehole Number W0047EMW10	
Boring Method Rotary Symmetrix		Casing Diameter 150mm cased to 20.50m		Ground Level (mOD) 99.17		Client EPA		Job Number 10-161		
		Location 291023.2 E 222348.6 N		Dates 11/05/2010		Engineer EPA		Sheet 3/3		
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
20.50	D14			11/05/2010:DRY	78.67	(0.50)	Brown silty sandy subangular to subrounded fine to medium GRAVEL. Sand is fine to coarse			
						20.50	Complete at 20.50m			
Remarks							Scale (approx) 1:50		Logged By JC/HH	
							Figure No. 10-161.W0047EMW10			

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Glover Site Investigations Ltd						Site Kerdiffstown Landfill							Borehole Number W0047EMW10				
Installation Type Gas and Water Monitoring			Dimensions Internal Diameter of Tube [A] = 50 mm Diameter of Filter Zone = 150 mm				Client								Job Number 10-161		
			Location 291023.2 E 222348.6 N		Ground Level (mOD) 99.17		Engineer EPA						Sheet 1/1				
Legend	Water	Instr (A)	Level (mOD)	Depth (m)	Description	Groundwater Strikes During Drilling											
			98.82	0.35	Concrete Bentonite Seal	Date	Time	Depth Struck (m)	Casing Depth (m)	Inflow Rate	Readings				Depth Sealed (m)		
											5 min	10 min	15 min	20 min			
			Groundwater Observations During Drilling														
			Date	Start of Shift					End of Shift								
				Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (mOD)				
			11/05/10							20.50		DRY					
			Instrument Groundwater Observations														
			Inst. [A] Type :														
			Date	Instrument [A]			Remarks										
				Time	Depth (m)	Level (mOD)											
Remarks Two lockable flush covers fitted. Geosock fitted. Gas tap fitted.																	

 GLOVER SITE INVESTIGATIONS LIMITED		Project No. 11-182	Project Name: Kerdiffstown Landfill, near Naas, Co. Kildare		Borehole No. EMW11	
Installation Type: SPEMW11 - Standpipe to 22.00m (50mm dia)		Co-ords: - -		Client: 		Sheet 1 of 1
Cover Type: Upright cover fitted.		Ground Level: -		Engineer: Ford Consulting		Scale: 1:150
				Date of installation: 08/06/2011		Driller: GT
						Logger: BA

Legend & Water Strikes	Backfill/ Installs	Level (m)	Depth (m)	Description	Groundwater Strikes During Drilling														
					Date	Time	Strike Number	Depth Struck (m)	Rise Details	Further Details	Casing Depth (m)	Depth Sealed (m)							
			1.00	Concrete															
			2.00	Bentonite					No Groundwater Encountered										
				Arisings	Groundwater Observations During Drilling														
					Start of Shift					End of Shift									
					Date	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (m)	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level EMW11				
			9.50	Bentonite															
			11.50																
				Gravel filter	Groundwater Monitoring Results					Gas Monitoring Results									
			22.00	Bentonite															
			25.00																

Remarks:												Last Revised: 28/06/2011	
 												www.glover-si.com (c) Glover Site Investigation Ltd	

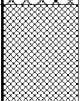
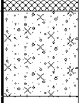
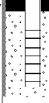
 GLOVER SITE INVESTIGATIONS LIMITED				Project No. 11-182	Project Name: Kerdiffstown Landfill, near Naas, Co. Kildare	Borehole No. EMW12		
Method and Equipment: Rotary drilling 0.00-20.50m Symmetrix Drilling				Co-ords: - -	Client:	Sheet 1 of 1		
					Engineer: Ford Consulting	Scale: 1:400		
				Ground Level: -	Dates: 09/06/2011	Driller: GT		
							Logger: BA	
Depth (m)	Sample / Test	Casing Depth (m)	Water Depth (m)	Field Records	Level Depth (Thickness)	Stratum Description	Legend & Water Strikes	Backfill/ Installs
					(7.50)	Hardcore, Plastic and wood (Driller's description)		
					7.50 (5.50)	Fine SAND and GRAVEL (Driller's description)		
					13.00 (7.50)	ROCK (Driller's description)		
				09/06/2011 — dry	20.50	End of Borehole at 20.50 m		
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Remarks: Standpipe installed.						Water Strikes: Struck (m) 19.30 rising to (m) - time (min) 0	Last Revised: 24/06/2011	
Core Barrel: Flush type:						Casing: to (m) 15.00 dia. (mm) 200	 www.glover-si.com (c) Glover Site Investigation Ltd	

 GLOVER SITE INVESTIGATIONS LIMITED		Project No. 11-182	Project Name: Kerdiffstown Landfill, near Naas, Co. Kildare					Borehole No. EMW12				
Installation Type: SPEMW12 - Standpipe to 20.00m (50mm dia)		Co-ords: - -		Client: Engineer: Ford Consulting					Sheet 1 of 1 Scale: 1:150			
Cover Type: Upright cover fitted.		Ground Level: -		Date of installation: 09/06/2011					Driller: GT Logger: BA			

Legend & Water Strikes	Backfill/Installs	Level (m)	Depth (m)	Description	Groundwater Strikes During Drilling											
					Date	Time	Strike Number	Depth Struck (m)	Rise Details	Further Details	Casing Depth (m)	Depth Sealed (m)				
			1.00	Concrete												
			2.00	Bentonite	09/06/11	0000	1	19.30	-	Water Strike	-	-				
Arisings					Groundwater Observations During Drilling											
					Start of Shift						End of Shift					
					Date	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (m)	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level EMW12	
					09/06/11							1700	20.50	-	-	-
			11.00	Bentonite												
			13.00													
			20.50	Gravel filter												

Groundwater Monitoring Results					Gas Monitoring Results										
Install I.D.	Date	Time	Water Depth (m)	Water Level (m)	Install I.D.	Date	Time	Oxygen (%)	Carbon Dioxide (%)	Methane (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	Atmospheric Pressure (mBar)	Gas Flow (l/hour)	PID - VOCs (ppm)

Remarks:												Last Revised: 24/06/2011			
												 www.glover-si.com (c) Glover Site Investigation Ltd			

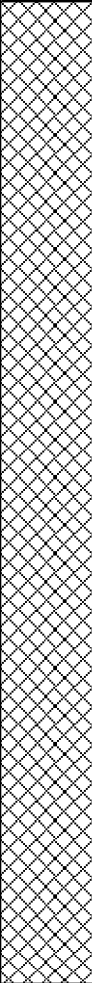
 GLOVER SITE INVESTIGATIONS LIMITED				Project No. 11-182	Project Name: Kerdiffstown Landfill, near Naas, Co. Kildare	Borehole No. EMW13		
Method and Equipment: Rotary drilling 0.00-20.00m Symmetrix Drilling				Co-ords: - -	Client:	Sheet 1 of 1		
					Engineer: Ford Consulting	Scale: 1:400		
				Ground Level: -	Dates: 10/06/2011	Driller: GT		
							Logger: BA	
Depth (m)	Sample / Test	Casing Depth (m)	Water Depth (m)	Field Records	Level Depth (Thickness)	Stratum Description	Legend & Water Strikes	Backfill/Installs
					(4.50)	Hardcore FILL (Driller's description)		
					4.50	Tree stumps and timber (Driller's description)		
					(11.00)			
					15.50	Coarse GRAVEL, fine SAND and grey SILT (Driller's description)		
					(4.50)			
					20.00	End of Borehole at 20.00 m		
				For inspection purposes only. Consent of copyright owner required for any other use.				
Remarks: Standpipe installed.						Water Strikes: Struck (m) 16.00 rising to (m) - time (min) 0		Last Revised: 28/06/2011
Core Barrel: Flush type:						Casing: to (m) 20.00 dia. (mm) 200		 www.glover-si.com (c) Glover Site Investigation Ltd

[illegible]

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 GLOVER SITE INVESTIGATIONS LIMITED				Project No. 11-182	Project Name: Kerdiffstown Landfill, near Naas, Co. Kildare	Borehole No. EMW14		
Method and Equipment: Rotary drilling 0.00-24.00m Symmetrix Drilling				Co-ords: - -	Client:	Sheet 1 of 1		
					Engineer: Ford Consulting	Scale: 1:400		
				Ground Level: -	Dates: 19/06/2011	Driller: GT		
							Logger: BA	
Depth (m)	Sample / Test	Casing Depth (m)	Water Depth (m)	Field Records	Level Depth (Thickness)	Stratum Description	Legend & Water Strikes	Backfill/Installs
					(19.50)	Hardcore, waste, timber, tree stumps (Driller's description)		
					19.50 (4.50)	Layers of black CLAY, grey sandy SILT and coarse GRAVEL (Driller's description)		
				19/06/2011 dry	24.00	End of Borehole at 24.00 m		
				<i>For inspection purposes only. Consent of copyright owner required for any other use.</i>				
Remarks: Standpipe installed.						Water Strikes: Struck (m) rising to (m) time (min) No Groundwater Encountered		Last Revised: 28/06/2011
Core Barrel: Flush type:						Casing: to (m) 24.00 dia. (mm) 200		 www.glover-si.com (c) Glover Site Investigation Ltd

 GLOVER SITE INVESTIGATIONS LIMITED		Project No. 11-182	Project Name: Kerdiffstown Landfill, near Naas, Co. Kildare		Borehole No. EMW14	
Installation Type: SPEMW17 - Standpipe to 24.00m (50mm dia)		Co-ords: - -		Client: 		Sheet 1 of 1
Cover Type: Upright cover fitted.		Ground Level: -		Engineer: Ford Consulting		Scale: 1:150
				Date of installation: 19/06/2011		Driller: GT
						Logger: BA

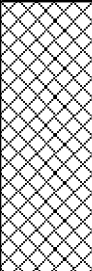
Legend & Water Strikes	Backfill/Installs	Level (m)	Depth (m)	Description	Groundwater Strikes During Drilling																																																				
					Date	Time	Strike Number	Depth Struck (m)	Rise Details	Further Details	Casing Depth (m)	Depth Sealed (m)																																													
			1.00	Concrete																																																					
			2.00	Bentonite					No Groundwater Encountered																																																
Groundwater Observations During Drilling																																																									
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Date	Start of Shift					End of Shift																																																			
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Install I.D.	Date	Time	Water Depth (m)	Water Level (m)	Install I.D.	Date	Time	Oxygen (%)	Carbon Dioxide (%)	Methane (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	Atmospheric Pressure (mBar)	Gas Flow (l/hour)	PID - VOCs (ppm)																																										
			18.50	Bentonite																																																					
			20.50																																																						
			24.00	Gravel filter																																																					

Remarks:															Last Revised: 28/06/2011	
															 www.glover-si.com (c) Glover Site Investigation Ltd	

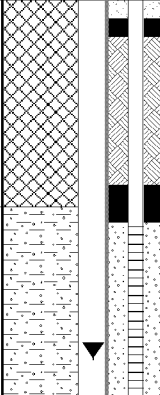
 GLOVER SITE INVESTIGATIONS LIMITED				Project No. 11-182	Project Name: Kerdiffstown Landfill, near Naas, Co. Kildare	Borehole No. EMW15		
Method and Equipment: Rotary drilling 0.00-18.00m Symmetrix Drilling				Co-ords: - -	Client:	Sheet 1 of 1		
					Engineer: Ford Consulting	Scale: 1:400		
				Ground Level: -	Dates: 15/06/2011	Driller: GT		
							Logger: BA	
Depth (m)	Sample / Test	Casing Depth (m)	Water Depth (m)	Field Records	Level Depth (Thickness)	Stratum Description	Legend & Water Strikes	Backfill/Installs
					(11.70)	Hardcore, Plastic and Timber (Driller's description)		
					11.70 (6.30)	Layer of grey CLAY and silty sandy coarse GRAVEL (Driller's description)		
				15/06/2011 14.90m	18.00	End of Borehole at 18.00 m		
				<i>For inspection purposes only. Consent of copyright owner required for any other use.</i>				
Remarks: Standpipe installed						Water Strikes: Struck (m) rising to (m) time (min) No Groundwater Encountered		Last Revised: 23/06/2011
						Core Barrel:	Casing: to (m) 18.00 dia. (mm) 200	 www.glover-si.com (c) Glover Site Investigation Ltd
						Flush type:		

 GLOVER SITE INVESTIGATIONS LIMITED				Project No. 11-182	Project Name: Kerdiffstown Landfill, near Naas, Co. Kildare	Borehole No. EMW16		
Method and Equipment: Rotary drilling 0.00-17.60m Symmetrix Drilling				Co-ords: - -	Client:	Sheet 1 of 1		
					Engineer: Ford Consulting	Scale: 1:400		
				Ground Level: -	Dates: 14/06/2011	Driller: GT		
							Logger: BA	
Depth (m)	Sample / Test	Casing Depth (m)	Water Depth (m)	Field Records	Level Depth (Thickness)	Stratum Description	Legend & Water Strikes	Backfill/Installs
					(11.50)	Hardcore Fill, plastic and timber (Driller's description)		
					11.50 (6.10)	GRAVEL and grey silt and layers of black clay (Driller's description)		
				14/06/2011 dry	17.60	End of Borehole at 17.60 m		
				<i>For inspection purposes only. Consent of copyright owner required for any other use.</i>				
Remarks: Standpipe installed						Water Strikes: Struck (m) rising to (m) time (min) No Groundwater Encountered		Last Revised: 24/06/2011
						Core Barrel:	Casing: to (m) 17.60 dia. (mm) 200	 www.glover-si.com (c) Glover Site Investigation Ltd
						Flush type:		

 GLOVER SITE INVESTIGATIONS LIMITED		Project No. 11-182	Project Name: Kerdiffstown Landfill, near Naas, Co. Kildare		Borehole No. EMW16	
Installation Type: SPEMW15 - Standpipe to 17.60m (50mm dia)		Co-ords: - -		Client: 		Sheet 1 of 1
Cover Type: Upright cover fitted.		Ground Level: -		Engineer: Ford Consulting		Scale: 1:150
				Date of installation: 14/06/2011		Driller: GT
						Logger: BA

Legend & Water Strikes	Backfill/Installs	Level (m)	Depth (m)	Description	Groundwater Strikes During Drilling												
					Date	Time	Strike Number	Depth Struck (m)	Rise Details	Further Details	Casing Depth (m)	Depth Sealed (m)					
			1.00	Concrete													
			2.00	Bentonite					No Groundwater Encountered								
Arisings					Groundwater Observations During Drilling												
					Start of Shift					End of Shift							
					Date	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (m)	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level EMW16		
	14/06/11									1700	17.60	-	-	-			
			11.20	Bentonite													
			13.20														
Gravel filter					Groundwater Monitoring Results					Gas Monitoring Results							
					Install I.D.	Date	Time	Water Depth (m)	Water Level (m)	Install I.D.	Date	Time	Oxygen (%)	Carbon Dioxide (%)	Methane (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)
			17.60														

Remarks:					Last Revised: 24/06/2011				
					 www.glover-si.com (c) Glover Site Investigation Ltd				

 GLOVER SITE INVESTIGATIONS LIMITED				Project No. 11-182	Project Name: Kerdiffstown Landfill, near Naas, Co. Kildare	Borehole No. EMW17		
Method and Equipment: Rotary drilling 0.00-21.00m Symmetrix Drilling				Co-ords: - -	Client:	Sheet 1 of 1		
					Engineer: Ford Consulting	Scale: 1:400		
				Ground Level: -	Dates: 13/06/2011	Driller: GT		
							Logger: BA	
Depth (m)	Sample / Test	Casing Depth (m)	Water Depth (m)	Field Records	Level Depth (Thickness)	Stratum Description	Legend & Water Strikes	Backfill/Installs
					(11.00)	Hardcore Fill, Gravel and Wood (Driller's description)		
					11.00	Grey sandy silty layers of CLAY and GRAVEL (Driller's description)		
					(10.00)			
				13/06/2011 19.00m	21.00	End of Borehole at 21.00 m		
Remarks: Standpipe installed.				Water Strikes: Struck (m) 19.00 rising to (m) - time (min) 0		Last Revised: 23/06/2011		
Core Barrel: Flush type:				Casing: to (m) 21.00 dia. (mm) 200		 www.glover-si.com (c) Glover Site Investigation Ltd		

 GLOVER SITE INVESTIGATIONS LIMITED			Project No. 11-182		Project Name: Kerdiffstown Landfill, near Naas, Co. Kildare				Borehole No. EMW17			
Installation Type: SPEMW14 - Standpipe to 21.00m (50mm dia)			Co-ords: - -		Client: 				Sheet 1 of 1			
Cover Type: Upright cover fitted.			Ground Level: -		Engineer: Ford Consulting				Scale: 1:150			
					Date of installation: 13/06/2011				Driller: GT			
									Logger: BA			

Legend & Water Strikes	Backfill/ Installs	Level (m)	Depth (m)	Description	Groundwater Strikes During Drilling															
					Date	Time	Strike Number	Depth Struck (m)	Rise Details	Further Details	Casing Depth (m)	Depth Sealed (m)								
			1.00	Concrete	13/06/11	0000	1	19.00	-	Water Strike	-	-								
			2.00	Bentonite																
				Arisings																
					Groundwater Observations During Drilling															
					Start of Shift					End of Shift										
					Date	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level (m)	Time	Depth Hole (m)	Casing Depth (m)	Water Depth (m)	Water Level EMW17					
					13/06/11						1700	21.00	-	19.00	-					
			9.80	Bentonite																
			11.80																	
				Gravel filter	Groundwater Monitoring Results					Gas Monitoring Results										
					Install I.D.	Date	Time	Water Depth (m)	Water Level (m)	Install I.D.	Date	Time	Oxygen (%)	Carbon Dioxide (%)	Methane (%)	Carbon Monoxide (ppm)	Hydrogen Sulphide (ppm)	Atmospheric Pressure (mB)	Gas Flow (l/hour)	PID - VOCs (ppm)
			21.00																	

Remarks:															Last Revised: 23/06/2011				
															 www.glover-si.com (c) Glover Site Investigation Ltd				



GEOTECHNICAL BORING RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

BOREHOLE NO. EMW18

CO-ORDINATES 291,642.73 E
222,110.47 N
GROUND LEVEL (m AOD) 81.01RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 6.20

SHEET Sheet 1 of 1

DATE COMMENCED 31/08/2012
DATE COMPLETED 31/08/2012CLIENT EPA
ENGINEER SKMSPT HAMMER REF. NO.
ENERGY RATIO (%)BORED BY W.Cahill
PROCESSED BY I.Redder

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	TOPSOIL Light brown, sandy gravelly CLAY with some angular sandstone cobbles		80.91	0.10						
1	Brown, sandy slightly gravelly CLAY with some subangular sandstone cobbles and occasional boulders		79.81	1.20						
2										
3	Light brown, sandy fine to coarse GRAVEL		77.81	3.20						
4										
5	Brown, fine to coarse SAND with occasional fine gravel		76.81	4.50						
6	Brown, sandy fine to coarse GRAVEL with occasional subangular cobbles		75.41	5.60						
6	Obstruction - possible big cobble End of Borehole at 6.20 m		74.81	6.20						
7										
8										
9										

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
6.2	6.2	0.5	Chiselling	3.20	3.20	NO	1.70	20	Rapid

GROUNDWATER PROGRESS

INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments
Date	Tip Depth	RZ Top	RZ Base	Type					
31-08-12	6.20	3.00	6.00	50mm SP					

REMARKS Obstruction at 6.2m due to possible boulder.

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)
U - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample

IGSL BH LOG CHISEL SEPARATED 16412.GPJ IGSL GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

DRILLHOLE NO
SHEET EMW19
Sheet 1 of 2CO-ORDINATES 291,547.74 E
222,164.60 N
GROUND LEVEL (mOD) 80.45RIG TYPE Casagrande
FLUSH Water
INCLINATION (deg) -90
CORE DIAMETER (mm)DATE DRILLED 31/08/2012
DATE LOGGED 06/09/2012CLIENT
ENGINEER SKMDRILLED BY IGSL
LOGGED BY D.O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of clay				
1												
2								SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly clay	2.00	78.45		
3								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy gravel	3.00	77.45		
4								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sand	3.90	76.55		
5								SYMMETRIX DRILLING: No recovery, observed by driller as returns of blowing sand	4.50	75.95		
6												
7												
8								SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravelly clay	8.00	72.45		
9								SYMMETRIX DRILLING: No recovery, observed by driller as returns of boulder	8.70	71.75		
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy gravel	9.30	71.15		
									10.00	70.45		

REMARKS

Hole Cased 0.00-10.00m. Driller standing 2.5hrs waiting for new location.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
2.00 3.20					Seepage Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
06-09-12	15.40	11.20	15.40	50mm SP					

IGSL RC F1 10M 16412 RC.GPJ IGSL.GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

DRILLHOLE NO EMW19

CO-ORDINATES 291,547.74 E
222,164.60 N

SHEET Sheet 2 of 2

GROUND LEVEL (mOD) 80.45

RIG TYPE Casagrande
FLUSH Water
INCLINATION (deg) -90
CORE DIAMETER (mm)DATE DRILLED 31/08/2012
DATE LOGGED 06/09/2012CLIENT
ENGINEER SKMDRILLED BY IGSL
LOGGED BY D.O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of rock				
11												
12												
13												
14												
15									15.40	65.05		
16								End of Borehole at 15.40 m				
17												
18												
19												

REMARKS

Hole Cased 0.00-10.00m. Driller standing 2.5hrs waiting for new location.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
06-09-12	15.40	11.20	15.40	50mm SP	06-09-12	15.40	10.00	2.00	Water level recorded 10mins after end of drilling

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GEOTECHNICAL BORING RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

BOREHOLE NO. EMW20

CO-ORDINATES 291,529.06 E
222,282.61 N
GROUND LEVEL (m AOD) 80.22RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 6.10

SHEET Sheet 1 of 1

DATE COMMENCED 04/09/2012
DATE COMPLETED 04/09/2012CLIENT EPA
ENGINEER SKMSPT HAMMER REF. NO.
ENERGY RATIO (%)BORED BY W.Cahill
PROCESSED BY I.Redder

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	TOPSOIL		79.52	0.70						
1	Dark brown, sandy CLAY with some fine to coarse gravel				AN3732	B	1.00-1.00			
			78.52	1.70						
2	Brown, slightly sandy silty CLAY with some fine to coarse gravel				AN3733	B	2.00-2.00			
			77.82	2.40						
3	Brown, sandy fine to coarse subrounded GRAVEL with occasional subrounded fine cobbles				AN3734	B	3.00-3.00			
4					AN3735	B	4.00-4.00			
5					AN3736	B	5.00-5.00			
6	Obstruction - possible big cobble End of Borehole at 6.10 m		74.12	6.10	AN3737	B	6.00-6.00			
7										
8										
9										

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
6.1	6.1	0.25	Chiselling	4.20	4.20	NO	NO	20	Slow

GROUNDWATER PROGRESS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
04-09-12	6.10	4.10	6.10	50mm SP					

REMARKS Obstruction at 6.1m due to possible boulder; 2.5 hrs removing spoil and made reinstatement at EMW19,20,21 locations.

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)
U - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample

IGSL BH LOG CHISEL SEPARATED 16412.GPJ IGSL GDT 6/11/12



GEOTECHNICAL BORING RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

BOREHOLE NO. EMW21

CO-ORDINATES 291,411.16 E
222,509.26 N
GROUND LEVEL (m AOD) 82.06RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 6.70

SHEET Sheet 1 of 1

DATE COMMENCED 03/09/2012
DATE COMPLETED 03/08/2012CLIENT EPA
ENGINEER SKMSPT HAMMER REF. NO.
ENERGY RATIO (%)BORED BY W.Cahill
PROCESSED BY I.Redder

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	TOPSOIL		81.86	0.20						
	MADE GROUND (comprised of dark brown sandy gravelly clay, concrete pieces, red brick pieces, boulders)									
1			80.76	1.30						
	MADE GROUND (comprised of dark brown silty sandy clay with gravel and cobbles, boulders, red brick)									
2			79.66	2.40						
	Light brown, sandy silty slightly gravelly CLAY with some subrounded to subangular cobbles									
3										
4					AN3729	B	4.00-4.00			
			77.16	4.90						
5	Brown, fine to coarse subrounded to rounded GRAVEL with some subarounded cobbles				AN3730	B	5.00-5.00			
6					AN3731	B	6.00-6.00			
			75.36	6.70						
7	Obstruction - possible big cobble End of Borehole at 6.70 m									
8										
9										

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
				5.00	5.00	NO	4.00	20	Moderate

GROUNDWATER PROGRESS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
03-09-12	6.70	5.40	6.40	50mm SP					

REMARKS Obstruction at 6.7m - instructed to stop drilling

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)
U - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample

IGSL BH LOG CHISEL SEPARATED 16412.GPJ IGSL GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

DRILLHOLE NO
SHEET

EMW22

Sheet 1 of 3

CO-ORDINATES
291,194.41 E
222,563.12 N

GROUND LEVEL (mOD) 87.89

RIG TYPE
FLUSH
INCLINATION (deg)
CORE DIAMETER (mm)Casagrande
Water
-90DATE DRILLED
DATE LOGGED07/09/2012
11/09/2012CLIENT
ENGINEER

SKM

DRILLED BY
LOGGED BYIGSL
D.O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			Hole opened by Shell & Auger				
1												
2												
3												
4												
5												
6												
7												
8									8.30	79.59		
9												
									10.00	77.89		

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REMARKS

Hole Cased 0.00-24.60m. Driller 40mins pulling casing, Driller 1hr fitting install, driller 35mins moving rig & setting up on new location.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
11-09-12	24.60	20.40	24.60	50mm SP					

IGSL RC FI 10M 16412 RC.GPJ IGSL GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

DRILLHOLE NO **EMW22**
SHEET Sheet 2 of 3CO-ORDINATES 291,194.41 E
222,563.12 N
GROUND LEVEL (mOD) 87.89RIG TYPE
FLUSH Casagrande
Water
INCLINATION (deg) -90
CORE DIAMETER (mm)DATE DRILLED 07/09/2012
DATE LOGGED 11/09/2012CLIENT
ENGINEER SKMDRILLED BY IGSL
LOGGED BY D.O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy gravel				
11												
12												
13								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy gravelly clay	13.00	74.89		
14												
15								SYMMETRIX DRILLING: No recovery, observed by driller as returns of boulder	15.50	72.39		
16								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy gravelly clay	16.00	71.89		
17												
18												
19									19.50	68.39		
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of rock				

REMARKS

Hole Cased 0.00-24.60m. Driller 40mins pulling casing, Driller 1hr fitting install, driller 35mins moving rig & setting up on new location.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
12.50					Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
11-09-12	24.60	20.40	24.60	50mm SP					

IGSL RC F1 10M 16412 RC.GPJ IGSL GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

DRILLHOLE NO EMW22

CO-ORDINATES 291,194.41 E
222,563.12 N

SHEET Sheet 3 of 3

GROUND LEVEL (mOD) 87.89

RIG TYPE
FLUSH Casagrande
Water

DATE DRILLED 07/09/2012

DATE LOGGED 11/09/2012

CLIENT
ENGINEER SKMINCLINATION (deg) -90
CORE DIAMETER (mm)DRILLED BY IGSL
LOGGED BY D.O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
20					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of rock (<i>continued</i>)				
21												
22									22.50	65.39		
23								SYMMETRIX DRILLING: No recovery, observed by driller as returns of clay band within rock	22.70	65.19		
24								SYMMETRIX DRILLING: No recovery, observed by driller as returns of rock				
25								End of Borehole at 24.60 m	24.60	63.29		
26												
27												
28												
29												

REMARKS

Hole Cased 0.00-24.60m. Driller 40mins pulling casing, Driller 1hr fitting install, driller 35mins moving rig & setting up on new location.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
11-09-12	24.60	20.40	24.60	50mm SP	11-09-12	24.60	24.60	9.00	Water level recorded 10mins after end of drilling

IGSL RC FI 10M 16412 RC.GPJ IGSL_GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

DRILLHOLE NO EMW23

CO-ORDINATES 291,194.12 E
222,559.00 N

SHEET Sheet 1 of 2

GROUND LEVEL (mOD) 88.21

RIG TYPE Casagrande
FLUSH Water

DATE DRILLED 12/09/2012

DATE LOGGED 12/09/2012

CLIENT
ENGINEER SKMINCLINATION (deg) -90
CORE DIAMETER (mm)DRILLED BY IGSL
LOGGED BY D.O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of clay				
1												
2								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy gravel	1.80	86.41		
3												
4												
5												
6												
7												
8												
9												

REMARKS

Hole Cased 0.00-14.80m. Driller 1hrs pulling casing.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
10.00					Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments
12-09-12	14.80	10.80	14.80	50mm SP

IGSL RC FI 10M 16412 RC.GPJ IGSL.GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

DRILLHOLE NO EMW23

CO-ORDINATES 291,194.12 E
222,559.00 N

SHEET Sheet 2 of 2

GROUND LEVEL (mOD) 88.21

RIG TYPE Casagrande
FLUSH Water

DATE DRILLED 12/09/2012

DATE LOGGED 12/09/2012

CLIENT
ENGINEER SKMINCLINATION (deg) -90
CORE DIAMETER (mm)DRILLED BY IGSL
LOGGED BY D.O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy gravel (<i>continued</i>)	10.50	77.71		
11								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sand	11.20	77.01		
12								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy gravel				
13												
14												
15								End of Borehole at 14.80 m	14.80	73.41		
16												
17												
18												
19												

REMARKS

Hole Cased 0.00-14.80m. Driller 1hrs pulling casing.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
12-09-12	14.80	10.80	14.80	50mm SP	12-09-12	14.80	14.80	9.00	Water level recorded 10mins after end of drilling

IGSL RC FI 10M 16412 RC.GPJ IGSL.GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

DRILLHOLE NO EMW24

SHEET Sheet 1 of 3

CO-ORDINATES 290,936.59 E
222,546.13 N

GROUND LEVEL (mOD) 92.94

RIG TYPE Knebel
FLUSH Air/Mist

DATE DRILLED 24/09/2012

DATE LOGGED 25/09/2012

CLIENT
ENGINEER SKMINCLINATION (deg) -90
CORE DIAMETER (mm)DRILLED BY Petersen
LOGGED BY D.O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of made ground consisting of topsoil	0.30	92.64		
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of made ground consisting of sandy gravel	0.50	92.44		
1								SYMMETRIX DRILLING: No recovery, observed by driller as returns of brown sandy gravelly clay with occasional cobbles				
2												
3								SYMMETRIX DRILLING: No recovery, observed by driller as returns of brown sandy gravel	2.80	90.14		
4												
5												
6												
7												
8												
9												

REMARKS

Hole Cased 0.00-17.00m.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
					No water strike recorded

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
25-09-12	26.00	19.00	26.00	50mm SP					

IGSL RC F1 10M 16412 RC.GPJ IGSL GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

DRILLHOLE NO EMW24

CO-ORDINATES 290,936.59 E
222,546.13 N

SHEET Sheet 2 of 3

GROUND LEVEL (mOD) 92.94

RIG TYPE Knebel
FLUSH Air/Mist
INCLINATION (deg) -90
CORE DIAMETER (mm)DATE DRILLED 24/09/2012
DATE LOGGED 25/09/2012CLIENT
ENGINEER SKMDRILLED BY Petersen
LOGGED BY D.O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of brown sandy gravelly clay with occasional cobbles	10.20	82.74		
11												
12												
13												
14												
15												
16									16.60	76.34		
17								SYMMETRIX DRILLING: No recovery, observed by driller as returns of grey weathered rock				
18												
19									19.50	73.44		
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of grey rock				

REMARKS

Hole Cased 0.00-17.00m.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
					No water strike recorded

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
25-09-12	26.00	19.00	26.00	50mm SP					

IGSL RC F1 10M 16412 RC.GPJ IGSL_GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

DRILLHOLE NO EMW24

CO-ORDINATES 290,936.59 E
222,546.13 N

SHEET Sheet 3 of 3

GROUND LEVEL (mOD) 92.94

RIG TYPE Knebel
FLUSH Air/Mist
INCLINATION (deg) -90

DATE DRILLED 24/09/2012

DATE LOGGED 25/09/2012

CLIENT
ENGINEER SKMDRILLED BY Petersen
LOGGED BY D.O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
20					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of grey rock (<i>continued</i>)				
21												
22												
23												
24												
25												
26								End of Borehole at 26.00 m	26.00	66.94		
27												
28												
29												

REMARKS

Hole Cased 0.00-17.00m.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
					No water strike recorded

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
25-09-12	26.00	19.00	26.00	50mm SP					

IGSL RC FI 10M 16412 RC.GPJ IGSL GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

DRILLHOLE NO EMW25

SHEET Sheet 1 of 1

CO-ORDINATES

GROUND LEVEL (mOD)

RIG TYPE

FLUSH

Knebel

Air/Mist

INCLINATION (deg)

-90

CORE DIAMETER (mm)

DATE DRILLED 26/09/2012

DATE LOGGED 27/09/2012

CLIENT

ENGINEER

SKM

DRILLED BY

Petersen

LOGGED BY

D.O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500				0.00			
1												
2												
3												
4												
5												
6												
7												
8												
9												

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REMARKS

Driller standing 5hrs waiting for instruction on 26/9/12. Driller standing 2.5hrs reviewing ground conditions on 27/9/12. EMW25 eventually cancelled & driller de-mobilised from site.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
					No water strike recorded

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments

IGSL RC FI 10M 16412 RC.GPJ IGSL GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

DRILLHOLE NO EMW27D

CO-ORDINATES 291,086.43 E
221,781.09 N

SHEET Sheet 1 of 2

GROUND LEVEL (mOD) 81.91

RIG TYPE Casagrande
FLUSH Water

DATE DRILLED 25/09/2012

DATE LOGGED 25/09/2012

CLIENT
ENGINEER SKMINCLINATION (deg) -90
CORE DIAMETER (mm)DRILLED BY IGSL
LOGGED BY D.O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy gravel				
1												
2												
3												
4									4.50	77.41		
5								SYMMETRIX DRILLING: No recovery, observed by driller as returns of boulders	5.20	76.71		
6								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy gravel				
7												
8								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy gravelly clay	8.30	73.61		
9								SYMMETRIX DRILLING: No recovery, observed by driller as returns of boulders	9.40	72.51		

REMARKS

Hole Cased 0.00-4.50m. Driller standing 2.5hrs waiting for new location.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
2.00					Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
25-06-12	15.30	11.00	15.30	50mm SP					

IGSL RC Fl 10M 16412 RC.GPJ IGSL.GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

DRILLHOLE NO EMW27D

CO-ORDINATES 291,086.43 E
221,781.09 N

SHEET Sheet 2 of 2

GROUND LEVEL (mOD) 81.91

RIG TYPE Casagrande
FLUSH Water
INCLINATION (deg) -90
CORE DIAMETER (mm)DATE DRILLED 25/09/2012
DATE LOGGED 25/09/2012CLIENT
ENGINEER SKMDRILLED BY IGSL
LOGGED BY D.O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy gravelly clay	10.20	71.71		
11												
12												
13												
14												
15								End of Borehole at 15.30 m	15.30	66.61		
16												
17												
18												
19												

REMARKS

Hole Cased 0.00-4.50m. Driller standing 2.5hrs waiting for new location.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
25-06-12	15.30	11.00	15.30	50mm SP	25-09-12	15.30	4.50	0.50	Water level recorded 5mins after end of drilling, rising.

IGSL RC FI 10M 16412 RC.GPJ IGSL.GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

DRILLHOLE NO EMW28

CO-ORDINATES 291,086.78 E
221,779.56 N

SHEET Sheet 1 of 1

GROUND LEVEL (mOD) 82.02

RIG TYPE Casagrande
FLUSH Water

DATE DRILLED 26/09/2012

DATE LOGGED 26/09/2012

CLIENT
ENGINEER SKMINCLINATION (deg) -90
CORE DIAMETER (mm)DRILLED BY IGSL
LOGGED BY D.O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy gravel				
1												
2												
3												
4									4.50	77.52		
5								SYMMETRIX DRILLING: No recovery, observed by driller as returns of boulders	5.10	76.92		
6								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy gravel				
7												
8								End of Borehole at 8.00 m	8.00	74.02		
9												

REMARKS

Hole Cased 0.00-8.00m.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
2.00					Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
26-09-12	8.00	3.00	8.00	50mm SP	26-09-12	8.00	8.00	0.50	Water level recorded 5mins after end of drilling, rising.

IGSL RC Fl 10M 16412 RC.GPJ IGSL.GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

DRILLHOLE NO
SHEET EMW29
Sheet 1 of 1CO-ORDINATES 291,515.01 E
221,705.57 N
GROUND LEVEL (mOD) 81.84RIG TYPE Knebel
FLUSH Air/Mist
INCLINATION (deg) -90
CORE DIAMETER (mm)DATE DRILLED 26/09/2012
DATE LOGGED 26/09/2012CLIENT
ENGINEER SKMDRILLED BY Petersen
LOGGED BY D.O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of brown topsoil	0.40	81.44		
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of soft grey silty clay	0.80	81.04		
1								SYMMETRIX DRILLING: No recovery, observed by driller as returns of brown sandy gravel				
2												
3												
4									4.50	77.34		
5								SYMMETRIX DRILLING: No recovery, observed by driller as returns of grey sandy gravelly clay with occasional cobbles				
6												
7									7.60	74.24		
8								SYMMETRIX DRILLING: No recovery, observed by driller as returns of brown sandy gravelly clay with occasional cobbles	8.00	73.84		
								End of Borehole at 8.00 m				
9												

REMARKS

Hole Cased 0.00-8.00m.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
					No water strike recorded

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
26-09-12	8.00	1.50	8.00	50mm SP	26-09-12	8.00	8.00	0.00	Water level recorded 5mins after end of drilling, rising.

IGSL RC F1 10M 16412 RC.GPJ IGSL_GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

DRILLHOLE NO EMW30

CO-ORDINATES 291,748.62 E
221,822.74 N

SHEET Sheet 1 of 2

GROUND LEVEL (mOD) 90.95

RIG TYPE Knebel
FLUSH Air/Mist

DATE DRILLED 25/09/2012

DATE LOGGED 25/09/2012

CLIENT
ENGINEER SKMINCLINATION (deg) -90
CORE DIAMETER (mm)DRILLED BY Petersen
LOGGED BY D.O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of brown topsoil	0.30	90.65		
1								SYMMETRIX DRILLING: No recovery, observed by driller as returns of brown sandy gravelly clay with occasional cobbles				
2								SYMMETRIX DRILLING: No recovery, observed by driller as returns of brown gravelly sand	1.80	89.15		
3												
4												
5												
6												
7												
8												
9												
									10.00	80.95		

REMARKS

Hole Cased 0.00-14.00m.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
25-09-12	13.20	9.00	13.20	50mm SP					

IGSL RC FI 10M 16412 RC.GPJ IGSL.GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

DRILLHOLE NO EMW30

CO-ORDINATES 291,748.62 E
221,822.74 N

SHEET Sheet 2 of 2

GROUND LEVEL (mOD) 90.95

RIG TYPE Knebel
FLUSH Air/Mist
INCLINATION (deg) -90

DATE DRILLED 25/09/2012

DATE LOGGED 25/09/2012

CLIENT
ENGINEER SKMDRILLED BY Petersen
LOGGED BY D.O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of brown sandy gravel				
11												
12												
13								13.20m - Blowing sand & gravel back into hole				
14								End of Borehole at 14.00 m	14.00	76.95		
15												
16												
17												
18												
19												

REMARKS

Hole Cased 0.00-14.00m.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
10.50					Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
25-09-12	13.20	9.00	13.20	50mm SP					

IGSL RC F1 10M 16412 RC.GPJ IGSL GDT 6/11/12



GEOTECHNICAL BORING RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

BOREHOLE NO. EMW31

CO-ORDINATES 291,545.08 E
222,361.90 N
GROUND LEVEL (m AOD) 80.00

RIG TYPE Dando 150
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 5.90

SHEET Sheet 1 of 1

DATE COMMENCED 10/09/2012
DATE COMPLETED 11/09/2012

CLIENT EPA
ENGINEER SKM

SPT HAMMER REF. NO.
ENERGY RATIO (%)

BORED BY P.Thomas
PROCESSED BY I.Redder

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	TOPSOIL		79.80	0.20						
	Grey/brown, silty CLAY with some organic pieces									
1	Grey silty fine to coarse GRAVEL		78.90	1.10						
2										
	Grey, coarse GRAVEL with frequent bands of fine to medium blowing gravel and occasional cobbles and boulders		77.70	2.30						
3										
4										
5										
			74.10	5.90						
6	End of Borehole at 5.90 m									
7										
8										
9										

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HARD STRATA BORING/CHISELLING				WATER STRIKE DETAILS					
From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
2	2.2	0.5	Blowing gravel	2.30	2.30	NO	NO	20	Slow
5.8	5.9	0.5	Chiselling	2.70	2.70	NO	0.70	20	Rapid
INSTALLATION DETAILS				GROUNDWATER PROGRESS					
Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
11-09-17	5.90	3.00	5.90	50mm SP	11-09-12	5.90	5.90	0.70	Depth to water at end of the day
REMARKS				Sample Legend					
Arrived on site at 12.30pm. Attempted to move rig to 1st location, but jeep and rig sank, waiting for mini digger and balloon tyres, set up rig at 4.45pm. 1hr hand dug inspection pit for services to 1.2m,				D - Small Disturbed (tub)					
				B - Bulk Disturbed					
				LB - Large Bulk Disturbed					
				Env - Environmental Sample (Jar + Vial + Tub)					
				U - Undisturbed 100mm Diameter Sample					
				P - Undisturbed Piston Sample					
				W - Water Sample					

IGSL BH LOG CHISEL SEPARATED 16412.GPJ IGSL GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

DRILLHOLE NO EMW32

CO-ORDINATES 291,695.02 E
222,476.19 N

SHEET Sheet 1 of 2

GROUND LEVEL (mOD) 81.08

RIG TYPE Knebel
FLUSH Air/Mist
INCLINATION (deg) -90

DATE DRILLED 21/09/2012

DATE LOGGED 21/09/2012

CLIENT
ENGINEER SKMDRILLED BY Petersen
LOGGED BY D.O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			Hole opened by Shell & Auger				
1												
2												
3												
4												
5									5.00	76.08		
6												
7												
8									8.20	72.88		
9												

REMARKS

Hole Cased 0.00-11.00m.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
					No water strike recorded

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
21-09-12	11.00	5.50	11.00	50mm SP					

IGSL RC F1 10M 16412 RC.GPJ IGSL.GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

DRILLHOLE NO EMW32

CO-ORDINATES 291,695.02 E
222,476.19 N

SHEET Sheet 2 of 2

GROUND LEVEL (mOD) 81.08

RIG TYPE Knebel
FLUSH Air/Mist
INCLINATION (deg) -90DATE DRILLED 21/09/2012
DATE LOGGED 21/09/2012CLIENT
ENGINEER SKM

CORE DIAMETER (mm)

DRILLED BY Petersen
LOGGED BY D.O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of brown sandy gravelly clay with occasional cobbles with some sand and gravel layers (<i>continued</i>)	11.00	70.08		
11								End of Borehole at 11.00 m				
12												
13												
14												
15												
16												
17												
18												
19												

REMARKS

Hole Cased 0.00-11.00m.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
					No water strike recorded

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
21-09-12	11.00	5.50	11.00	50mm SP	21-09-12	11.00	11.00	9.40	Water level recorded 5mins after end of drilling, rising.

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GEOTECHNICAL BORING RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

BOREHOLE NO. EMW33

CO-ORDINATES 291,492.33 E
222,494.09 N
GROUND LEVEL (m AOD) 81.23RIG TYPE Dando 150
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 6.00

SHEET Sheet 1 of 1

DATE COMMENCED 12/09/2012

DATE COMPLETED 12/09/2012

CLIENT EPA
ENGINEER SKMSPT HAMMER REF. NO.
ENERGY RATIO (%)BORED BY P.Thomas
PROCESSED BY I.Redder

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	TOPSOIL		81.03	0.20						
	Brown, sandy slightly gravelly CLAY		80.63	0.60						
	Grey/brown, slightly fibrous silty CLAY									
1	Grey, silty fine to coarse GRAVEL		80.13	1.10						
	Dark brown, PEAT		79.83	1.40						
	Grey, slightly sandy very gravelly silty CLAY		79.63	1.60						
2	Grey, coarse GRAVEL with frequent bands of blowing fine to medium gravel		79.23	2.00						
3										
4										
5										
6	End of Borehole at 6.00 m		75.23	6.00						
7										
8										
9										

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
3.3	4	2	Blowing gravel	2.10 2.40	2.10 2.40	NO NO	NO 1.20	20 20	Slow Rapid

GROUNDWATER PROGRESS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
12-09-12	5.50	2.50	5.50	50mm SP					

REMARKS 2hrs moving rig and equipment to position with assistance of mini digger; 1hr hand dug inspection pit for services to 1.2m

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)
U - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample

IGSL BH LOG CHISEL SEPARATED 16412.GPJ IGSL GDT 6/11/12



GEOTECHNICAL BORING RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

BOREHOLE NO. BH26

CO-ORDINATES 291,136.50 E
222,406.82 N
GROUND LEVEL (m AOD) 106.15RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 27.00

SHEET Sheet 1 of 3

DATE COMMENCED 15/08/2012
DATE COMPLETED 20/08/2012CLIENT EPA
ENGINEER SKMSPT HAMMER REF. NO.
ENERGY RATIO (%)BORED BY W.Cahill
PROCESSED BY I.Redder

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	MADE GROUND (comprised of dry MSW: ash 80%, ceramic 4%, wood 6%, plastic 4%, brick 6%)									
1	Very strong rotten eggs gas odour at 1.0m; Gas Readings at 1.0m: O2 - 21.1%, CH4 - 0.4%, CO2 - 0.2%		104.75	1.40	AN3134	B	1.00-1.50			
2	MADE GROUND (comprised of dry to damp MSW: cloth 65%, plastic bags 15%, wood 15%, till, glass and wire 5%) Very strong rotten eggs gas odour at 2.0m; Gas Readings at 2.0m: O2 - 19.5%, CH4 - 7.5%, CO2 - 2.3%, H2S - 30ppm				AN3135	D	2.00-2.00			
3	Strong rotten eggs gas odour at 3.0m; Gas Readings at 3.0m: O2 - 21.2%, CH4 - 0.4%, CO2 - 0.2%				AN3136	B	3.00-3.50			
4	Strong rotten eggs gas odour at 4.0m; Gas Readings at 4.0m: O2 - 18.8%, CH4 - 16.1%, CO2 - 5.8%, H2S - 138ppm		101.25	4.90	AN3137	D	4.00-4.00			
5	MADE GROUND (comprised of damp MSW: ash 40%, cloth 30%, paper 25%, wood 3%, plastic 2%) Slightly rotten eggs gas odour at 5.0m; Gas Readings at 5.0m: O2 - 21.1%, CH4 - 0.6%, CO2 - 0.5%		100.15	6.00	AN3138	B	5.00-5.50			
6	MADE GROUND (comprised of damp black clay 15%, ash 15%, paper 15%, cloth 20%, wood 20%, plastic 10%, glass, rubber, brick and concrete 5%) Strong rotten eggs gas odour at 6.0m; Gas Readings at 6.0m: O2 - 18.9%, CH4 - 8.2%, CO2 - 4.9%, H2S - 2ppm Medium rotten eggs gas odour at 7.0m; Gas Readings at 7.0m: O2 - 20.4%, CH4 - 1.2%, CO2 - 1.1%				AN3139	D	6.00-6.00			
7					AN3140	B	7.00-7.50			
8	Strong rotten eggs gas odour at 8.0m; Gas Readings at 8.0m: O2 - 17%, CH4 - 8.6%, CO2 - 7.5%		97.95	8.20	AN3141	D	8.00-8.00			
9	MADE GROUND (comprised of damp MSW: brick/concrete 35%, cloth 30%, paper 25%, wood 9%, plastic 1%) Strong rotten eggs gas odour at 9.0m; Gas Readings at 9.0m: O2 - 19.4%, CH4 - 8.8%, CO2 - 15.9%		96.75	9.40	AN3142	B	9.00-9.50			
	MADE GROUND (comprised of damp black clay with brick and concrete 75%, paper 10%, cloth 10%, glass									

HARD STRATA BORING/CHISELLING					WATER STRIKE DETAILS					
From (m)	To (m)	Time (h)	Comments		Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
9.8	10	0.75	Hard boring strata							No water strike
					GROUNDWATER PROGRESS					
INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments	
Date	Tip Depth	RZ Top	RZ Base	Type						
REMARKS							Sample Legend			
At 10m cutter stuck in casing due to rebar, pull up all casing to moved cutter, BH collapsed up to 5m, redrill BH from 5.0m to 10.0m; From 10.0m reduced casing from 8 inch up to 6 inch; Major obstruction at 27.0m							D - Small Disturbed (tub) B - Bulk Disturbed LB - Large Bulk Disturbed Env - Environmental Sample (Jar + Vial + Tub) U - Undisturbed 100mm Diameter Sample P - Undisturbed Piston Sample W - Water Sample			

IGSL BH LOG CHISEL SEPARATED 16412.GPJ IGSL GDT 6/11/12



GEOTECHNICAL BORING RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

BOREHOLE NO. BH26

CO-ORDINATES 291,136.50 E
222,406.82 N
GROUND LEVEL (m AOD) 106.15RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 27.00

SHEET Sheet 2 of 3

DATE COMMENCED 15/08/2012
DATE COMPLETED 20/08/2012CLIENT EPA
ENGINEER SKMSPT HAMMER REF. NO.
ENERGY RATIO (%)BORED BY W.Cahill
PROCESSED BY I.Reder

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
10	and plastic 5%) MADE GROUND (comprised of damp black clay with brick and concrete 75%, paper 10%, cloth 10%, glass and plastic 5%) (continued) Strong rotten eggs gas odour at 10.0m; Gas Readings at 10.0m: O2 - 14%, CH4 - 5.2%, CO2 - 7.8%		93.75	12.40	AN3143	D	10.00-10.00			
11	Very strong rotten eggs gas odour at 11.0m; Gas Readings at 11.0m: O2 - 20.8%, CH4 - 0.4%, CO2 - 0.4%				AN3144	B	11.00-11.50			
12	Strong rotten eggs gas odour at 12.0m; Gas Readings at 12.0m: O2 - 14.5%, CH4 - 7.9%, CO2 - 9.3%				AN3145	D	12.00-12.00			
13	MADE GROUND (comprised of damp black clay 50%, brick and concrete 15%, wood 20%, paper 5%, cloth 5%, metal and ceramic 5%) Very strong rotten eggs gas odour at 13.0m; Gas Readings at 13.0m: O2 - 15.6%, CH4 - 5.2%, CO2 - 5.7%				AN3146	B	13.00-13.50			
14	Very strong rotten eggs gas odour at 14.0m; Gas Readings at 14.0m: O2 - 17.9%, CH4 - 4.2%, CO2 - 3.3%				AN3147	D	14.00-14.00			
15	Strong rotten eggs gas odour at 15.0m; Gas Readings at 15.0m: O2 - 11.4%, CH4 - 16.3%, CO2 - 12.1%, H2S - 2ppm				AN3148	B	15.00-15.50			
16	Strong rotten eggs gas odour at 16.0m; Gas Readings at 16.0m: O2 - 7.9%, CH4 - 21.8%, CO2 - 17.1%				AN3149	D	16.00-16.00			
17	Medium rotten eggs gas odour at 17.0m; Gas Readings at 17.0m: O2 - 4.4%, CH4 - 30.3%, CO2 - 23.8%, H2S - 12ppm				AN3150	B	17.00-17.50			
18	Strong rotten eggs gas odour at 18.0m; Gas Readings at 18.0m: O2 - 10%, CH4 - 19.2%, CO2 - 14%, H2S - 12ppm				AN3151	D	18.00-18.00			
19	MADE GROUND (comprised of damp to semi wet black clay 15%, wood 80%, cloth, paper and metal 5%) Strong rotten eggs gas odour at 19.0m; Gas Readings at 19.0m: O2 - 20.9%, CH4 - 0.1%, CO2 - 0.1%				AN3152	B	19.00-19.50			

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
19	19.1	0.5	Hard boring strata						No water strike

GROUNDWATER PROGRESS

INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments
Date	Tip Depth	RZ Top	RZ Base	Type					

REMARKS At 10m cutter stuck in casing due to rebar, pull up all casing to moved cutter, BH collapsed up to 5m, redrill BH from 5.0m to 10.0m; From 10.0m reduced casing from 8 inch up to 6 inch; Major obstruction at 27.0m

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)
U - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample

IGSL BH LOG CHISEL SEPARATED 16412.GPJ IGSL GDT 6/11/12



GEOTECHNICAL BORING RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

BOREHOLE NO. BH26

CO-ORDINATES 291,136.50 E
222,406.82 N
GROUND LEVEL (m AOD) 106.15

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 200
BOREHOLE DEPTH (m) 27.00

SHEET Sheet 3 of 3

DATE COMMENCED 15/08/2012
DATE COMPLETED 20/08/2012

CLIENT EPA
ENGINEER SKM

SPT HAMMER REF. NO.
ENERGY RATIO (%)

BORED BY W.Cahill
PROCESSED BY I.Reder

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
20	MADE GROUND (comprised of damp to semi wet black clay 15%, wood 80%, cloth, paper and metal 5%) (continued) Very strong rotten eggs gas odour at 20.0m; Gas Readings at 20.0m: O2 - 5.0%, CH4 - 28.4%, CO2 - 21.4%				AN3153	D	20.00-20.00			
21	Slightly rotten eggs gas odour at 21.0m; Gas Readings at 21.0m: O2 - 2.8%, CH4 - 30.6%, CO2 - 24.1%				AN3154	B	21.00-21.50			
22	Strong rotten eggs gas odour at 22.0m; Gas Readings at 22.0m: O2 - 5.7%, CH4 - 28.4%, CO2 - 21.9%, H2S - 12ppm				AN3155	D	22.00-22.00			
23	Strong rotten eggs gas odour at 23.0m; Gas Readings at 23.0m: O2 - 15.8%, CH4 - 9.0%, CO2 - 6.6%				AN3156	B	23.00-23.50			
			82.45	23.70						
	MADE GROUND (comprised of semi wet grey sandy gravelly clay 100%)		82.35	23.80						
24	MADE GROUND (comprised of semi wet black clay 15%, wood 65%, cloth 7.5%, paper 7.5%, plastic, rubber and metal 5%) Strong rotten eggs gas odour at 24.0m; Gas Readings at 24.0m: O2 - 2.2%, CH4 - 36.9%, CO2 - 27.8%, H2S - 7ppm, CO - 11ppm				AN3517	D	24.00-24.00			
25	Strong rotten eggs gas odour at 25.0m; Gas Readings at 25.0m: O2 - 21.0%, CH4 - 0.1%, CO2 - 0.1%				AN3518	B	25.00-25.50			
26	Strong rotten eggs gas odour at 26.0m; Gas Readings at 26.0m: O2 - 3.1%, CH4 - 37.1%, CO2 - 19.9%, CO - 235ppm				AN3519	D	26.00-26.00			
27	Obstruction - possible big piece of timber Strong rotten eggs gas odour at 27.0m; Gas Readings at 27.0m: O2 - 10.2%, CH4 - 26.4%, CO2 - 14.5%, CO - 20ppm End of Borehole at 27.00 m		79.15	27.00	AN3520	B	27.00-27.00			
28										
29										

HARD STRATA BORING/CHISELLING					WATER STRIKE DETAILS						
From (m)	To (m)	Time (h)	Comments		Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments	
24.3	24.5	0.75	Hard boring strata							No water strike	
26.9	27	1	Chiselling								
					GROUNDWATER PROGRESS						
INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments		
Date	Tip Depth	RZ Top	RZ Base	Type							
REMARKS	At 10m cutter stuck in casing due to rebar, pull up all casing to moved cutter, BH collapsed up to 5m, redrill BH from 5.0m to 10.0m; From 10.0m reduced casing from 8 inch up to 6 inch; Major obstruction at 27.0m						Sample Legend D - Small Disturbed (tub) B - Bulk Disturbed LB - Large Bulk Disturbed Env - Environmental Sample (Jar + Vial + Tub) U - Undisturbed 100mm Diameter Sample P - Undisturbed Piston Sample W - Water Sample				

IGSL BH LOG CHISEL SEPARATED 16412.GPJ IGSL GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

DRILLHOLE NO RC26

SHEET Sheet 1 of 4

CO-ORDINATES 291,136.50 E
222,406.82 N

GROUND LEVEL (MOD) 106.15

RIG TYPE Casagrande
FLUSH Water

DATE DRILLED 29/08/2012

DATE LOGGED 30/08/2012

CLIENT
ENGINEER SKM

INCLINATION (deg) -90

DRILLED BY IGSL

CORE DIAMETER (mm)

LOGGED BY D.O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			Hole opened by Shell & Auger				
1												
2												
3												
4												
5												
6												
7												
8												
9												

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REMARKS						WATER STRIKE DETAILS					
BRC done at BH26 location. Hole Cased 0.00-35.70m. Driller 3hrs putting casing in hole, Driller 3.5hrs pulling casing & fitting installation.						Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
											No water strike recorded
INSTALLATION DETAILS						GROUNDWATER DETAILS					
Date	Tip Depth	RZ Top	RZ Base	Type		Date	Hole Depth	Casing Depth	Depth to Water	Comments	
30-08-12	35.70	27.50	35.70	50mm SP							

IGSL RC FI 10M 16412 RC.GPJ IGSL.GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

DRILLHOLE NO RC26

SHEET Sheet 2 of 4

CO-ORDINATES 291,136.50 E
222,406.82 N

GROUND LEVEL (MOD) 106.15

RIG TYPE Casagrande
FLUSH Water

DATE DRILLED 29/08/2012

DATE LOGGED 30/08/2012

CLIENT
ENGINEER SKM

INCLINATION (deg) -90

DRILLED BY IGSL

CORE DIAMETER (mm)

LOGGED BY D.O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10					0 250 500			Hole opened by Shell & Auger (continued)				
11												
12												
13												
14												
15												
16												
17												
18												
19												

REMARKS

BRC done at BH26 location. Hole Cased 0.00-35.70m. Driller 3hrs putting casing in hole, Driller 3.5hrs pulling casing & fitting installation.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
					No water strike recorded

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
30-08-12	35.70	27.50	35.70	50mm SP

Date	Hole Depth	Casing Depth	Depth to Water	Comments

IGSL RC FI 10M 16412 RC.GPJ IGSL.GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill				DRILLHOLE NO RC26	
CO-ORDINATES 291,136.50 E 222,406.82 N				SHEET Sheet 3 of 4	
GROUND LEVEL (mOD) 106.15				DATE DRILLED 29/08/2012	
CLIENT				DATE LOGGED 30/08/2012	
ENGINEER SKM				DRILLED BY IGSL	
RIG TYPE Casagrande				LOGGED BY D.O'Shea	
FLUSH Water					
INCLINATION (deg) -90					
CORE DIAMETER (mm)					

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
20					0 250 500			Hole opened by Shell & Auger (continued)				
21												
22								SYMMETRIX DRILLING: No recovery, observed by driller as returns of MADE GROUND consisting of municipal waste with timber	21.50	84.65		
23												
24												
25												
26												
27												
28								SYMMETRIX DRILLING: No recovery, observed by driller as returns of gravel	27.50	78.65		
29												
								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy gravel	29.50	76.65		

REMARKS						WATER STRIKE DETAILS					
BRC done at BH26 location. Hole Cased 0.00-35.70m. Driller 3hrs putting casing in hole, Driller 3.5hrs pulling casing & fitting installation.						Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
											No water strike recorded
						GROUNDWATER DETAILS					
INSTALLATION DETAILS						Date	Hole Depth	Casing Depth	Depth to Water	Comments	
Date	Tip Depth	RZ Top	RZ Base	Type							
30-08-12	35.70	27.50	35.70	50mm SP							

IGSL RC FI 10M 16412 RC.GPJ IGSL.GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill				DRILLHOLE NO RC26	
CO-ORDINATES 291,136.50 E 222,406.82 N				SHEET Sheet 4 of 4	
GROUND LEVEL (MOD) 106.15				DATE DRILLED 29/08/2012	
CLIENT				DATE LOGGED 30/08/2012	
ENGINEER SKM				DRILLED BY IGSL	
RIG TYPE Casagrande				LOGGED BY D.O'Shea	
FLUSH Water					
INCLINATION (deg) -90					
CORE DIAMETER (mm)					

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
30					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy gravel (<i>continued</i>)				
31												
32								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy gravelly clay	32.00	74.15		
33												
34												
35												
36								End of Borehole at 35.70 m	35.70	70.45		
37												
38												
39												

REMARKS						WATER STRIKE DETAILS					
BRC done at BH26 location. Hole Cased 0.00-35.70m. Driller 3hrs putting casing in hole, Driller 3.5hrs pulling casing & fitting installation.						Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
											No water strike recorded
INSTALLATION DETAILS						GROUNDWATER DETAILS					
Date	Tip Depth	RZ Top	RZ Base	Type		Date	Hole Depth	Casing Depth	Depth to Water	Comments	
30-08-12	35.70	27.50	35.70	50mm SP							

IGSL RC FI 10M 16412 RC.GPJ IGSL.GDT 6/11/12



GEOTECHNICAL BORING RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

BOREHOLE NO. BH36B

CO-ORDINATES 291,286.00 E
222,308.35 N
GROUND LEVEL (m AOD) 112.74

RIG TYPE Dando 3000
BOREHOLE DIAMETER (mm) 250
BOREHOLE DEPTH (m) 26.00

SHEET Sheet 1 of 3

DATE COMMENCED 23/08/2012
DATE COMPLETED 31/08/2012

CLIENT EPA
ENGINEER SKM

SPT HAMMER REF. NO.
ENERGY RATIO (%)

BORED BY M.Connolly
PROCESSED BY I.Redder

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	MADE GROUND (comprised of dry dark brown gravelly clay 100%)		112.24	0.50						
1	MADE GROUND (comprised of damp black silty clay with gravel 70%, plastic 10%, wood 20%) Medium rotten eggs gas odour at 1.0m; Gas Readings at 1.0m: O2 - 21%, CH4 - 0.0%, CO2 - 0.0%				AN3455	B	1.00-1.50			
2	Medium rotten eggs gas odour at 2.0m; Gas Readings at 2.0m: O2 - 20.9%, CH4 - 0.3%, CO2 - 0.1%				AN3456	D	2.00-2.00			
3	Medium rotten eggs gas odour at 3.0m; Gas Readings at 3.0m: O2 - 20.9%, CH4 - 0.5%, CO2 - 0.3%				AN3457	B	3.00-3.50			
4	Medium rotten eggs gas odour at 4.0m; Gas Readings at 4.0m: O2 - 20.5%, CH4 - 1%, CO2 - 0.7%		108.44	4.30	AN3458	D	4.00-4.00			
5	MADE GROUND (comprised of damp black silty clay with gravel 20%, metal 10%, wood 35%, old cables 10%, plastic 25%) Strong rotten eggs gas odour at 5.0m; Gas Readings at 5.0m: O2 - 18.9%, CH4 - 7%, CO2 - 4.2%, H2S - 35ppm				AN3459	B	5.00-5.50			
6	Strong rotten eggs gas odour at 6.0m; Gas Readings at 6.0m: O2 - 14%, CH4 - 19.1%, CO2 - 11.1%, H2S - 175ppm		106.44	6.30	AN3460	D	6.00-6.00			
7	MADE GROUND (comprised of damp MSW: plastic 30%, paper 20%, metal 5%, textile 25%, old cables 10%, wood 10%) Strong rotten eggs gas odour at 7.0m; Gas Readings at 7.0m: O2 - 13.5%, CH4 - 19.3%, CO2 - 11.5%, H2S - >220ppm				AN3461	B	7.00-7.50			
8	Strong rotten eggs gas odour at 8.0m; Gas Readings at 8.0m: O2 - 13.2%, CH4 - 19.5%, CO2 - 11.8%, H2S - >220ppm		104.04	8.70	AN3462	D	8.00-8.00			
9	MADE GROUND (comprised of dry MSW: wood 40%, textile 15%, plastic 25%, paper 10%, cables 10%) Strong rotten eggs gas odour at 9.0m; Gas Readings at 9.0m: O2 - 18%, CH4 - 9%, CO2 - 5.1%, H2S - >220ppm				AN3463	B	9.00-9.50			

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
4.7	5	0.25	Hard boring strata						No water strike
6.2	6.4	0.25	Hard boring strata						
9.3	9.4	0.5	Hard boring strata						

GROUNDWATER PROGRESS

INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments
Date	Tip Depth	RZ Top	RZ Base	Type					

REMARKS Obstruction at 13.2m due to stuck rebar between cutter and lead casing, pull up all casing to moved cutter. Reduced casing up to 8 inch from 13.2m

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)
U - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample

IGSL BH LOG CHISEL SEPARATED 16412.GPJ IGSL GDT 6/11/12



GEOTECHNICAL BORING RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

BOREHOLE NO. BH36B

CO-ORDINATES 291,286.00 E
222,308.35 N
GROUND LEVEL (m AOD) 112.74RIG TYPE Dando 3000
BOREHOLE DIAMETER (mm) 250
BOREHOLE DEPTH (m) 26.00

SHEET Sheet 2 of 3

DATE COMMENCED 23/08/2012
DATE COMPLETED 31/08/2012CLIENT EPA
ENGINEER SKMSPT HAMMER REF. NO.
ENERGY RATIO (%)BORED BY M.Connolly
PROCESSED BY I.Redder

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
10	MADE GROUND (comprised of dry MSW: wood 40%, textile 15%, plastic 25%, paper 10%, cables 10%) (continued) Strong rotten eggs gas odour at 10.0m; Gas Readings at 10.0m: O2 - 17.5%, CH4 - 10.1%, CO2 - 5.5%, H2S - >220ppm				AN3464	D	10.00-10.00			
11	Strong rotten eggs gas odour at 11.0m; Gas Readings at 11.0m: O2 - 4.5%, CH4 - 38.4%, CO2 - 24.2%, H2S - >220ppm				AN3465	B	11.00-11.50			
12	Strong rotten eggs gas odour at 12.0m; Gas Readings at 12.0m: O2 - 16.5%, CH4 - 8.1%, CO2 - 5.1%, H2S - 20ppm		100.54	12.20	AN3466	D	12.00-12.00			
13	MADE GROUND (comprised of dry MSW: wood 40%, textile 20%, plastic 30%, paper 5%, steel 5%) Strong rotten eggs gas odour at 13.0m; Gas Readings at 13.0m: O2 - 17%, CH4 - 7.5%, CO2 - 4.6%, H2S - 25ppm		99.54	13.20	AN3467	B	13.00-13.50			
14	MADE GROUND (comprised of dry MSW: wood 40%, textile 20%, plastic 20%, paper 10%, cobbles 10%) Strong rotten eggs gas odour at 14.0m; Gas Readings at 14.0m: O2 - 20.2%, CH4 - 1.2%, CO2 - 0.7%, H2S - 34ppm		98.64	14.10	AN3468	D	14.00-14.00			
15	MADE GROUND (comprised of dry MSW: wood 60%, textile 5%, plastic 10%, steel 5%, concrete pieces 20%) Very strong rotten eggs gas odour at 15.0m; Gas Readings at 15.0m: O2 - 20.3%, CH4 - 0.8%, CO2 - 0.5%, H2S - 10ppm				AN3469	B	15.00-15.50			
16	Very strong rotten eggs gas odour at 16.0m; Gas Readings at 16.0m: O2 - 20.5%, CH4 - 0.6%, CO2 - 0.4%, H2S - 2ppm				AN3470	D	16.00-16.00			
17	Very strong rotten eggs gas odour at 17.0m; Gas Readings at 17.0m: O2 - 18.9%, CH4 - 3.1%, CO2 - 2.1%, H2S - 4ppm		95.14	17.60	AN3471	B	17.00-17.50			
18	MADE GROUND (comprised of dry MSW: wood 80%, textile 10%, plastic 10%) Very strong rotten eggs gas odour at 18.0m; Gas Readings at 18.0m: O2 - 17.7%, CH4 - 4.2%, CO2 - 3.7%, H2S - 4ppm				AN3472	D	18.00-18.00			
19	MADE GROUND (comprised of dry MSW: wood 100%) Very strong rotten eggs gas odour at 19.0m; Gas Readings at 19.0m: O2 - 18.6%, CH4 - 3.3%, CO2 - 3.1%		93.84	18.90	AN3473	B	19.00-19.50			

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
10.7	10.9	0.5	Hard boring strata						No water strike
11.3	11.6	0.75	Hard boring strata						
12.9	13.2	0.5	Hard boring strata						
15.1	15.4	0.75	Hard boring strata						
18.3	18.5	1	Hard boring strata						
19	19.3	0.75	Hard boring strata						

GROUNDWATER PROGRESS

INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments
Date	Tip Depth	RZ Top	RZ Base	Type					

REMARKS Obstruction at 13.2m due to stuck rebar between cutter and lead casing, pull up all casing to moved cutter. Reduced casing up to 8 inch from 13.2m

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)
U - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample

IGSL BH LOG CHISEL SEPARATED 16412.GPJ IGSL GDT 6/11/12



GEOTECHNICAL BORING RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

BOREHOLE NO. BH36B

CO-ORDINATES 291,286.00 E
222,308.35 N
GROUND LEVEL (m AOD) 112.74RIG TYPE Dando 3000
BOREHOLE DIAMETER (mm) 250
BOREHOLE DEPTH (m) 26.00

SHEET Sheet 3 of 3

DATE COMMENCED 23/08/2012
DATE COMPLETED 31/08/2012CLIENT EPA
ENGINEER SKMSPT HAMMER REF. NO.
ENERGY RATIO (%)BORED BY M.Connolly
PROCESSED BY I.Reder

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
20	MADE GROUND (comprised of dry MSW: wood 100%) (continued) Very strong rotten eggs gas odour at 20.0m; Gas Readings at 20.0m: O2 - 6.4%, CH4 - 18.9%, CO2 - 16.8%, CO - 14ppm		91.14	21.60	AN3474	D	20.00-20.00			
21	Very strong rotten eggs gas odour at 21.0m; Gas Readings at 21.0m: O2 - 19.3%, CH4 - 1.7%, CO2 - 1.4%				AN3475	B	21.00-21.50			
22	MADE GROUND (comprised of dry MSW: wood 70%, steel 10%, paper 10%, textile 10%) Very strong rotten eggs gas odour at 22.0m; Gas Readings at 22.0m: O2 - 19.1%, CH4 - 2.7%, CO2 - 2.0%, H2S - 85ppm				AN3476	D	22.00-22.00			
23	Very strong rotten eggs gas odour at 23.0m; Gas Readings at 23.0m: O2 - 18.1%, CH4 - 6.0%, CO2 - 4.2%, H2S - 37ppm				AN3477	B	23.00-23.50			
24	MADE GROUND (comprised of dry MSW: wood 100%) Very strong rotten eggs gas odour at 24.0m; Gas Readings at 24.0m: O2 - 19.1%, CH4 - 2.4%, CO2 - 1.7%, H2S - 25ppm				AN3478	D	24.00-24.00			
25	MADE GROUND (comprised of dry MSW: wood 20%, textile 20%, plastic 20%, steel 10%, concrete 5%, gravel 5%, paper 20%) Strong rotten eggs gas odour at 25.0m; Gas Readings at 25.0m: O2 - 19.9%, CH4 - 1.9%, CO2 - 1.4%				AN3479	B	25.00-25.50			
26	End of Borehole at 26.00 m		86.74	26.00	AN3480	D	26.00-26.00			
27										
28										
29										

HARD STRATA BORING/CHISELLING				WATER STRIKE DETAILS					
From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
22.7	22.9	0.5	Hard boring strata						No water strike
23.6	23.8	0.75	Hard boring strata						
23.8	23.9	0.25	Hard boring strata						
24.4	25	1.5	Hard boring strata						
25.3	25.5	0.5	Hard boring strata						
26	26	2	Hard boring strata						
INSTALLATION DETAILS				GROUNDWATER PROGRESS					
Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
REMARKS				Obstruction at 13.2m due to stuck rebar between cutter and lead casing, pull up all casing to moved cutter. Reduced casing up to 8 inch from 13.2m					
				Sample Legend D - Small Disturbed (tub) B - Bulk Disturbed LB - Large Bulk Disturbed Env - Environmental Sample (Jar + Vial + Tub) U - Undisturbed 100mm Diameter Sample P - Undisturbed Piston Sample W - Water Sample					

IGSL BH LOG CHISEL SEPARATED 16412.GPJ IGSL GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

DRILLHOLE NO RC36B

SHEET Sheet 1 of 4

CO-ORDINATES 291,286.00 E
222,308.35 N

GROUND LEVEL (MOD) 112.74

RIG TYPE Casagrande
FLUSH Water

DATE DRILLED 13/09/2012

DATE LOGGED 14/09/2012

CLIENT
ENGINEER SKM

INCLINATION (deg) -90

DRILLED BY IGSL

CORE DIAMETER (mm)

LOGGED BY D.O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			Hole opened by Shell & Auger				
1												
2												
3												
4												
5												
6												
7												
8												
9												

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REMARKS

RC done at BH36B location. Hole Cased 0.00-38.50m. Driller standing 1.8hrs waiting for water to enter hole. Driller 3.25hrs pulling casing

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
					No water strike recorded

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
14-09-12	38.50	33.00	38.50	50mm SP

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments

IGSL RC FI 10M 16412 RC.GPJ IGSL.GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

DRILLHOLE NO RC36B

SHEET Sheet 2 of 4

CO-ORDINATES 291,286.00 E
222,308.35 N

GROUND LEVEL (MOD) 112.74

RIG TYPE Casagrande
FLUSH Water

DATE DRILLED 13/09/2012

DATE LOGGED 14/09/2012

CLIENT
ENGINEER SKM

INCLINATION (deg) -90

DRILLED BY IGSL

CORE DIAMETER (mm)

LOGGED BY D.O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10					0 250 500			Hole opened by Shell & Auger (continued)				
11												
12												
13												
14												
15												
16												
17												
18												
19												

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REMARKS						WATER STRIKE DETAILS					
RC done at BH36B location. Hole Cased 0.00-38.50m. Driller standing 1.8hrs waiting for water to enter hole. Driller 3.25hrs pulling casing						Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
											No water strike recorded
INSTALLATION DETAILS						GROUNDWATER DETAILS					
Date	Tip Depth	RZ Top	RZ Base	Type		Date	Hole Depth	Casing Depth	Depth to Water	Comments	
14-09-12	38.50	33.00	38.50	50mm SP							

IGSL RC FI 10M 16412 RC.GPJ IGSL.GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill				DRILLHOLE NO RC36B	
CO-ORDINATES 291,286.00 E 222,308.35 N				SHEET Sheet 3 of 4	
GROUND LEVEL (mOD) 112.74				DATE DRILLED 13/09/2012	
CLIENT				DATE LOGGED 14/09/2012	
ENGINEER SKM				DRILLED BY IGSL	
RIG TYPE Casagrande				LOGGED BY D.O'Shea	
FLUSH Water					
INCLINATION (deg) -90					
CORE DIAMETER (mm)					

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
20					0 250 500			Hole opened by Shell & Auger (continued)				
21								SYMMETRIX DRILLING: No recovery, observed by driller as returns of MADE GROUND consisting of municipal waste	21.00	91.74		
22								SYMMETRIX DRILLING: No recovery, observed by driller as returns of MADE GROUND consisting of municipal waste & metal	22.00	90.74		
23								SYMMETRIX DRILLING: No recovery, observed by driller as returns of MADE GROUND consisting of municipal waste with timber	23.20	89.54		
24												
25								SYMMETRIX DRILLING: No recovery, observed by driller as returns of MADE GROUND consisting of municipal waste	25.00	87.74		
26												
27								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy gravel	26.90	85.84		
28												
29												

REMARKS						WATER STRIKE DETAILS					
RC done at BH36B location. Hole Cased 0.00-38.50m. Driller standing 1.8hrs waiting for water to enter hole. Driller 3.25hrs pulling casing						Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
											No water strike recorded
INSTALLATION DETAILS						GROUNDWATER DETAILS					
Date	Tip Depth	RZ Top	RZ Base	Type		Date	Hole Depth	Casing Depth	Depth to Water	Comments	
14-09-12	38.50	33.00	38.50	50mm SP							

IGSL RC FI 10M 16412 RC.GPJ IGSL.GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

DRILLHOLE NO RC36B

CO-ORDINATES 291,286.00 E
222,308.35 N

SHEET Sheet 4 of 4

GROUND LEVEL (mOD) 112.74

RIG TYPE Casagrande
FLUSH Water

DATE DRILLED 13/09/2012

DATE LOGGED 14/09/2012

CLIENT
ENGINEER SKM

INCLINATION (deg) -90

DRILLED BY IGSL

CORE DIAMETER (mm)

LOGGED BY D.O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
30					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy gravel (<i>continued</i>)				
31												
32												
33												
34												
35												
36												
37												
38												
39												
								End of Borehole at 38.50 m	38.50	74.24		

REMARKS

RC done at BH36B location. Hole Cased 0.00-38.50m. Driller standing 1.8hrs waiting for water to enter hole. Driller 3.25hrs pulling casing

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
					No water strike recorded

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type
14-09-12	38.50	33.00	38.50	50mm SP

GROUNDWATER DETAILS

Date	Hole Depth	Casing Depth	Depth to Water	Comments
14-09-12	38.50	38.50	37.00	Water level recorded 10mins after end of drilling

IGSL RC FI 10M 16412 RC.GPJ IGSL.GDT 6/11/12



GEOTECHNICAL BORING RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

BOREHOLE NO. BH40A

CO-ORDINATES 291,393.49 E
222,108.72 N
GROUND LEVEL (m AOD) 94.40

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 250
BOREHOLE DEPTH (m) 1.70

SHEET Sheet 1 of 1

DATE COMMENCED 02/10/2012
DATE COMPLETED 02/10/2012

CLIENT EPA
ENGINEER SKM

SPT HAMMER REF. NO.
ENERGY RATIO (%)

BORED BY W.Cahill
PROCESSED BY I.Redder

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	MADE GROUND (comprised of dry MSW: clay 20%, gravel cobbles and boulders 45%, concrete and brick 30%, timber 5%)		92.70	1.70						
1	Medium musky smell at 1.0m; No gas readings taken at 1.0m									
2	Obstruction - possible concrete or boulder End of Borehole at 1.70 m									
3										
4										
5										
6										
7										
8										
9										

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HARD STRATA BORING/CHISELLING				WATER STRIKE DETAILS					
From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
1.7	1.7	0.5	Chiselling						No water strike
INSTALLATION DETAILS				GROUNDWATER PROGRESS					
Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
REMARKS Obstruction at 1.7m due to possible concrete or boulder, instructed to move few meters and repeat - see BH40C log				Sample Legend D - Small Disturbed (tub) B - Bulk Disturbed LB - Large Bulk Disturbed Env - Environmental Sample (Jar + Vial + Tub) U - Undisturbed 100mm Diameter Sample P - Undisturbed Piston Sample W - Water Sample					

IGSL BH LOG CHISEL SEPARATED 16412.GPJ IGSL GDT 6/11/12



GEOTECHNICAL BORING RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

BOREHOLE NO. BH40B

CO-ORDINATES 291,392.81 E
222,105.84 N
GROUND LEVEL (m AOD) 94.46RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 250
BOREHOLE DEPTH (m) 16.30

SHEET Sheet 1 of 2

DATE COMMENCED 02/10/2012
DATE COMPLETED 04/10/2012CLIENT EPA
ENGINEER SKMSPT HAMMER REF. NO.
ENERGY RATIO (%)BORED BY W.Cahill
PROCESSED BY I.Redder

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
0	MADE GROUND (comprised of dry brown clay 20%, gravel cobbles and boulders 45%, concrete and brick 30%, wood 5%)									
1	Medium musk gas odour at 1.0m; Gas Readings at 1.0m: O2 - 19.6%, CH4 - 0.0%, CO2 - 1.1%				AN3821	D	1.00-1.00			
2	Medium musk gas odour at 2.0m; Gas Readings at 2.0m: O2 - 19.7%, CH4 - 0.0%, CO2 - 0.7%				AN3822	B	2.00-2.00			
			91.76	2.70						
3	MADE GROUND (comprised of light brown sandy silty clay with some gravel and refuse content) Medium musk gas odour at 3.0m; Gas Readings at 3.0m: O2 - 19.6%, CH4 - 0.0%, CO2 - 0.9%				AN3823	D	3.00-3.00			
4	Medium musk gas odour at 4.0m; Gas Readings at 4.0m: O2 - 19.8%, CH4 - 0.0%, CO2 - 0.7%				AN3824	B	4.00-4.00			
5	Medium musk gas odour at 5.0m; Gas Readings at 5.0m: O2 - 19.6%, CH4 - 0.0%, CO2 - 0.8%				AN3825	D	5.00-5.00			
6	NO gas odour at 6.0m; No Gas Readings taken at 6.0m				AN3826	B	6.00-6.00			
7	NO gas odour at 7.0m; No Gas Readings taken at 7.0m				AN3827	D	7.00-7.00			
8	NO gas odour at 8.0m; No Gas Readings taken at 8.0m				AN3828	B	8.00-8.00			
9	NO gas odour at 9.0m; No Gas Readings taken at 9.0m				AN3829	D	9.00-9.00			
			84.66	9.80						

HARD STRATA BORING/CHISELLING

WATER STRIKE DETAILS

From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
9.8	10.3	1.75	Chiselling						

GROUNDWATER PROGRESS

INSTALLATION DETAILS					Date	Hole Depth	Casing Depth	Depth to Water	Comments
Date	Tip Depth	RZ Top	RZ Base	Type					
04-10-12	16.30	13.30	16.30	50mm SP					

REMARKS Hit concrete at 9.8m - instructed to continue chiselling to break through; Reduced casing from 10inch to 8inch at 13.0m

Sample Legend

D - Small Disturbed (tub)
B - Bulk Disturbed
LB - Large Bulk Disturbed
Env - Environmental Sample (Jar + Vial + Tub)
U - Undisturbed 100mm Diameter Sample
P - Undisturbed Piston Sample
W - Water Sample

IGSL BH LOG CHISEL SEPARATED 16412.GPJ IGSL GDT 6/11/12



GEOTECHNICAL BORING RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

BOREHOLE NO. BH40B

CO-ORDINATES 291,392.81 E
222,105.84 N
GROUND LEVEL (m AOD) 94.46

RIG TYPE Dando 2000
BOREHOLE DIAMETER (mm) 250
BOREHOLE DEPTH (m) 16.30

SHEET Sheet 2 of 2

DATE COMMENCED 02/10/2012
DATE COMPLETED 04/10/2012

CLIENT EPA
ENGINEER SKM

SPT HAMMER REF. NO.
ENERGY RATIO (%)

BORED BY W.Cahill
PROCESSED BY I.Redder

Depth (m)	Description	Legend	Elevation	Depth (m)	Samples				Field Test Results	Standpipe Details
					Ref. Number	Sample Type	Depth (m)	Recovery		
10	MADE GROUND (comprised of large concrete fragments with sparse very sandy clay) (<i>continued</i>) NO gas odour at 10.0m; No Gas Readings taken at 10.0m		84.16	10.30	AN3830	B	10.00-10.00			
11	MADE GROUND (comprised dark brown sandy clay 90%, concrete 10%) NO gas odour at 11.0m; No Gas Readings taken at 11.0m				AN3831	D	11.00-11.00			
12	MADE GROUND (comprised of light brown silty sand 90%, wood 5%, concrete 5%) NO gas odour at 12.0m; No Gas Readings taken at 12.0m		82.76	11.70	AN3832	B	12.00-12.00			
13	Dense, light brown, silty SAND (natural ground) NO gas odour at 13.0m; No Gas Readings taken at 13.0m		81.46	13.00	AN3833	D	13.00-13.00			
14	NO gas odour at 14.0m; No Gas Readings taken at 14.0m				AN3834	B	14.00-14.00			
15	NO gas odour at 15.0m; No Gas Readings taken at 15.0m				AN3835	D	15.00-15.00			
16	Dense, brown, sandy fine to coarse GRAVEL NO gas odour at 16.0m; No Gas Readings taken at 16.0m End of Borehole at 16.30 m		78.86 78.16	15.60 16.30	AN3836	B	16.00-16.00			
17										
18										
19										

HARD STRATA BORING/CHISELLING				WATER STRIKE DETAILS					
From (m)	To (m)	Time (h)	Comments	Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
				15.60	15.60	NO	14.20	20	Rapid
INSTALLATION DETAILS				GROUNDWATER PROGRESS					
Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
04-10-12	16.30	13.30	16.30	50mm SP					
REMARKS Hit concrete at 9.8m - instructed to continue chiselling to break through; Reduced casing from 10inch to 8inch at 13.0m				Sample Legend D - Small Disturbed (tub) B - Bulk Disturbed LB - Large Bulk Disturbed Env - Environmental Sample (Jar + Vial + Tub) U - Undisturbed 100mm Diameter Sample P - Undisturbed Piston Sample W - Water Sample					

IGSL BH LOG CHISEL SEPARATED 16412.GPJ IGSL GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

DRILLHOLE NO BH42
SHEET Sheet 1 of 2CO-ORDINATES 291,542.94 E
221,929.36 N

GROUND LEVEL (mOD) 82.27

RIG TYPE Casagrande
FLUSH Water
INCLINATION (deg) -90
CORE DIAMETER (mm)DATE DRILLED 20/08/2012
DATE LOGGED 20/08/2012CLIENT
ENGINEER SKMDRILLED BY IGSL
LOGGED BY D.O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
0					0 250 500			SYMMETRIX DRILLING: No recovery, observed by driller as returns of MADE GROUND consisting of sand with timber	1.00	81.27		
1								SYMMETRIX DRILLING: No recovery, observed by driller as returns of silty sandy clay	2.50	79.77		
2								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy clay	4.00	78.27		
3								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy gravelly clay	6.00	76.27		
4								SYMMETRIX DRILLING: No recovery, observed by driller as returns of clay	7.00	75.27		
5								SYMMETRIX DRILLING: No recovery, observed by driller as returns of sandy gravel				
6												
7												
8												
9												

REMARKS

Hole Cased 0.00-10.10m.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments
7.00					Slow

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments

IGSL RC F1 10M 16412 RC.GPJ IGSL GDT 6/11/12



GEOTECHNICAL CORE LOG RECORD

REPORT NUMBER

16412

CONTRACT Kerdiffstown Landfill

DRILLHOLE NO BH42
SHEET Sheet 2 of 2CO-ORDINATES 291,542.94 E
221,929.36 N

GROUND LEVEL (mOD) 82.27

RIG TYPE Casagrande
FLUSH Water
INCLINATION (deg) -90
CORE DIAMETER (mm)DATE DRILLED 20/08/2012
DATE LOGGED 20/08/2012CLIENT
ENGINEER SKMDRILLED BY IGSL
LOGGED BY D.O'Shea

Downhole Depth (m)	Core Run Depth (m)	T.C.R.%	S.C.R.%	R.Q.D.%	Fracture Spacing Log (mm)	Non-intact Zone	Legend	Description	Depth (m)	Elevation	Standpipe Details	SPT (N Value)
10					0 250 500			End of Borehole at 10.10 m	10.10	72.17		
11												
12												
13												
14												
15												
16												
17												
18												
19												

REMARKS

Hole Cased 0.00-10.10m.

WATER STRIKE DETAILS

Water Strike	Casing Depth	Sealed At	Rise To	Time (min)	Comments

GROUNDWATER DETAILS

INSTALLATION DETAILS

Date	Tip Depth	RZ Top	RZ Base	Type	Date	Hole Depth	Casing Depth	Depth to Water	Comments
					20-08-12	10.10	10.10	2.50	Water level recorded 10mins after end of drilling

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 PRIORITY GEOTECHNICAL		Priority Geotechnical Ltd. Tel: 021 4631600 Fax: 021 4638690 www.prioritygeotechnical.ie			Drilled By RN		Borehole No SI 1 BH02 Sheet 1 of 1	
					Logged By			
Project Name: Kerdiffstown Landfill				Project No. P11114		Co-ords: 291358E - 221881N		Hole Type Cable
Client: Environmental Protection Agency				Dates: 10/01/2012-12/01/2012		Level: 92.67 m AOD		Scale 1:50

Well / Backfill	Water Strikes	Samples & In Situ Testing			Casing / Flush	Level (m AOD)	Depth (m)	Stratum Description	Legend
		Depth (m)	Type	Results					
					92.63	0.04	Topsoil with cobbles.		
					91.23	1.44	Slightly sandy slightly gravelly CLAY with black boulders - odourless.		
					89.87	2.80	Stiff, gravelly CLAY with black boulders - odourless.		
					88.47	4.20	Stiff, gravelly CLAY with angular, black boulders - odourless.		
					87.17	5.50	Stiff, sandy CLAY with boulders - odourless. 4.2m - 5.5m: Water added to aid drilling.		
					86.41	6.26	Hard, boulder CLAY - odourless.		
					86.17	6.50	GRAVEL.		
					85.91	6.76	SAND with cobbles.		
					85.47	7.20	Medium dense GRAVEL.		
							7.0m: O2 - 20.1%.		
						GRAVEL with boulders - odourless.			
					8.60	84.07	8.60	End of Borehole at 8.60 m	

Groundwater: Struck 7.26m Rose to 7.10m After 20min Sealed - Comment					Hole Information: Hole Depth 8.60m Hole Diameter 200mm Casing Diameter 200mm			Chiselling: <table style="width:100%; border-collapse: collapse;"> <tr> <th>Depths (m)</th> <th>Time (hhmm)</th> <th>Tool</th> </tr> <tr> <td>2.00 to 2.20</td> <td>0030</td> <td>Chisel</td> </tr> <tr> <td>3.20 to 3.25</td> <td>0030</td> <td>Chisel</td> </tr> <tr> <td>5.20 to 5.30</td> <td>0030</td> <td>Chisel</td> </tr> <tr> <td>8.00 to 8.00</td> <td>0030</td> <td>Chisel</td> </tr> </table>			Depths (m)	Time (hhmm)	Tool	2.00 to 2.20	0030	Chisel	3.20 to 3.25	0030	Chisel	5.20 to 5.30	0030	Chisel	8.00 to 8.00	0030	Chisel
Depths (m)	Time (hhmm)	Tool																							
2.00 to 2.20	0030	Chisel																							
3.20 to 3.25	0030	Chisel																							
5.20 to 5.30	0030	Chisel																							
8.00 to 8.00	0030	Chisel																							

Remarks: Borehole terminated by Engineer (SKM). Standpipe installed, response zone from 8.0m to 5.0m.				Shift Data: <table style="width:100%; border-collapse: collapse;"> <tr> <th>Groundwater</th> <th>Shift (dd/mm/yyyy)</th> <th>Casing depth</th> <th>Remarks</th> </tr> <tr> <td>-</td> <td>10/01/2012</td> <td>0.00m</td> <td>Start of Borehole</td> </tr> <tr> <td>-</td> <td>10/01/2012</td> <td>4.20m</td> <td>End of shift</td> </tr> <tr> <td>-</td> <td>11/01/2012</td> <td>4.20m</td> <td>Start of shift</td> </tr> <tr> <td>7.10m</td> <td>11/01/2012</td> <td>7.36m</td> <td>End of shift</td> </tr> <tr> <td>6.96m</td> <td>12/01/2012</td> <td>7.36m</td> <td>Start of shift</td> </tr> <tr> <td>8.50m</td> <td>12/01/2012</td> <td>8.60m</td> <td>End of Borehole</td> </tr> </table>				Groundwater	Shift (dd/mm/yyyy)	Casing depth	Remarks	-	10/01/2012	0.00m	Start of Borehole	-	10/01/2012	4.20m	End of shift	-	11/01/2012	4.20m	Start of shift	7.10m	11/01/2012	7.36m	End of shift	6.96m	12/01/2012	7.36m	Start of shift	8.50m	12/01/2012	8.60m	End of Borehole
Groundwater	Shift (dd/mm/yyyy)	Casing depth	Remarks																																
-	10/01/2012	0.00m	Start of Borehole																																
-	10/01/2012	4.20m	End of shift																																
-	11/01/2012	4.20m	Start of shift																																
7.10m	11/01/2012	7.36m	End of shift																																
6.96m	12/01/2012	7.36m	Start of shift																																
8.50m	12/01/2012	8.60m	End of Borehole																																

Equipment & Methods: Dando 2000

Project Name:

Kerdiffstown Landfill

Project No.

P11114

Co-ords: 291681E - 221982N

Hole Type

Cable

Client: Environmental Protection Agency

Dates:

23/01/2012

Level: 80.93 m AOD

Scale

1:50

Well / Backfill	Water Strikes	Samples & In Situ Testing			Casing / Flush	Level (m AOD)	Depth (m)	Stratum Description	Legend
		Depth (m)	Type	Results					
								Reinforced concrete.	
		1.00	D			80.23	0.70	Grey, slightly sandy gravelly SILT with cobbles. Sand is fine to coarse. Gravel is fine to coarse, subrounded. 1.0m: CH4 - 0.1%, CO2 - 0.0%, O2 - 20.6%.	1
		2.00	D						2
		3.00	D					3.0m: CH4 - 0.1%, CO2 - 0.0%, O2 - 20.8%.	3
		4.00	D			76.93	4.00	Stiff grey, brown, slightly sandy gravelly SILT with cobbles. Sand is fine to coarse. Gravel is fine to coarse, subrounded. Cobbles are subrounded, limestone, 60-80mm dia.	4
		5.00 5.00	CPT D	N=24 (2,3/5,6,6,7)		5.00			5
		6.00	D						6
		6.50	D			6.50	74.43	6.50	7
								End of Borehole at 6.50 m	8

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Groundwater:

Struck - Rose to - After - Sealed - Comment -None encountered.

Hole Information:

Hole Depth 6.50m Hole Diameter 200mm Casing Diameter 200mm

Chiselling:

Depths (m)	Time (hhmm)	Tool
3.30 to 3.40	0030	Chisel
4.20 to 4.40	0030	Chisel
5.60 to 5.70	0030	Chisel

Remarks: Breaking out: 4hrs. Borehole terminated on Engineer's (SKM) request. 50mm dia standpipe installed, response zone from 6.5m to 3.5m.

Shift Data:

Groundwater	Shift (dd/mm/yyyy)	Casing depth	Remarks
-	23/01/2012	0.00m	Start of Borehole
-	23/01/2012	4.00m	End of shift
-	24/01/2012	4.00m	Start of shift
-	24/01/2012	6.50m	End of Borehole

Equipment & Methods: Dando 2000

Project Name:

Kerdiffstown Landfill

Project No.

P11114

Co-ords: 291447E - 222033N

Hole Type

Cable

Client: Environmental Protection Agency

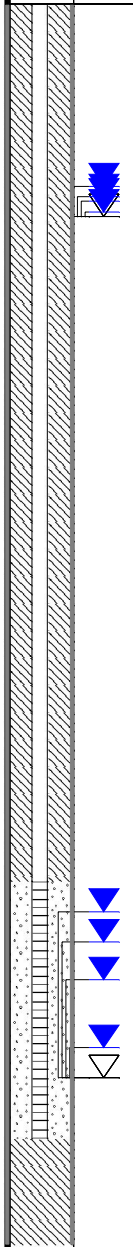
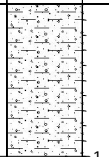
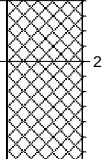
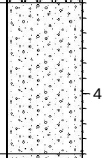
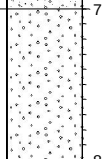
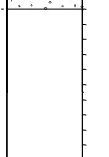
Dates:

24/01/2012-25/01/2012

Level: 83.84 m AOD

Scale

1:50

Well / Backfill	Water Strikes	Samples & In Situ Testing			Casing / Flush	Level (m AOD)	Depth (m)	Stratum Description	Legend
		Depth (m)	Type	Results					
		0.00-1.00	B			82.84	1.00	Fill: Black, gravelly CLAY with cobbles. 0.0m - 1.0m: No water or odour noted.	
		1.00-2.00	B			82.24	1.60	Fill: Black, gravelly CLAY.	
						81.84	2.00	MSW (Approx. 80% timber; logs and pallets, 10% rubber, 10% soft plastic, 10% hard plastic).	
		2.00-3.00	B					CLAY with angular cobbles and MSW (Approx. 50% timber, 20% wooden pallets, 10% strong rubber, 10% plastic).	
						80.44	3.40	Sandy GRAVEL with cobbles. 3.4m - 4.4m: No odour, no water.	
		3.40-4.40	B			79.44	4.40	Sandy GRAVEL. 4.4m - 5.0m: No water or odour noted.	
		5.00-6.00	B						
		6.00-7.00	B			76.84	7.00	Angular GRAVEL with black cobbles. 7.1m - 8.1m: No odour noted.	
		7.00-8.00	B						
					8.20	75.64	8.20	End of Borehole at 8.20 m	

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Groundwater:

Struck	Rose to	After	Sealed	Comment
1.40m	1.37m	5min	-	
1.40m	1.30m	10min	-	
1.40m	1.27m	15min	-	
1.40m	1.20m	20min	-	
7.10m	6.90m	5min	-	

Hole Information:

Hole Depth	Hole Diameter	Casing Diameter
8.20m	200mm	200mm

Chiselling:

Depths (m)	Time (hhmm)	Tool
to		

Remarks: Borehole terminated on Engineer's (SKM) request. Backfilled with arisings. 50mm dia standpipe installed, response zone from 7.5m to 5.8m.

Shift Data:

Groundwater	Shift (dd/mm/yyyy)	Casing depth	Remarks
-	24/01/2012	0.00m	Start of Borehole
1.20m	24/01/2012	1.60m	End of shift
-	25/01/2012	1.60m	Start of shift
-	25/01/2012	8.20m	End of Borehole

Equipment & Methods: Dando 2000

Appendix D. Laboratory Reports

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ALS Environmental Ltd
Torrington Avenue
Coventry
CV4 9GU

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F: +44 (0)24 7685 6575
www.alsenvironmental.co.uk

Mr Downes
SKM Ireland c/o Jacobs
Engineering Ireland
Jacobs
Merrion House
Merrion Road
Dublin 4 South Dublin

06 January 2017

Test Report: COV/1343093/2016

Dear Mr Downes

Analysis of your sample(s) submitted on 07 December 2016 is now complete and we have pleasure in enclosing the appropriate test report(s).

An invoice for the analysis carried out will be sent under separate cover.

Should you have any queries regarding this report(s) or any part of our service, please contact Customer Services on +44 (0)24 7642 1213 who will be happy to discuss your requirements.

If you would like to arrange any further analysis, please contact Customer Services. To arrange container delivery or sample collection, please call the Couriers Department directly on 024 7685 6562.

Thank you for using ALS Environmental Ltd and we look forward to receiving your next samples.

Yours Sincerely,

Signed:



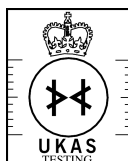
Name: A. Zunzunegui

Title: Organic Team Leader



This communication has been sent to you by ALS Environmental Ltd. Registered in England and Wales. Registration No.02148934. Registered Office: ALS Environmental Limited, Torrington Avenue, Coventry, CV4 9GU.

Report Summary



1314
0897
4409



**Mr Ultan Downes
SKM Ireland c/o Jacobs
Engineering Ireland
Jacobs
Merrion House
Merrion Road
Dublin 4
South Dublin**

Date of Issue: **06 January 2017**

Report Number: **COV/1343093/2016** Issue **2**

Job Description: Kerdiffstown Landfill

Job Location: 32EW5604 KLRP

Number of Samples
included in this report **3**

Job Received: **07 December 2016**

Number of Test Results
included in this report **840**

Analysis Commenced: **08 December 2016**

Signed:

Name: **A. Zunzunegui**

Date: **06 January 2017**

Title: **Organic Team Leader**

ALS Environmental Ltd was not responsible for sampling unless otherwise stated. Sampling is not covered by our UKAS accreditation.

Information on the methods of analysis and performance characteristics are available on request.

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation. The results relate only to the items tested.

Tests marked 'Not UKAS Accredited' in this Report/Certificate are not included in the UKAS Accreditation Schedule for our laboratory.

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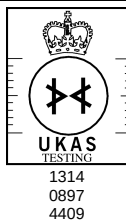
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Certificate of Analysis



Report Number: **COV/1343093/2016**

Issue **2**

Laboratory Number: **15734479**

Sample **1** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW11**

Sample Matrix: **Ground Water**

Sample Date/Time: **07 December 2016**

Sample Received: **07 December 2016**

Analysis Complete: **06 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	21/12/2016	N Cov	WAS043
Nitrate as NO3	71.3	mg/l	09/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	19/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	19/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	<0.0010	mg/l	19/12/2016	Y Cov	WAS060
Fluoride	<0.200	mg/l	16/12/2016	Y S	SUBCON
Aluminium, Total as Al	0.2	mg/l	20/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.035	mg/l	20/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	20/12/2016	Y Cov	WAS049
Boron, Total as B	1.09	mg/l	20/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	20/12/2016	Y Cov	WAS049
Calcium , Total as Ca	360	mg/l	20/12/2016	Y Cov	WAS049
Chromium , Total as Cr	0.004	mg/l	20/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	5.8	ug/l	19/12/2016	Y Cov	WAS060
Iron , Total as Fe	0.66	mg/l	20/12/2016	Y Cov	WAS049
Ferrous Iron	<0.5	mg/l	21/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	21/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	20/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	61.7	mg/l	20/12/2016	Y Cov	WAS049
Manganese , Total as Mn	0.059	mg/l	20/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	16/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.027	mg/l	20/12/2016	Y Cov	WAS049
Potassium , Total as K	44.1	mg/l	20/12/2016	Y Cov	WAS049
Sodium , Total as Na	74.8	mg/l	20/12/2016	Y Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	20/12/2016	Y Cov	WAS049
Zinc, Total as Zn	0.03	mg/l	20/12/2016	Y Cov	WAS049
pH	7.1	pH units	12/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	2160	uS/cm	12/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	538	mg/l	12/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	<0.06	mg/l	08/12/2016	Y Cov	WAS067
Chloride as Cl	51.7	mg/l	09/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	09/12/2016	N Cov	WAS036

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Report Number: **COV/1343093/2016**

Issue **2**

Laboratory Number: **15734479**

Sample **1** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW11**

Sample Matrix: **Ground Water**

Sample Date/Time: **07 December 2016**

Sample Received: **07 December 2016**

Analysis Complete: **06 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Phosphates , Total as P	<0.120	mg/l	20/12/2016	Y Cov	WAS049
Sulphate as SO4	805	mg/l	09/12/2016	N Cov	WAS036
BOD + ATU (5 day)	2	mg/l	19/12/2016	Y Cov	WAS001
COD (Total)	56.0	mg/l	12/12/2016	Y Cov	WAS040
TOC (Filtered)	10.6	mg/l	09/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	09/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	10/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	21/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	08/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	29/12/2016	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	29/12/2016	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	29/12/2016	N Cov	GEO47
SVOC with TICs	Y	ug/l	15/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	29/12/2016	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	29/12/2016	Y Cov	GEO47
alpha-HCH	<3	ng/l	29/12/2016	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	29/12/2016	Y Cov	GEO47
beta-HCH	<3	ng/l	29/12/2016	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	29/12/2016	Y Cov	GEO47
Dichlobenil	<2	ng/l	29/12/2016	Y Cov	GEO47
Dieldrin	<4	ng/l	29/12/2016	Y Cov	GEO47
Endrin	<4	ng/l	29/12/2016	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	29/12/2016	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	29/12/2016	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	29/12/2016	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	29/12/2016	N Cov	GEO47
Isodrin	<4	ng/l	29/12/2016	Y Cov	GEO47
o,p - DDE	<2	ng/l	29/12/2016	Y Cov	GEO47
p,p - DDE	<2	ng/l	29/12/2016	Y Cov	GEO47
o,p - TDE	<2	ng/l	29/12/2016	Y Cov	GEO47
p,p - TDE	<2	ng/l	29/12/2016	Y Cov	GEO47
o,p - DDT	<2	ng/l	29/12/2016	Y Cov	GEO47
p,p - DDT	<4	ng/l	29/12/2016	Y Cov	GEO47

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Issue **2**

Laboratory Number: **15734479**

Sample **1** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW11**

Sample Matrix: **Ground Water**

Sample Date/Time: **07 December 2016**

Sample Received: **07 December 2016**

Analysis Complete: **06 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Tecnazene	<10	ng/l	29/12/2016	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	29/12/2016	Y Cov	GEO47
Triallate	<10	ng/l	29/12/2016	Y Cov	GEO47
Trifluralin	<30	ng/l	29/12/2016	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	05/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	05/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	29/12/2016	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	29/12/2016	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	29/12/2016	Y Cov	GEO47
Diazinon	<0.003	ug/l	29/12/2016	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	29/12/2016	Y Cov	GEO47
Dimethoate	<0.020	ug/l	29/12/2016	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	29/12/2016	Y Cov	GEO47
Fenthion	<0.002	ug/l	29/12/2016	Y Cov	GEO47
Malathion	<0.004	ug/l	29/12/2016	Y Cov	GEO47
Mevinphos	<0.020	ug/l	29/12/2016	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	29/12/2016	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	29/12/2016	Y Cov	GEO47
Phorate	<0.004	ug/l	29/12/2016	Y Cov	GEO47
Phosalone	<0.004	ug/l	29/12/2016	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	29/12/2016	Y Cov	GEO47
Propetamphos	<0.003	ug/l	29/12/2016	Y Cov	GEO47
Triazophos	<0.002	ug/l	29/12/2016	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	20/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	20/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	20/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	20/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	20/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	20/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	20/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	20/12/2016	Y Cov	GEO20
Dicamba	<0.05	ug/l	20/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	20/12/2016	Y Cov	GEO20

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Issue **2**

Laboratory Number: **15734479**

Sample **1** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW11**

Sample Matrix: **Ground Water**

Sample Date/Time: **07 December 2016**

Sample Received: **07 December 2016**

Analysis Complete: **06 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fenoprop	<0.05	ug/l	20/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	20/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	20/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	20/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	20/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	20/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	12/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	12/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	12/12/2016	N Cov	338
Naphthol	<0.10	ug/l	12/12/2016	N Cov	338
Phenol	<0.10	ug/l	12/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	12/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	12/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	13/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	13/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	13/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	13/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	13/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	13/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	13/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	13/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	13/12/2016	N Cov	GEO46
Aromatic EPH >C35 - C44	<10	ug/l	13/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	13/12/2016	N Cov	GEO46

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Report Number: **COV/1343093/2016**

Issue **2**

Laboratory Number: **15734479**

Sample **1** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW11**

Sample Matrix: **Ground Water**

Sample Date/Time: **07 December 2016**

Sample Received: **07 December 2016**

Analysis Complete: **06 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
EPH >C10 - C44	<10	ug/l	13/12/2016	N	Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	13/12/2016	N	Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	13/12/2016	N	Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	13/12/2016	N	Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	15/12/2016	Y	Cov	GEO19
Acenaphthylene	<0.01	ug/l	15/12/2016	Y	Cov	GEO19
Anthracene	<0.01	ug/l	15/12/2016	Y	Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	15/12/2016	Y	Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	15/12/2016	Y	Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	15/12/2016	Y	Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	15/12/2016	Y	Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	15/12/2016	Y	Cov	GEO19
Chrysene	<0.01	ug/l	15/12/2016	Y	Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	15/12/2016	Y	Cov	GEO19
Fluoranthene	0.016	ug/l	15/12/2016	Y	Cov	GEO19
Fluorene	<0.01	ug/l	15/12/2016	Y	Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	15/12/2016	Y	Cov	GEO19
Naphthalene	<0.01	ug/l	15/12/2016	Y	Cov	GEO19
Phenanthrene	0.014	ug/l	15/12/2016	Y	Cov	GEO19
Pyrene	<0.01	ug/l	15/12/2016	Y	Cov	GEO19
PAH, Total	0.030	ug/l	15/12/2016	N	Cov	GEO19
VOC	Y	ug/l	23/12/2016	N	Cov	GEO32
Dichlorodifluoromethane	<1.0	ug/l	23/12/2016	Y	Cov	GEO32
Chloromethane	<1.0	ug/l	23/12/2016	Y	Cov	GEO32
Chloroethane	<1.0	ug/l	23/12/2016	Y	Cov	GEO32
Bromomethane	<1.0	ug/l	23/12/2016	Y	Cov	GEO32
Trichlorofluoromethane	<1.0	ug/l	23/12/2016	Y	Cov	GEO32
1,1-Dichloroethene	<1.0	ug/l	23/12/2016	Y	Cov	GEO32
Dichloromethane	<1.0	ug/l	23/12/2016	Y	Cov	GEO32
1,1-Dichloroethane	<1.0	ug/l	23/12/2016	Y	Cov	GEO32
cis-1,2-Dichloroethene	<1.0	ug/l	23/12/2016	Y	Cov	GEO32
2,2-Dichloropropane	<1.0	ug/l	23/12/2016	N	Cov	GEO32
Chloroform	<1.0	ug/l	23/12/2016	Y	Cov	GEO32

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Issue **2**

Laboratory Number: **15734479**

Sample **1** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW11**

Sample Matrix: **Ground Water**

Sample Date/Time: **07 December 2016**

Sample Received: **07 December 2016**

Analysis Complete: **06 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bromochloromethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,1,1-Trichloroethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,1-Dichloropropene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,2-Dichloroethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Benzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,2-Dichloropropane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Trichloroethene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Bromodichloromethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Dibromomethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
cis-1,3-Dichloropropene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Toluene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
trans-1,3-Dichloropropene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,1,2-Trichloroethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Carbon Tetrachloride	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Vinyl Chloride	<0.5	ug/l	23/12/2016	Y Cov	GEO32
1,3-Dichloropropane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Tetrachloroethene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Dibromochloromethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,2-Dibromoethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Chlorobenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,1,1,2-Tetrachloroethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Ethyl Benzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
m&p-Xylene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
o-Xylene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Styrene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Bromoform	<1.0	ug/l	23/12/2016	Y Cov	GEO32
trans-1,2-Dichloroethene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Isopropylbenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,1,2,2-Tetrachloroethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,2,3-Trichloropropane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
n-Propylbenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Bromobenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
2-Chlorotoluene	<1.0	ug/l	23/12/2016	Y Cov	GEO32

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Report Number: **COV/1343093/2016**

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Laboratory Number: **15734479**

Sample **1** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW11**

Sample Matrix: **Ground Water**

Sample Date/Time: **07 December 2016**

Sample Received: **07 December 2016**

Analysis Complete: **06 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,3,5-Trimethylbenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
4-Chlorotoluene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
tert-Butylbenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,2,4-Trimethylbenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
sec-Butylbenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
p-Isopropyltoluene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,3-Dichlorobenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,4-Dichlorobenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
n-Butylbenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,2-Dichlorobenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,2-Dibromo-3-chloropropane	<2.0	ug/l	23/12/2016	Y Cov	GEO32
1,2,4-Trichlorobenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Hexachlorobutadiene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Naphthalene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,2,3-Trichlorobenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
MTBE	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Dibromofluoromethane	101.6	%Recovery	23/12/2016	N Cov	GEO32
Toluene-d8	99.4	%Recovery	23/12/2016	N Cov	GEO32
4-Bromofluorobenzene	85.5	%Recovery	23/12/2016	N Cov	GEO32
SVOC	Y	ug/l	14/12/2016	N Cov	GEO40
Phenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	14/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	14/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Bis(2-chloroisopropyl)ether	<1.0	ug/l	14/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	14/12/2016	Y Cov	GEO40

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Report Number: **COV/1343093/2016**

Issue **2**

Laboratory Number: **15734479**

Sample **1** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW11**

Sample Matrix: **Ground Water**

Sample Date/Time: **07 December 2016**

Sample Received: **07 December 2016**

Analysis Complete: **06 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Isophorone	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	14/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	14/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	14/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Fluoranthene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	14/12/2016	Y Cov	GEO40

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Report Number: **COV/1343093/2016**

Issue **2**

Laboratory Number: **15734479**

Sample **1** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW11**

Sample Matrix: **Ground Water**

Sample Date/Time: **07 December 2016**

Sample Received: **07 December 2016**

Analysis Complete: **06 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chrysene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	14/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2-Fluorophenol	88.7	%Recovery	14/12/2016	N Cov	GEO40
Phenol-d6	68.6	%Recovery	14/12/2016	N Cov	GEO40
Nitrobenzene-d5	84.4	%Recovery	14/12/2016	N Cov	GEO40
2-Fluorobiphenyl	84.3	%Recovery	14/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	88.6	%Recovery	14/12/2016	N Cov	GEO40
Terphenyl-d14	96.1	%Recovery	14/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	09/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	20/12/2016	Y Cov	GEO20

Analyst Comments for 15734479:

This sample has been analysed for VOC Waters method GEO32, Pesticides method GEO47, BOD + ATU (5 day), Sodium Total as Na, Boron, Total as B outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: See attached SVOC-TIC Report.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG). For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **A. Zunzunegui**

Date: **06 January 2017**

Title: **Organic Team Leader**

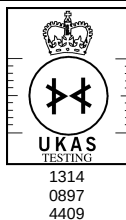
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Certificate of Analysis



Report Number: **COV/1343093/2016**

Issue **2**

Laboratory Number: **15734480**

Sample **2** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW12**

Sample Matrix: **Ground Water**

Sample Date/Time: **07 December 2016**

Sample Received: **07 December 2016**

Analysis Complete: **06 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	21/12/2016	N Cov	WAS043
Nitrate as NO3	29.2	mg/l	09/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	19/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	19/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	<0.0010	mg/l	19/12/2016	Y Cov	WAS060
Fluoride	0.145	mg/l	16/12/2016	Y S	SUBCON
Aluminium, Total as Al	<0.1	mg/l	20/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.049	mg/l	20/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	20/12/2016	Y Cov	WAS049
Boron, Total as B	<0.23	mg/l	20/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	20/12/2016	Y Cov	WAS049
Calcium , Total as Ca	195	mg/l	20/12/2016	Y Cov	WAS049
Chromium , Total as Cr	0.002	mg/l	20/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	2.1	ug/l	19/12/2016	Y Cov	WAS060
Iron , Total as Fe	<0.23	mg/l	20/12/2016	Y Cov	WAS049
Ferrous Iron	<0.5	mg/l	21/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	21/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	20/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	18.8	mg/l	20/12/2016	Y Cov	WAS049
Manganese , Total as Mn	0.007	mg/l	20/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	16/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.031	mg/l	20/12/2016	Y Cov	WAS049
Potassium , Total as K	4.47	mg/l	20/12/2016	Y Cov	WAS049
Sodium , Total as Na	23.2	mg/l	20/12/2016	Y Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	20/12/2016	Y Cov	WAS049
Zinc, Total as Zn	0.03	mg/l	20/12/2016	Y Cov	WAS049
pH	7.3	pH units	12/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	1080	uS/cm	12/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	272	mg/l	12/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	<0.06	mg/l	08/12/2016	Y Cov	WAS067
Chloride as Cl	31.0	mg/l	09/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	09/12/2016	N Cov	WAS036

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Report Number: **COV/1343093/2016**

Issue **2**

Laboratory Number: **15734480**

Sample **2** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW12**

Sample Matrix: **Ground Water**

Sample Date/Time: **07 December 2016**

Sample Received: **07 December 2016**

Analysis Complete: **06 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Phosphates , Total as P	<0.120	mg/l	20/12/2016	Y Cov	WAS049
Sulphate as SO4	321	mg/l	09/12/2016	N Cov	WAS036
BOD + ATU (5 day)	<1	mg/l	19/12/2016	Y Cov	WAS001
COD (Total)	18.0	mg/l	12/12/2016	Y Cov	WAS040
TOC (Filtered)	2.4	mg/l	09/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	09/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	10/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	21/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	08/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	29/12/2016	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	29/12/2016	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	29/12/2016	N Cov	GEO47
SVOC with TICs	Y	ug/l	15/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	29/12/2016	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	29/12/2016	Y Cov	GEO47
alpha-HCH	<3	ng/l	29/12/2016	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	29/12/2016	Y Cov	GEO47
beta-HCH	<3	ng/l	29/12/2016	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	29/12/2016	Y Cov	GEO47
Dichlobenil	<2	ng/l	29/12/2016	Y Cov	GEO47
Dieldrin	<4	ng/l	29/12/2016	Y Cov	GEO47
Endrin	<4	ng/l	29/12/2016	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	29/12/2016	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	29/12/2016	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	29/12/2016	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	29/12/2016	N Cov	GEO47
Isodrin	<4	ng/l	29/12/2016	Y Cov	GEO47
o,p - DDE	<2	ng/l	29/12/2016	Y Cov	GEO47
p,p - DDE	<2	ng/l	29/12/2016	Y Cov	GEO47
o,p - TDE	<2	ng/l	29/12/2016	Y Cov	GEO47
p,p - TDE	<2	ng/l	29/12/2016	Y Cov	GEO47
o,p - DDT	<2	ng/l	29/12/2016	Y Cov	GEO47
p,p - DDT	<4	ng/l	29/12/2016	Y Cov	GEO47

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Report Number: **COV/1343093/2016**

Issue **2**

Laboratory Number: **15734480**

Sample **2** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW12**

Sample Matrix: **Ground Water**

Sample Date/Time: **07 December 2016**

Sample Received: **07 December 2016**

Analysis Complete: **06 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Tecnazene	<10	ng/l	29/12/2016	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	29/12/2016	Y Cov	GEO47
Triallate	<10	ng/l	29/12/2016	Y Cov	GEO47
Trifluralin	<30	ng/l	29/12/2016	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	05/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	05/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	29/12/2016	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	29/12/2016	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	29/12/2016	Y Cov	GEO47
Diazinon	<0.003	ug/l	29/12/2016	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	29/12/2016	Y Cov	GEO47
Dimethoate	<0.020	ug/l	29/12/2016	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	29/12/2016	Y Cov	GEO47
Fenthion	<0.002	ug/l	29/12/2016	Y Cov	GEO47
Malathion	<0.004	ug/l	29/12/2016	Y Cov	GEO47
Mevinphos	<0.020	ug/l	29/12/2016	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	29/12/2016	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	29/12/2016	Y Cov	GEO47
Phorate	<0.004	ug/l	29/12/2016	Y Cov	GEO47
Phosalone	<0.004	ug/l	29/12/2016	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	29/12/2016	Y Cov	GEO47
Propetamphos	<0.003	ug/l	29/12/2016	Y Cov	GEO47
Triazophos	<0.002	ug/l	29/12/2016	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	20/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	20/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	20/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	20/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	20/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	20/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	20/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	20/12/2016	Y Cov	GEO20
Dicamba	<0.05	ug/l	20/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	20/12/2016	Y Cov	GEO20

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Report Number: **COV/1343093/2016**

Issue **2**

Laboratory Number: **15734480**

Sample **2** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW12**

Sample Matrix: **Ground Water**

Sample Date/Time: **07 December 2016**

Sample Received: **07 December 2016**

Analysis Complete: **06 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fenoprop	<0.05	ug/l	20/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	20/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	20/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	20/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	20/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	20/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	16/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Naphthol	<0.10	ug/l	16/12/2016	N Cov	338
Phenol	1.2	ug/l	16/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Phenols, Total	1.2	ug/l	16/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	13/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	13/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	13/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	13/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	13/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	13/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	13/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	13/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	13/12/2016	N Cov	GEO46
Aromatic EPH >C35 - C44	<10	ug/l	13/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	13/12/2016	N Cov	GEO46

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Report Number: **COV/1343093/2016**

Issue **2**

Laboratory Number: **15734480**

Sample **2** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW12**

Sample Matrix: **Ground Water**

Sample Date/Time: **07 December 2016**

Sample Received: **07 December 2016**

Analysis Complete: **06 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
EPH >C10 - C44	<10	ug/l	13/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	13/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	13/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	13/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Anthracene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Chrysene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Fluoranthene	0.089	ug/l	15/12/2016	Y Cov	GEO19
Fluorene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Naphthalene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Phenanthrene	0.050	ug/l	15/12/2016	Y Cov	GEO19
Pyrene	0.033	ug/l	15/12/2016	Y Cov	GEO19
PAH, Total	0.173	ug/l	15/12/2016	N Cov	GEO19
VOC	Y	ug/l	23/12/2016	N Cov	GEO32
Dichlorodifluoromethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Chloromethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Chloroethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Bromomethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Trichlorofluoromethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,1-Dichloroethene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Dichloromethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,1-Dichloroethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
cis-1,2-Dichloroethene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
2,2-Dichloropropane	<1.0	ug/l	23/12/2016	N Cov	GEO32
Chloroform	<1.0	ug/l	23/12/2016	Y Cov	GEO32

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Certificate of Analysis



Report Number: **COV/1343093/2016**

Issue **2**

Laboratory Number: **15734480**

Sample **2** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW12**

Sample Matrix: **Ground Water**

Sample Date/Time: **07 December 2016**

Sample Received: **07 December 2016**

Analysis Complete: **06 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bromochloromethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,1,1-Trichloroethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,1-Dichloropropene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,2-Dichloroethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Benzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,2-Dichloropropane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Trichloroethene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Bromodichloromethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Dibromomethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
cis-1,3-Dichloropropene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Toluene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
trans-1,3-Dichloropropene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,1,2-Trichloroethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Carbon Tetrachloride	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Vinyl Chloride	<0.5	ug/l	23/12/2016	Y Cov	GEO32
1,3-Dichloropropane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Tetrachloroethene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Dibromochloromethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,2-Dibromoethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Chlorobenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,1,1,2-Tetrachloroethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Ethyl Benzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
m&p-Xylene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
o-Xylene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Styrene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Bromoform	<1.0	ug/l	23/12/2016	Y Cov	GEO32
trans-1,2-Dichloroethene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Isopropylbenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,1,2,2-Tetrachloroethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,2,3-Trichloropropane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
n-Propylbenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Bromobenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
2-Chlorotoluene	<1.0	ug/l	23/12/2016	Y Cov	GEO32

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Report Number: **COV/1343093/2016**

Issue **2**

Laboratory Number: **15734480**

Sample **2** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW12**

Sample Matrix: **Ground Water**

Sample Date/Time: **07 December 2016**

Sample Received: **07 December 2016**

Analysis Complete: **06 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,3,5-Trimethylbenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
4-Chlorotoluene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
tert-Butylbenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,2,4-Trimethylbenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
sec-Butylbenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
p-Isopropyltoluene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,3-Dichlorobenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,4-Dichlorobenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
n-Butylbenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,2-Dichlorobenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,2-Dibromo-3-chloropropane	<2.0	ug/l	23/12/2016	Y Cov	GEO32
1,2,4-Trichlorobenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Hexachlorobutadiene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Naphthalene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,2,3-Trichlorobenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
MTBE	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Dibromofluoromethane	100.7	%Recovery	23/12/2016	N Cov	GEO32
Toluene-d8	91.9	%Recovery	23/12/2016	N Cov	GEO32
4-Bromofluorobenzene	92.6	%Recovery	23/12/2016	N Cov	GEO32
SVOC	Y	ug/l	14/12/2016	N Cov	GEO40
Phenol	2.5	ug/l	14/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	14/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	14/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Bis(2-chloroisopropyl)ether	<1.0	ug/l	14/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	14/12/2016	Y Cov	GEO40

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Report Number: **COV/1343093/2016**

Issue **2**

Laboratory Number: **15734480**

Sample **2** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW12**

Sample Matrix: **Ground Water**

Sample Date/Time: **07 December 2016**

Sample Received: **07 December 2016**

Analysis Complete: **06 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Isophorone	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	14/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	14/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	14/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Fluoranthene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	14/12/2016	Y Cov	GEO40

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Report Number: **COV/1343093/2016**

Issue **2**

Laboratory Number: **15734480**

Sample **2** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW12**

Sample Matrix: **Ground Water**

Sample Date/Time: **07 December 2016**

Sample Received: **07 December 2016**

Analysis Complete: **06 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chrysene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	14/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2-Fluorophenol	89.4	%Recovery	14/12/2016	N Cov	GEO40
Phenol-d6	68.9	%Recovery	14/12/2016	N Cov	GEO40
Nitrobenzene-d5	85.3	%Recovery	14/12/2016	N Cov	GEO40
2-Fluorobiphenyl	86.3	%Recovery	14/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	84.7	%Recovery	14/12/2016	N Cov	GEO40
Terphenyl-d14	100.5	%Recovery	14/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	09/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	20/12/2016	Y Cov	GEO20

Analyst Comments for 15734480:

This sample has been analysed for VOC Waters method GEO32, Pesticides method GEO47, BOD + ATU (5 day), Sodium Total as Na, Boron, Total as B outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: See attached SVOC-TIC Report.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG). For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **A. Zunzunegui**

Date: **06 January 2017**

Title: **Organic Team Leader**

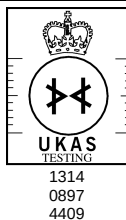
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Report Number: **COV/1343093/2016**

Issue **2**

Laboratory Number: **15734481**

Sample **3** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH26**

Sample Matrix: **Ground Water**

Sample Date/Time: **07 December 2016**

Sample Received: **07 December 2016**

Analysis Complete: **06 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	5.0	mg/l	21/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	09/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	19/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	19/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	0.022	mg/l	19/12/2016	Y Cov	WAS060
Fluoride	0.243	mg/l	16/12/2016	Y S	SUBCON
Aluminium, Total as Al	0.5	mg/l	20/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.698	mg/l	20/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	20/12/2016	Y Cov	WAS049
Boron, Total as B	2.46	mg/l	20/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	20/12/2016	Y Cov	WAS049
Calcium , Total as Ca	158	mg/l	20/12/2016	Y Cov	WAS049
Chromium , Total as Cr	0.006	mg/l	20/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	13	ug/l	19/12/2016	Y Cov	WAS060
Iron , Total as Fe	5.42	mg/l	20/12/2016	Y Cov	WAS049
Ferrous Iron	3.5	mg/l	21/12/2016	N Cov	WAS043
Ferric Iron	1.4	mg/l	21/12/2016	N Cov	WAS043
Lead , Total as Pb	0.009	mg/l	20/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	34.2	mg/l	20/12/2016	Y Cov	WAS049
Manganese , Total as Mn	1.78	mg/l	20/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	16/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.079	mg/l	20/12/2016	Y Cov	WAS049
Potassium , Total as K	53.6	mg/l	20/12/2016	Y Cov	WAS049
Sodium , Total as Na	306	mg/l	20/12/2016	Y Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	20/12/2016	Y Cov	WAS049
Zinc, Total as Zn	0.06	mg/l	20/12/2016	Y Cov	WAS049
pH	6.9	pH units	12/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	3430	uS/cm	12/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	1410	mg/l	12/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N	129	mg/l	09/12/2016	N Cov	WAS036
Chloride as Cl	412	mg/l	09/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	09/12/2016	N Cov	WAS036

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Report Number: **COV/1343093/2016**

Issue **2**

Laboratory Number: **15734481**

Sample **3** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH26**

Sample Matrix: **Ground Water**

Sample Date/Time: **07 December 2016**

Sample Received: **07 December 2016**

Analysis Complete: **06 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Phosphates , Total as P	0.25	mg/l	20/12/2016	Y	Cov	WAS049
Sulphate as SO4	23.3	mg/l	09/12/2016	N	Cov	WAS036
BOD + ATU (5 day)	10	mg/l	19/12/2016	Y	Cov	WAS001
COD (Total)	458	mg/l	12/12/2016	Y	Cov	WAS040
TOC (Filtered)	103	mg/l	09/12/2016	Y	Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	09/12/2016	N	Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	10/12/2016	N	Cov	WAS018
Sulphide as S	0.026	mg/l	21/12/2016	N	Cov	WAS033
Formaldehyde	0.103	mg/l	08/12/2016	N	Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	30/12/2016	Y	Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	30/12/2016	Y	Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	30/12/2016	N	Cov	GEO47
SVOC with TICs	Y	ug/l	15/12/2016	N	Cov	GEO40
Aldrin	<4	ng/l	30/12/2016	Y	Cov	GEO47
alpha-Endosulphan	<4	ng/l	30/12/2016	Y	Cov	GEO47
alpha-HCH	<3	ng/l	30/12/2016	Y	Cov	GEO47
beta-Endosulphan	<4	ng/l	30/12/2016	Y	Cov	GEO47
beta-HCH	<3	ng/l	30/12/2016	Y	Cov	GEO47
alpha-Chlordane	<3	ng/l	30/12/2016	Y	Cov	GEO47
Dichlobenil	4	ng/l	30/12/2016	Y	Cov	GEO47
Dieldrin	<4	ng/l	30/12/2016	Y	Cov	GEO47
Endrin	<4	ng/l	30/12/2016	Y	Cov	GEO47
gamma-HCH	<2.7	ng/l	30/12/2016	Y	Cov	GEO47
Heptachlor Epoxide	<4	ng/l	30/12/2016	Y	Cov	GEO47
Hexachlorobenzene	<2	ng/l	30/12/2016	Y	Cov	GEO47
Hexachlorobutadiene	<7	ng/l	30/12/2016	N	Cov	GEO47
Isodrin	<4	ng/l	30/12/2016	Y	Cov	GEO47
o,p - DDE	<2	ng/l	30/12/2016	Y	Cov	GEO47
p,p - DDE	<2	ng/l	30/12/2016	Y	Cov	GEO47
o,p - TDE	<2	ng/l	30/12/2016	Y	Cov	GEO47
p,p - TDE	<2	ng/l	30/12/2016	Y	Cov	GEO47
o,p - DDT	<2	ng/l	30/12/2016	Y	Cov	GEO47
p,p - DDT	<4	ng/l	30/12/2016	Y	Cov	GEO47

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Report Number: **COV/1343093/2016**

Issue **2**

Laboratory Number: **15734481**

Sample **3** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH26**

Sample Matrix: **Ground Water**

Sample Date/Time: **07 December 2016**

Sample Received: **07 December 2016**

Analysis Complete: **06 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Tecnazene	<10	ng/l	30/12/2016	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	30/12/2016	Y Cov	GEO47
Triallate	<10	ng/l	30/12/2016	Y Cov	GEO47
Trifluralin	<30	ng/l	30/12/2016	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	05/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	30/12/2016	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	30/12/2016	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	30/12/2016	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	30/12/2016	Y Cov	GEO47
Diazinon	<0.003	ug/l	30/12/2016	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	30/12/2016	Y Cov	GEO47
Dimethoate	<0.020	ug/l	30/12/2016	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	30/12/2016	Y Cov	GEO47
Fenthion	<0.002	ug/l	30/12/2016	Y Cov	GEO47
Malathion	<0.004	ug/l	30/12/2016	Y Cov	GEO47
Mevinphos	<0.020	ug/l	30/12/2016	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	30/12/2016	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	30/12/2016	Y Cov	GEO47
Phorate	<0.004	ug/l	30/12/2016	Y Cov	GEO47
Phosalone	<0.004	ug/l	30/12/2016	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	30/12/2016	Y Cov	GEO47
Propetamphos	<0.003	ug/l	30/12/2016	Y Cov	GEO47
Triazophos	<0.002	ug/l	30/12/2016	Y Cov	GEO47
2,3,6 - TBA	<5.00	ug/l	23/12/2016	Y Cov	GEO20
2,4 - D	<5.00	ug/l	23/12/2016	Y Cov	GEO20
2,4 - DB	<5.00	ug/l	23/12/2016	Y Cov	GEO20
2,4,5 - T	<5.00	ug/l	23/12/2016	Y Cov	GEO20
Benazolin	<5.00	ug/l	23/12/2016	Y Cov	GEO20
Bentazone	<5.00	ug/l	23/12/2016	Y Cov	GEO20
Chlopyralid	<5.00	ug/l	23/12/2016	Y Cov	GEO20
Bromoxynil	<5.00	ug/l	23/12/2016	Y Cov	GEO20
Dicamba	<5.00	ug/l	23/12/2016	Y Cov	GEO20
Dichlorprop	<5.00	ug/l	23/12/2016	Y Cov	GEO20

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Report Number: **COV/1343093/2016**

Issue **2**

Laboratory Number: **15734481**

Sample **3** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH26**

Sample Matrix: **Ground Water**

Sample Date/Time: **07 December 2016**

Sample Received: **07 December 2016**

Analysis Complete: **06 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fenoprop	<5.00	ug/l	23/12/2016	Y Cov	GEO20
Ioxynil	<5.00	ug/l	23/12/2016	Y Cov	GEO20
MCPA	<5.00	ug/l	23/12/2016	Y Cov	GEO20
MCPB	<5.00	ug/l	23/12/2016	Y Cov	GEO20
Triclopyr	<5.00	ug/l	23/12/2016	Y Cov	GEO20
Mecoprop	28.6	ug/l	23/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	16/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Xylenol, Total	12	ug/l	16/12/2016	N Cov	338
Naphthol	<0.10	ug/l	16/12/2016	N Cov	338
Phenol	2.2	ug/l	16/12/2016	N Cov	338
Trimethylphenol, Total	22	ug/l	16/12/2016	N Cov	338
Phenols, Total	36	ug/l	19/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<20	ug/l	13/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<20	ug/l	13/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<20	ug/l	13/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<20	ug/l	13/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<20	ug/l	13/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<20	ug/l	13/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<20	ug/l	13/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<20	ug/l	13/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<20	ug/l	13/12/2016	N Cov	GEO46
Aromatic EPH >C35 - C44	<20	ug/l	13/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<20	ug/l	13/12/2016	N Cov	GEO46

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Report Number: **COV/1343093/2016**

Issue **2**

Laboratory Number: **15734481**

Sample **3** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH26**

Sample Matrix: **Ground Water**

Sample Date/Time: **07 December 2016**

Sample Received: **07 December 2016**

Analysis Complete: **06 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
EPH >C10 - C44	<20	ug/l	13/12/2016	N	Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	Analyst Com	ug/l	15/12/2016	N	Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	Analyst Com	ug/l	15/12/2016	N	Cov	GEO45/GEO4
VPH/EPH >C5 - C44	Analyst Com	ug/l	15/12/2016	N	Cov	GEO45/GEO4
Acenaphthene	<0.04	ug/l	15/12/2016	Y	Cov	GEO19
Acenaphthylene	<0.04	ug/l	15/12/2016	Y	Cov	GEO19
Anthracene	<0.04	ug/l	15/12/2016	Y	Cov	GEO19
Benzo (a) anthracene	<0.04	ug/l	15/12/2016	Y	Cov	GEO19
Benzo (g,h,i) perylene	<0.04	ug/l	15/12/2016	Y	Cov	GEO19
Benzo (a) pyrene	<0.04	ug/l	15/12/2016	Y	Cov	GEO19
Benzo (b) fluoranthene	<0.04	ug/l	15/12/2016	Y	Cov	GEO19
Benzo (k) fluoranthene	<0.04	ug/l	15/12/2016	Y	Cov	GEO19
Chrysene	<0.04	ug/l	15/12/2016	Y	Cov	GEO19
Dibenz (a,h) anthracene	<0.04	ug/l	15/12/2016	Y	Cov	GEO19
Fluoranthene	<0.04	ug/l	15/12/2016	Y	Cov	GEO19
Fluorene	<0.04	ug/l	15/12/2016	Y	Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.04	ug/l	15/12/2016	Y	Cov	GEO19
Naphthalene	<0.04	ug/l	15/12/2016	Y	Cov	GEO19
Phenanthrene	<0.04	ug/l	15/12/2016	Y	Cov	GEO19
Pyrene	<0.04	ug/l	15/12/2016	Y	Cov	GEO19
PAH, Total	<0.04	ug/l	15/12/2016	N	Cov	GEO19
VOC	Y	ug/l	23/12/2016	N	Cov	GEO32
Dichlorodifluoromethane	<1.0	ug/l	23/12/2016	Y	Cov	GEO32
Chloromethane	<1.0	ug/l	23/12/2016	Y	Cov	GEO32
Chloroethane	<1.0	ug/l	23/12/2016	Y	Cov	GEO32
Bromomethane	<1.0	ug/l	23/12/2016	Y	Cov	GEO32
Trichlorofluoromethane	<1.0	ug/l	23/12/2016	Y	Cov	GEO32
1,1-Dichloroethene	<1.0	ug/l	23/12/2016	Y	Cov	GEO32
Dichloromethane	<1.0	ug/l	23/12/2016	Y	Cov	GEO32
1,1-Dichloroethane	<1.0	ug/l	23/12/2016	Y	Cov	GEO32
cis-1,2-Dichloroethene	<1.0	ug/l	23/12/2016	Y	Cov	GEO32
2,2-Dichloropropane	<1.0	ug/l	23/12/2016	N	Cov	GEO32
Chloroform	<1.0	ug/l	23/12/2016	Y	Cov	GEO32

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Report Number: **COV/1343093/2016**

Issue **2**

Laboratory Number: **15734481**

Sample **3** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH26**

Sample Matrix: **Ground Water**

Sample Date/Time: **07 December 2016**

Sample Received: **07 December 2016**

Analysis Complete: **06 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bromochloromethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,1,1-Trichloroethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,1-Dichloropropene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,2-Dichloroethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Benzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,2-Dichloropropane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Trichloroethene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Bromodichloromethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Dibromomethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
cis-1,3-Dichloropropene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Toluene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
trans-1,3-Dichloropropene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,1,2-Trichloroethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Carbon Tetrachloride	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Vinyl Chloride	<0.5	ug/l	23/12/2016	Y Cov	GEO32
1,3-Dichloropropane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Tetrachloroethene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Dibromochloromethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,2-Dibromoethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Chlorobenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,1,1,2-Tetrachloroethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Ethyl Benzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
m&p-Xylene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
o-Xylene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Styrene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Bromoform	<1.0	ug/l	23/12/2016	Y Cov	GEO32
trans-1,2-Dichloroethene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Isopropylbenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,1,2,2-Tetrachloroethane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,2,3-Trichloropropane	<1.0	ug/l	23/12/2016	Y Cov	GEO32
n-Propylbenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Bromobenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
2-Chlorotoluene	<1.0	ug/l	23/12/2016	Y Cov	GEO32

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Report Number: **COV/1343093/2016**

Issue **2**

Laboratory Number: **15734481**

Sample **3** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH26**

Sample Matrix: **Ground Water**

Sample Date/Time: **07 December 2016**

Sample Received: **07 December 2016**

Analysis Complete: **06 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,3,5-Trimethylbenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
4-Chlorotoluene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
tert-Butylbenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,2,4-Trimethylbenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
sec-Butylbenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
p-Isopropyltoluene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,3-Dichlorobenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,4-Dichlorobenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
n-Butylbenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,2-Dichlorobenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,2-Dibromo-3-chloropropane	<2.0	ug/l	23/12/2016	Y Cov	GEO32
1,2,4-Trichlorobenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Hexachlorobutadiene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Naphthalene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
1,2,3-Trichlorobenzene	<1.0	ug/l	23/12/2016	Y Cov	GEO32
MTBE	<1.0	ug/l	23/12/2016	Y Cov	GEO32
Dibromofluoromethane	100.0	%Recovery	23/12/2016	N Cov	GEO32
Toluene-d8	102.4	%Recovery	23/12/2016	N Cov	GEO32
4-Bromofluorobenzene	97.2	%Recovery	23/12/2016	N Cov	GEO32
SVOC	Y	ug/l	14/12/2016	N Cov	GEO40
Phenol	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<2.0	ug/l	14/12/2016	Y Cov	GEO40
2-Chlorophenol	<2.0	ug/l	14/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
2-Methylphenol	<2.0	ug/l	14/12/2016	Y Cov	GEO40
3&4-Methylphenol	<2.0	ug/l	14/12/2016	N Cov	GEO40
Dibenzofuran	<2.0	ug/l	14/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Bis(2-chloroisopropyl)ether	<2.0	ug/l	14/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Hexachloroethane	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Nitrobenzene	<2.0	ug/l	14/12/2016	Y Cov	GEO40

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Report Number: **COV/1343093/2016**

Issue **2**

Laboratory Number: **15734481**

Sample **3** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH26**

Sample Matrix: **Ground Water**

Sample Date/Time: **07 December 2016**

Sample Received: **07 December 2016**

Analysis Complete: **06 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Isophorone	<2.0	ug/l	14/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<2.0	ug/l	14/12/2016	Y Cov	GEO40
2-Nitrophenol	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<2.0	ug/l	14/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<2.0	ug/l	14/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Naphthalene	<4.0	ug/l	14/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<2.0	ug/l	14/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<2.0	ug/l	14/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<2.0	ug/l	14/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Dimethylphthalate	<2.0	ug/l	14/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Acenaphthylene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Acenaphthene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Diethylphthalate	<2.0	ug/l	14/12/2016	Y Cov	GEO40
4-Nitrophenol	<10.0	ug/l	14/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Fluorene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Diphenylamine	<2.0	ug/l	14/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Hexachlorobenzene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Pentachlorophenol	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Phenanthrene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Anthracene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Fluoranthene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Pyrene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<2.0	ug/l	14/12/2016	Y Cov	GEO40

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Report Number: **COV/1343093/2016**

Issue **2**

Laboratory Number: **15734481**

Sample **3** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH26**

Sample Matrix: **Ground Water**

Sample Date/Time: **07 December 2016**

Sample Received: **07 December 2016**

Analysis Complete: **06 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chrysene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<10.0	ug/l	14/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
2-Fluorophenol	89.1	%Recovery	14/12/2016	N Cov	GEO40
Phenol-d6	82.3	%Recovery	14/12/2016	N Cov	GEO40
Nitrobenzene-d5	85.5	%Recovery	14/12/2016	N Cov	GEO40
2-Fluorobiphenyl	84.6	%Recovery	14/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	102.3	%Recovery	14/12/2016	N Cov	GEO40
Terphenyl-d14	103.2	%Recovery	14/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	09/12/2016	N Cov	WAS036
Fluoroxypyr	<5.00	ug/l	23/12/2016	Y Cov	GEO20

Analyst Comments for 15734481:

This sample has been analysed for VOC Waters method GEO32, Pesticides method GEO47, BOD + ATU (5 day), Sodium Total as Na, Boron, Total as B outside recommended stability times. It is therefore possible that the results provided may be compromised. Raised reporting limits for EPH Waters and PAH due to the nature of the sample matrix. GEO40 SVOC Waters: Reporting limits raised due to the nature of the sample matrix. See attached SVOC-TIC Report.

304 VPH Waters: Indicative results only due to AQC failure: HBD - 13ug/l, HBE - 13ug/l, HBF - <10ug/l, HCD - <10ug/l, HBG - 13ug/l, HBH - <10ug/l, HBJ - <10ug/l, HBK - <10ug/l, HBL - <10ug/l, 08D - <20ug/l, 08L - <20ug/l, 07H - <20ug/l. Low surrogate recover due to sample matrix interference.

Acid Herbicides reporting limits raised due to nature of sample matrix.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **A. Zunzunegui**

Date: **06 January 2017**

Title: **Organic Team Leader**

ALS Environmental Ltd

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Mr Downes
SKM Ireland c/o Jacobs
Engineering Ireland
Jacobs
Merrion House
Merrion Road
Dublin 4 South Dublin

04 January 2017

Test Report: COV/1343597/2016

Dear Mr Downes

Analysis of your sample(s) submitted on 08 December 2016 is now complete and we have pleasure in enclosing the appropriate test report(s).

An invoice for the analysis carried out will be sent under separate cover.

Should you have any queries regarding this report(s) or any part of our service, please contact Customer Services on +44 (0)24 7642 1213 who will be happy to discuss your requirements.

If you would like to arrange any further analysis, please contact Customer Services. To arrange container delivery or sample collection, please call the Couriers Department directly on 024 7685 6562.

Thank you for using ALS Environmental Ltd and we look forward to receiving your next samples.

Yours Sincerely,

Signed: 

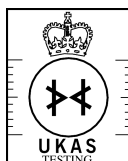
Name: C. Law

Title: Inorganics Operations Manager



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Report Summary



1314
0897
4409



Mr Ultan Downes
SKM Ireland c/o Jacobs
Engineering Ireland
Jacobs
Merrion House
Merrion Road
Dublin 4
South Dublin

Date of Issue: **04 January 2017**

Report Number: **COV/1343597/2016** Issue **2**

Job Description: Kerdiffstown Landfill

Number of Samples
included in this report **12**

Job Received: **08 December 2016**

Number of Test Results
included in this report **3300**

Analysis Commenced: **09 December 2016**

Signed:

Name: **C. Law**

Date: **04 January 2017**

Title: **Inorganics Operations Manager**

ALS Environmental Ltd was not responsible for sampling unless otherwise stated. Sampling is not covered by our UKAS accreditation.

Information on the methods of analysis and performance characteristics are available on request.

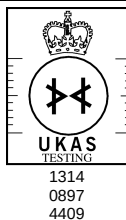
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation. The results relate only to the items tested.

Tests marked 'Not UKAS Accredited' in this Report/Certificate are not included in the UKAS Accreditation Schedule for our laboratory.

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Certificate of Analysis



Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738162**

Sample **1** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW01**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	22/12/2016	N Cov	WAS043
Nitrate as NO3	13.9	mg/l	10/12/2016	Y Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	19/12/2016	N Cov	WAS060
Selenium Ultra Low Total as Se	0.0013	mg/l	19/12/2016	N Cov	WAS060
Arsenic, Ultra Low Total as As	<0.0010	mg/l	19/12/2016	N Cov	WAS060
Fluoride	0.114	mg/l	16/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Aluminium, Total as Al	<0.1	mg/l	21/12/2016	N Cov	WAS049
Barium, Total as Ba	0.074	mg/l	21/12/2016	N Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	21/12/2016	N Cov	WAS049
Boron, Total as B	<0.23	mg/l	21/12/2016	N Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	21/12/2016	N Cov	WAS049
Calcium , Total as Ca	108	mg/l	22/12/2016	N Cov	WAS049
Chromium , Total as Cr	<0.002	mg/l	21/12/2016	N Cov	WAS049
Copper, Ultra-low Total as Cu	<1.9	ug/l	19/12/2016	N Cov	WAS060
Iron , Total as Fe	<0.23	mg/l	21/12/2016	N Cov	WAS049
Ferrous Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	21/12/2016	N Cov	WAS049
Magnesium, Total as Mg	12.5	mg/l	21/12/2016	N Cov	WAS049
Manganese , Total as Mn	<0.007	mg/l	21/12/2016	N Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	17/12/2016	N Cov	WAS013
Nickel, Total as Ni	<0.003	mg/l	21/12/2016	N Cov	WAS049
Potassium , Total as K	1.48	mg/l	21/12/2016	N Cov	WAS049
Sodium , Total as Na	15.0	mg/l	21/12/2016	N Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	21/12/2016	N Cov	WAS049
Zinc, Total as Zn	<0.018	mg/l	21/12/2016	N Cov	WAS049
pH	8.2	pH units	12/12/2016	N Cov	WAS039
Conductivity- Electrical 20C	636	uS/cm	12/12/2016	N Cov	WAS039
Alkalinity as CaCO3	301	mg/l	12/12/2016	N Cov	WAS025
Ammoniacal Nitrogen as N (LL)	<0.06	mg/l	10/12/2016	N Cov	WAS067

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Certificate of Analysis



Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738162**

Sample **1** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW01**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	33.5	mg/l	10/12/2016	Y Cov	WAS036
Nitrite as N	<0.08	mg/l	10/12/2016	Y Cov	WAS036
Phosphates , Total as P	<0.120	mg/l	21/12/2016	N Cov	WAS049
Sulphate as SO4	11.6	mg/l	10/12/2016	Y Cov	WAS036
BOD + ATU (5 day)	<1	mg/l	19/12/2016	Y Cov	WAS001
COD (Total)	13.0	mg/l	12/12/2016	Y Cov	WAS040
TOC (Filtered)	1.3	mg/l	12/12/2016	N Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	15/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	10/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	21/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	03/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	03/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	03/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	16/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	03/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	03/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	03/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	03/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	03/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	03/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	03/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	03/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	03/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	03/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	03/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	03/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	03/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	03/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	03/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	03/01/2017	Y Cov	GEO47

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Certificate of Analysis



Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738162**

Sample **1** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW01**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	03/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	03/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	03/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	03/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	03/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	03/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	03/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	03/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	21/12/2016	Y Cov	GEO20

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Certificate of Analysis



Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738162**

Sample **1** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW01**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	21/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	21/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	21/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	14/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Naphthol	<0.10	ug/l	14/12/2016	N Cov	338
Phenol	<0.10	ug/l	14/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	14/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	11	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	11	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	15/12/2016	N Cov	GEO46

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Certificate of Analysis



Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738162**

Sample **1** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW01**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
EPH >C10 - C44	11	ug/l	15/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	11	ug/l	15/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	15/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	11	ug/l	15/12/2016	N Cov	GEO45/GEO4
Acenaphthene	0.013	ug/l	15/12/2016	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Anthracene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Chrysene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Fluoranthene	0.041	ug/l	15/12/2016	Y Cov	GEO19
Fluorene	0.016	ug/l	15/12/2016	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Naphthalene	0.038	ug/l	15/12/2016	Y Cov	GEO19
Phenanthrene	0.033	ug/l	15/12/2016	Y Cov	GEO19
Pyrene	0.016	ug/l	15/12/2016	Y Cov	GEO19
PAH, Total	0.156	ug/l	15/12/2016	N Cov	GEO19
SVOC	Y	ug/l	14/12/2016	N Cov	GEO40
Phenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	14/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	14/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	14/12/2016	Y Cov	GEO40

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738162**

Sample **1** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW01**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	14/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	14/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	14/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	14/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	14/12/2016	Y Cov	GEO40

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Certificate of Analysis



Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738162**

Sample **1** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW01**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	14/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2-Fluorophenol	88.5	%Recovery	14/12/2016	N Cov	GEO40
Phenol-d6	72.8	%Recovery	14/12/2016	N Cov	GEO40
Nitrobenzene-d5	81.6	%Recovery	14/12/2016	N Cov	GEO40
2-Fluorobiphenyl	82.1	%Recovery	14/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	80.6	%Recovery	14/12/2016	N Cov	GEO40
Terphenyl-d14	87.2	%Recovery	14/12/2016	N Cov	GEO40
Nitrite as N02	<0.28	mg/l	12/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	21/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738162**

Sample **1** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW01**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	29/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	29/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	29/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738162**

Sample **1** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW01**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	29/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	29/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	29/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	29/12/2016	Y S	SUBCON

Analyst Comments for 15738162:

This sample has been analysed for Pesticides method GEO47, BOD + ATU (5 day), Sodium Total as Na, Boron, Total as B outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: See attached SVOC-TIC Report.

{/*}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.{*/}

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **C. Law**

Date: **04 January 2017**

Title: **Inorganics Operations Manager**

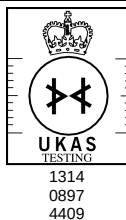
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Certificate of Analysis



Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738163**

Sample **2** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW02**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	22/12/2016	N Cov	WAS043
Nitrate as NO3	12.6	mg/l	10/12/2016	Y Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	19/12/2016	N Cov	WAS060
Selenium Ultra Low Total as Se	0.0012	mg/l	19/12/2016	N Cov	WAS060
Arsenic, Ultra Low Total as As	<0.0010	mg/l	19/12/2016	N Cov	WAS060
Fluoride	<1.00	mg/l	29/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Aluminium, Total as Al	<0.1	mg/l	21/12/2016	N Cov	WAS049
Barium, Total as Ba	0.069	mg/l	21/12/2016	N Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	21/12/2016	N Cov	WAS049
Boron, Total as B	<0.23	mg/l	21/12/2016	N Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	21/12/2016	N Cov	WAS049
Calcium , Total as Ca	99.9	mg/l	21/12/2016	N Cov	WAS049
Chromium , Total as Cr	<0.002	mg/l	21/12/2016	N Cov	WAS049
Copper, Ultra-low Total as Cu	<1.9	ug/l	19/12/2016	N Cov	WAS060
Iron , Total as Fe	<0.23	mg/l	21/12/2016	N Cov	WAS049
Ferrous Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	21/12/2016	N Cov	WAS049
Magnesium, Total as Mg	10.8	mg/l	21/12/2016	N Cov	WAS049
Manganese , Total as Mn	0.007	mg/l	21/12/2016	N Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	17/12/2016	N Cov	WAS013
Nickel, Total as Ni	<0.003	mg/l	21/12/2016	N Cov	WAS049
Potassium , Total as K	1.47	mg/l	21/12/2016	N Cov	WAS049
Sodium , Total as Na	9.30	mg/l	21/12/2016	N Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	21/12/2016	N Cov	WAS049
Zinc, Total as Zn	<0.018	mg/l	21/12/2016	N Cov	WAS049
pH	8.2	pH units	12/12/2016	N Cov	WAS039
Conductivity- Electrical 20C	565	uS/cm	12/12/2016	N Cov	WAS039
Alkalinity as CaCO3	287	mg/l	12/12/2016	N Cov	WAS025
Ammoniacal Nitrogen as N (LL)	<0.06	mg/l	10/12/2016	N Cov	WAS067

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738163**

Sample **2** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW02**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	17.3	mg/l	10/12/2016	Y Cov	WAS036
Nitrite as N	<0.08	mg/l	10/12/2016	Y Cov	WAS036
Phosphates , Total as P	<0.120	mg/l	21/12/2016	N Cov	WAS049
Sulphate as SO4	11.6	mg/l	10/12/2016	Y Cov	WAS036
BOD + ATU (5 day)	<1	mg/l	19/12/2016	Y Cov	WAS001
COD (Total)	18.0	mg/l	14/12/2016	Y Cov	WAS040
TOC (Filtered)	1.1	mg/l	12/12/2016	N Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	15/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	10/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	21/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	03/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	03/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	03/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	16/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	03/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	03/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	03/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	03/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	03/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	03/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	03/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	03/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	03/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	03/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	03/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	03/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	03/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	03/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	03/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	03/01/2017	Y Cov	GEO47

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738163**

Sample **2** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW02**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	03/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	03/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	03/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	03/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	03/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	03/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	03/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	03/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	21/12/2016	Y Cov	GEO20

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Issue **2**

Laboratory Number: **15738163**

Sample **2** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW02**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	21/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	21/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	21/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	14/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Naphthol	<0.10	ug/l	14/12/2016	N Cov	338
Phenol	<0.10	ug/l	14/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	14/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	15/12/2016	N Cov	GEO46

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Issue **2**

Laboratory Number: **15738163**

Sample **2** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW02**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	15/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	15/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	15/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Anthracene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Chrysene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Fluoranthene	0.032	ug/l	15/12/2016	Y Cov	GEO19
Fluorene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Naphthalene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Phenanthrene	0.019	ug/l	15/12/2016	Y Cov	GEO19
Pyrene	0.014	ug/l	15/12/2016	Y Cov	GEO19
PAH, Total	0.064	ug/l	15/12/2016	N Cov	GEO19
SVOC	Y	ug/l	14/12/2016	N Cov	GEO40
Phenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	14/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	14/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	14/12/2016	Y Cov	GEO40

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Certificate of Analysis



Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738163**

Sample **2** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW02**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	14/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	14/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	14/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	14/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	14/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	14/12/2016	Y Cov	GEO40

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738163**

Sample **2** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW02**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	14/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	14/12/2016	Y Cov	GEO40
2-Fluorophenol	86.3	%Recovery	14/12/2016	N Cov	GEO40
Phenol-d6	67.2	%Recovery	14/12/2016	N Cov	GEO40
Nitrobenzene-d5	74.0	%Recovery	14/12/2016	N Cov	GEO40
2-Fluorobiphenyl	69.6	%Recovery	14/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	78.5	%Recovery	14/12/2016	N Cov	GEO40
Terphenyl-d14	81.8	%Recovery	14/12/2016	N Cov	GEO40
Nitrite as N02	<0.28	mg/l	12/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	21/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738163**

Sample **2** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW02**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	29/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	29/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	29/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738163**

Sample **2** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW02**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	29/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	29/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	29/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	29/12/2016	Y S	SUBCON

Analyst Comments for 15738163:

This sample has been analysed for Pesticides method GEO47, BOD + ATU (5 day), Sodium Total as Na, Boron, Total as B outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: See attached SVOC-TIC Report. {*/}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.{*/}

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG). For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **C. Law**

Date: **04 January 2017**

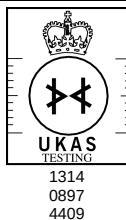
Title: **Inorganics Operations Manager**

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Certificate of Analysis



Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738164**

Sample **3** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW03**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	22/12/2016	N Cov	WAS043
Nitrate as NO3	12.9	mg/l	10/12/2016	Y Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	20/12/2016	N Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	20/12/2016	N Cov	WAS060
Arsenic, Ultra Low Total as As	<0.0010	mg/l	20/12/2016	N Cov	WAS060
Fluoride	0.107	mg/l	16/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Aluminium, Total as Al	<0.1	mg/l	21/12/2016	N Cov	WAS049
Barium, Total as Ba	0.069	mg/l	21/12/2016	N Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	21/12/2016	N Cov	WAS049
Boron, Total as B	<0.23	mg/l	21/12/2016	N Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	21/12/2016	N Cov	WAS049
Calcium , Total as Ca	99.5	mg/l	21/12/2016	N Cov	WAS049
Chromium , Total as Cr	<0.002	mg/l	21/12/2016	N Cov	WAS049
Copper, Ultra-low Total as Cu	<1.9	ug/l	20/12/2016	N Cov	WAS060
Iron , Total as Fe	<0.23	mg/l	21/12/2016	N Cov	WAS049
Ferrous Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	21/12/2016	N Cov	WAS049
Magnesium, Total as Mg	10.9	mg/l	21/12/2016	N Cov	WAS049
Manganese , Total as Mn	0.010	mg/l	21/12/2016	N Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	17/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.010	mg/l	21/12/2016	N Cov	WAS049
Potassium , Total as K	1.61	mg/l	21/12/2016	N Cov	WAS049
Sodium , Total as Na	9.11	mg/l	21/12/2016	N Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	21/12/2016	N Cov	WAS049
Zinc, Total as Zn	0.02	mg/l	21/12/2016	N Cov	WAS049
pH	8.2	pH units	12/12/2016	N Cov	WAS039
Conductivity- Electrical 20C	563	uS/cm	12/12/2016	N Cov	WAS039
Alkalinity as CaCO3	286	mg/l	12/12/2016	N Cov	WAS025
Ammoniacal Nitrogen as N (LL)	<0.06	mg/l	10/12/2016	N Cov	WAS067

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738164**

Sample **3** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW03**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	18.9	mg/l	10/12/2016	Y Cov	WAS036
Nitrite as N	<0.08	mg/l	10/12/2016	Y Cov	WAS036
Phosphates , Total as P	<0.120	mg/l	21/12/2016	N Cov	WAS049
Sulphate as SO4	11.6	mg/l	10/12/2016	Y Cov	WAS036
BOD + ATU (5 day)	<1	mg/l	19/12/2016	Y Cov	WAS001
COD (Total)	<11.0	mg/l	14/12/2016	Y Cov	WAS040
TOC (Filtered)	1.1	mg/l	12/12/2016	N Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	15/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	10/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	21/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	03/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	03/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	03/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	16/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	03/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	03/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	03/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	03/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	03/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	03/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	03/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	03/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	03/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	03/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	03/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	03/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	03/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	03/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	03/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	03/01/2017	Y Cov	GEO47

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738164**

Sample **3** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW03**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	03/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	03/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	03/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	03/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	03/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	03/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	03/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	03/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4,5 - T	<5.00	ug/l	23/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	21/12/2016	Y Cov	GEO20

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Certificate of Analysis



Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738164**

Sample **3** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW03**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	21/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	21/12/2016	Y Cov	GEO20
MCPB	<5.00	ug/l	23/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	21/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	14/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Naphthol	<0.10	ug/l	14/12/2016	N Cov	338
Phenol	<0.10	ug/l	14/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	14/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	15/12/2016	N Cov	GEO46

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738164**

Sample **3** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW03**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	15/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	15/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	15/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Anthracene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Chrysene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Fluoranthene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Fluorene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Naphthalene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Phenanthrene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Pyrene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
PAH, Total	<0.01	ug/l	15/12/2016	N Cov	GEO19
SVOC	Y	ug/l	15/12/2016	N Cov	GEO40
Phenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Chlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Methylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
3&4-Methylphenol	<4.0	ug/l	15/12/2016	N Cov	GEO40
Dibenzofuran	<4.0	ug/l	15/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738164**

Sample **3** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW03**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachloroethane	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Nitrobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Isophorone	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Nitrophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Naphthalene	<8.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Dimethylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Acenaphthylene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Acenaphthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Diethylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
4-Nitrophenol	<20.0	ug/l	15/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Fluorene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Diphenylamine	<4.0	ug/l	15/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Pentachlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Phenanthrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738164**

Sample **3** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW03**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Chrysene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<20.0	ug/l	15/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Fluorophenol	103.0	%Recovery	15/12/2016	N Cov	GEO40
Phenol-d6	88.7	%Recovery	15/12/2016	N Cov	GEO40
Nitrobenzene-d5	89.2	%Recovery	15/12/2016	N Cov	GEO40
2-Fluorobiphenyl	89.5	%Recovery	15/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	68.8	%Recovery	15/12/2016	N Cov	GEO40
Terphenyl-d14	94.2	%Recovery	15/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	12/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	21/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738164**

Sample **3** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW03**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	29/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	29/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	29/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Certificate of Analysis



Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738164**

Sample **3** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW03**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	29/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	29/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	29/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	29/12/2016	Y S	SUBCON

Analyst Comments for 15738164:

This sample has been analysed for Pesticides method GEO47, BOD + ATU (5 day), Magnesium, Total as Mg, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: Raised reporting limits due to insufficient sample as repeat extraction performed due to an original extraction error therefore extraction performed on reduced volumes. See attached SVOC-TIC Report.
{/*}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.{*/}
Acid Herbicides reporting limits raised due to nature of sample matrix.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **C. Law**

Date: **04 January 2017**

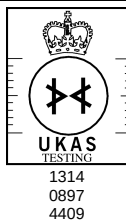
Title: **Inorganics Operations Manager**

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738165**

Sample **4** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW04**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	22/12/2016	N Cov	WAS043
Nitrate as NO3	12.9	mg/l	10/12/2016	Y Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	20/12/2016	N Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	20/12/2016	N Cov	WAS060
Arsenic, Ultra Low Total as As	<0.0010	mg/l	20/12/2016	N Cov	WAS060
Fluoride	0.116	mg/l	16/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Aluminium, Total as Al	<0.1	mg/l	21/12/2016	N Cov	WAS049
Barium, Total as Ba	0.069	mg/l	21/12/2016	N Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	21/12/2016	N Cov	WAS049
Boron, Total as B	<0.23	mg/l	21/12/2016	N Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	21/12/2016	N Cov	WAS049
Calcium , Total as Ca	101	mg/l	21/12/2016	N Cov	WAS049
Chromium , Total as Cr	<0.002	mg/l	21/12/2016	N Cov	WAS049
Copper, Ultra-low Total as Cu	<1.9	ug/l	20/12/2016	N Cov	WAS060
Iron , Total as Fe	<0.23	mg/l	21/12/2016	N Cov	WAS049
Ferrous Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	21/12/2016	N Cov	WAS049
Magnesium, Total as Mg	10.9	mg/l	21/12/2016	N Cov	WAS049
Manganese , Total as Mn	0.008	mg/l	21/12/2016	N Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	17/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.005	mg/l	21/12/2016	N Cov	WAS049
Potassium , Total as K	1.45	mg/l	21/12/2016	N Cov	WAS049
Sodium , Total as Na	8.08	mg/l	21/12/2016	N Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	21/12/2016	N Cov	WAS049
Zinc, Total as Zn	<0.018	mg/l	21/12/2016	N Cov	WAS049
pH	8.2	pH units	12/12/2016	N Cov	WAS039
Conductivity- Electrical 20C	564	uS/cm	12/12/2016	N Cov	WAS039
Alkalinity as CaCO3	286	mg/l	12/12/2016	N Cov	WAS025
Ammoniacal Nitrogen as N (LL)	<0.06	mg/l	10/12/2016	N Cov	WAS067

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738165**

Sample **4** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW04**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	18.3	mg/l	10/12/2016	Y Cov	WAS036
Nitrite as N	<0.08	mg/l	10/12/2016	Y Cov	WAS036
Phosphates , Total as P	<0.120	mg/l	21/12/2016	N Cov	WAS049
Sulphate as SO4	11.8	mg/l	10/12/2016	Y Cov	WAS036
BOD + ATU (5 day)	<1	mg/l	19/12/2016	Y Cov	WAS001
COD (Total)	<11.0	mg/l	13/12/2016	Y Cov	WAS040
TOC (Filtered)	1.1	mg/l	12/12/2016	N Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	15/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	10/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	21/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	03/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	03/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	03/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	16/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	03/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	03/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	03/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	03/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	03/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	03/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	03/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	03/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	03/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	03/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	03/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	03/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	03/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	03/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	03/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	03/01/2017	Y Cov	GEO47

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738165**

Sample **4** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW04**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	03/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	03/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	03/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	03/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	03/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	03/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	03/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	03/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	21/12/2016	Y Cov	GEO20

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738165**

Sample **4** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW04**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	21/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	21/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	21/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	14/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Naphthol	<0.10	ug/l	14/12/2016	N Cov	338
Phenol	<0.10	ug/l	14/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	14/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	15/12/2016	N Cov	GEO46

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Issue **2**

Laboratory Number: **15738165**

Sample **4** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW04**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	15/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	15/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	15/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Anthracene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Chrysene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Fluoranthene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Fluorene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Naphthalene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Phenanthrene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Pyrene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
PAH, Total	<0.01	ug/l	15/12/2016	N Cov	GEO19
SVOC	Y	ug/l	15/12/2016	N Cov	GEO40
Phenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Chlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Methylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
3&4-Methylphenol	<4.0	ug/l	15/12/2016	N Cov	GEO40
Dibenzofuran	<4.0	ug/l	15/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40

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Issue **2**

Laboratory Number: **15738165**

Sample **4** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW04**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachloroethane	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Nitrobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Isophorone	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Nitrophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Naphthalene	<8.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Dimethylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Acenaphthylene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Acenaphthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Diethylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
4-Nitrophenol	<20.0	ug/l	15/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Fluorene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Diphenylamine	<4.0	ug/l	15/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Pentachlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Phenanthrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738165**

Sample **4** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW04**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Chrysene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<20.0	ug/l	15/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Fluorophenol	103.4	%Recovery	15/12/2016	N Cov	GEO40
Phenol-d6	86.0	%Recovery	15/12/2016	N Cov	GEO40
Nitrobenzene-d5	80.1	%Recovery	15/12/2016	N Cov	GEO40
2-Fluorobiphenyl	76.9	%Recovery	15/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	75.6	%Recovery	15/12/2016	N Cov	GEO40
Terphenyl-d14	85.6	%Recovery	15/12/2016	N Cov	GEO40
Nitrite as N02	<0.28	mg/l	12/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	21/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738165**

Sample **4** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW04**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	29/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Bromoform	0.82	ug/l	29/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	29/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738165**

Sample **4** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW04**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	29/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	29/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	29/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	29/12/2016	Y S	SUBCON

Analyst Comments for 15738165:

This sample has been analysed for Pesticides method GEO47, BOD + ATU (5 day), Magnesium, Total as Mg, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: Raised reporting limits due to insufficient sample as repeat extraction performed due to an original extraction error therefore extraction performed on reduced volumes. See attached SVOC-TIC Report.
[*]The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.[*]

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **C. Law**

Date: **04 January 2017**

Title: **Inorganics Operations Manager**

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Certificate of Analysis



Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738166**

Sample **5** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW05**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	22/12/2016	N Cov	WAS043
Nitrate as NO3	12.7	mg/l	10/12/2016	Y Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	20/12/2016	N Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	20/12/2016	N Cov	WAS060
Arsenic, Ultra Low Total as As	<0.0010	mg/l	20/12/2016	N Cov	WAS060
Fluoride	0.067	mg/l	16/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Aluminium, Total as Al	<0.1	mg/l	21/12/2016	N Cov	WAS049
Barium, Total as Ba	0.067	mg/l	21/12/2016	N Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	21/12/2016	N Cov	WAS049
Boron, Total as B	<0.23	mg/l	21/12/2016	N Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	21/12/2016	N Cov	WAS049
Calcium , Total as Ca	99.1	mg/l	21/12/2016	N Cov	WAS049
Chromium , Total as Cr	<0.002	mg/l	21/12/2016	N Cov	WAS049
Copper, Ultra-low Total as Cu	<1.9	ug/l	20/12/2016	N Cov	WAS060
Iron , Total as Fe	<0.23	mg/l	21/12/2016	N Cov	WAS049
Ferrous Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	21/12/2016	N Cov	WAS049
Magnesium, Total as Mg	10.6	mg/l	21/12/2016	N Cov	WAS049
Manganese , Total as Mn	0.016	mg/l	21/12/2016	N Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	17/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.004	mg/l	21/12/2016	N Cov	WAS049
Potassium , Total as K	1.41	mg/l	21/12/2016	N Cov	WAS049
Sodium , Total as Na	8.46	mg/l	21/12/2016	N Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	21/12/2016	N Cov	WAS049
Zinc, Total as Zn	<0.018	mg/l	21/12/2016	N Cov	WAS049
pH	8.2	pH units	12/12/2016	N Cov	WAS039
Conductivity- Electrical 20C	563	uS/cm	12/12/2016	N Cov	WAS039
Alkalinity as CaCO3	286	mg/l	12/12/2016	N Cov	WAS025
Ammoniacal Nitrogen as N (LL)	<0.06	mg/l	10/12/2016	N Cov	WAS067

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738166**

Sample **5** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW05**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	18.4	mg/l	10/12/2016	Y Cov	WAS036
Nitrite as N	<0.08	mg/l	10/12/2016	Y Cov	WAS036
Phosphates , Total as P	<0.120	mg/l	21/12/2016	N Cov	WAS049
Sulphate as SO4	11.8	mg/l	10/12/2016	Y Cov	WAS036
BOD + ATU (5 day)	<1	mg/l	19/12/2016	Y Cov	WAS001
COD (Total)	<11.0	mg/l	13/12/2016	Y Cov	WAS040
TOC (Filtered)	1.0	mg/l	12/12/2016	N Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	15/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	10/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	21/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	03/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	03/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	03/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	16/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	03/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	03/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	03/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	03/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	03/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	03/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	03/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	03/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	03/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	03/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	03/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	03/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	03/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	03/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	03/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	03/01/2017	Y Cov	GEO47

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Issue **2**

Laboratory Number: **15738166**

Sample **5** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW05**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	03/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	03/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	03/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	03/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	03/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	03/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	03/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	03/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	21/12/2016	Y Cov	GEO20

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Issue **2**

Laboratory Number: **15738166**

Sample **5** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW05**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	21/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	21/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	21/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	14/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Naphthol	<0.10	ug/l	14/12/2016	N Cov	338
Phenol	<0.10	ug/l	14/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	14/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	13/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	15/12/2016	N Cov	GEO46

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Issue **2**

Laboratory Number: **15738166**

Sample **5** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW05**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	15/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	15/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	15/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Anthracene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Chrysene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Fluoranthene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Fluorene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Naphthalene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Phenanthrene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Pyrene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
PAH, Total	<0.01	ug/l	15/12/2016	N Cov	GEO19
SVOC	Y	ug/l	15/12/2016	N Cov	GEO40
Phenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Chlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Methylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
3&4-Methylphenol	<4.0	ug/l	15/12/2016	N Cov	GEO40
Dibenzofuran	<4.0	ug/l	15/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738166**

Sample **5** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW05**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachloroethane	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Nitrobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Isophorone	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Nitrophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Naphthalene	<8.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Dimethylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Acenaphthylene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Acenaphthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Diethylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
4-Nitrophenol	<20.0	ug/l	15/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Fluorene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Diphenylamine	<4.0	ug/l	15/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Pentachlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Phenanthrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738166**

Sample **5** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW05**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Chrysene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<20.0	ug/l	15/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Fluorophenol	104.8	%Recovery	15/12/2016	N Cov	GEO40
Phenol-d6	83.5	%Recovery	15/12/2016	N Cov	GEO40
Nitrobenzene-d5	89.2	%Recovery	15/12/2016	N Cov	GEO40
2-Fluorobiphenyl	87.4	%Recovery	15/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	80.5	%Recovery	15/12/2016	N Cov	GEO40
Terphenyl-d14	96.9	%Recovery	15/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	12/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	21/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738166**

Sample **5** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW05**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	29/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	29/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	29/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738166**

Sample **5** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW05**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	29/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	29/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	29/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	29/12/2016	Y S	SUBCON

Analyst Comments for 15738166:

This sample has been analysed for Pesticides method GEO47, BOD + ATU (5 day), Magnesium, Total as Mg, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: Raised reporting limits due to insufficient sample as repeat extraction performed due to an original extraction error therefore extraction performed on reduced volumes. See attached SVOC-TIC Report.

{/*}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-feric ratio between sampling and analysis.{*/}

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **C. Law**

Date: **04 January 2017**

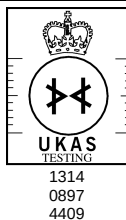
Title: **Inorganics Operations Manager**

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Certificate of Analysis



Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738167**

Sample **6** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **Site Discharge**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	22/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	10/12/2016	Y Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	20/12/2016	N Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	20/12/2016	N Cov	WAS060
Arsenic, Ultra Low Total as As	0.0017	mg/l	20/12/2016	N Cov	WAS060
Fluoride	0.100	mg/l	16/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Aluminium, Total as Al	<0.1	mg/l	21/12/2016	N Cov	WAS049
Barium, Total as Ba	0.010	mg/l	21/12/2016	N Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	21/12/2016	N Cov	WAS049
Boron, Total as B	<0.23	mg/l	21/12/2016	N Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	21/12/2016	N Cov	WAS049
Calcium , Total as Ca	31.9	mg/l	21/12/2016	N Cov	WAS049
Chromium , Total as Cr	<0.002	mg/l	21/12/2016	N Cov	WAS049
Copper, Ultra-low Total as Cu	2.0	ug/l	20/12/2016	N Cov	WAS060
Iron , Total as Fe	<0.23	mg/l	21/12/2016	N Cov	WAS049
Ferrous Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	21/12/2016	N Cov	WAS049
Magnesium, Total as Mg	0.9	mg/l	21/12/2016	N Cov	WAS049
Manganese , Total as Mn	<0.007	mg/l	21/12/2016	N Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	17/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.004	mg/l	21/12/2016	N Cov	WAS049
Potassium , Total as K	2.09	mg/l	21/12/2016	N Cov	WAS049
Sodium , Total as Na	3.22	mg/l	21/12/2016	N Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	21/12/2016	N Cov	WAS049
Zinc, Total as Zn	<0.018	mg/l	21/12/2016	N Cov	WAS049
pH	7.8	pH units	12/12/2016	N Cov	WAS039
Conductivity- Electrical 20C	179	uS/cm	12/12/2016	N Cov	WAS039
Alkalinity as CaCO3	76.0	mg/l	19/12/2016	N Cov	WAS025
Ammoniacal Nitrogen as N (LL)	<0.06	mg/l	10/12/2016	N Cov	WAS067

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738167**

Sample **6** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **Site Discharge**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	<3.7	mg/l	10/12/2016	Y Cov	WAS036
Nitrite as N	<0.08	mg/l	10/12/2016	Y Cov	WAS036
Phosphates , Total as P	<0.120	mg/l	21/12/2016	N Cov	WAS049
Sulphate as SO4	6.9	mg/l	10/12/2016	Y Cov	WAS036
BOD + ATU (5 day)	<1	mg/l	19/12/2016	Y Cov	WAS001
COD (Total)	<11.0	mg/l	12/12/2016	Y Cov	WAS040
TOC (Filtered)	1.8	mg/l	12/12/2016	N Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	15/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	10/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	21/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	03/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	03/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	03/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	16/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	03/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	03/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	03/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	03/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	03/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	03/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	03/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	03/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	03/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	03/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	03/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	03/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	03/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	03/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	03/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	03/01/2017	Y Cov	GEO47

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738167**

Sample **6** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **Site Discharge**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	03/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	03/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	03/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	03/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	03/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	03/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	03/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	03/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	21/12/2016	Y Cov	GEO20

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738167**

Sample **6** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **Site Discharge**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	21/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	21/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	21/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	14/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Naphthol	<0.10	ug/l	14/12/2016	N Cov	338
Phenol	<0.10	ug/l	14/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	14/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	15/12/2016	N Cov	GEO46

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738167**

Sample **6** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **Site Discharge**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	Analyst Com	ug/l	15/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	Analyst Com	ug/l	15/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	Analyst Com	ug/l	15/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Anthracene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Chrysene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Fluoranthene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Fluorene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Naphthalene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Phenanthrene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
Pyrene	<0.01	ug/l	15/12/2016	Y Cov	GEO19
PAH, Total	<0.01	ug/l	15/12/2016	N Cov	GEO19
SVOC	Y	ug/l	15/12/2016	N Cov	GEO40
Phenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Chlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Methylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
3&4-Methylphenol	<4.0	ug/l	15/12/2016	N Cov	GEO40
Dibenzofuran	<4.0	ug/l	15/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738167**

Sample **6** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **Site Discharge**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachloroethane	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Nitrobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Isophorone	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Nitrophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Naphthalene	<8.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Dimethylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Acenaphthylene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Acenaphthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Diethylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
4-Nitrophenol	<20.0	ug/l	15/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Fluorene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Diphenylamine	<4.0	ug/l	15/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Pentachlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Phenanthrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738167**

Sample **6** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **Site Discharge**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Chrysene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<20.0	ug/l	15/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Fluorophenol	98.5	%Recovery	15/12/2016	N Cov	GEO40
Phenol-d6	75.2	%Recovery	15/12/2016	N Cov	GEO40
Nitrobenzene-d5	85.5	%Recovery	15/12/2016	N Cov	GEO40
2-Fluorobiphenyl	86.3	%Recovery	15/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	79.0	%Recovery	15/12/2016	N Cov	GEO40
Terphenyl-d14	93.7	%Recovery	15/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	12/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	21/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738167**

Sample **6** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **Site Discharge**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	29/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	29/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	29/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738167**

Sample **6** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **Site Discharge**

Sample Matrix: **Surface Water**

Sample Date/Time: **07 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	29/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	29/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	29/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	29/12/2016	Y S	SUBCON

Analyst Comments for 15738167:

This sample has been analysed for Pesticides method GEO47, BOD + ATU (5 day), Magnesium, Total as Mg, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: Raised reporting limits due to insufficient sample as repeat extraction performed due to an original extraction error therefore extraction performed on reduced volumes. See attached SVOC-TIC Report.

304 VPH Waters: Indicative results only due to AQC failure: HBD - <10ug/l, HBE - <10ug/l, HBF - <10ug/l, HCD - <10ug/l, HBG - <10ug/l, HBH - <10ug/l, HBJ - <10ug/l, HBK - <10ug/l, HBL - <10ug/l, 08D - <10ug/l, 08L - <10ug/l, 07H - <10ug/l.

{/*}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.{*/}

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **C. Law**

Date: **04 January 2017**

Title: **Inorganics Operations Manager**

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Certificate of Analysis



Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738168**

Sample **7** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW06**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	22/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	12/12/2016	Y Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	20/12/2016	N Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	20/12/2016	N Cov	WAS060
Arsenic, Ultra Low Total as As	<0.0010	mg/l	20/12/2016	N Cov	WAS060
Fluoride	0.113	mg/l	16/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Aluminium, Total as Al	<0.1	mg/l	21/12/2016	N Cov	WAS049
Barium, Total as Ba	0.056	mg/l	21/12/2016	N Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	21/12/2016	N Cov	WAS049
Boron, Total as B	<0.23	mg/l	21/12/2016	N Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	21/12/2016	N Cov	WAS049
Calcium , Total as Ca	96.2	mg/l	21/12/2016	N Cov	WAS049
Chromium , Total as Cr	<0.002	mg/l	21/12/2016	N Cov	WAS049
Copper, Ultra-low Total as Cu	<1.9	ug/l	20/12/2016	N Cov	WAS060
Iron , Total as Fe	<0.23	mg/l	21/12/2016	N Cov	WAS049
Ferrous Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	21/12/2016	N Cov	WAS049
Magnesium, Total as Mg	8.7	mg/l	21/12/2016	N Cov	WAS049
Manganese , Total as Mn	0.162	mg/l	21/12/2016	N Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	17/12/2016	N Cov	WAS013
Nickel, Total as Ni	<0.003	mg/l	21/12/2016	N Cov	WAS049
Potassium , Total as K	1.94	mg/l	21/12/2016	N Cov	WAS049
Sodium , Total as Na	8.85	mg/l	21/12/2016	N Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	21/12/2016	N Cov	WAS049
Zinc, Total as Zn	<0.018	mg/l	21/12/2016	N Cov	WAS049
pH	7.9	pH units	12/12/2016	N Cov	WAS039
Conductivity- Electrical 20C	492	uS/cm	12/12/2016	N Cov	WAS039
Alkalinity as CaCO3	271	mg/l	12/12/2016	N Cov	WAS025
Ammoniacal Nitrogen as N (LL)	<0.06	mg/l	10/12/2016	N Cov	WAS067

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738168**

Sample **7** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW06**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	18.7	mg/l	10/12/2016	Y Cov	WAS036
Nitrite as N	<0.08	mg/l	10/12/2016	Y Cov	WAS036
Phosphates , Total as P	<0.120	mg/l	21/12/2016	N Cov	WAS049
Sulphate as SO4	18.3	mg/l	10/12/2016	Y Cov	WAS036
BOD + ATU (5 day)	<1	mg/l	19/12/2016	Y Cov	WAS001
COD (Total)	17.0	mg/l	14/12/2016	Y Cov	WAS040
TOC (Filtered)	2.8	mg/l	12/12/2016	N Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	15/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	10/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	21/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	03/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	03/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	03/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	16/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	03/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	03/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	03/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	03/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	03/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	03/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	03/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	03/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	03/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	03/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	03/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	03/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	03/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	03/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	03/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	03/01/2017	Y Cov	GEO47

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738168**

Sample **7** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW06**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	03/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	03/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	03/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	03/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	03/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	03/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	03/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	03/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	21/12/2016	Y Cov	GEO20

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738168**

Sample **7** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW06**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	21/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	21/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	21/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	14/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Naphthol	<0.10	ug/l	14/12/2016	N Cov	338
Phenol	<0.10	ug/l	14/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	14/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	15/12/2016	N Cov	GEO46

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Laboratory Number: **15738168**

Sample **7** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW06**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	Analyst Com	ug/l	15/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	Analyst Com	ug/l	15/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	Analyst Com	ug/l	15/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Anthracene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Chrysene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Fluoranthene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Fluorene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Naphthalene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Phenanthrene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Pyrene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
PAH, Total	<0.01	ug/l	14/12/2016	N Cov	GEO19
SVOC	Y	ug/l	15/12/2016	N Cov	GEO40
Phenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Chlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Methylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
3&4-Methylphenol	<4.0	ug/l	15/12/2016	N Cov	GEO40
Dibenzofuran	<4.0	ug/l	15/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40

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Sample **7** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW06**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachloroethane	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Nitrobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Isophorone	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Nitrophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Naphthalene	<8.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Dimethylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Acenaphthylene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Acenaphthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Diethylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
4-Nitrophenol	<20.0	ug/l	15/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Fluorene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Diphenylamine	<4.0	ug/l	15/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Pentachlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Phenanthrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738168**

Sample **7** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW06**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Chrysene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<20.0	ug/l	15/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Fluorophenol	99.5	%Recovery	15/12/2016	N Cov	GEO40
Phenol-d6	80.9	%Recovery	15/12/2016	N Cov	GEO40
Nitrobenzene-d5	86.3	%Recovery	15/12/2016	N Cov	GEO40
2-Fluorobiphenyl	87.8	%Recovery	15/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	78.0	%Recovery	15/12/2016	N Cov	GEO40
Terphenyl-d14	92.9	%Recovery	15/12/2016	N Cov	GEO40
Nitrite as N02	<0.28	mg/l	12/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	21/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738168**

Sample **7** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW06**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	29/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	29/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	29/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Laboratory Number: **15738168**

Sample **7** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW06**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	29/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	29/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	29/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	29/12/2016	Y S	SUBCON

Analyst Comments for 15738168:

This sample has been analysed for Pesticides method GEO47, BOD + ATU (5 day), Magnesium, Total as Mg, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: Raised reporting limits due to insufficient sample as repeat extraction performed due to an original extraction error therefore extraction performed on reduced volumes. See attached SVOC-TIC Report.
304 VPH Waters: Indicative results only due to AQC failure: HBD - <10ug/l, HBE - <10ug/l, HBF - <10ug/l, HCD - <10ug/l, HBG - <10ug/l, HBH - <10ug/l, HBJ - <10ug/l, HBK - <10ug/l, HBL - <10ug/l, 08D - <10ug/l, 08L - <10ug/l, 07H - <10ug/l.

{/*}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.{*/}

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **C. Law**

Date: **04 January 2017**

Title: **Inorganics Operations Manager**

ALS Environmental Ltd

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Certificate of Analysis



Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738169**

Sample **8** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW07**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	22/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	12/12/2016	Y Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	20/12/2016	N Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	20/12/2016	N Cov	WAS060
Arsenic, Ultra Low Total as As	0.0011	mg/l	20/12/2016	N Cov	WAS060
Fluoride	0.075	mg/l	16/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Aluminium, Total as Al	<0.1	mg/l	21/12/2016	N Cov	WAS049
Barium, Total as Ba	0.075	mg/l	21/12/2016	N Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	21/12/2016	N Cov	WAS049
Boron, Total as B	<0.23	mg/l	21/12/2016	N Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	21/12/2016	N Cov	WAS049
Calcium , Total as Ca	102	mg/l	21/12/2016	N Cov	WAS049
Chromium , Total as Cr	<0.002	mg/l	21/12/2016	N Cov	WAS049
Copper, Ultra-low Total as Cu	<1.9	ug/l	20/12/2016	N Cov	WAS060
Iron , Total as Fe	0.69	mg/l	21/12/2016	N Cov	WAS049
Ferrous Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	21/12/2016	N Cov	WAS049
Magnesium, Total as Mg	8.8	mg/l	21/12/2016	N Cov	WAS049
Manganese , Total as Mn	0.427	mg/l	21/12/2016	N Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	17/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.006	mg/l	21/12/2016	N Cov	WAS049
Potassium , Total as K	2.42	mg/l	21/12/2016	N Cov	WAS049
Sodium , Total as Na	9.67	mg/l	21/12/2016	N Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	21/12/2016	N Cov	WAS049
Zinc, Total as Zn	<0.018	mg/l	21/12/2016	N Cov	WAS049
pH	7.8	pH units	12/12/2016	N Cov	WAS039
Conductivity- Electrical 20C	509	uS/cm	12/12/2016	N Cov	WAS039
Alkalinity as CaCO3	283	mg/l	12/12/2016	N Cov	WAS025
Ammoniacal Nitrogen as N (LL)	0.20	mg/l	10/12/2016	N Cov	WAS067

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Issue **2**

Laboratory Number: **15738169**

Sample **8** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW07**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	18.3	mg/l	10/12/2016	Y Cov	WAS036
Nitrite as N	<0.08	mg/l	10/12/2016	Y Cov	WAS036
Phosphates , Total as P	<0.120	mg/l	21/12/2016	N Cov	WAS049
Sulphate as SO4	18.8	mg/l	10/12/2016	Y Cov	WAS036
BOD + ATU (5 day)	<1	mg/l	19/12/2016	Y Cov	WAS001
COD (Total)	<11.0	mg/l	14/12/2016	Y Cov	WAS040
TOC (Filtered)	3.4	mg/l	12/12/2016	N Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	15/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	10/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	21/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	03/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	03/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	03/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	16/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	03/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	03/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	03/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	03/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	03/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	03/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	03/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	03/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	03/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	03/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	03/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	03/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	03/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	03/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	03/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	03/01/2017	Y Cov	GEO47

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Issue **2**

Laboratory Number: **15738169**

Sample **8** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW07**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	03/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	03/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	03/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	03/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	03/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	03/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	03/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	03/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	21/12/2016	Y Cov	GEO20

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Issue **2**

Laboratory Number: **15738169**

Sample **8** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW07**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	21/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	21/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	21/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	14/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Naphthol	<0.10	ug/l	14/12/2016	N Cov	338
Phenol	<0.10	ug/l	14/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	14/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	15/12/2016	N Cov	GEO46

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Issue **2**

Laboratory Number: **15738169**

Sample **8** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW07**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	Analyst Com	ug/l	15/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	Analyst Com	ug/l	15/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	Analyst Com	ug/l	15/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Anthracene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Chrysene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Fluoranthene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Fluorene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Naphthalene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Phenanthrene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Pyrene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
PAH, Total	<0.01	ug/l	14/12/2016	N Cov	GEO19
SVOC	Y	ug/l	15/12/2016	N Cov	GEO40
Phenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Chlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Methylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
3&4-Methylphenol	<4.0	ug/l	15/12/2016	N Cov	GEO40
Dibenzofuran	<4.0	ug/l	15/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40

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Sample **8** of **12**

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Sample Point Description:

Sample Description: **SW07**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachloroethane	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Nitrobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Isophorone	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Nitrophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Naphthalene	<8.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Dimethylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Acenaphthylene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Acenaphthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Diethylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
4-Nitrophenol	<20.0	ug/l	15/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Fluorene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Diphenylamine	<4.0	ug/l	15/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Pentachlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Phenanthrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40

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Sample **8** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

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Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Chrysene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<20.0	ug/l	15/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Fluorophenol	99.7	%Recovery	15/12/2016	N Cov	GEO40
Phenol-d6	81.7	%Recovery	15/12/2016	N Cov	GEO40
Nitrobenzene-d5	84.5	%Recovery	15/12/2016	N Cov	GEO40
2-Fluorobiphenyl	83.5	%Recovery	15/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	77.9	%Recovery	15/12/2016	N Cov	GEO40
Terphenyl-d14	92.9	%Recovery	15/12/2016	N Cov	GEO40
Nitrite as N02	<0.28	mg/l	12/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	21/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Certificate of Analysis



Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738169**

Sample **8** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW07**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	29/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	29/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	29/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Certificate of Analysis



Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738169**

Sample **8** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW07**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	29/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	29/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	29/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	29/12/2016	Y S	SUBCON

Analyst Comments for 15738169:

This sample has been analysed for Pesticides method GEO47, BOD + ATU (5 day), Magnesium, Total as Mg, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: Raised reporting limits due to insufficient sample as repeat extraction performed due to an original extraction error therefore extraction performed on reduced volumes. See attached SVOC-TIC Report. 304 VPH Waters: Indicative results only due to AQC failure: HBD - <10ug/l, HBE - <10ug/l, HBF - <10ug/l, HCD - <10ug/l, HBG - <10ug/l, HBH - <10ug/l, HBJ - <10ug/l, HBK - <10ug/l, HBL - <10ug/l, 08D - <10ug/l, 08L - <10ug/l, 07H - <10ug/l. {/*}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.{/*}.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG). For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **C. Law**

Date: **04 January 2017**

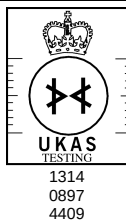
Title: **Inorganics Operations Manager**

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738170**

Sample **9** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW08**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	22/12/2016	N Cov	WAS043
Nitrate as NO3	9.3	mg/l	12/12/2016	Y Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	20/12/2016	N Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	20/12/2016	N Cov	WAS060
Arsenic, Ultra Low Total as As	<0.0010	mg/l	20/12/2016	N Cov	WAS060
Fluoride	0.063	mg/l	16/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Aluminium, Total as Al	<0.1	mg/l	21/12/2016	N Cov	WAS049
Barium, Total as Ba	0.064	mg/l	21/12/2016	N Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	21/12/2016	N Cov	WAS049
Boron, Total as B	<0.23	mg/l	21/12/2016	N Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	21/12/2016	N Cov	WAS049
Calcium , Total as Ca	102	mg/l	21/12/2016	N Cov	WAS049
Chromium , Total as Cr	<0.002	mg/l	21/12/2016	N Cov	WAS049
Copper, Ultra-low Total as Cu	<1.9	ug/l	20/12/2016	N Cov	WAS060
Iron , Total as Fe	<0.23	mg/l	21/12/2016	N Cov	WAS049
Ferrous Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	21/12/2016	N Cov	WAS049
Magnesium, Total as Mg	9.1	mg/l	21/12/2016	N Cov	WAS049
Manganese , Total as Mn	<0.007	mg/l	21/12/2016	N Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	17/12/2016	N Cov	WAS013
Nickel, Total as Ni	<0.003	mg/l	21/12/2016	N Cov	WAS049
Potassium , Total as K	2.04	mg/l	21/12/2016	N Cov	WAS049
Sodium , Total as Na	11.8	mg/l	21/12/2016	N Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	21/12/2016	N Cov	WAS049
Zinc, Total as Zn	<0.018	mg/l	21/12/2016	N Cov	WAS049
pH	8.2	pH units	12/12/2016	N Cov	WAS039
Conductivity- Electrical 20C	504	uS/cm	12/12/2016	N Cov	WAS039
Alkalinity as CaCO3	274	mg/l	12/12/2016	N Cov	WAS025
Ammoniacal Nitrogen as N (LL)	<0.06	mg/l	10/12/2016	N Cov	WAS067

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738170**

Sample **9** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW08**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	21.9	mg/l	10/12/2016	Y Cov	WAS036
Nitrite as N	<0.08	mg/l	10/12/2016	Y Cov	WAS036
Phosphates , Total as P	<0.120	mg/l	21/12/2016	N Cov	WAS049
Sulphate as SO4	19.2	mg/l	10/12/2016	Y Cov	WAS036
BOD + ATU (5 day)	1	mg/l	19/12/2016	Y Cov	WAS001
COD (Total)	13.0	mg/l	14/12/2016	Y Cov	WAS040
TOC (Filtered)	1.5	mg/l	12/12/2016	N Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	15/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	10/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	21/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	03/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	03/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	03/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	16/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	03/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	03/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	03/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	03/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	03/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	03/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	03/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	03/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	03/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	03/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	03/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	03/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	03/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	03/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	03/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	03/01/2017	Y Cov	GEO47

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738170**

Sample **9** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW08**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	03/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	03/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	03/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	03/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	03/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	03/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	03/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	03/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	21/12/2016	Y Cov	GEO20

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738170**

Sample **9** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW08**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	21/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	21/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	21/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	14/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Naphthol	<0.10	ug/l	14/12/2016	N Cov	338
Phenol	<0.10	ug/l	14/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	14/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	15/12/2016	N Cov	GEO46

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738170**

Sample **9** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW08**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	Analyst Com	ug/l	15/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	Analyst Com	ug/l	15/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	Analyst Com	ug/l	15/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Anthracene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Chrysene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Fluoranthene	0.011	ug/l	14/12/2016	Y Cov	GEO19
Fluorene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Naphthalene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Phenanthrene	0.013	ug/l	14/12/2016	Y Cov	GEO19
Pyrene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
PAH, Total	0.024	ug/l	14/12/2016	N Cov	GEO19
SVOC	Y	ug/l	15/12/2016	N Cov	GEO40
Phenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Chlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Methylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
3&4-Methylphenol	<4.0	ug/l	15/12/2016	N Cov	GEO40
Dibenzofuran	<4.0	ug/l	15/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40

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Certificate of Analysis



Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738170**

Sample **9** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW08**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachloroethane	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Nitrobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Isophorone	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Nitrophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Naphthalene	<8.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Dimethylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Acenaphthylene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Acenaphthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Diethylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
4-Nitrophenol	<20.0	ug/l	15/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Fluorene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Diphenylamine	<4.0	ug/l	15/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Pentachlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Phenanthrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738170**

Sample **9** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW08**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Chrysene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<20.0	ug/l	15/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Fluorophenol	97.3	%Recovery	15/12/2016	N Cov	GEO40
Phenol-d6	81.6	%Recovery	15/12/2016	N Cov	GEO40
Nitrobenzene-d5	86.6	%Recovery	15/12/2016	N Cov	GEO40
2-Fluorobiphenyl	85.2	%Recovery	15/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	77.4	%Recovery	15/12/2016	N Cov	GEO40
Terphenyl-d14	95.3	%Recovery	15/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	12/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	21/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738170**

Sample **9** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW08**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	29/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Bromoform	0.60	ug/l	29/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	29/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738170**

Sample **9** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW08**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	29/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	29/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	29/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	29/12/2016	Y S	SUBCON

Analyst Comments for 15738170:

This sample has been analysed for Pesticides method GEO47, BOD + ATU (5 day), Magnesium, Total as Mg, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba outside recommended stability times. It is therefore possible that the results provided may be compromised.

GEO40 SVOC Waters: Raised reporting limits due to insufficient sample as repeat extraction performed due to an original extraction error therefore extraction performed on reduced volumes. See attached SVOC-TIC Report.

304 VPH Waters: Indicative results only due to AQC failure: HBD - <10ug/l, HBE - <10ug/l, HBF - <10ug/l, HCD - <10ug/l, HBG - <10ug/l, HBH - <10ug/l, HBJ - <10ug/l, HBK - <10ug/l, HBL - <10ug/l, 08D - <10ug/l, 08L - <10ug/l, 07H - <10ug/l.

{/*}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.{*/}.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **C. Law**

Date: **04 January 2017**

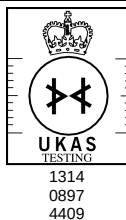
Title: **Inorganics Operations Manager**

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Certificate of Analysis



Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738171**

Sample **10** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW14**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	22/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	12/12/2016	Y Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	20/12/2016	N Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	20/12/2016	N Cov	WAS060
Arsenic, Ultra Low Total as As	<0.0010	mg/l	20/12/2016	N Cov	WAS060
Fluoride	0.075	mg/l	16/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Aluminium, Total as Al	<0.1	mg/l	21/12/2016	N Cov	WAS049
Barium, Total as Ba	0.064	mg/l	21/12/2016	N Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	21/12/2016	N Cov	WAS049
Boron, Total as B	<0.23	mg/l	21/12/2016	N Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	21/12/2016	N Cov	WAS049
Calcium , Total as Ca	97.7	mg/l	21/12/2016	N Cov	WAS049
Chromium , Total as Cr	<0.002	mg/l	21/12/2016	N Cov	WAS049
Copper, Ultra-low Total as Cu	<1.9	ug/l	20/12/2016	N Cov	WAS060
Iron , Total as Fe	0.62	mg/l	21/12/2016	N Cov	WAS049
Ferrous Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	21/12/2016	N Cov	WAS049
Magnesium, Total as Mg	8.6	mg/l	21/12/2016	N Cov	WAS049
Manganese , Total as Mn	0.229	mg/l	21/12/2016	N Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	17/12/2016	N Cov	WAS013
Nickel, Total as Ni	<0.003	mg/l	21/12/2016	N Cov	WAS049
Potassium , Total as K	2.05	mg/l	21/12/2016	N Cov	WAS049
Sodium , Total as Na	8.21	mg/l	21/12/2016	N Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	21/12/2016	N Cov	WAS049
Zinc, Total as Zn	<0.018	mg/l	21/12/2016	N Cov	WAS049
pH	7.8	pH units	12/12/2016	N Cov	WAS039
Conductivity- Electrical 20C	504	uS/cm	12/12/2016	N Cov	WAS039
Alkalinity as CaCO3	282	mg/l	12/12/2016	N Cov	WAS025
Ammoniacal Nitrogen as N (LL)	0.19	mg/l	10/12/2016	N Cov	WAS067

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738171**

Sample **10** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW14**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	18.8	mg/l	10/12/2016	Y Cov	WAS036
Nitrite as N	<0.08	mg/l	10/12/2016	Y Cov	WAS036
Phosphates , Total as P	<0.120	mg/l	21/12/2016	N Cov	WAS049
Sulphate as SO4	19.3	mg/l	10/12/2016	Y Cov	WAS036
BOD + ATU (5 day)	<1	mg/l	19/12/2016	Y Cov	WAS001
COD (Total)	24.0	mg/l	14/12/2016	Y Cov	WAS040
TOC (Filtered)	3.3	mg/l	12/12/2016	N Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	15/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	10/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	21/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	03/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	03/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	03/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	16/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	03/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	03/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	03/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	03/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	03/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	03/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	03/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	03/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	03/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	03/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	03/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	03/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	03/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	03/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	03/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	03/01/2017	Y Cov	GEO47

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Certificate of Analysis



Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738171**

Sample **10** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW14**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	03/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	03/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	03/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	03/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	03/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	03/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	03/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	03/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	21/12/2016	Y Cov	GEO20

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Sample **10** of **12**

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Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	21/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	21/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	21/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	14/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Naphthol	<0.10	ug/l	14/12/2016	N Cov	338
Phenol	<0.10	ug/l	14/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	14/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	15/12/2016	N Cov	GEO46

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Aromatic EPH >C35 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	Analyst Com	ug/l	15/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	Analyst Com	ug/l	15/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	Analyst Com	ug/l	15/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Anthracene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Chrysene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Fluoranthene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Fluorene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Naphthalene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Phenanthrene	0.010	ug/l	14/12/2016	Y Cov	GEO19
Pyrene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
PAH, Total	0.010	ug/l	14/12/2016	N Cov	GEO19
SVOC	Y	ug/l	15/12/2016	N Cov	GEO40
Phenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Chlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Methylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
3&4-Methylphenol	<4.0	ug/l	15/12/2016	N Cov	GEO40
Dibenzofuran	<4.0	ug/l	15/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40

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Bis(2-chloroisopropyl)ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachloroethane	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Nitrobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Isophorone	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Nitrophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Naphthalene	<8.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Dimethylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Acenaphthylene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Acenaphthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Diethylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
4-Nitrophenol	<20.0	ug/l	15/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Fluorene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Diphenylamine	<4.0	ug/l	15/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Pentachlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Phenanthrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40

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Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Chrysene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<20.0	ug/l	15/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Fluorophenol	102.6	%Recovery	15/12/2016	N Cov	GEO40
Phenol-d6	82.2	%Recovery	15/12/2016	N Cov	GEO40
Nitrobenzene-d5	85.8	%Recovery	15/12/2016	N Cov	GEO40
2-Fluorobiphenyl	84.9	%Recovery	15/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	82.3	%Recovery	15/12/2016	N Cov	GEO40
Terphenyl-d14	94.8	%Recovery	15/12/2016	N Cov	GEO40
Nitrite as N02	<0.28	mg/l	12/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	21/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	29/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	29/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	29/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON

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o-Xylene	<0.10	ug/l	29/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	29/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	29/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	29/12/2016	Y S	SUBCON

Analyst Comments for 15738171:

This sample has been analysed for Pesticides method GEO47, BOD + ATU (5 day), Magnesium, Total as Mg, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: Raised reporting limits due to insufficient sample as repeat extraction performed due to an original extraction error therefore extraction performed on reduced volumes. See attached SVOC-TIC Report. 304 VPH Waters: Indicative results only due to AQC failure: HBD - <10ug/l, HBE - <10ug/l, HBF - <10ug/l, HCD - <10ug/l, HBG - <10ug/l, HBH - <10ug/l, HBJ - <10ug/l, HBK - <10ug/l, HBL - <10ug/l, 08D - <10ug/l, 08L - <10ug/l, 07H - <10ug/l. {/*}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-feric ratio between sampling and analysis.{/*}.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG). For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **C. Law**

Date: **04 January 2017**

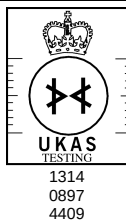
Title: **Inorganics Operations Manager**

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Certificate of Analysis



Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738172**

Sample **11** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW15**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	22/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	12/12/2016	Y Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	20/12/2016	N Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	20/12/2016	N Cov	WAS060
Arsenic, Ultra Low Total as As	<0.0010	mg/l	20/12/2016	N Cov	WAS060
Fluoride	0.068	mg/l	16/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Aluminium, Total as Al	<0.1	mg/l	21/12/2016	N Cov	WAS049
Barium, Total as Ba	0.051	mg/l	21/12/2016	N Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	21/12/2016	N Cov	WAS049
Boron, Total as B	<0.23	mg/l	21/12/2016	N Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	21/12/2016	N Cov	WAS049
Calcium , Total as Ca	91.7	mg/l	21/12/2016	N Cov	WAS049
Chromium , Total as Cr	<0.002	mg/l	21/12/2016	N Cov	WAS049
Copper, Ultra-low Total as Cu	<1.9	ug/l	20/12/2016	N Cov	WAS060
Iron , Total as Fe	<0.23	mg/l	21/12/2016	N Cov	WAS049
Ferrous Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	21/12/2016	N Cov	WAS049
Magnesium, Total as Mg	8.5	mg/l	21/12/2016	N Cov	WAS049
Manganese , Total as Mn	0.035	mg/l	21/12/2016	N Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	17/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.003	mg/l	21/12/2016	N Cov	WAS049
Potassium , Total as K	2.14	mg/l	21/12/2016	N Cov	WAS049
Sodium , Total as Na	8.47	mg/l	21/12/2016	N Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	21/12/2016	N Cov	WAS049
Zinc, Total as Zn	<0.018	mg/l	21/12/2016	N Cov	WAS049
pH	8.0	pH units	12/12/2016	N Cov	WAS039
Conductivity- Electrical 20C	467	uS/cm	12/12/2016	N Cov	WAS039
Alkalinity as CaCO3	261	mg/l	12/12/2016	N Cov	WAS025
Ammoniacal Nitrogen as N (LL)	<0.06	mg/l	10/12/2016	N Cov	WAS067

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738172**

Sample **11** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW15**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	18.6	mg/l	10/12/2016	Y Cov	WAS036
Nitrite as N	<0.08	mg/l	10/12/2016	Y Cov	WAS036
Phosphates , Total as P	<0.120	mg/l	21/12/2016	N Cov	WAS049
Sulphate as SO4	18.2	mg/l	10/12/2016	Y Cov	WAS036
BOD + ATU (5 day)	1	mg/l	19/12/2016	Y Cov	WAS001
COD (Total)	21.0	mg/l	14/12/2016	Y Cov	WAS040
TOC (Filtered)	3.5	mg/l	12/12/2016	N Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	15/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	10/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	21/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	03/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	03/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	03/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	16/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	03/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	03/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	03/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	03/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	03/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	03/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	03/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	03/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	03/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	03/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	03/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	03/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	03/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	03/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	03/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	03/01/2017	Y Cov	GEO47

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738172**

Sample **11** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW15**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	03/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	03/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	03/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	03/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	03/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	03/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	03/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	03/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	04/01/2017	Y Cov	GEO20
Benazolin	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	21/12/2016	Y Cov	GEO20

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738172**

Sample **11** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW15**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	21/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	21/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	04/01/2017	Y Cov	GEO20
Triclopyr	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	21/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	14/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Naphthol	<0.10	ug/l	14/12/2016	N Cov	338
Phenol	<0.10	ug/l	14/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	14/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	15/12/2016	N Cov	GEO46

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738172**

Sample **11** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW15**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	Analyst Com	ug/l	15/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	Analyst Com	ug/l	15/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	Analyst Com	ug/l	15/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Anthracene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Chrysene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Fluoranthene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Fluorene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Naphthalene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Phenanthrene	0.010	ug/l	14/12/2016	Y Cov	GEO19
Pyrene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
PAH, Total	0.010	ug/l	14/12/2016	N Cov	GEO19
SVOC	Y	ug/l	15/12/2016	N Cov	GEO40
Phenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Chlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Methylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
3&4-Methylphenol	<4.0	ug/l	15/12/2016	N Cov	GEO40
Dibenzofuran	<4.0	ug/l	15/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40

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Laboratory Number: **15738172**

Sample **11** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW15**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachloroethane	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Nitrobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Isophorone	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Nitrophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Naphthalene	<8.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Dimethylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Acenaphthylene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Acenaphthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Diethylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
4-Nitrophenol	<20.0	ug/l	15/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Fluorene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Diphenylamine	<4.0	ug/l	15/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Pentachlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Phenanthrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738172**

Sample **11** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW15**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Chrysene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<20.0	ug/l	15/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Fluorophenol	101.0	%Recovery	15/12/2016	N Cov	GEO40
Phenol-d6	82.7	%Recovery	15/12/2016	N Cov	GEO40
Nitrobenzene-d5	87.1	%Recovery	15/12/2016	N Cov	GEO40
2-Fluorobiphenyl	85.1	%Recovery	15/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	71.9	%Recovery	15/12/2016	N Cov	GEO40
Terphenyl-d14	93.6	%Recovery	15/12/2016	N Cov	GEO40
Nitrite as N02	<0.28	mg/l	12/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	21/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Certificate of Analysis



Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738172**

Sample **11** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW15**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	29/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	29/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	29/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738172**

Sample **11** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW15**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	29/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	29/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	29/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	29/12/2016	Y S	SUBCON

Analyst Comments for 15738172:

This sample has been analysed for Pesticides method GEO47, BOD + ATU (5 day), Magnesium, Total as Mg, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: Raised reporting limits due to insufficient sample as repeat extraction performed due to an original extraction error therefore extraction performed on reduced volumes. See attached SVOC-TIC Report.
304 VPH Waters: Indicative results only due to AQC failure: HBD - <10ug/l, HBE - <10ug/l, HBF - <10ug/l, HCD - <10ug/l, HBG - <10ug/l, HBH - <10ug/l, HBJ - <10ug/l, HBK - <10ug/l, HBL - <10ug/l, 08D - <10ug/l, 08L - <10ug/l, 07H - <10ug/l.
{/*}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-feric ratio between sampling and analysis.{/*}

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **C. Law**

Date: **04 January 2017**

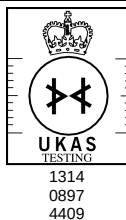
Title: **Inorganics Operations Manager**

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738173**

Sample **12** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW16**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	22/12/2016	N Cov	WAS043
Nitrate as NO3	9.4	mg/l	12/12/2016	Y Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	20/12/2016	N Cov	WAS060
Selenium Ultra Low Total as Se	0.0008	mg/l	20/12/2016	N Cov	WAS060
Arsenic, Ultra Low Total as As	<0.0010	mg/l	20/12/2016	N Cov	WAS060
Fluoride	<1.00	mg/l	29/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Aluminium, Total as Al	<0.1	mg/l	21/12/2016	N Cov	WAS049
Barium, Total as Ba	0.062	mg/l	21/12/2016	N Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	21/12/2016	N Cov	WAS049
Boron, Total as B	<0.23	mg/l	21/12/2016	N Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	21/12/2016	N Cov	WAS049
Calcium , Total as Ca	99.2	mg/l	21/12/2016	N Cov	WAS049
Chromium , Total as Cr	<0.002	mg/l	21/12/2016	N Cov	WAS049
Copper, Ultra-low Total as Cu	<1.9	ug/l	20/12/2016	N Cov	WAS060
Iron , Total as Fe	<0.23	mg/l	21/12/2016	N Cov	WAS049
Ferrous Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	21/12/2016	N Cov	WAS049
Magnesium, Total as Mg	8.9	mg/l	21/12/2016	N Cov	WAS049
Manganese , Total as Mn	<0.007	mg/l	21/12/2016	N Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	17/12/2016	N Cov	WAS013
Nickel, Total as Ni	<0.003	mg/l	21/12/2016	N Cov	WAS049
Potassium , Total as K	2.05	mg/l	21/12/2016	N Cov	WAS049
Sodium , Total as Na	10.7	mg/l	21/12/2016	N Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	21/12/2016	N Cov	WAS049
Zinc, Total as Zn	<0.018	mg/l	21/12/2016	N Cov	WAS049
pH	8.2	pH units	12/12/2016	N Cov	WAS039
Conductivity- Electrical 20C	519	uS/cm	12/12/2016	N Cov	WAS039
Alkalinity as CaCO3	279	mg/l	12/12/2016	N Cov	WAS025
Ammoniacal Nitrogen as N (LL)	<0.06	mg/l	10/12/2016	N Cov	WAS067

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738173**

Sample **12** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW16**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	22.2	mg/l	10/12/2016	Y Cov	WAS036
Nitrite as N	<0.08	mg/l	10/12/2016	Y Cov	WAS036
Phosphates , Total as P	<0.120	mg/l	21/12/2016	N Cov	WAS049
Sulphate as SO4	24.6	mg/l	10/12/2016	Y Cov	WAS036
BOD + ATU (5 day)	<1	mg/l	19/12/2016	Y Cov	WAS001
COD (Total)	12.0	mg/l	14/12/2016	Y Cov	WAS040
TOC (Filtered)	1.6	mg/l	12/12/2016	N Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	15/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	10/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	21/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	03/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	03/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	03/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	16/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	03/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	03/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	03/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	03/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	03/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	03/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	03/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	03/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	03/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	03/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	03/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	03/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	03/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	03/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	03/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	03/01/2017	Y Cov	GEO47

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738173**

Sample **12** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW16**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	03/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	03/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	03/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	03/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	03/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	03/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	03/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	03/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	03/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	03/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	03/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	03/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	03/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	21/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	21/12/2016	Y Cov	GEO20

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738173**

Sample **12** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW16**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	21/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	21/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	21/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	21/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	14/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Naphthol	<0.10	ug/l	14/12/2016	N Cov	338
Phenol	<0.10	ug/l	14/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	14/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	15/12/2016	N Cov	GEO46

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Issue **2**

Laboratory Number: **15738173**

Sample **12** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW16**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	15/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	Analyst Com	ug/l	15/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	Analyst Com	ug/l	15/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	Analyst Com	ug/l	15/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Anthracene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Chrysene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Fluoranthene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Fluorene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Naphthalene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
Phenanthrene	0.010	ug/l	14/12/2016	Y Cov	GEO19
Pyrene	<0.01	ug/l	14/12/2016	Y Cov	GEO19
PAH, Total	0.010	ug/l	14/12/2016	N Cov	GEO19
SVOC	Y	ug/l	15/12/2016	N Cov	GEO40
Phenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Chlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Methylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
3&4-Methylphenol	<4.0	ug/l	15/12/2016	N Cov	GEO40
Dibenzofuran	<4.0	ug/l	15/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40

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Certificate of Analysis



Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738173**

Sample **12** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW16**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachloroethane	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Nitrobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Isophorone	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Nitrophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Naphthalene	<8.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Dimethylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Acenaphthylene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Acenaphthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Diethylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
4-Nitrophenol	<20.0	ug/l	15/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Fluorene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Diphenylamine	<4.0	ug/l	15/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Hexachlorobenzene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Pentachlorophenol	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Phenanthrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40

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Certificate of Analysis



Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738173**

Sample **12** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW16**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Chrysene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<20.0	ug/l	15/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<4.0	ug/l	15/12/2016	Y Cov	GEO40
2-Fluorophenol	95.1	%Recovery	15/12/2016	N Cov	GEO40
Phenol-d6	76.1	%Recovery	15/12/2016	N Cov	GEO40
Nitrobenzene-d5	83.8	%Recovery	15/12/2016	N Cov	GEO40
2-Fluorobiphenyl	85.1	%Recovery	15/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	74.2	%Recovery	15/12/2016	N Cov	GEO40
Terphenyl-d14	92.1	%Recovery	15/12/2016	N Cov	GEO40
Nitrite as N02	<0.28	mg/l	12/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	21/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738173**

Sample **12** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW16**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	29/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	29/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	29/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Certificate of Analysis



Report Number: **COV/1343597/2016**

Issue **2**

Laboratory Number: **15738173**

Sample **12** of **12**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW16**

Sample Matrix: **Surface Water**

Sample Date/Time: **08 December 2016**

Sample Received: **08 December 2016**

Analysis Complete: **04 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	29/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	29/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	29/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	29/12/2016	Y S	SUBCON

Analyst Comments for 15738173:

This sample has been analysed for Pesticides method GEO47, BOD + ATU (5 day), Magnesium, Total as Mg, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: Raised reporting limits due to insufficient sample as repeat extraction performed due to an original extraction error therefore extraction performed on reduced volumes..See attached SVOC-TIC Report.
304 VPH Waters: Indicative results only due to AQC failure: HBD - <10ug/l, HBE - <10ug/l, HBF - <10ug/l, HCD - <10ug/l, HBG - <10ug/l, HBH - <10ug/l, HBJ - <10ug/l, HBK - <10ug/l, HBL - <10ug/l, 08D - <10ug/l, 08L - <10ug/l, 07H - <10ug/l. {*/}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.{*/}.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **C. Law**

Date: **04 January 2017**

Title: **Inorganics Operations Manager**

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Mr Downes
SKM Ireland c/o Jacobs
Engineering Ireland
Jacobs
Merrion House
Merrion Road
Dublin 4 South Dublin

10 January 2017

Test Report: COV/1344129/2016

Dear Mr Downes

Analysis of your sample(s) submitted on 09 December 2016 is now complete and we have pleasure in enclosing the appropriate test report(s).

An invoice for the analysis carried out will be sent under separate cover.

Should you have any queries regarding this report(s) or any part of our service, please contact Customer Services on +44 (0)24 7642 1213 who will be happy to discuss your requirements.

If you would like to arrange any further analysis, please contact Customer Services. To arrange container delivery or sample collection, please call the Couriers Department directly on 024 7685 6562.

Thank you for using ALS Environmental Ltd and we look forward to receiving your next samples.

Yours Sincerely,

Signed: 

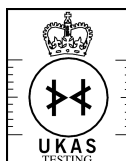
Name: C. Law

Title: Inorganics Operations Manager



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Report Summary



1314
0897
4409



Mr Ultan Downes
SKM Ireland c/o Jacobs
Engineering Ireland
Jacobs
Merrion House
Merrion Road
Dublin 4
South Dublin

Date of Issue: **10 January 2017**

Report Number: **COV/1344129/2016** Issue **2**

Job Description: Kerdiffstown Landfill

Number of Samples
included in this report **7**

Job Received: **09 December 2016**

Number of Test Results
included in this report **1925**

Analysis Commenced: **09 December 2016**

Signed:

Name: **C. Law**

Date: **10 January 2017**

Title: **Inorganics Operations Manager**

ALS Environmental Ltd was not responsible for sampling unless otherwise stated. Sampling is not covered by our UKAS accreditation.

Information on the methods of analysis and performance characteristics are available on request.

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation. The results relate only to the items tested.

Tests marked 'Not UKAS Accredited' in this Report/Certificate are not included in the UKAS Accreditation Schedule for our laboratory.

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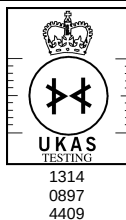
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EPA Export 27-10-2017:03:50:34

Certificate of Analysis



Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741572**

Sample **1** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH6**

Sample Matrix: **Ground Water**

Sample Date/Time: **08 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	22/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	13/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	0.0046	mg/l	21/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	0.0012	mg/l	21/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	0.035	mg/l	21/12/2016	Y Cov	WAS060
Fluoride	0.299	mg/l	16/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Aluminium, Total as Al	14.1	mg/l	23/12/2016	Y Cov	WAS049
Barium, Total as Ba	2.32	mg/l	23/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0210	mg/l	23/12/2016	Y Cov	WAS049
Boron, Total as B	3.94	mg/l	23/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	<0.0060	mg/l	23/12/2016	Y Cov	WAS049
Calcium , Total as Ca	360	mg/l	28/12/2016	Y Cov	WAS049
Chromium , Total as Cr	0.052	mg/l	23/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	646	ug/l	22/12/2016	Y Cov	WAS060
Iron , Total as Fe	48.7	mg/l	23/12/2016	Y Cov	WAS049
Ferrous Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Lead , Total as Pb	0.621	mg/l	23/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	38.0	mg/l	23/12/2016	Y Cov	WAS049
Manganese , Total as Mn	8.81	mg/l	23/12/2016	Y Cov	WAS049
Mercury, Total as Hg	0.00059	mg/l	19/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.107	mg/l	23/12/2016	Y Cov	WAS049
Potassium , Total as K	13.7	mg/l	23/12/2016	Y Cov	WAS049
Sodium , Total as Na	18.6	mg/l	23/12/2016	Y Cov	WAS049
Vanadium , Total as V	0.093	mg/l	23/12/2016	Y Cov	WAS049
Zinc, Total as Zn	1.86	mg/l	23/12/2016	Y Cov	WAS049
pH	7.5	pH units	19/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	1010	uS/cm	19/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	965	mg/l	19/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	<0.06	mg/l	14/12/2016	Y Cov	WAS067

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Certificate of Analysis



Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741572**

Sample **1** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH6**

Sample Matrix: **Ground Water**

Sample Date/Time: **08 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	26.0	mg/l	13/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	13/12/2016	N Cov	WAS036
Phosphates , Total as P	1.9	mg/l	23/12/2016	Y Cov	WAS049
Sulphate as SO4	237	mg/l	13/12/2016	N Cov	WAS036
BOD + ATU (5 day)	2	mg/l	22/12/2016	Y Cov	WAS001
COD (Total)	207	mg/l	14/12/2016	Y Cov	WAS040
TOC (Filtered)	6.6	mg/l	15/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	19/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	19/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	23/12/2016	N Cov	WAS033
Formaldehyde	0.138	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	04/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	04/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	09/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	19/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	04/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	04/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	04/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	04/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	04/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	04/01/2017	Y Cov	GEO47
Dichlobenil	56	ng/l	04/01/2017	Y Cov	GEO47
Dieldrin	7	ng/l	04/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	04/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	04/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	04/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	04/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	04/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	04/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	04/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	04/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	04/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	04/01/2017	Y Cov	GEO47

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741572**

Sample **1** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH6**

Sample Matrix: **Ground Water**

Sample Date/Time: **08 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	04/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	04/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	04/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	04/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	04/01/2017	Y Cov	GEO47
Azinphos-ethyl	Analyst Com	ug/l	10/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	04/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	04/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	04/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	04/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	04/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	04/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	04/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	04/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	04/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	04/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	04/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	04/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	04/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	04/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	23/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	23/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	23/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	23/12/2016	Y Cov	GEO20

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Issue **2**

Laboratory Number: **15741572**

Sample **1** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH6**

Sample Matrix: **Ground Water**

Sample Date/Time: **08 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	23/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	23/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Mecoprop	0.11	ug/l	23/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	14/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Naphthol	<0.10	ug/l	14/12/2016	N Cov	338
Phenol	<0.10	ug/l	14/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	14/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	16/12/2016	N Cov	GEO46

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Issue **2**

Laboratory Number: **15741572**

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Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH6**

Sample Matrix: **Ground Water**

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Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	Analyst Com	ug/l	16/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	Analyst Com	ug/l	16/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	Analyst Com	ug/l	16/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Anthracene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Chrysene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Fluoranthene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Fluorene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Naphthalene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Phenanthrene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Pyrene	0.010	ug/l	16/12/2016	Y Cov	GEO19
PAH, Total	0.010	ug/l	16/12/2016	N Cov	GEO19
SVOC	Y	ug/l	16/12/2016	N Cov	GEO40
Phenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	16/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	16/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	16/12/2016	Y Cov	GEO40

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Sample Point Description:

Sample Description: **BH6**

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Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	16/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	16/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	16/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	16/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	16/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	16/12/2016	Y Cov	GEO40

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Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH6**

Sample Matrix: **Ground Water**

Sample Date/Time: **08 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	16/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2-Fluorophenol	91.6	%Recovery	16/12/2016	N Cov	GEO40
Phenol-d6	60.1	%Recovery	16/12/2016	N Cov	GEO40
Nitrobenzene-d5	88.3	%Recovery	16/12/2016	N Cov	GEO40
2-Fluorobiphenyl	86.6	%Recovery	16/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	75.5	%Recovery	16/12/2016	N Cov	GEO40
Terphenyl-d14	94.2	%Recovery	16/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	15/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	23/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Sample **1** of **7**

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Sample Point Description:

Sample Description: **BH6**

Sample Matrix: **Ground Water**

Sample Date/Time: **08 December 2016**

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Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	29/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	29/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	29/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Sample **1** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH6**

Sample Matrix: **Ground Water**

Sample Date/Time: **08 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	29/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	29/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	29/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	29/12/2016	Y S	SUBCON

Analyst Comments for 15741572:

This sample has been analysed for Pesticides method GEO47, pH, BOD + ATU (5 day), Nitrite as N, Magnesium, Total as Mg, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba, Nitrate as NO3 outside recommended stability times. It is therefore possible that the results provided may be compromised.

VPH Waters: Indicative results only due to AQC failure: VPH >C5-C10 - <10ug/l, Aliphatic >C5-C6 - <10ug/l, Aliphatic >C6-C8 - <10ug/l, - Aliphatic >C5-C10 <10ug/l, Aromatic >C5-C7 - <10ug/l, Aromatic >C7-C8 - <10ug/l, Aromatic >C8-C10 - <10ug/l, Aromatic >C5-C10- <10ug/l. VPH/EPH Totals: Aliphatic >C5-C44 - <10ug/L, Aromatic >C5-C44 - <10ug/L, VPH/EPH- <10ug/L.

{/*}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-feric ratio between sampling and analysis.{/*}

The reporting limit has been raised for metals due to interference with the internal standard.

AQC failure for Azinphos-Ethyl, unable to indicate.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG). For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **C. Law**

Date: **10 January 2017**

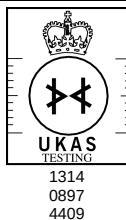
Title: **Inorganics Operations Manager**

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Certificate of Analysis



Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741573**

Sample **2** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH7**

Sample Matrix: **Ground Water**

Sample Date/Time: **08 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	22/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	13/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	21/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	0.0015	mg/l	21/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	0.015	mg/l	21/12/2016	Y Cov	WAS060
Fluoride	0.432	mg/l	16/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Aluminium, Total as Al	16.8	mg/l	23/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.674	mg/l	23/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0420	mg/l	23/12/2016	Y Cov	WAS049
Boron, Total as B	5.04	mg/l	23/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	0.0217	mg/l	23/12/2016	Y Cov	WAS049
Calcium , Total as Ca	1290	mg/l	29/12/2016	Y Cov	WAS049
Chromium , Total as Cr	<0.040	mg/l	23/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	226	ug/l	22/12/2016	Y Cov	WAS060
Iron , Total as Fe	27.0	mg/l	23/12/2016	Y Cov	WAS049
Ferrous Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Lead , Total as Pb	0.158	mg/l	23/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	65.5	mg/l	23/12/2016	Y Cov	WAS049
Manganese , Total as Mn	10.3	mg/l	23/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	19/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.189	mg/l	23/12/2016	Y Cov	WAS049
Potassium , Total as K	21.0	mg/l	23/12/2016	Y Cov	WAS049
Sodium , Total as Na	30.5	mg/l	23/12/2016	Y Cov	WAS049
Vanadium , Total as V	<0.080	mg/l	23/12/2016	Y Cov	WAS049
Zinc, Total as Zn	0.610	mg/l	23/12/2016	Y Cov	WAS049
pH	7.6	pH units	19/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	750	uS/cm	19/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	2220	mg/l	23/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	0.64	mg/l	14/12/2016	Y Cov	WAS067

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741573**

Sample **2** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH7**

Sample Matrix: **Ground Water**

Sample Date/Time: **08 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	64.7	mg/l	13/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	13/12/2016	N Cov	WAS036
Phosphates , Total as P	4.1	mg/l	23/12/2016	Y Cov	WAS049
Sulphate as SO4	167	mg/l	13/12/2016	N Cov	WAS036
BOD + ATU (5 day)	1	mg/l	22/12/2016	Y Cov	WAS001
COD (Total)	21.0	mg/l	14/12/2016	Y Cov	WAS040
TOC (Filtered)	5.8	mg/l	15/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	19/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	19/12/2016	N Cov	WAS018
Sulphide as S	9.90	mg/l	23/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	04/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	04/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	09/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	19/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	04/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	04/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	04/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	04/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	04/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	04/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	04/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	04/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	04/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	04/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	04/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	04/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	04/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	04/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	04/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	04/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	04/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	04/01/2017	Y Cov	GEO47

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741573**

Sample **2** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH7**

Sample Matrix: **Ground Water**

Sample Date/Time: **08 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	04/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	04/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	04/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	04/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	04/01/2017	Y Cov	GEO47
Azinphos-ethyl	Analyst Com	ug/l	10/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	04/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	04/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	04/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	04/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	04/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	04/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	04/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	04/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	04/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	04/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	04/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	04/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	04/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	04/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	23/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	23/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	23/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	23/12/2016	Y Cov	GEO20

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741573**

Sample **2** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH7**

Sample Matrix: **Ground Water**

Sample Date/Time: **08 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	23/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	23/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Mecoprop	0.05	ug/l	23/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	14/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Naphthol	<0.10	ug/l	14/12/2016	N Cov	338
Phenol	<0.10	ug/l	14/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	14/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	12	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	12	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	16/12/2016	N Cov	GEO46

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741573**

Sample **2** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH7**

Sample Matrix: **Ground Water**

Sample Date/Time: **08 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
EPH >C10 - C44	12	ug/l	16/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	Analyst Com	ug/l	16/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	Analyst Com	ug/l	16/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	Analyst Com	ug/l	16/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Anthracene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Chrysene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Fluoranthene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Fluorene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Naphthalene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Phenanthrene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Pyrene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
PAH, Total	<0.01	ug/l	16/12/2016	N Cov	GEO19
SVOC	Y	ug/l	16/12/2016	N Cov	GEO40
Phenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	16/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	16/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	16/12/2016	Y Cov	GEO40

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741573**

Sample **2** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH7**

Sample Matrix: **Ground Water**

Sample Date/Time: **08 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	16/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	16/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	16/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	16/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	16/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	16/12/2016	Y Cov	GEO40

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741573**

Sample **2** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH7**

Sample Matrix: **Ground Water**

Sample Date/Time: **08 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	16/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2-Fluorophenol	104.9	%Recovery	16/12/2016	N Cov	GEO40
Phenol-d6	73.2	%Recovery	16/12/2016	N Cov	GEO40
Nitrobenzene-d5	91.1	%Recovery	16/12/2016	N Cov	GEO40
2-Fluorobiphenyl	88.7	%Recovery	16/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	81.0	%Recovery	16/12/2016	N Cov	GEO40
Terphenyl-d14	94.5	%Recovery	16/12/2016	N Cov	GEO40
Nitrite as N02	<0.28	mg/l	15/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	23/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Certificate of Analysis



Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741573**

Sample **2** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH7**

Sample Matrix: **Ground Water**

Sample Date/Time: **08 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	29/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	29/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	29/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Certificate of Analysis



Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741573**

Sample **2** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH7**

Sample Matrix: **Ground Water**

Sample Date/Time: **08 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	29/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	29/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	29/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	29/12/2016	Y S	SUBCON

Analyst Comments for 15741573:

This sample has been analysed for Pesticides method GEO47, pH, BOD + ATU (5 day), Nitrite as N, Calcium Total as Ca, Magnesium, Total as Mg, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba, Nitrate as NO3 outside recommended stability times. It is therefore possible that the results provided may be compromised.

VPH: Indicative results due to AQC failure: VPH >C5-10 <10ug/l, Ali >C5-6 <10ug/l, Ali >C6-8 <10ug/l, - Ali >C5-10 <10ug/l, Aro >C5-7 <10ug/l, Aro >C7-8 <10ug/l, Aro >C8-10 <10ug/l, Aro >C5-10 <10ug/l.

VPH/EPH Totals: Ali 12ug/L, Aro <10ug/L, VPH/EPH <12ug/L.

The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.

Reporting limit has been raised for metals due to interference with the internal standard

Integrity breach between electrical conductivity and calcium, results confirmed by repeat analysis.

AQC failure for Azinphos-Ethyl, unable to indicate.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is

<1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **C. Law**

Date: **10 January 2017**

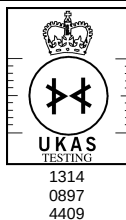
Title: **Inorganics Operations Manager**

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Certificate of Analysis



Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741574**

Sample **3** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **GW25**

Sample Matrix: **Ground Water**

Sample Date/Time: **08 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	22/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	13/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	21/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	21/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	<0.0010	mg/l	21/12/2016	Y Cov	WAS060
Fluoride	0.053	mg/l	16/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Aluminium, Total as Al	<0.1	mg/l	21/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.016	mg/l	21/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	21/12/2016	Y Cov	WAS049
Boron, Total as B	<0.23	mg/l	21/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	21/12/2016	Y Cov	WAS049
Calcium , Total as Ca	21.4	mg/l	21/12/2016	Y Cov	WAS049
Chromium , Total as Cr	<0.002	mg/l	21/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	<1.9	ug/l	21/12/2016	Y Cov	WAS060
Iron , Total as Fe	0.60	mg/l	21/12/2016	Y Cov	WAS049
Ferrous Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	21/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	10.7	mg/l	21/12/2016	Y Cov	WAS049
Manganese , Total as Mn	0.061	mg/l	21/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	19/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.003	mg/l	21/12/2016	Y Cov	WAS049
Potassium , Total as K	2.15	mg/l	21/12/2016	Y Cov	WAS049
Sodium , Total as Na	15.6	mg/l	21/12/2016	Y Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	21/12/2016	Y Cov	WAS049
Zinc, Total as Zn	<0.018	mg/l	21/12/2016	Y Cov	WAS049
pH	8.2	pH units	19/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	238	uS/cm	19/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	104	mg/l	19/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	0.32	mg/l	14/12/2016	Y Cov	WAS067

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741574**

Sample **3** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **GW25**

Sample Matrix: **Ground Water**

Sample Date/Time: **08 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	31.8	mg/l	13/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	13/12/2016	N Cov	WAS036
Phosphates , Total as P	<0.120	mg/l	21/12/2016	Y Cov	WAS049
Sulphate as SO4	<4.4	mg/l	13/12/2016	N Cov	WAS036
BOD + ATU (5 day)	1	mg/l	22/12/2016	Y Cov	WAS001
COD (Total)	<11.0	mg/l	14/12/2016	Y Cov	WAS040
TOC (Filtered)	1.9	mg/l	15/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	19/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	19/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	23/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	04/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	04/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	09/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	19/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	04/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	04/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	04/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	04/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	04/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	04/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	04/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	04/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	04/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	04/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	04/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	04/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	04/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	04/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	04/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	04/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	04/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	04/01/2017	Y Cov	GEO47

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741574**

Sample **3** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **GW25**

Sample Matrix: **Ground Water**

Sample Date/Time: **08 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	04/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	04/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	04/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	04/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	04/01/2017	Y Cov	GEO47
Azinphos-ethyl	Analyst Com	ug/l	10/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	04/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	04/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	04/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	04/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	04/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	04/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	04/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	04/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	04/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	04/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	04/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	04/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	04/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	04/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	23/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	23/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	23/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	23/12/2016	Y Cov	GEO20

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741574**

Sample **3** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **GW25**

Sample Matrix: **Ground Water**

Sample Date/Time: **08 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	23/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	23/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Mecoprop	0.05	ug/l	23/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	14/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Naphthol	<0.10	ug/l	14/12/2016	N Cov	338
Phenol	<0.10	ug/l	14/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	14/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	16/12/2016	N Cov	GEO46

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Issue **2**

Laboratory Number: **15741574**

Sample **3** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **GW25**

Sample Matrix: **Ground Water**

Sample Date/Time: **08 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	Analyst Com	ug/l	16/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	Analyst Com	ug/l	16/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	Analyst Com	ug/l	16/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Anthracene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Chrysene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Fluoranthene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Fluorene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Naphthalene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Phenanthrene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Pyrene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
PAH, Total	<0.01	ug/l	16/12/2016	N Cov	GEO19
SVOC	Y	ug/l	16/12/2016	N Cov	GEO40
Phenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	16/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	16/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	16/12/2016	Y Cov	GEO40

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741574**

Sample **3** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **GW25**

Sample Matrix: **Ground Water**

Sample Date/Time: **08 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	16/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	16/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	16/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	16/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	16/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	16/12/2016	Y Cov	GEO40

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741574**

Sample **3** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **GW25**

Sample Matrix: **Ground Water**

Sample Date/Time: **08 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	16/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	16/12/2016	Y Cov	GEO40
2-Fluorophenol	100.5	%Recovery	16/12/2016	N Cov	GEO40
Phenol-d6	70.9	%Recovery	16/12/2016	N Cov	GEO40
Nitrobenzene-d5	95.3	%Recovery	16/12/2016	N Cov	GEO40
2-Fluorobiphenyl	92.8	%Recovery	16/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	76.6	%Recovery	16/12/2016	N Cov	GEO40
Terphenyl-d14	85.8	%Recovery	16/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	15/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	23/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741574**

Sample **3** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **GW25**

Sample Matrix: **Ground Water**

Sample Date/Time: **08 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	29/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	29/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	29/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741574**

Sample **3** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **GW25**

Sample Matrix: **Ground Water**

Sample Date/Time: **08 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	29/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	29/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	29/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	29/12/2016	Y S	SUBCON

Analyst Comments for 15741574:

This sample has been analysed for Pesticides method GEO47, pH, BOD + ATU (5 day), Nitrite as N, Magnesium, Total as Mg, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba, Nitrate as NO3 outside recommended stability times. It is therefore possible that the results provided may be compromised.

VPH Waters: Indicative results only due to AQC failure: VPH >C5-C10 - <10ug/l, Aliphatic >C5-C6 - <10ug/l, Aliphatic >C6-C8 - <10ug/l, - Aliphatic >C5-C10 <10ug/l, Aromatic >C5-C7 - <10ug/l, Aromatic >C7-C8 - <10ug/l, Aromatic >C8-C10 - <10ug/l, Aromatic >C5-C10 - <10ug/l. VPH/EPH Totals: Aliphatic >C5-C44 - <10ug/L, Aromatic >C5-C44 - <10ug/L, VPH/EPH- <10ug/L.

GEO40 SVOC Waters: See attached SVOC-TIC Report. {*/}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.{*/}.

AQC failure for Azinphos-Ethyl is unable to indicate.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **C. Law**

Date: **10 January 2017**

Title: **Inorganics Operations Manager**

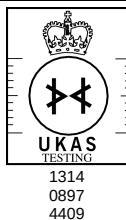
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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741575**

Sample **4** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW13**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	10.5	mg/l	22/12/2016	N Cov	WAS043
Nitrate as NO3	5.9	mg/l	12/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	21/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	21/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	0.013	mg/l	21/12/2016	Y Cov	WAS060
Fluoride	0.534	mg/l	16/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Aluminium, Total as Al	0.7	mg/l	21/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.495	mg/l	21/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	21/12/2016	Y Cov	WAS049
Boron, Total as B	2.01	mg/l	21/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	21/12/2016	Y Cov	WAS049
Calcium , Total as Ca	216	mg/l	21/12/2016	Y Cov	WAS049
Chromium , Total as Cr	0.008	mg/l	21/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	9.1	ug/l	21/12/2016	Y Cov	WAS060
Iron , Total as Fe	12.5	mg/l	21/12/2016	Y Cov	WAS049
Ferrous Iron	10.1	mg/l	22/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Lead , Total as Pb	0.010	mg/l	21/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	54.4	mg/l	21/12/2016	Y Cov	WAS049
Manganese , Total as Mn	1.17	mg/l	21/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	19/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.038	mg/l	21/12/2016	Y Cov	WAS049
Potassium , Total as K	82.4	mg/l	21/12/2016	Y Cov	WAS049
Sodium , Total as Na	204	mg/l	21/12/2016	Y Cov	WAS049
Vanadium , Total as V	0.006	mg/l	21/12/2016	Y Cov	WAS049
Zinc, Total as Zn	0.127	mg/l	21/12/2016	Y Cov	WAS049
pH	7.0	pH units	12/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	2440	uS/cm	12/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	1630	mg/l	20/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N	165	mg/l	15/12/2016	N Cov	WAS036

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741575**

Sample **4** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW13**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	221	mg/l	12/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	12/12/2016	N Cov	WAS036
Phosphates , Total as P	0.29	mg/l	21/12/2016	Y Cov	WAS049
Sulphate as SO4	78.6	mg/l	12/12/2016	N Cov	WAS036
BOD + ATU (5 day)	10	mg/l	16/12/2016	Y Cov	WAS001
COD (Total)	325	mg/l	16/12/2016	Y Cov	WAS040
TOC (Filtered)	80.0	mg/l	15/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	19/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	19/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	23/12/2016	N Cov	WAS033
Formaldehyde	0.055	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	04/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	04/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	09/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	19/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	04/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	04/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	04/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	04/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	04/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	04/01/2017	Y Cov	GEO47
Dichlobenil	27	ng/l	04/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	04/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	04/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	04/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	04/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	04/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	04/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	04/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	04/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	04/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	04/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	04/01/2017	Y Cov	GEO47

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741575**

Sample **4** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW13**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	04/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	04/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	04/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	04/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	04/01/2017	Y Cov	GEO47
Azinphos-ethyl	Analyst Com	ug/l	10/01/2017	Y Cov	GEO47
Azinphos-methyl	0.006	ug/l	04/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	04/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	04/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	04/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	04/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	04/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	04/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	04/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	04/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	04/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	04/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	04/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	04/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	04/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
2,3,6 - TBA	<5.00	ug/l	28/12/2016	Y Cov	GEO20
2,4 - D	<5.00	ug/l	28/12/2016	Y Cov	GEO20
2,4 - DB	<5.00	ug/l	28/12/2016	Y Cov	GEO20
2,4,5 - T	<5.00	ug/l	28/12/2016	Y Cov	GEO20
Benazolin	<5.00	ug/l	28/12/2016	Y Cov	GEO20
Bentazone	<5.00	ug/l	28/12/2016	Y Cov	GEO20
Chlopyralid	<5.00	ug/l	28/12/2016	Y Cov	GEO20
Bromoxynil	<5.00	ug/l	28/12/2016	Y Cov	GEO20

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Issue **2**

Laboratory Number: **15741575**

Sample **4** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW13**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<5.00	ug/l	28/12/2016	Y Cov	GEO20
Dichlorprop	<5.00	ug/l	28/12/2016	Y Cov	GEO20
Fenoprop	<5.00	ug/l	28/12/2016	Y Cov	GEO20
Ioxynil	<5.00	ug/l	28/12/2016	Y Cov	GEO20
MCPA	<5.00	ug/l	28/12/2016	Y Cov	GEO20
MCPB	<5.00	ug/l	28/12/2016	Y Cov	GEO20
Triclopyr	<5.00	ug/l	28/12/2016	Y Cov	GEO20
Mecoprop	14.4	ug/l	28/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	16/12/2016	N Cov	338
Cresol, Total	0.48	ug/l	16/12/2016	N Cov	338
Xylenol, Total	18	ug/l	16/12/2016	N Cov	338
Naphthol	<0.10	ug/l	16/12/2016	N Cov	338
Phenol	1.5	ug/l	16/12/2016	N Cov	338
Trimethylphenol, Total	78	ug/l	16/12/2016	N Cov	338
Phenols, Total	98	ug/l	16/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
VPH >C5 - C10	Analyst Com	ug/l	15/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	16/12/2016	N Cov	GEO46

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Sample **4** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW13**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	Analyst Com	ug/l	16/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	Analyst Com	ug/l	16/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	Analyst Com	ug/l	16/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Acenaphthylene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Anthracene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Benzo (a) anthracene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Benzo (a) pyrene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Benzo (b) fluoranthene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Benzo (k) fluoranthene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Chrysene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Fluoranthene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Fluorene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Naphthalene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Phenanthrene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Pyrene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
PAH, Total	<0.04	ug/l	16/12/2016	N Cov	GEO19
SVOC	Y	ug/l	18/12/2016	N Cov	GEO40
Phenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	18/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	18/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Sample Point Description:

Sample Description: **EMW13**

Sample Matrix: **Ground Water**

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Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	18/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Sample **4** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW13**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	18/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Fluorophenol	84.1	%Recovery	18/12/2016	N Cov	GEO40
Phenol-d6	83.8	%Recovery	18/12/2016	N Cov	GEO40
Nitrobenzene-d5	78.7	%Recovery	18/12/2016	N Cov	GEO40
2-Fluorobiphenyl	80.5	%Recovery	18/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	96.6	%Recovery	18/12/2016	N Cov	GEO40
Terphenyl-d14	81.8	%Recovery	18/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	15/12/2016	N Cov	WAS036
Fluoroxypyr	<5.00	ug/l	28/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Issue **2**

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Sample **4** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW13**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Benzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	29/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	29/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chlorobenzene	0.12	ug/l	29/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	0.12	ug/l	29/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	29/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Sample **4** of **7**

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Sample Point Description:

Sample Description: **EMW13**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	29/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	29/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Toluene	0.51	ug/l	29/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Vinyl Chloride	0.18	ug/l	29/12/2016	Y S	SUBCON

Analyst Comments for 15741575:

This sample has been analysed for Pesticides method GEO47, Magnesium, Total as Mg, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba outside recommended stability times. It is therefore possible that the results provided may be compromised.

VPH Waters: Indicative results only due to AQC failure: VPH >C5-C10 <10ug/l, Ali>C5-C6 - <10ug/l, Ali>C6-C8 <10ug/l, Ali>C5-C10 <10ug/l, Aro >C5-C7 <10ug/l, Aro>C7-C8 <10ug/l, Aro>C8-C10 <10ug/l, Aro>C5-C10-<10ug/l. VPH/EPH Totals: Ali >C5-C44 <10ug/L, Aro >C5-C44 <10ug/L, VPH/EPH <10ug/L. Low surrogate recovery due to sample matrix interference.

Reporting limits raised for PAH due to nature of sample matrix.

{/*}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferrous ratio between sampling and analysis.{/*} Reporting limits raised for Acid Herbicides due to nature of sample matrix.

AQC failure for Azinphos-Ethyl is unable to indicate.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is

<1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **C. Law**

Date: **10 January 2017**

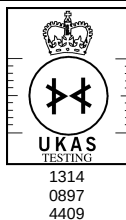
Title: **Inorganics Operations Manager**

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Certificate of Analysis



Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741576**

Sample **5** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW18**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

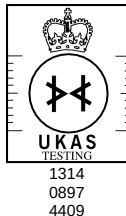
Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	3.1	mg/l	22/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	12/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	21/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	21/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	0.0072	mg/l	21/12/2016	Y Cov	WAS060
Fluoride	0.127	mg/l	16/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Aluminium, Total as Al	<0.1	mg/l	21/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.082	mg/l	21/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	21/12/2016	Y Cov	WAS049
Boron, Total as B	<0.23	mg/l	21/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	21/12/2016	Y Cov	WAS049
Calcium , Total as Ca	89.3	mg/l	21/12/2016	Y Cov	WAS049
Chromium , Total as Cr	<0.002	mg/l	21/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	<1.9	ug/l	21/12/2016	Y Cov	WAS060
Iron , Total as Fe	3.55	mg/l	21/12/2016	Y Cov	WAS049
Ferrous Iron	3.1	mg/l	22/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	21/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	7.7	mg/l	21/12/2016	Y Cov	WAS049
Manganese , Total as Mn	0.824	mg/l	21/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	19/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.005	mg/l	21/12/2016	Y Cov	WAS049
Potassium , Total as K	1.06	mg/l	21/12/2016	Y Cov	WAS049
Sodium , Total as Na	8.74	mg/l	21/12/2016	Y Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	21/12/2016	Y Cov	WAS049
Zinc, Total as Zn	<0.018	mg/l	21/12/2016	Y Cov	WAS049
pH	7.6	pH units	12/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	446	uS/cm	12/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	279	mg/l	20/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	0.44	mg/l	14/12/2016	Y Cov	WAS067

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Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	17.4	mg/l	12/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	12/12/2016	N Cov	WAS036
Phosphates , Total as P	0.28	mg/l	21/12/2016	Y Cov	WAS049
Sulphate as SO4	10.5	mg/l	12/12/2016	N Cov	WAS036
BOD + ATU (5 day)	<1	mg/l	16/12/2016	Y Cov	WAS001
COD (Total)	12.0	mg/l	16/12/2016	Y Cov	WAS040
TOC (Filtered)	2.3	mg/l	15/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	19/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	19/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	23/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	06/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	06/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	06/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	19/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	06/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	06/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	06/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	06/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	06/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	06/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	06/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	06/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	06/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	06/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	06/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	06/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	06/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	06/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	06/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	06/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	06/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	06/01/2017	Y Cov	GEO47

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Issue **2**

Laboratory Number: **15741576**

Sample **5** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

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Sample Matrix: **Ground Water**

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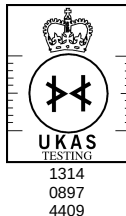
Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	06/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	06/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	06/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	06/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	06/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	06/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	06/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	06/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	06/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	06/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	06/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	06/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	06/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	06/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	06/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	06/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	06/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	06/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	06/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	06/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	06/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	06/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	06/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	06/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	06/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	23/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	23/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	23/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	23/12/2016	Y Cov	GEO20

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Issue **2**

Laboratory Number: **15741576**

Sample **5** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW18**

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Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	23/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	23/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	23/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	14/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Naphthol	<0.10	ug/l	14/12/2016	N Cov	338
Phenol	<0.10	ug/l	14/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	14/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	16/12/2016	N Cov	GEO46

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Laboratory Number: **15741576**

Sample **5** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW18**

Sample Matrix: **Ground Water**

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Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Acenaphthylene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Anthracene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Benzo (a) anthracene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Benzo (a) pyrene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Benzo (b) fluoranthene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Benzo (k) fluoranthene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Chrysene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Fluoranthene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Fluorene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Naphthalene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Phenanthrene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
Pyrene	<0.04	ug/l	16/12/2016	Y Cov	GEO19
PAH, Total	<0.04	ug/l	16/12/2016	N Cov	GEO19
SVOC	Y	ug/l	18/12/2016	N Cov	GEO40
Phenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	18/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	18/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Sample **5** of **7**

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Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	18/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40

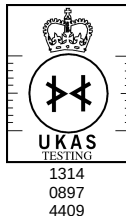
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Sample **5** of **7**

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Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	18/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Fluorophenol	88.1	%Recovery	18/12/2016	N Cov	GEO40
Phenol-d6	84.7	%Recovery	18/12/2016	N Cov	GEO40
Nitrobenzene-d5	82.9	%Recovery	18/12/2016	N Cov	GEO40
2-Fluorobiphenyl	83.1	%Recovery	18/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	74.9	%Recovery	18/12/2016	N Cov	GEO40
Terphenyl-d14	88.4	%Recovery	18/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	15/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	23/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741576**

Sample **5** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW18**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	29/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	29/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	29/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741576**

Sample **5** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW18**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	29/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	29/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	29/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	29/12/2016	Y S	SUBCON

Analyst Comments for 15741576:

This sample has been analysed for Pesticides method GEO47, Magnesium, Total as Mg, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba outside recommended stability times. It is therefore possible that the results provided may be compromised. Reporting limits raised for PAH due to nature of sample matrix.

GEO40 SVOC Waters: See attached SVOC-TIC Report. {*/}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.{*/}

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG). For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **C. Law**

Date: **10 January 2017**

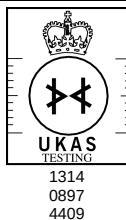
Title: **Inorganics Operations Manager**

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741577**

Sample **6** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW19**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	10.6	mg/l	22/12/2016	N Cov	WAS043
Nitrate as NO3	21.4	mg/l	12/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	21/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	21/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	0.014	mg/l	21/12/2016	Y Cov	WAS060
Fluoride	0.139	mg/l	16/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Aluminium, Total as Al	0.1	mg/l	21/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.264	mg/l	21/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	21/12/2016	Y Cov	WAS049
Boron, Total as B	<0.23	mg/l	21/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	21/12/2016	Y Cov	WAS049
Calcium , Total as Ca	169	mg/l	21/12/2016	Y Cov	WAS049
Chromium , Total as Cr	<0.002	mg/l	21/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	<1.9	ug/l	21/12/2016	Y Cov	WAS060
Iron , Total as Fe	14.4	mg/l	21/12/2016	Y Cov	WAS049
Ferrous Iron	10.5	mg/l	22/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	21/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	18.0	mg/l	21/12/2016	Y Cov	WAS049
Manganese , Total as Mn	1.53	mg/l	21/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	19/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.004	mg/l	21/12/2016	Y Cov	WAS049
Potassium , Total as K	6.74	mg/l	21/12/2016	Y Cov	WAS049
Sodium , Total as Na	25.2	mg/l	21/12/2016	Y Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	21/12/2016	Y Cov	WAS049
Zinc, Total as Zn	<0.018	mg/l	21/12/2016	Y Cov	WAS049
pH	7.2	pH units	12/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	819	uS/cm	12/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	438	mg/l	20/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	3.83	mg/l	14/12/2016	Y Cov	WAS067

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741577**

Sample **6** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW19**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	27.5	mg/l	12/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	12/12/2016	N Cov	WAS036
Phosphates , Total as P	0.72	mg/l	21/12/2016	Y Cov	WAS049
Sulphate as SO4	142	mg/l	12/12/2016	N Cov	WAS036
BOD + ATU (5 day)	<1	mg/l	16/12/2016	Y Cov	WAS001
COD (Total)	20.0	mg/l	16/12/2016	Y Cov	WAS040
TOC (Filtered)	5.1	mg/l	15/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	21/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	21/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	23/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	06/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	06/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	06/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	19/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	06/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	06/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	06/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	06/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	06/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	06/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	06/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	06/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	06/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	06/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	06/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	06/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	06/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	06/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	06/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	06/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	06/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	06/01/2017	Y Cov	GEO47

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741577**

Sample **6** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW19**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	06/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	06/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	06/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	06/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	06/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	06/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	06/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	06/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	06/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	06/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	06/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	06/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	06/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	06/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	06/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	06/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	06/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	06/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	06/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	06/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	06/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	06/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	06/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	06/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	06/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	23/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	23/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	23/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	23/12/2016	Y Cov	GEO20

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741577**

Sample **6** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW19**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	23/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	23/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Mecoprop	0.27	ug/l	23/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	14/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Naphthol	<0.10	ug/l	14/12/2016	N Cov	338
Phenol	<0.10	ug/l	14/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	14/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	16/12/2016	N Cov	GEO46

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741577**

Sample **6** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW19**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Anthracene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Chrysene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Fluoranthene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Fluorene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Naphthalene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Phenanthrene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
Pyrene	<0.01	ug/l	16/12/2016	Y Cov	GEO19
PAH, Total	<0.01	ug/l	16/12/2016	N Cov	GEO19
SVOC	Y	ug/l	18/12/2016	N Cov	GEO40
Phenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	18/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	18/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741577**

Sample **6** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW19**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	18/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741577**

Sample **6** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW19**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	18/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Fluorophenol	97.1	%Recovery	18/12/2016	N Cov	GEO40
Phenol-d6	90.1	%Recovery	18/12/2016	N Cov	GEO40
Nitrobenzene-d5	81.7	%Recovery	18/12/2016	N Cov	GEO40
2-Fluorobiphenyl	81.2	%Recovery	18/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	80.4	%Recovery	18/12/2016	N Cov	GEO40
Terphenyl-d14	95.0	%Recovery	18/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	15/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	23/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741577**

Sample **6** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW19**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	29/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	29/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	29/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741577**

Sample **6** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW19**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	29/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	29/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	29/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	29/12/2016	Y S	SUBCON

Analyst Comments for 15741577:

This sample has been analysed for Pesticides method GEO47, Magnesium, Total as Mg, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: See attached SVOC-TIC Report. {*/}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.{*/}

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **C. Law**

Date: **10 January 2017**

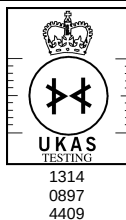
Title: **Inorganics Operations Manager**

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741578**

Sample **7** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW20**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	7.4	mg/l	22/12/2016	N Cov	WAS043
Nitrate as NO3	5.7	mg/l	12/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	22/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	22/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	0.0034	mg/l	22/12/2016	Y Cov	WAS060
Fluoride	0.138	mg/l	16/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Aluminium, Total as Al	<0.1	mg/l	23/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.120	mg/l	23/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	23/12/2016	Y Cov	WAS049
Boron, Total as B	<0.23	mg/l	23/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	23/12/2016	Y Cov	WAS049
Calcium , Total as Ca	119	mg/l	28/12/2016	Y Cov	WAS049
Chromium , Total as Cr	<0.002	mg/l	23/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	<1.9	ug/l	22/12/2016	Y Cov	WAS060
Iron , Total as Fe	7.39	mg/l	23/12/2016	Y Cov	WAS049
Ferrous Iron	7.1	mg/l	22/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	22/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	23/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	8.3	mg/l	23/12/2016	Y Cov	WAS049
Manganese , Total as Mn	1.06	mg/l	23/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	19/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.004	mg/l	23/12/2016	Y Cov	WAS049
Potassium , Total as K	1.09	mg/l	23/12/2016	Y Cov	WAS049
Sodium , Total as Na	10.1	mg/l	23/12/2016	Y Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	23/12/2016	Y Cov	WAS049
Zinc, Total as Zn	<0.018	mg/l	23/12/2016	Y Cov	WAS049
pH	7.3	pH units	12/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	527	uS/cm	12/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	332	mg/l	20/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	1.06	mg/l	14/12/2016	Y Cov	WAS067

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741578**

Sample **7** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW20**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	19.5	mg/l	12/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	12/12/2016	N Cov	WAS036
Phosphates , Total as P	0.40	mg/l	23/12/2016	Y Cov	WAS049
Sulphate as SO4	17.5	mg/l	12/12/2016	N Cov	WAS036
BOD + ATU (5 day)	<1	mg/l	16/12/2016	Y Cov	WAS001
COD (Total)	14.0	mg/l	16/12/2016	Y Cov	WAS040
TOC (Filtered)	2.5	mg/l	15/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	19/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	19/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	23/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	06/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	06/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	06/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	19/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	06/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	06/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	06/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	06/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	06/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	06/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	06/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	06/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	06/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	06/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	06/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	06/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	06/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	06/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	06/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	06/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	06/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	06/01/2017	Y Cov	GEO47

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741578**

Sample **7** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW20**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	06/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	06/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	06/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	06/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	06/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	06/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	06/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	06/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	06/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	06/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	06/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	06/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	06/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	06/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	06/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	06/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	06/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	06/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	06/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	06/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	06/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	06/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	06/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	06/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	06/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	23/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	23/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	23/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	23/12/2016	Y Cov	GEO20

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741578**

Sample **7** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW20**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	23/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	23/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	23/12/2016	Y Cov	GEO20
Mecoprop	0.04	ug/l	23/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	14/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Naphthol	<0.10	ug/l	14/12/2016	N Cov	338
Phenol	<0.10	ug/l	14/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	14/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	14/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	16/12/2016	N Cov	GEO46

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741578**

Sample **7** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW20**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	16/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.02	ug/l	16/12/2016	Y Cov	GEO19
Acenaphthylene	<0.02	ug/l	16/12/2016	Y Cov	GEO19
Anthracene	<0.02	ug/l	16/12/2016	Y Cov	GEO19
Benzo (a) anthracene	<0.02	ug/l	16/12/2016	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.02	ug/l	16/12/2016	Y Cov	GEO19
Benzo (a) pyrene	<0.02	ug/l	16/12/2016	Y Cov	GEO19
Benzo (b) fluoranthene	<0.02	ug/l	16/12/2016	Y Cov	GEO19
Benzo (k) fluoranthene	<0.02	ug/l	16/12/2016	Y Cov	GEO19
Chrysene	<0.02	ug/l	16/12/2016	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.02	ug/l	16/12/2016	Y Cov	GEO19
Fluoranthene	<0.02	ug/l	16/12/2016	Y Cov	GEO19
Fluorene	<0.02	ug/l	16/12/2016	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.02	ug/l	16/12/2016	Y Cov	GEO19
Naphthalene	<0.02	ug/l	16/12/2016	Y Cov	GEO19
Phenanthrene	<0.02	ug/l	16/12/2016	Y Cov	GEO19
Pyrene	<0.02	ug/l	16/12/2016	Y Cov	GEO19
PAH, Total	<0.02	ug/l	16/12/2016	N Cov	GEO19
SVOC	Y	ug/l	18/12/2016	N Cov	GEO40
Phenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	18/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	18/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741578**

Sample **7** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW20**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	18/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Issue **2**

Laboratory Number: **15741578**

Sample **7** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW20**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	18/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Fluorophenol	99.4	%Recovery	18/12/2016	N Cov	GEO40
Phenol-d6	90.0	%Recovery	18/12/2016	N Cov	GEO40
Nitrobenzene-d5	89.6	%Recovery	18/12/2016	N Cov	GEO40
2-Fluorobiphenyl	91.5	%Recovery	18/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	86.2	%Recovery	18/12/2016	N Cov	GEO40
Terphenyl-d14	97.9	%Recovery	18/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	15/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	23/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741578**

Sample **7** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW20**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	29/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	29/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	29/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1344129/2016**

Issue **2**

Laboratory Number: **15741578**

Sample **7** of **7**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW20**

Sample Matrix: **Ground Water**

Sample Date/Time: **09 December 2016**

Sample Received: **09 December 2016**

Analysis Complete: **10 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	29/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	29/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	29/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	29/12/2016	Y S	SUBCON

Analyst Comments for 15741578:

This sample has been analysed for Pesticides method GEO47, Magnesium, Total as Mg, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba outside recommended stability times. It is therefore possible that the results provided may be compromised. Reporting limits raised for PAH due to nature of sample matrix.

GEO40 SVOC Waters: See attached SVOC-TIC Report. {*/}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.{*/}

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **C. Law**

Date: **10 January 2017**

Title: **Inorganics Operations Manager**

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Mr Downes
SKM Ireland c/o Jacobs
Engineering Ireland
Jacobs
Merrion House
Merrion Road
Dublin 4 South Dublin

09 January 2017

Test Report: COV/1344748/2016

Dear Mr Downes

Analysis of your sample(s) submitted on 12 December 2016 is now complete and we have pleasure in enclosing the appropriate test report(s).

An invoice for the analysis carried out will be sent under separate cover.

Should you have any queries regarding this report(s) or any part of our service, please contact Customer Services on +44 (0)24 7642 1213 who will be happy to discuss your requirements.

If you would like to arrange any further analysis, please contact Customer Services. To arrange container delivery or sample collection, please call the Couriers Department directly on 024 7685 6562.

Thank you for using ALS Environmental Ltd and we look forward to receiving your next samples.

Yours Sincerely,

Signed: 

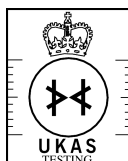
Name: P. Johal

Title: Microbiology Manager



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Report Summary



1314
0897
4409



**Mr Ultan Downes
SKM Ireland c/o Jacobs
Engineering Ireland
Jacobs
Merrion House
Merrion Road
Dublin 4
South Dublin**

Date of Issue: **09 January 2017**

Report Number: **COV/1344748/2016** Issue **2**

Job Description: Kerdiffstown Landfill

Number of Samples
included in this report **3**

Job Received: **12 December 2016**

Number of Test Results
included in this report **825**

Analysis Commenced: **13 December 2016**

Signed:

Name: **P. Johal**

Date: **09 January 2017**

Title: **Microbiology Manager**

ALS Environmental Ltd was not responsible for sampling unless otherwise stated. Sampling is not covered by our UKAS accreditation.

Information on the methods of analysis and performance characteristics are available on request.

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation. The results relate only to the items tested.

Tests marked 'Not UKAS Accredited' in this Report/Certificate are not included in the UKAS Accreditation Schedule for our laboratory.

This communication has been sent to you by ALS Environmental Ltd. Registered in England and Wales. Registration No. 02148934. Registered Office: ALS Environmental Limited, Torrington Avenue, Coventry, CV4 9GU.

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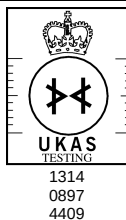
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Certificate of Analysis



Report Number: **COV/1344748/2016**

Issue **2**

Laboratory Number: **15745886**

Sample **1** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW05**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **12 December 2016**

Analysis Complete: **09 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	28/12/2016	N Cov	WAS043
Nitrate as NO3	9.7	mg/l	15/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	29/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	0.0012	mg/l	28/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	0.0044	mg/l	29/12/2016	Y Cov	WAS060
Fluoride	0.095	mg/l	20/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Aluminium, Total as Al	1.1	mg/l	28/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.074	mg/l	28/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	28/12/2016	Y Cov	WAS049
Boron, Total as B	0.29	mg/l	28/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	28/12/2016	Y Cov	WAS049
Calcium , Total as Ca	185	mg/l	28/12/2016	Y Cov	WAS049
Chromium , Total as Cr	0.003	mg/l	28/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	5.9	ug/l	28/12/2016	Y Cov	WAS060
Iron , Total as Fe	4.53	mg/l	28/12/2016	Y Cov	WAS049
Ferrous Iron	<0.5	mg/l	28/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	28/12/2016	N Cov	WAS043
Lead , Total as Pb	0.010	mg/l	28/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	12.5	mg/l	28/12/2016	Y Cov	WAS049
Manganese , Total as Mn	0.933	mg/l	28/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	21/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.011	mg/l	28/12/2016	Y Cov	WAS049
Potassium , Total as K	3.68	mg/l	28/12/2016	Y Cov	WAS049
Sodium , Total as Na	21.4	mg/l	28/12/2016	Y Cov	WAS049
Vanadium , Total as V	0.005	mg/l	28/12/2016	Y Cov	WAS049
Zinc, Total as Zn	0.02	mg/l	28/12/2016	Y Cov	WAS049
pH	7.1	pH units	14/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	849	uS/cm	14/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	470	mg/l	14/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	1.45	mg/l	14/12/2016	Y Cov	WAS067

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Report Number: **COV/1344748/2016**

Issue **2**

Laboratory Number: **15745886**

Sample **1** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW05**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **12 December 2016**

Analysis Complete: **09 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	24.8	mg/l	15/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	15/12/2016	N Cov	WAS036
Phosphates , Total as P	0.26	mg/l	28/12/2016	Y Cov	WAS049
Sulphate as SO4	23.5	mg/l	15/12/2016	N Cov	WAS036
BOD + ATU (5 day)	3	mg/l	19/12/2016	Y Cov	WAS001
COD (Total)	44.0	mg/l	16/12/2016	Y Cov	WAS040
TOC (Filtered)	4.0	mg/l	15/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	19/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	19/12/2016	N Cov	WAS018
Sulphide as S	0.040	mg/l	28/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	09/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	19/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	09/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	09/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	09/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	09/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	09/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	09/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47

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Report Number: **COV/1344748/2016**

Issue **2**

Laboratory Number: **15745886**

Sample **1** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW05**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **12 December 2016**

Analysis Complete: **09 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	09/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	09/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	09/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	09/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	09/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	09/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	24/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	24/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	24/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	24/12/2016	Y Cov	GEO20

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Report Number: **COV/1344748/2016**

Issue **2**

Laboratory Number: **15745886**

Sample **1** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW05**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **12 December 2016**

Analysis Complete: **09 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	24/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	24/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Mecoprop	0.50	ug/l	24/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	16/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Naphthol	<0.10	ug/l	16/12/2016	N Cov	338
Phenol	<0.10	ug/l	16/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	16/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	20/12/2016	N Cov	GEO46

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Report Number: **COV/1344748/2016**

Issue **2**

Laboratory Number: **15745886**

Sample **1** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW05**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **12 December 2016**

Analysis Complete: **09 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Anthracene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Chrysene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Fluoranthene	0.043	ug/l	06/01/2017	Y Cov	GEO19
Fluorene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Naphthalene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Phenanthrene	0.015	ug/l	06/01/2017	Y Cov	GEO19
Pyrene	0.014	ug/l	06/01/2017	Y Cov	GEO19
PAH, Total	0.072	ug/l	06/01/2017	N Cov	GEO19
SVOC	Y	ug/l	18/12/2016	N Cov	GEO40
Phenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	18/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	18/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Report Number: **COV/1344748/2016**

Issue **2**

Laboratory Number: **15745886**

Sample **1** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW05**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **12 December 2016**

Analysis Complete: **09 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	18/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Certificate of Analysis



Report Number: **COV/1344748/2016**

Issue **2**

Laboratory Number: **15745886**

Sample **1** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW05**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **12 December 2016**

Analysis Complete: **09 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	18/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Fluorophenol	96.2	%Recovery	18/12/2016	N Cov	GEO40
Phenol-d6	85.5	%Recovery	18/12/2016	N Cov	GEO40
Nitrobenzene-d5	88.1	%Recovery	18/12/2016	N Cov	GEO40
2-Fluorobiphenyl	89.4	%Recovery	18/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	87.5	%Recovery	18/12/2016	N Cov	GEO40
Terphenyl-d14	99.9	%Recovery	18/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	15/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	24/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1344748/2016**

Issue **2**

Laboratory Number: **15745886**

Sample **1** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW05**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **12 December 2016**

Analysis Complete: **09 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	29/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	29/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	29/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1344748/2016**

Issue **2**

Laboratory Number: **15745886**

Sample **1** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW05**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **12 December 2016**

Analysis Complete: **09 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	29/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	29/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	29/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	29/12/2016	Y S	SUBCON

Analyst Comments for 15745886:

This sample has been analysed for Pesticides method GEO47, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: See attached SVOC-TIC Report.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **P. Johal**

Date: **09 January 2017**

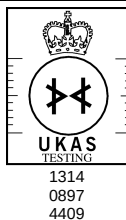
Title: **Microbiology Manager**

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Certificate of Analysis



Report Number: **COV/1344748/2016**

Issue **2**

Laboratory Number: **15745887**

Sample **2** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW21**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **12 December 2016**

Analysis Complete: **09 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	28/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	15/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	29/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	0.0020	mg/l	28/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	<0.0010	mg/l	29/12/2016	Y Cov	WAS060
Fluoride	0.058	mg/l	20/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Aluminium, Total as Al	0.2	mg/l	28/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.023	mg/l	28/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	28/12/2016	Y Cov	WAS049
Boron, Total as B	<0.23	mg/l	28/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	28/12/2016	Y Cov	WAS049
Calcium , Total as Ca	122	mg/l	28/12/2016	Y Cov	WAS049
Chromium , Total as Cr	<0.002	mg/l	28/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	<1.9	ug/l	28/12/2016	Y Cov	WAS060
Iron , Total as Fe	0.28	mg/l	28/12/2016	Y Cov	WAS049
Ferrous Iron	<0.5	mg/l	28/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	28/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	28/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	4.3	mg/l	28/12/2016	Y Cov	WAS049
Manganese , Total as Mn	0.075	mg/l	28/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	21/12/2016	N Cov	WAS013
Nickel, Total as Ni	<0.003	mg/l	28/12/2016	Y Cov	WAS049
Potassium , Total as K	0.61	mg/l	28/12/2016	Y Cov	WAS049
Sodium , Total as Na	3.08	mg/l	28/12/2016	Y Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	28/12/2016	Y Cov	WAS049
Zinc, Total as Zn	<0.018	mg/l	28/12/2016	Y Cov	WAS049
pH	7.3	pH units	14/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	551	uS/cm	14/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	322	mg/l	14/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	<0.06	mg/l	14/12/2016	Y Cov	WAS067

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Report Number: **COV/1344748/2016**

Issue **2**

Laboratory Number: **15745887**

Sample **2** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW21**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **12 December 2016**

Analysis Complete: **09 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	4.1	mg/l	15/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	15/12/2016	N Cov	WAS036
Phosphates , Total as P	<0.120	mg/l	28/12/2016	Y Cov	WAS049
Sulphate as SO4	6.1	mg/l	15/12/2016	N Cov	WAS036
BOD + ATU (5 day)	1	mg/l	19/12/2016	Y Cov	WAS001
COD (Total)	18.0	mg/l	16/12/2016	Y Cov	WAS040
TOC (Filtered)	0.9	mg/l	15/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	19/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	19/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	28/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	09/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	19/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	09/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	09/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	09/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	09/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	09/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	09/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47

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Report Number: **COV/1344748/2016**

Issue **2**

Laboratory Number: **15745887**

Sample **2** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW21**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **12 December 2016**

Analysis Complete: **09 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	09/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	09/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	09/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	09/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	09/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	09/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	24/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	24/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	24/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	24/12/2016	Y Cov	GEO20

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Report Number: **COV/1344748/2016**

Issue **2**

Laboratory Number: **15745887**

Sample **2** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW21**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **12 December 2016**

Analysis Complete: **09 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	24/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	24/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	24/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	16/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Naphthol	<0.10	ug/l	16/12/2016	N Cov	338
Phenol	<0.10	ug/l	16/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	16/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	20/12/2016	N Cov	GEO46

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Report Number: **COV/1344748/2016**

Issue **2**

Laboratory Number: **15745887**

Sample **2** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW21**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **12 December 2016**

Analysis Complete: **09 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Aromatic EPH >C35 - C44	<10	ug/l	20/12/2016	N	Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	20/12/2016	N	Cov	GEO46
EPH >C10 - C44	<10	ug/l	20/12/2016	N	Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N	Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N	Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N	Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Acenaphthylene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Anthracene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Chrysene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Fluoranthene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Fluorene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Naphthalene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Phenanthrene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Pyrene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
PAH, Total	<0.01	ug/l	06/01/2017	N	Cov	GEO19
SVOC	Y	ug/l	18/12/2016	N	Cov	GEO40
Phenol	<1.0	ug/l	18/12/2016	Y	Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	18/12/2016	Y	Cov	GEO40
2-Chlorophenol	<1.0	ug/l	18/12/2016	Y	Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y	Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y	Cov	GEO40
2-Methylphenol	<1.0	ug/l	18/12/2016	Y	Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	18/12/2016	N	Cov	GEO40
Dibenzofuran	<1.0	ug/l	18/12/2016	N	Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y	Cov	GEO40

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Report Number: **COV/1344748/2016**

Issue **2**

Laboratory Number: **15745887**

Sample **2** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW21**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **12 December 2016**

Analysis Complete: **09 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	18/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Report Number: **COV/1344748/2016**

Issue **2**

Laboratory Number: **15745887**

Sample **2** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW21**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **12 December 2016**

Analysis Complete: **09 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	18/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Fluorophenol	96.4	%Recovery	18/12/2016	N Cov	GEO40
Phenol-d6	84.3	%Recovery	18/12/2016	N Cov	GEO40
Nitrobenzene-d5	86.8	%Recovery	18/12/2016	N Cov	GEO40
2-Fluorobiphenyl	88.6	%Recovery	18/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	86.7	%Recovery	18/12/2016	N Cov	GEO40
Terphenyl-d14	94.9	%Recovery	18/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	15/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	24/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1344748/2016**

Issue **2**

Laboratory Number: **15745887**

Sample **2** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW21**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **12 December 2016**

Analysis Complete: **09 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	29/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Bromoform	0.87	ug/l	29/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	29/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1344748/2016**

Issue **2**

Laboratory Number: **15745887**

Sample **2** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW21**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **12 December 2016**

Analysis Complete: **09 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	29/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	29/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	29/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	29/12/2016	Y S	SUBCON

Analyst Comments for 15745887:

This sample has been analysed for Pesticides method GEO47, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: See attached SVOC-TIC Report.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **P. Johal**

Date: **09 January 2017**

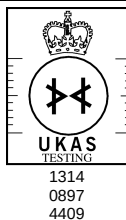
Title: **Microbiology Manager**

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Report Number: **COV/1344748/2016**

Issue **2**

Laboratory Number: **15745888**

Sample **3** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW24**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **12 December 2016**

Analysis Complete: **09 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	28/12/2016	N Cov	WAS043
Nitrate as NO3	9.2	mg/l	15/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	29/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	0.0016	mg/l	28/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	0.0022	mg/l	29/12/2016	Y Cov	WAS060
Fluoride	0.218	mg/l	20/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Aluminium, Total as Al	2.6	mg/l	29/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.102	mg/l	29/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0210	mg/l	29/12/2016	Y Cov	WAS049
Boron, Total as B	<2.30	mg/l	29/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	<0.0060	mg/l	29/12/2016	Y Cov	WAS049
Calcium , Total as Ca	153	mg/l	29/12/2016	Y Cov	WAS049
Chromium , Total as Cr	<0.020	mg/l	29/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	16	ug/l	28/12/2016	Y Cov	WAS060
Iron , Total as Fe	3.43	mg/l	29/12/2016	Y Cov	WAS049
Ferrous Iron	<0.5	mg/l	28/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	28/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.060	mg/l	29/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	17.4	mg/l	29/12/2016	Y Cov	WAS049
Manganese , Total as Mn	0.763	mg/l	29/12/2016	Y Cov	WAS049
Mercury, Total as Hg	0.00020	mg/l	21/12/2016	N Cov	WAS013
Nickel, Total as Ni	<0.030	mg/l	29/12/2016	Y Cov	WAS049
Potassium , Total as K	<1.80	mg/l	29/12/2016	Y Cov	WAS049
Sodium , Total as Na	7.39	mg/l	29/12/2016	Y Cov	WAS049
Vanadium , Total as V	<0.040	mg/l	29/12/2016	Y Cov	WAS049
Zinc, Total as Zn	<0.180	mg/l	29/12/2016	Y Cov	WAS049
pH	7.4	pH units	14/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	586	uS/cm	14/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	323	mg/l	14/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	<0.06	mg/l	14/12/2016	Y Cov	WAS067

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Report Number: **COV/1344748/2016**

Issue **2**

Laboratory Number: **15745888**

Sample **3** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW24**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **12 December 2016**

Analysis Complete: **09 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	18.4	mg/l	15/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	15/12/2016	N Cov	WAS036
Phosphates , Total as P	<1.2	mg/l	29/12/2016	Y Cov	WAS049
Sulphate as SO4	36.6	mg/l	15/12/2016	N Cov	WAS036
BOD + ATU (5 day)	2	mg/l	19/12/2016	Y Cov	WAS001
COD (Total)	83.0	mg/l	16/12/2016	Y Cov	WAS040
TOC (Filtered)	1.6	mg/l	15/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	19/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	19/12/2016	N Cov	WAS018
Sulphide as S	0.300	mg/l	28/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	09/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	19/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	09/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	09/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	09/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	09/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	09/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	09/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47

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Report Number: **COV/1344748/2016**

Issue **2**

Laboratory Number: **15745888**

Sample **3** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW24**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **12 December 2016**

Analysis Complete: **09 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	09/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	09/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	09/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	09/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	09/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	09/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	24/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	24/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	24/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	24/12/2016	Y Cov	GEO20

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Certificate of Analysis



Report Number: **COV/1344748/2016**

Issue **2**

Laboratory Number: **15745888**

Sample **3** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW24**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **12 December 2016**

Analysis Complete: **09 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	24/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	24/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	24/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	24/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	16/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Naphthol	<0.10	ug/l	16/12/2016	N Cov	338
Phenol	<0.10	ug/l	16/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	16/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	20/12/2016	N Cov	GEO46

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Report Number: **COV/1344748/2016**

Issue **2**

Laboratory Number: **15745888**

Sample **3** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW24**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **12 December 2016**

Analysis Complete: **09 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Anthracene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Chrysene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Fluoranthene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Fluorene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Naphthalene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Phenanthrene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Pyrene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
PAH, Total	<0.01	ug/l	06/01/2017	N Cov	GEO19
SVOC	Y	ug/l	18/12/2016	N Cov	GEO40
Phenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	18/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	18/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Report Number: **COV/1344748/2016**

Issue **2**

Laboratory Number: **15745888**

Sample **3** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW24**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **12 December 2016**

Analysis Complete: **09 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	18/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Report Number: **COV/1344748/2016**

Issue **2**

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Sample **3** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW24**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **12 December 2016**

Analysis Complete: **09 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	18/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Fluorophenol	96.0	%Recovery	18/12/2016	N Cov	GEO40
Phenol-d6	86.5	%Recovery	18/12/2016	N Cov	GEO40
Nitrobenzene-d5	85.7	%Recovery	18/12/2016	N Cov	GEO40
2-Fluorobiphenyl	86.9	%Recovery	18/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	88.8	%Recovery	18/12/2016	N Cov	GEO40
Terphenyl-d14	100.2	%Recovery	18/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	15/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	24/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Report Number: **COV/1344748/2016**

Issue **2**

Laboratory Number: **15745888**

Sample **3** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW24**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **12 December 2016**

Analysis Complete: **09 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	29/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	29/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	29/12/2016	Y S	SUBCON
Bromodichloromethane	0.14	ug/l	29/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	29/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Chloroform	1.44	ug/l	29/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	29/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	29/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON

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Certificate of Analysis



Report Number: **COV/1344748/2016**

Issue **2**

Laboratory Number: **15745888**

Sample **3** of **3**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW24**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **12 December 2016**

Analysis Complete: **09 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	29/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	29/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	29/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	29/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	29/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	29/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	29/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	29/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	29/12/2016	Y S	SUBCON

Analyst Comments for 15745888:

This sample has been analysed for Pesticides method GEO47, Aluminium, Total as Al, Magnesium, Total as Mg, Sodium, Total as Na, Boron, Total as B, Barium, Total as Ba outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: See attached SVOC-TIC Report. The reporting limit has been raised for metals due to interference with the internal standard

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry (CV4 9GU), Che = Chester (CH4 9EP), Ott = Otterbourne (SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge (BA14 0XD), Wak = Wakefield (WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **P. Johal**

Date: **09 January 2017**

Title: **Microbiology Manager**

ALS Environmental Ltd

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Mr Downes
SKM Ireland c/o Jacobs
Engineering Ireland
Jacobs
Merrion House
Merrion Road
Dublin 4 South Dublin

18 January 2017

Test Report: COV/1345144/2016

Dear Mr Downes

Analysis of your sample(s) submitted on 13 December 2016 is now complete and we have pleasure in enclosing the appropriate test report(s).

An invoice for the analysis carried out will be sent under separate cover.

Should you have any queries regarding this report(s) or any part of our service, please contact Customer Services on +44 (0)24 7642 1213 who will be happy to discuss your requirements.

If you would like to arrange any further analysis, please contact Customer Services. To arrange container delivery or sample collection, please call the Couriers Department directly on 024 7685 6562.

Thank you for using ALS Environmental Ltd and we look forward to receiving your next samples.

Yours Sincerely,

Signed: 

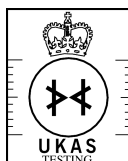
Name: G. Arnold

Title: Inorganic Team Leader



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Report Summary



1314
0897
4409



**Mr Ultan Downes
SKM Ireland c/o Jacobs
Engineering Ireland
Jacobs
Merrion House
Merrion Road
Dublin 4
South Dublin**

Date of Issue: **18 January 2017**

Report Number: **COV/1345144/2016** Issue **3**

Job Description: Kerdiffstown Landfill

Number of Samples
included in this report **6**

Job Received: **13 December 2016**

Number of Test Results
included in this report **1650**

Analysis Commenced: **14 December 2016**

Signed:

Name: **G. Arnold**

Date: **18 January 2017**

Title: **Inorganic Team Leader**

ALS Environmental Ltd was not responsible for sampling unless otherwise stated. Sampling is not covered by our UKAS accreditation.

Information on the methods of analysis and performance characteristics are available on request.

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation. The results relate only to the items tested.

Tests marked 'Not UKAS Accredited' in this Report/Certificate are not included in the UKAS Accreditation Schedule for our laboratory.

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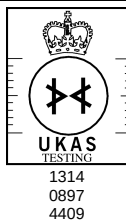
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Certificate of Analysis



Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748890**

Sample **1** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW22**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	29/12/2016	N Cov	WAS043
Nitrate as NO3	7.6	mg/l	15/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	29/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	29/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	<0.0010	mg/l	29/12/2016	Y Cov	WAS060
Fluoride	0.195	mg/l	19/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Aluminium, Total as Al	0.6	mg/l	23/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.080	mg/l	23/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	23/12/2016	Y Cov	WAS049
Boron, Total as B	<0.23	mg/l	23/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	23/12/2016	Y Cov	WAS049
Calcium , Total as Ca	106	mg/l	23/12/2016	Y Cov	WAS049
Chromium , Total as Cr	<0.002	mg/l	23/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	8.2	ug/l	29/12/2016	Y Cov	WAS060
Iron , Total as Fe	0.91	mg/l	23/12/2016	Y Cov	WAS049
Ferrous Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Lead , Total as Pb	0.007	mg/l	23/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	19.7	mg/l	23/12/2016	Y Cov	WAS049
Manganese , Total as Mn	0.657	mg/l	23/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	21/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.008	mg/l	23/12/2016	Y Cov	WAS049
Potassium , Total as K	2.38	mg/l	23/12/2016	Y Cov	WAS049
Sodium , Total as Na	15.5	mg/l	23/12/2016	Y Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	23/12/2016	Y Cov	WAS049
Zinc, Total as Zn	0.03	mg/l	23/12/2016	Y Cov	WAS049
pH	7.4	pH units	14/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	710	uS/cm	14/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	322	mg/l	29/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	<0.06	mg/l	14/12/2016	Y Cov	WAS067

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Issue **3**

Laboratory Number: **15748890**

Sample **1** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW22**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	35.0	mg/l	15/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	15/12/2016	N Cov	WAS036
Phosphates , Total as P	0.24	mg/l	23/12/2016	Y Cov	WAS049
Sulphate as SO4	84.1	mg/l	15/12/2016	N Cov	WAS036
BOD + ATU (5 day)	2	mg/l	19/12/2016	Y Cov	WAS001
COD (Total)	18.0	mg/l	16/12/2016	Y Cov	WAS040
TOC (Filtered)	0.8	mg/l	18/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	16/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	16/12/2016	N Cov	WAS018
Sulphide as S	0.059	mg/l	28/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	09/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	19/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	09/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	09/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	09/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	09/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	09/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	09/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47

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Sample **1** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW22**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	09/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	09/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	09/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	09/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	09/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	09/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20

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Laboratory Number: **15748890**

Sample **1** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW22**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Mecoprop	0.05	ug/l	28/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	15/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	15/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	15/12/2016	N Cov	338
Naphthol	<0.10	ug/l	15/12/2016	N Cov	338
Phenol	<0.10	ug/l	15/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	15/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	15/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	20/12/2016	N Cov	GEO46

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748890**

Sample **1** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW22**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Anthracene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Chrysene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Fluoranthene	0.014	ug/l	06/01/2017	Y Cov	GEO19
Fluorene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Naphthalene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Phenanthrene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Pyrene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
PAH, Total	0.014	ug/l	06/01/2017	N Cov	GEO19
SVOC	Y	ug/l	18/12/2016	N Cov	GEO40
Phenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	18/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	18/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Sample **1** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW22**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	18/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Report Number: **COV/1345144/2016**

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Laboratory Number: **15748890**

Sample **1** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW22**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	18/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Fluorophenol	96.4	%Recovery	18/12/2016	N Cov	GEO40
Phenol-d6	70.2	%Recovery	18/12/2016	N Cov	GEO40
Nitrobenzene-d5	89.6	%Recovery	18/12/2016	N Cov	GEO40
2-Fluorobiphenyl	88.3	%Recovery	18/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	84.2	%Recovery	18/12/2016	N Cov	GEO40
Terphenyl-d14	96.8	%Recovery	18/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	22/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	28/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	28/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	28/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748890**

Sample **1** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW22**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	28/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	28/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	28/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	28/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	28/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	28/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	28/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	28/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	28/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	28/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	28/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	28/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748890**

Sample **1** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW22**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	28/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	28/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	28/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	28/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	28/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	28/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	28/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	28/12/2016	Y S	SUBCON

Analyst Comments for 15748890:

This sample has been analysed for Pesticides method GEO47, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: See attached SVOC-TIC Report. {*/}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.{*/}

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **G. Arnold**

Date: **18 January 2017**

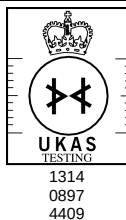
Title: **Inorganic Team Leader**

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748891**

Sample **2** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW23**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

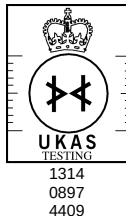
Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	29/12/2016	N Cov	WAS043
Nitrate as NO3	15.6	mg/l	15/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	29/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	0.0026	mg/l	29/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	<0.0010	mg/l	29/12/2016	Y Cov	WAS060
Fluoride	0.075	mg/l	19/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Aluminium, Total as Al	1.2	mg/l	23/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.102	mg/l	23/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	23/12/2016	Y Cov	WAS049
Boron, Total as B	<0.23	mg/l	23/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	23/12/2016	Y Cov	WAS049
Calcium , Total as Ca	141	mg/l	23/12/2016	Y Cov	WAS049
Chromium , Total as Cr	0.003	mg/l	23/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	7.7	ug/l	29/12/2016	Y Cov	WAS060
Iron , Total as Fe	2.04	mg/l	23/12/2016	Y Cov	WAS049
Ferrous Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Lead , Total as Pb	0.007	mg/l	23/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	11.8	mg/l	23/12/2016	Y Cov	WAS049
Manganese , Total as Mn	0.389	mg/l	23/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	21/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.009	mg/l	23/12/2016	Y Cov	WAS049
Potassium , Total as K	11.7	mg/l	23/12/2016	Y Cov	WAS049
Sodium , Total as Na	7.79	mg/l	23/12/2016	Y Cov	WAS049
Vanadium , Total as V	0.005	mg/l	23/12/2016	Y Cov	WAS049
Zinc, Total as Zn	0.03	mg/l	23/12/2016	Y Cov	WAS049
pH	7.3	pH units	14/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	651	uS/cm	14/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	389	mg/l	29/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	<0.06	mg/l	14/12/2016	Y Cov	WAS067

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Sample **2** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW23**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	11.4	mg/l	15/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	15/12/2016	N Cov	WAS036
Phosphates , Total as P	0.19	mg/l	23/12/2016	Y Cov	WAS049
Sulphate as SO4	26.8	mg/l	15/12/2016	N Cov	WAS036
BOD + ATU (5 day)	2	mg/l	19/12/2016	Y Cov	WAS001
COD (Total)	48.0	mg/l	16/12/2016	Y Cov	WAS040
TOC (Filtered)	1.1	mg/l	18/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	16/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	16/12/2016	N Cov	WAS018
Sulphide as S	0.020	mg/l	28/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	09/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	19/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	09/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	09/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	09/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	09/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	09/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	09/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748891**

Sample **2** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW23**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	09/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	09/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	09/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	09/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	09/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	09/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20

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Issue **3**

Laboratory Number: **15748891**

Sample **2** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW23**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	28/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	15/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	15/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	15/12/2016	N Cov	338
Naphthol	<0.10	ug/l	15/12/2016	N Cov	338
Phenol	<0.10	ug/l	15/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	15/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	15/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	20/12/2016	N Cov	GEO46

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Sample **2** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW23**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Anthracene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Chrysene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Fluoranthene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Fluorene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Naphthalene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Phenanthrene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Pyrene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
PAH, Total	<0.01	ug/l	06/01/2017	N Cov	GEO19
SVOC	Y	ug/l	18/12/2016	N Cov	GEO40
Phenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	18/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	18/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748891**

Sample **2** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW23**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	18/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Issue **3**

Laboratory Number: **15748891**

Sample **2** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW23**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	18/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Fluorophenol	95.7	%Recovery	18/12/2016	N Cov	GEO40
Phenol-d6	74.0	%Recovery	18/12/2016	N Cov	GEO40
Nitrobenzene-d5	88.0	%Recovery	18/12/2016	N Cov	GEO40
2-Fluorobiphenyl	90.1	%Recovery	18/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	81.8	%Recovery	18/12/2016	N Cov	GEO40
Terphenyl-d14	100.0	%Recovery	18/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	22/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	28/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	28/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	28/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON

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Issue **3**

Laboratory Number: **15748891**

Sample **2** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW23**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	28/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	28/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	28/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	28/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	28/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
Bromoform	6.86	ug/l	28/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	28/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	28/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	28/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Dibromochloromethane	0.43	ug/l	28/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	28/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	28/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	28/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON

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Issue **3**

Laboratory Number: **15748891**

Sample **2** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW23**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	28/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	28/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	28/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	28/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	28/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	28/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	28/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	28/12/2016	Y S	SUBCON

Analyst Comments for 15748891:

This sample has been analysed for Pesticides method GEO47, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: See attached SVOC-TIC Report. {*/}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.{*/}

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **G. Arnold**

Date: **18 January 2017**

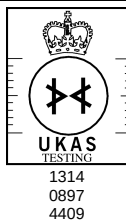
Title: **Inorganic Team Leader**

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748892**

Sample **3** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW31**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	22.1	mg/l	29/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	15/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	29/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	29/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	0.0026	mg/l	29/12/2016	Y Cov	WAS060
Fluoride	<0.100	mg/l	19/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Aluminium, Total as Al	0.2	mg/l	23/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.220	mg/l	23/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	23/12/2016	Y Cov	WAS049
Boron, Total as B	<0.23	mg/l	23/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	23/12/2016	Y Cov	WAS049
Calcium , Total as Ca	172	mg/l	23/12/2016	Y Cov	WAS049
Chromium , Total as Cr	<0.002	mg/l	23/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	10	ug/l	29/12/2016	Y Cov	WAS060
Iron , Total as Fe	22.0	mg/l	23/12/2016	Y Cov	WAS049
Ferrous Iron	22.0	mg/l	29/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Lead , Total as Pb	0.007	mg/l	23/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	10.6	mg/l	23/12/2016	Y Cov	WAS049
Manganese , Total as Mn	2.13	mg/l	23/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	21/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.004	mg/l	23/12/2016	Y Cov	WAS049
Potassium , Total as K	1.49	mg/l	23/12/2016	Y Cov	WAS049
Sodium , Total as Na	12.2	mg/l	23/12/2016	Y Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	23/12/2016	Y Cov	WAS049
Zinc, Total as Zn	<0.018	mg/l	23/12/2016	Y Cov	WAS049
pH	6.9	pH units	14/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	800	uS/cm	14/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	467	mg/l	29/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	2.82	mg/l	14/12/2016	Y Cov	WAS067

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Issue **3**

Laboratory Number: **15748892**

Sample **3** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW31**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	19.9	mg/l	15/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	15/12/2016	N Cov	WAS036
Phosphates , Total as P	0.44	mg/l	23/12/2016	Y Cov	WAS049
Sulphate as SO4	30.8	mg/l	15/12/2016	N Cov	WAS036
BOD + ATU (5 day)	4	mg/l	19/12/2016	Y Cov	WAS001
COD (Total)	31.0	mg/l	16/12/2016	Y Cov	WAS040
TOC (Filtered)	5.2	mg/l	18/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	16/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	16/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	28/12/2016	N Cov	WAS033
Formaldehyde	0.857	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	09/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	19/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	09/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	09/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	09/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	09/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	09/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	09/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47

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Issue **3**

Laboratory Number: **15748892**

Sample **3** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW31**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	09/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	09/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	09/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	09/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	09/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	09/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748892**

Sample **3** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW31**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	28/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	15/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	15/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	15/12/2016	N Cov	338
Naphthol	<0.10	ug/l	15/12/2016	N Cov	338
Phenol	<0.10	ug/l	15/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	15/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	15/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	20/12/2016	N Cov	GEO46

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748892**

Sample **3** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW31**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Aromatic EPH >C35 - C44	<10	ug/l	20/12/2016	N	Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	20/12/2016	N	Cov	GEO46
EPH >C10 - C44	<10	ug/l	20/12/2016	N	Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N	Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N	Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N	Cov	GEO45/GEO4
Acenaphthene	<0.02	ug/l	06/01/2017	Y	Cov	GEO19
Acenaphthylene	<0.02	ug/l	06/01/2017	Y	Cov	GEO19
Anthracene	<0.02	ug/l	06/01/2017	Y	Cov	GEO19
Benzo (a) anthracene	<0.02	ug/l	06/01/2017	Y	Cov	GEO19
Benzo (g,h,i) perylene	<0.02	ug/l	06/01/2017	Y	Cov	GEO19
Benzo (a) pyrene	<0.02	ug/l	06/01/2017	Y	Cov	GEO19
Benzo (b) fluoranthene	<0.02	ug/l	06/01/2017	Y	Cov	GEO19
Benzo (k) fluoranthene	<0.04	ug/l	06/01/2017	Y	Cov	GEO19
Chrysene	<0.02	ug/l	06/01/2017	Y	Cov	GEO19
Dibenz (a,h) anthracene	<0.02	ug/l	06/01/2017	Y	Cov	GEO19
Fluoranthene	<0.02	ug/l	06/01/2017	Y	Cov	GEO19
Fluorene	<0.02	ug/l	06/01/2017	Y	Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.02	ug/l	06/01/2017	Y	Cov	GEO19
Naphthalene	<0.02	ug/l	06/01/2017	Y	Cov	GEO19
Phenanthrene	<0.02	ug/l	06/01/2017	Y	Cov	GEO19
Pyrene	<0.02	ug/l	06/01/2017	Y	Cov	GEO19
PAH, Total	<0.04	ug/l	06/01/2017	N	Cov	GEO19
SVOC	Y	ug/l	18/12/2016	N	Cov	GEO40
Phenol	<2.0	ug/l	18/12/2016	Y	Cov	GEO40
Bis(2-chloroethyl)ether	<2.0	ug/l	18/12/2016	Y	Cov	GEO40
2-Chlorophenol	<2.0	ug/l	18/12/2016	Y	Cov	GEO40
1,3-Dichlorobenzene	<2.0	ug/l	18/12/2016	Y	Cov	GEO40
1,4-Dichlorobenzene	<2.0	ug/l	18/12/2016	Y	Cov	GEO40
2-Methylphenol	<2.0	ug/l	18/12/2016	Y	Cov	GEO40
3&4-Methylphenol	<2.0	ug/l	18/12/2016	N	Cov	GEO40
Dibenzofuran	<2.0	ug/l	18/12/2016	N	Cov	GEO40
1,2-Dichlorobenzene	<2.0	ug/l	18/12/2016	Y	Cov	GEO40

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748892**

Sample **3** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW31**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<2.0	ug/l	18/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachloroethane	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Nitrobenzene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Isophorone	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2-Nitrophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Dimethylphthalate	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthylene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Diethylphthalate	<2.0	ug/l	18/12/2016	Y Cov	GEO40
4-Nitrophenol	<10.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Fluorene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Diphenylamine	<2.0	ug/l	18/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobenzene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Pentachlorophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Phenanthrene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Anthracene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<2.0	ug/l	18/12/2016	Y Cov	GEO40

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748892**

Sample **3** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW31**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Pyrene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Chrysene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<10.0	ug/l	18/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2-Fluorophenol	88.2	%Recovery	18/12/2016	N Cov	GEO40
Phenol-d6	81.1	%Recovery	18/12/2016	N Cov	GEO40
Nitrobenzene-d5	77.0	%Recovery	18/12/2016	N Cov	GEO40
2-Fluorobiphenyl	77.7	%Recovery	18/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	68.3	%Recovery	18/12/2016	N Cov	GEO40
Terphenyl-d14	87.1	%Recovery	18/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	22/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	28/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	28/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	28/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748892**

Sample **3** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW31**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	28/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	28/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	28/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	28/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	28/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	28/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	28/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	28/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	28/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	28/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	28/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	28/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748892**

Sample **3** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW31**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	28/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	28/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	28/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	28/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	28/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	28/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	28/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	28/12/2016	Y S	SUBCON

Analyst Comments for 15748892:

This sample has been analysed for Pesticides method GEO47, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: Reporting limits raised due to the nature of the sample matrix. See attached SVOC-TIC Report.
{/*}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.{*/}
The total PAH does not include Benzo(k)fluoranthene as the reporting limit for this compound has been raised due to interference. The reporting limits for the rest of PAH compounds also have been raised due to the nature of sample matrix.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **G. Arnold**

Date: **18 January 2017**

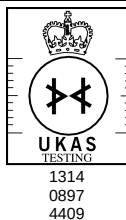
Title: **Inorganic Team Leader**

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748893**

Sample **4** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW32**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	0.5	mg/l	29/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	15/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	29/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	29/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	<0.0010	mg/l	29/12/2016	Y Cov	WAS060
Fluoride	0.120	mg/l	19/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Aluminium, Total as Al	1.2	mg/l	23/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.189	mg/l	23/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	23/12/2016	Y Cov	WAS049
Boron, Total as B	<0.23	mg/l	23/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	23/12/2016	Y Cov	WAS049
Calcium , Total as Ca	149	mg/l	23/12/2016	Y Cov	WAS049
Chromium , Total as Cr	0.003	mg/l	23/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	9.8	ug/l	29/12/2016	Y Cov	WAS060
Iron , Total as Fe	1.90	mg/l	23/12/2016	Y Cov	WAS049
Ferrous Iron	0.5	mg/l	29/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	23/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	15.7	mg/l	23/12/2016	Y Cov	WAS049
Manganese , Total as Mn	1.25	mg/l	23/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	21/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.011	mg/l	23/12/2016	Y Cov	WAS049
Potassium , Total as K	6.73	mg/l	23/12/2016	Y Cov	WAS049
Sodium , Total as Na	9.75	mg/l	23/12/2016	Y Cov	WAS049
Vanadium , Total as V	0.005	mg/l	23/12/2016	Y Cov	WAS049
Zinc, Total as Zn	0.03	mg/l	23/12/2016	Y Cov	WAS049
pH	7.2	pH units	14/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	654	uS/cm	14/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	408	mg/l	29/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	0.12	mg/l	14/12/2016	Y Cov	WAS067

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748893**

Sample **4** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW32**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	18.2	mg/l	15/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	15/12/2016	N Cov	WAS036
Phosphates , Total as P	0.17	mg/l	23/12/2016	Y Cov	WAS049
Sulphate as SO4	24.6	mg/l	15/12/2016	N Cov	WAS036
BOD + ATU (5 day)	<1	mg/l	19/12/2016	Y Cov	WAS001
COD (Total)	52.0	mg/l	16/12/2016	Y Cov	WAS040
TOC (Filtered)	1.2	mg/l	18/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	16/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	16/12/2016	N Cov	WAS018
Sulphide as S	0.026	mg/l	28/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	09/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	19/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	09/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	09/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	09/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	09/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	09/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	09/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748893**

Sample **4** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW32**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	09/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	09/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	09/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	09/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	09/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	09/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748893**

Sample **4** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW32**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	28/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	15/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	15/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	15/12/2016	N Cov	338
Naphthol	<0.10	ug/l	15/12/2016	N Cov	338
Phenol	<0.10	ug/l	15/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	15/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	15/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	20/12/2016	N Cov	GEO46

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Issue **3**

Laboratory Number: **15748893**

Sample **4** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW32**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Anthracene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Benzo (k) fluoranthene	<0.05	ug/l	06/01/2017	Y Cov	GEO19
Chrysene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Fluoranthene	0.022	ug/l	06/01/2017	Y Cov	GEO19
Fluorene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Naphthalene	<0.01	ug/l	06/01/2017	Y Cov	GEO19
Phenanthrene	0.028	ug/l	06/01/2017	Y Cov	GEO19
Pyrene	0.034	ug/l	06/01/2017	Y Cov	GEO19
PAH, Total	0.084	ug/l	06/01/2017	N Cov	GEO19
SVOC	Y	ug/l	18/12/2016	N Cov	GEO40
Phenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	18/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	18/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Issue **3**

Laboratory Number: **15748893**

Sample **4** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW32**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	18/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748893**

Sample **4** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW32**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	18/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Fluorophenol	99.8	%Recovery	18/12/2016	N Cov	GEO40
Phenol-d6	80.7	%Recovery	18/12/2016	N Cov	GEO40
Nitrobenzene-d5	91.8	%Recovery	18/12/2016	N Cov	GEO40
2-Fluorobiphenyl	95.3	%Recovery	18/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	79.9	%Recovery	18/12/2016	N Cov	GEO40
Terphenyl-d14	101.0	%Recovery	18/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	22/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	28/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	28/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	28/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON

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Issue **3**

Laboratory Number: **15748893**

Sample **4** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW32**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	28/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	28/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	28/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	28/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	28/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	28/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	28/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	28/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	28/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	28/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	28/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	28/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON

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Certificate of Analysis



Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748893**

Sample **4** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW32**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	28/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	28/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	28/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	28/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	28/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	28/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	28/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	28/12/2016	Y S	SUBCON

Analyst Comments for 15748893:

This sample has been analysed for Pesticides method GEO47, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: See attached SVOC-TIC Report.

{/*}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.{*/}

The total PAH does not include Benzo(k)fluoranthene as the reporting limit for this compound has been raised due to interference.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **G. Arnold**

Date: **18 January 2017**

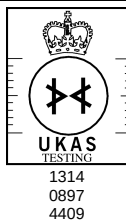
Title: **Inorganic Team Leader**

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748894**

Sample **5** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW33**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	1.8	mg/l	29/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	15/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	29/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	29/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	0.027	mg/l	29/12/2016	Y Cov	WAS060
Fluoride	0.078	mg/l	19/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Aluminium, Total as Al	0.1	mg/l	23/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.120	mg/l	23/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	23/12/2016	Y Cov	WAS049
Boron, Total as B	<0.23	mg/l	23/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	23/12/2016	Y Cov	WAS049
Calcium , Total as Ca	113	mg/l	23/12/2016	Y Cov	WAS049
Chromium , Total as Cr	<0.002	mg/l	23/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	2.8	ug/l	29/12/2016	Y Cov	WAS060
Iron , Total as Fe	9.09	mg/l	23/12/2016	Y Cov	WAS049
Ferrous Iron	1.7	mg/l	29/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	23/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	11.3	mg/l	23/12/2016	Y Cov	WAS049
Manganese , Total as Mn	0.459	mg/l	23/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	21/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.003	mg/l	23/12/2016	Y Cov	WAS049
Potassium , Total as K	1.40	mg/l	23/12/2016	Y Cov	WAS049
Sodium , Total as Na	9.18	mg/l	23/12/2016	Y Cov	WAS049
Vanadium , Total as V	0.004	mg/l	23/12/2016	Y Cov	WAS049
Zinc, Total as Zn	<0.018	mg/l	23/12/2016	Y Cov	WAS049
pH	7.6	pH units	14/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	532	uS/cm	14/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	310	mg/l	29/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	0.20	mg/l	14/12/2016	Y Cov	WAS067

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748894**

Sample **5** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW33**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	16.1	mg/l	15/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	15/12/2016	N Cov	WAS036
Phosphates , Total as P	1.2	mg/l	23/12/2016	Y Cov	WAS049
Sulphate as SO4	11.1	mg/l	15/12/2016	N Cov	WAS036
BOD + ATU (5 day)	54	mg/l	19/12/2016	Y Cov	WAS001
COD (Total)	<11.0	mg/l	16/12/2016	Y Cov	WAS040
TOC (Filtered)	1.6	mg/l	18/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	16/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	16/12/2016	N Cov	WAS018
Sulphide as S	0.023	mg/l	28/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	09/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	19/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	09/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	09/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	09/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	09/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	09/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	09/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748894**

Sample **5** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW33**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	09/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	09/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	09/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	09/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	09/01/2017	Y Cov	GEO47
Azinphos-ethyl	Analyst Com	ug/l	18/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	16/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	16/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20

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Issue **3**

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Sample **5** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW33**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	28/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	15/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	15/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	15/12/2016	N Cov	338
Naphthol	<0.10	ug/l	15/12/2016	N Cov	338
Phenol	<0.10	ug/l	15/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	15/12/2016	N Cov	338
Phenols, Total	0.67	ug/l	15/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	20/12/2016	N Cov	GEO46

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Issue **3**

Laboratory Number: **15748894**

Sample **5** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW33**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Aromatic EPH >C35 - C44	<10	ug/l	20/12/2016	N	Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	20/12/2016	N	Cov	GEO46
EPH >C10 - C44	<10	ug/l	20/12/2016	N	Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N	Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N	Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N	Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Acenaphthylene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Anthracene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Chrysene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Fluoranthene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Fluorene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Naphthalene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Phenanthrene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
Pyrene	<0.01	ug/l	06/01/2017	Y	Cov	GEO19
PAH, Total	<0.01	ug/l	06/01/2017	N	Cov	GEO19
SVOC	Y	ug/l	18/12/2016	N	Cov	GEO40
Phenol	<1.0	ug/l	18/12/2016	Y	Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	18/12/2016	Y	Cov	GEO40
2-Chlorophenol	<1.0	ug/l	18/12/2016	Y	Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y	Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y	Cov	GEO40
2-Methylphenol	<1.0	ug/l	18/12/2016	Y	Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	18/12/2016	N	Cov	GEO40
Dibenzofuran	<1.0	ug/l	18/12/2016	N	Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y	Cov	GEO40

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Laboratory Number: **15748894**

Sample **5** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW33**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	18/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Certificate of Analysis



Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748894**

Sample **5** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW33**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	18/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Fluorophenol	103.4	%Recovery	18/12/2016	N Cov	GEO40
Phenol-d6	77.9	%Recovery	18/12/2016	N Cov	GEO40
Nitrobenzene-d5	90.2	%Recovery	18/12/2016	N Cov	GEO40
2-Fluorobiphenyl	92.0	%Recovery	18/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	77.9	%Recovery	18/12/2016	N Cov	GEO40
Terphenyl-d14	101.4	%Recovery	18/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	22/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	28/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	28/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	28/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748894**

Sample **5** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW33**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	28/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	28/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	28/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	28/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	28/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	28/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	28/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	28/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	28/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	28/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	28/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	28/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748894**

Sample **5** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW33**

Sample Matrix: **Ground Water**

Sample Date/Time: **12 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	28/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	28/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	28/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	28/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	28/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	28/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	28/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	28/12/2016	Y S	SUBCON

Analyst Comments for 15748894:

This sample has been analysed for Pesticides method GEO47, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: See attached SVOC-TIC Report.
Integrity breach between BOD and COD. BOD result confirmed by raw data check and COD confirmed by repeat analysis. {*}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.{*}
AQC failure for Azinphos-Ethyl is unable to indicate.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **G. Arnold**

Date: **18 January 2017**

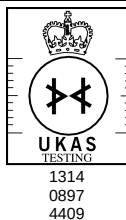
Title: **Inorganic Team Leader**

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Certificate of Analysis



Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748895**

Sample **6** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW30**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	29/12/2016	N Cov	WAS043
Nitrate as NO3	10.1	mg/l	15/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	29/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	29/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	<0.0010	mg/l	29/12/2016	Y Cov	WAS060
Fluoride	0.064	mg/l	19/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Aluminium, Total as Al	1.4	mg/l	23/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.104	mg/l	23/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	23/12/2016	Y Cov	WAS049
Boron, Total as B	<0.23	mg/l	23/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	0.0008	mg/l	23/12/2016	Y Cov	WAS049
Calcium , Total as Ca	175	mg/l	23/12/2016	Y Cov	WAS049
Chromium , Total as Cr	0.005	mg/l	23/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	8.7	ug/l	29/12/2016	Y Cov	WAS060
Iron , Total as Fe	4.20	mg/l	23/12/2016	Y Cov	WAS049
Ferrous Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Lead , Total as Pb	0.026	mg/l	23/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	10.1	mg/l	23/12/2016	Y Cov	WAS049
Manganese , Total as Mn	0.728	mg/l	23/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	21/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.015	mg/l	23/12/2016	Y Cov	WAS049
Potassium , Total as K	1.17	mg/l	23/12/2016	Y Cov	WAS049
Sodium , Total as Na	5.42	mg/l	23/12/2016	Y Cov	WAS049
Vanadium , Total as V	0.007	mg/l	23/12/2016	Y Cov	WAS049
Zinc, Total as Zn	0.06	mg/l	23/12/2016	Y Cov	WAS049
pH	7.2	pH units	14/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	634	uS/cm	29/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	446	mg/l	29/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	<0.06	mg/l	14/12/2016	Y Cov	WAS067

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748895**

Sample **6** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW30**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	12.1	mg/l	15/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	15/12/2016	N Cov	WAS036
Phosphates , Total as P	0.25	mg/l	23/12/2016	Y Cov	WAS049
Sulphate as SO4	8.0	mg/l	15/12/2016	N Cov	WAS036
BOD + ATU (5 day)	<1	mg/l	20/12/2016	Y Cov	WAS001
COD (Total)	62.0	mg/l	17/12/2016	Y Cov	WAS040
TOC (Filtered)	0.9	mg/l	16/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	19/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	19/12/2016	N Cov	WAS018
Sulphide as S	0.064	mg/l	29/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	14/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	09/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	19/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	09/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	09/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	09/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	09/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	09/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	09/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748895**

Sample **6** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW30**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	09/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	09/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	09/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	09/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	09/01/2017	Y Cov	GEO47
Azinphos-ethyl	Analyst Com	ug/l	18/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	16/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	16/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20

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Issue **3**

Laboratory Number: **15748895**

Sample **6** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW30**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	28/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	15/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	15/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	15/12/2016	N Cov	338
Naphthol	<0.10	ug/l	15/12/2016	N Cov	338
Phenol	<0.10	ug/l	15/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	15/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	15/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	21/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	20/12/2016	N Cov	GEO46

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Certificate of Analysis



Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748895**

Sample **6** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW30**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	20/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	21/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Anthracene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Chrysene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Fluoranthene	0.022	ug/l	16/01/2017	Y Cov	GEO19
Fluorene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Naphthalene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Phenanthrene	0.020	ug/l	16/01/2017	Y Cov	GEO19
Pyrene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
PAH, Total	0.042	ug/l	16/01/2017	N Cov	GEO19
SVOC	Y	ug/l	18/12/2016	N Cov	GEO40
Phenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	18/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	18/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748895**

Sample **6** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW30**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	18/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748895**

Sample **6** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW30**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	18/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Fluorophenol	93.3	%Recovery	18/12/2016	N Cov	GEO40
Phenol-d6	75.8	%Recovery	18/12/2016	N Cov	GEO40
Nitrobenzene-d5	87.7	%Recovery	18/12/2016	N Cov	GEO40
2-Fluorobiphenyl	90.9	%Recovery	18/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	77.4	%Recovery	18/12/2016	N Cov	GEO40
Terphenyl-d14	90.9	%Recovery	18/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	22/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	28/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	28/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	28/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON

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Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748895**

Sample **6** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW30**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	28/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	28/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	28/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	28/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	28/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	28/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
Bromoform	0.25	ug/l	28/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	28/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	28/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	28/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	28/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	28/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	28/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	28/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	28/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON

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Certificate of Analysis



Report Number: **COV/1345144/2016**

Issue **3**

Laboratory Number: **15748895**

Sample **6** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW30**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **13 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	28/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	28/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	28/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	28/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	28/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	28/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	28/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	28/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	28/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	28/12/2016	Y S	SUBCON

Analyst Comments for 15748895:

This sample has been analysed for Pesticides method GEO47, Sodium Total as Na, Boron, Total as B outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: See attached SVOC-TIC Report. {*/}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.{*/}
AQC failure for Azinphos-Ethyl is unable to indicate.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **G. Arnold**

Date: **18 January 2017**

Title: **Inorganic Team Leader**

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Mr Downes
SKM Ireland c/o Jacobs
Engineering Ireland
Jacobs
Merrion House
Merrion Road
Dublin 4 South Dublin

23 January 2017

Test Report: COV/1345620/2016

Dear Mr Downes

Analysis of your sample(s) submitted on 14 December 2016 is now complete and we have pleasure in enclosing the appropriate test report(s).

An invoice for the analysis carried out will be sent under separate cover.

Should you have any queries regarding this report(s) or any part of our service, please contact Customer Services on +44 (0)24 7642 1213 who will be happy to discuss your requirements.

If you would like to arrange any further analysis, please contact Customer Services. To arrange container delivery or sample collection, please call the Couriers Department directly on 024 7685 6562.

Thank you for using ALS Environmental Ltd and we look forward to receiving your next samples.

Yours Sincerely,

Signed: 

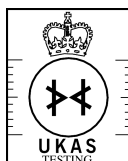
Name: A. Horobin

Title: Organic Operations Manager



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Report Summary



1314
0897
4409



Mr Ultan Downes
SKM Ireland c/o Jacobs
Engineering Ireland
Jacobs
Merrion House
Merrion Road
Dublin 4
South Dublin

Date of Issue: **23 January 2017**

Report Number: **COV/1345620/2016** Issue **3**

Job Description: Kerdiffstown Landfill

Job Location: 32EW5604 KLRP

Number of Samples
included in this report **9**

Job Received: **14 December 2016**

Number of Test Results
included in this report **2475**

Analysis Commenced: **15 December 2016**

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **23 January 2017**

Title: **Organic Operations Manager**

ALS Environmental Ltd was not responsible for sampling unless otherwise stated. Sampling is not covered by our UKAS accreditation.

Information on the methods of analysis and performance characteristics are available on request.

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation. The results relate only to the items tested.

Tests marked 'Not UKAS Accredited' in this Report/Certificate are not included in the UKAS Accreditation Schedule for our laboratory.

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Certificate of Analysis



Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752008**

Sample **1** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW07**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	13.4	mg/l	29/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	16/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	30/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	30/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	0.016	mg/l	30/12/2016	Y Cov	WAS060
Fluoride	0.063	mg/l	22/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Aluminium, Total as Al	0.9	mg/l	29/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.290	mg/l	29/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	29/12/2016	Y Cov	WAS049
Boron, Total as B	0.32	mg/l	29/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	29/12/2016	Y Cov	WAS049
Calcium , Total as Ca	187	mg/l	29/12/2016	Y Cov	WAS049
Chromium , Total as Cr	0.003	mg/l	29/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	8.6	ug/l	30/12/2016	Y Cov	WAS060
Iron , Total as Fe	18.2	mg/l	29/12/2016	Y Cov	WAS049
Ferrous Iron	12.3	mg/l	29/12/2016	N Cov	WAS043
Ferric Iron	1.1	mg/l	29/12/2016	N Cov	WAS043
Lead , Total as Pb	0.010	mg/l	29/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	18.8	mg/l	29/12/2016	Y Cov	WAS049
Manganese , Total as Mn	1.32	mg/l	29/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	21/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.008	mg/l	29/12/2016	Y Cov	WAS049
Potassium , Total as K	11.3	mg/l	29/12/2016	Y Cov	WAS049
Sodium , Total as Na	29.2	mg/l	29/12/2016	Y Cov	WAS049
Vanadium , Total as V	0.004	mg/l	29/12/2016	Y Cov	WAS049
Zinc, Total as Zn	0.04	mg/l	29/12/2016	Y Cov	WAS049
pH	7.2	pH units	15/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	1110	uS/cm	15/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	470	mg/l	15/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	4.89	mg/l	17/12/2016	Y Cov	WAS067

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752008**

Sample **1** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW07**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	31.1	mg/l	16/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	16/12/2016	N Cov	WAS036
Phosphates , Total as P	2.1	mg/l	29/12/2016	Y Cov	WAS049
Sulphate as SO4	188	mg/l	16/12/2016	N Cov	WAS036
BOD + ATU (5 day)	<1	mg/l	20/12/2016	Y Cov	WAS001
COD (Total)	37.0	mg/l	19/12/2016	Y Cov	WAS040
TOC (Filtered)	5.6	mg/l	16/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	19/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	19/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	30/12/2016	N Cov	WAS033
Formaldehyde	0.065	mg/l	21/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	09/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	19/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	09/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	09/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	09/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	09/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	09/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	09/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752008**

Sample **1** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW07**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	09/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	09/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	09/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	09/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	09/01/2017	Y Cov	GEO47
Azinphos-ethyl	Analyst Com	ug/l	17/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	16/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	16/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20

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Issue **3**

Laboratory Number: **15752008**

Sample **1** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW07**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Mecoprop	0.16	ug/l	28/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	16/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Naphthol	<0.10	ug/l	16/12/2016	N Cov	338
Phenol	<0.10	ug/l	16/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	16/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	21/12/2016	N Cov	GEO46

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Laboratory Number: **15752008**

Sample **1** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW07**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Aromatic EPH >C35 - C44	<10	ug/l	21/12/2016	N	Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	21/12/2016	N	Cov	GEO46
EPH >C10 - C44	<10	ug/l	21/12/2016	N	Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N	Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N	Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N	Cov	GEO45/GEO4
Acenaphthene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Acenaphthylene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Anthracene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Benzo (a) anthracene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Benzo (g,h,i) perylene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Benzo (a) pyrene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Benzo (b) fluoranthene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Benzo (k) fluoranthene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Chrysene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Dibenz (a,h) anthracene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Fluoranthene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Fluorene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Naphthalene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Phenanthrene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Pyrene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
PAH, Total	<0.02	ug/l	16/01/2017	N	Cov	GEO19
SVOC	Y	ug/l	18/12/2016	N	Cov	GEO40
Phenol	2.3	ug/l	18/12/2016	Y	Cov	GEO40
Bis(2-chloroethyl)ether	<2.0	ug/l	18/12/2016	Y	Cov	GEO40
2-Chlorophenol	<2.0	ug/l	18/12/2016	Y	Cov	GEO40
1,3-Dichlorobenzene	<2.0	ug/l	18/12/2016	Y	Cov	GEO40
1,4-Dichlorobenzene	<2.0	ug/l	18/12/2016	Y	Cov	GEO40
2-Methylphenol	<2.0	ug/l	18/12/2016	Y	Cov	GEO40
3&4-Methylphenol	<2.0	ug/l	18/12/2016	N	Cov	GEO40
Dibenzofuran	<2.0	ug/l	18/12/2016	N	Cov	GEO40
1,2-Dichlorobenzene	<2.0	ug/l	18/12/2016	Y	Cov	GEO40

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Laboratory Number: **15752008**

Sample **1** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW07**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<2.0	ug/l	18/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachloroethane	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Nitrobenzene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Isophorone	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2-Nitrophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Naphthalene	<4.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Dimethylphthalate	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthylene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Diethylphthalate	<2.0	ug/l	18/12/2016	Y Cov	GEO40
4-Nitrophenol	<10.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Fluorene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Diphenylamine	<2.0	ug/l	18/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobenzene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Pentachlorophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Phenanthrene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Anthracene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<2.0	ug/l	18/12/2016	Y Cov	GEO40

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752008**

Sample **1** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW07**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Pyrene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Chrysene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<10.0	ug/l	18/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2-Fluorophenol	88.5	%Recovery	18/12/2016	N Cov	GEO40
Phenol-d6	72.8	%Recovery	18/12/2016	N Cov	GEO40
Nitrobenzene-d5	85.2	%Recovery	18/12/2016	N Cov	GEO40
2-Fluorobiphenyl	85.4	%Recovery	18/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	79.9	%Recovery	18/12/2016	N Cov	GEO40
Terphenyl-d14	94.4	%Recovery	18/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	22/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	28/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	27/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	27/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON

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Laboratory Number: **15752008**

Sample **1** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW07**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	27/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	27/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	27/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	27/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	27/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	27/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	27/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	27/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	27/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	27/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	27/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON

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Certificate of Analysis



Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752008**

Sample **1** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW07**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	27/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	27/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	27/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	27/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	27/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	27/12/2016	Y S	SUBCON

Analyst Comments for 15752008:

This sample has been analysed for Pesticides method GEO47, Aluminium, Total as Al, Magnesium, Total as Mg, Sodium, Total as Na, Boron, Total as B, Barium, Total as Ba, Copper, ultra-low total as Cu outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: Reporting limits raised due to the nature of the sample matrix. See attached SVOC -TIC Report.
[*]The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.[*]
Reporting limits raised for PAH due to nature of sample matrix.
AQC failure for Azinphos-Ethyl, unable to indicate.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG). For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **23 January 2017**

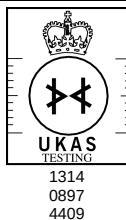
Title: **Organic Operations Manager**

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752009**

Sample **2** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW08**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	3.1	mg/l	29/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	16/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	30/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	30/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	0.0025	mg/l	30/12/2016	Y Cov	WAS060
Fluoride	0.085	mg/l	21/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Aluminium, Total as Al	0.4	mg/l	29/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.108	mg/l	29/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	29/12/2016	Y Cov	WAS049
Boron, Total as B	<0.23	mg/l	29/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	29/12/2016	Y Cov	WAS049
Calcium , Total as Ca	122	mg/l	29/12/2016	Y Cov	WAS049
Chromium , Total as Cr	<0.002	mg/l	29/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	4.8	ug/l	30/12/2016	Y Cov	WAS060
Iron , Total as Fe	4.31	mg/l	29/12/2016	Y Cov	WAS049
Ferrous Iron	3.0	mg/l	29/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	29/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	7.0	mg/l	29/12/2016	Y Cov	WAS049
Manganese , Total as Mn	0.756	mg/l	29/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	21/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.005	mg/l	29/12/2016	Y Cov	WAS049
Potassium , Total as K	0.53	mg/l	29/12/2016	Y Cov	WAS049
Sodium , Total as Na	4.09	mg/l	29/12/2016	Y Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	29/12/2016	Y Cov	WAS049
Zinc, Total as Zn	<0.018	mg/l	29/12/2016	Y Cov	WAS049
pH	7.3	pH units	15/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	580	uS/cm	15/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	333	mg/l	15/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	<0.06	mg/l	17/12/2016	Y Cov	WAS067

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752009**

Sample **2** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW08**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	8.6	mg/l	16/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	16/12/2016	N Cov	WAS036
Phosphates , Total as P	0.76	mg/l	29/12/2016	Y Cov	WAS049
Sulphate as SO4	8.6	mg/l	16/12/2016	N Cov	WAS036
BOD + ATU (5 day)	<1	mg/l	20/12/2016	Y Cov	WAS001
COD (Total)	33.0	mg/l	17/12/2016	Y Cov	WAS040
TOC (Filtered)	1.3	mg/l	16/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	19/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	19/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	30/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	21/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	10/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	10/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	10/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	19/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	10/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	10/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	10/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	10/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	10/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	10/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	10/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	10/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	10/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	10/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	10/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	10/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	10/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	10/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	10/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	10/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	10/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	10/01/2017	Y Cov	GEO47

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752009**

Sample **2** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW08**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	10/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	10/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	10/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	10/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	10/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	10/01/2017	Y Cov	GEO47
Azinphos-ethyl	Analyst Com	ug/l	17/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	10/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	10/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	10/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	10/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	16/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	16/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	11/01/2017	Y Cov	GEO20
Bentazone	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752009**

Sample **2** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW08**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	11/01/2017	Y Cov	GEO20
Ioxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	11/01/2017	Y Cov	GEO20
Mecoprop	<0.04	ug/l	28/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	16/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Naphthol	<0.10	ug/l	16/12/2016	N Cov	338
Phenol	<0.10	ug/l	16/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	16/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	21/12/2016	N Cov	GEO46

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752009**

Sample **2** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW08**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Anthracene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Chrysene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Fluoranthene	0.148	ug/l	16/01/2017	Y Cov	GEO19
Fluorene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Naphthalene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Phenanthrene	0.128	ug/l	16/01/2017	Y Cov	GEO19
Pyrene	0.045	ug/l	16/01/2017	Y Cov	GEO19
PAH, Total	0.320	ug/l	16/01/2017	N Cov	GEO19
SVOC	Y	ug/l	18/12/2016	N Cov	GEO40
Phenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	18/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	18/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752009**

Sample **2** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW08**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	18/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Certificate of Analysis



Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752009**

Sample **2** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW08**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	18/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Fluorophenol	90.2	%Recovery	18/12/2016	N Cov	GEO40
Phenol-d6	71.0	%Recovery	18/12/2016	N Cov	GEO40
Nitrobenzene-d5	84.9	%Recovery	18/12/2016	N Cov	GEO40
2-Fluorobiphenyl	85.6	%Recovery	18/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	78.0	%Recovery	18/12/2016	N Cov	GEO40
Terphenyl-d14	89.1	%Recovery	18/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	22/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	11/01/2017	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	27/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	27/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752009**

Sample **2** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW08**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	27/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	27/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	27/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	27/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	27/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	27/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	27/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	27/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	27/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	27/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	27/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752009**

Sample **2** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW08**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	27/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	27/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	27/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	27/12/2016	Y S	SUBCON
Toluene	0.59	ug/l	27/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	27/12/2016	Y S	SUBCON

Analyst Comments for 15752009:

This sample has been analysed for Pesticides method GEO47, Aluminium, Total as Al, Magnesium, Total as Mg, Sodium, Total as Na, Boron, Total as B, Barium, Total as Ba, Copper, ultra-low total as Cu outside recommended stability times. It is therefore possible that the results provided may be compromised. See attached SVOC-TIC Report.
The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.
AQC failure for Azinphos-Ethyl, unable to indicate.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

A I Horobin

Name: **A. Horobin**

Date: **23 January 2017**

Title: **Organic Operations Manager**

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752010**

Sample **3** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW27**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	1.8	mg/l	29/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	16/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	30/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	30/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	0.056	mg/l	30/12/2016	Y Cov	WAS060
Fluoride	0.142	mg/l	21/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Aluminium, Total as Al	29.7	mg/l	03/01/2017	Y Cov	WAS049
Barium, Total as Ba	1.21	mg/l	03/01/2017	Y Cov	WAS049
Beryllium, Total as Be	<0.2100	mg/l	03/01/2017	Y Cov	WAS049
Boron, Total as B	<23.0	mg/l	03/01/2017	Y Cov	WAS049
Cadmium , Total as Cd	<0.0600	mg/l	03/01/2017	Y Cov	WAS049
Calcium , Total as Ca	359	mg/l	03/01/2017	Y Cov	WAS049
Chromium , Total as Cr	<0.200	mg/l	03/01/2017	Y Cov	WAS049
Copper, Ultra-low Total as Cu	187	ug/l	03/01/2017	Y Cov	WAS060
Iron , Total as Fe	56.4	mg/l	03/01/2017	Y Cov	WAS049
Ferrous Iron	1.6	mg/l	29/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.600	mg/l	03/01/2017	Y Cov	WAS049
Magnesium, Total as Mg	<60.0	mg/l	03/01/2017	Y Cov	WAS049
Manganese , Total as Mn	13.7	mg/l	03/01/2017	Y Cov	WAS049
Mercury, Total as Hg	0.00123	mg/l	21/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.543	mg/l	03/01/2017	Y Cov	WAS049
Potassium , Total as K	<18.0	mg/l	03/01/2017	Y Cov	WAS049
Sodium , Total as Na	<30.0	mg/l	03/01/2017	Y Cov	WAS049
Vanadium , Total as V	<0.400	mg/l	03/01/2017	Y Cov	WAS049
Zinc, Total as Zn	<1.80	mg/l	03/01/2017	Y Cov	WAS049
pH	7.0	pH units	15/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	714	uS/cm	15/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	533	mg/l	15/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	0.38	mg/l	17/12/2016	Y Cov	WAS067

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752010**

Sample **3** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW27**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	15.1	mg/l	16/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	16/12/2016	N Cov	WAS036
Phosphates , Total as P	<12	mg/l	03/01/2017	Y Cov	WAS049
Sulphate as SO4	26.0	mg/l	16/12/2016	N Cov	WAS036
BOD + ATU (5 day)	<1	mg/l	20/12/2016	Y Cov	WAS001
COD (Total)	480	mg/l	19/12/2016	Y Cov	WAS040
TOC (Filtered)	6.0	mg/l	16/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	19/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	19/12/2016	N Cov	WAS018
Sulphide as S	4.34	mg/l	30/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	21/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	09/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	19/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	09/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	09/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	09/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	09/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	09/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	09/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752010**

Sample **3** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW27**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	09/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	09/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	09/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	09/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	09/01/2017	Y Cov	GEO47
Azinphos-ethyl	Analyst Com	ug/l	17/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	16/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	16/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.10	ug/l	05/01/2017	Y Cov	GEO20
2,4 - D	<0.10	ug/l	05/01/2017	Y Cov	GEO20
2,4 - DB	<0.10	ug/l	05/01/2017	Y Cov	GEO20
2,4,5 - T	<0.10	ug/l	05/01/2017	Y Cov	GEO20
Benazolin	<0.10	ug/l	05/01/2017	Y Cov	GEO20
Bentazone	<0.10	ug/l	05/01/2017	Y Cov	GEO20
Chlopyralid	<0.10	ug/l	05/01/2017	Y Cov	GEO20
Bromoxynil	<0.10	ug/l	05/01/2017	Y Cov	GEO20

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752010**

Sample **3** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW27**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Dicamba	<0.10	ug/l	05/01/2017	Y	Cov	GEO20
Dichlorprop	<0.10	ug/l	05/01/2017	Y	Cov	GEO20
Fenoprop	<0.10	ug/l	05/01/2017	Y	Cov	GEO20
Ioxynil	<0.10	ug/l	05/01/2017	Y	Cov	GEO20
MCPA	<0.10	ug/l	05/01/2017	Y	Cov	GEO20
MCPB	<0.10	ug/l	05/01/2017	Y	Cov	GEO20
Triclopyr	<0.10	ug/l	05/01/2017	Y	Cov	GEO20
Mecoprop	<0.08	ug/l	05/01/2017	Y	Cov	GEO20
Catechol	<0.10	ug/l	16/12/2016	N	Cov	338
Cresol, Total	<0.10	ug/l	16/12/2016	N	Cov	338
Xylenol, Total	<0.10	ug/l	16/12/2016	N	Cov	338
Naphthol	<0.10	ug/l	16/12/2016	N	Cov	338
Phenol	<0.10	ug/l	16/12/2016	N	Cov	338
Trimethylphenol, Total	3.2	ug/l	16/12/2016	N	Cov	338
Phenols, Total	3.2	ug/l	16/12/2016	N	Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	22/12/2016	Y	Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	22/12/2016	Y	Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	22/12/2016	Y	Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y	Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	22/12/2016	Y	Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	22/12/2016	Y	Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	22/12/2016	Y	Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y	Cov	GEO45
VPH >C5 - C10	<10	ug/l	22/12/2016	Y	Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	21/12/2016	N	Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	21/12/2016	N	Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	21/12/2016	N	Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	21/12/2016	N	Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	21/12/2016	N	Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	21/12/2016	N	Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	21/12/2016	N	Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	21/12/2016	N	Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	21/12/2016	N	Cov	GEO46

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Certificate of Analysis



Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752010**

Sample **3** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW27**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Anthracene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Chrysene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Fluoranthene	0.062	ug/l	16/01/2017	Y Cov	GEO19
Fluorene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Naphthalene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Phenanthrene	0.058	ug/l	16/01/2017	Y Cov	GEO19
Pyrene	0.023	ug/l	16/01/2017	Y Cov	GEO19
PAH, Total	0.143	ug/l	16/01/2017	N Cov	GEO19
SVOC	Y	ug/l	18/12/2016	N Cov	GEO40
Phenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chlorophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylphenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
3&4-Methylphenol	<2.0	ug/l	18/12/2016	N Cov	GEO40
Dibenzofuran	<2.0	ug/l	18/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<2.0	ug/l	18/12/2016	Y Cov	GEO40

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752010**

Sample **3** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW27**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<2.0	ug/l	18/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachloroethane	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Nitrobenzene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Isophorone	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2-Nitrophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Dimethylphthalate	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthylene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Diethylphthalate	<2.0	ug/l	18/12/2016	Y Cov	GEO40
4-Nitrophenol	<10.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Fluorene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Diphenylamine	<2.0	ug/l	18/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobenzene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Pentachlorophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Phenanthrene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Anthracene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<2.0	ug/l	18/12/2016	Y Cov	GEO40

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752010**

Sample **3** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW27**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Pyrene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Chrysene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<10.0	ug/l	18/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2-Fluorophenol	90.3	%Recovery	18/12/2016	N Cov	GEO40
Phenol-d6	74.7	%Recovery	18/12/2016	N Cov	GEO40
Nitrobenzene-d5	81.5	%Recovery	18/12/2016	N Cov	GEO40
2-Fluorobiphenyl	81.7	%Recovery	18/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	73.5	%Recovery	18/12/2016	N Cov	GEO40
Terphenyl-d14	96.9	%Recovery	18/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	22/12/2016	N Cov	WAS036
Fluoroxypyr	<0.10	ug/l	05/01/2017	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	27/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	27/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752010**

Sample **3** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW27**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	27/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	27/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	27/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	27/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	27/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	27/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	27/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	27/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	27/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	27/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	27/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752010**

Sample **3** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW27**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	27/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	27/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	27/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	27/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	27/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	27/12/2016	Y S	SUBCON

Analyst Comments for 15752010:

This sample has been analysed for Pesticides method GEO47, Iron Total as Fe, Manganese Total as Mn, Aluminium, Total as Al, Cadmium Total as Cd, Chromium Total as Cr, Lead Total as Pb, Nickel, Total as Ni, Zinc, Total as Zn, Calcium Total as Ca, Magnesium, Total as Mg, Sodium Total as Na, Potassium Total as K, Phosphates Total as P, Boron, Total as B, Vanadium Total as V, Barium, Total as Ba, Beryllium, Total as Be, Copper, ultra-low total as Cu outside recommended stability times. It is therefore possible that the results provided may be compromised. See attached SVOC-TIC Report.

The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis. The reporting limit has been raised for metals due to interference with the internal standard

Acid Herbicides & SVOC reporting limits raised due to nature of sample matrix.

AQC failure for Azinphos-Ethyl, unable to indicate.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **23 January 2017**

Title: **Organic Operations Manager**

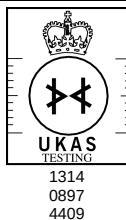
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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752011**

Sample **4** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW28**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	8.4	mg/l	29/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	16/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	0.0015	mg/l	30/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	0.0010	mg/l	30/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	0.027	mg/l	30/12/2016	Y Cov	WAS060
Fluoride	0.096	mg/l	22/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Aluminium, Total as Al	5.0	mg/l	03/01/2017	Y Cov	WAS049
Barium, Total as Ba	0.328	mg/l	03/01/2017	Y Cov	WAS049
Beryllium, Total as Be	<0.0210	mg/l	03/01/2017	Y Cov	WAS049
Boron, Total as B	<2.30	mg/l	03/01/2017	Y Cov	WAS049
Cadmium , Total as Cd	<0.0060	mg/l	03/01/2017	Y Cov	WAS049
Calcium , Total as Ca	337	mg/l	03/01/2017	Y Cov	WAS049
Chromium , Total as Cr	0.025	mg/l	03/01/2017	Y Cov	WAS049
Copper, Ultra-low Total as Cu	66	ug/l	30/12/2016	Y Cov	WAS060
Iron , Total as Fe	33.4	mg/l	03/01/2017	Y Cov	WAS049
Ferrous Iron	8.6	mg/l	29/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Lead , Total as Pb	0.110	mg/l	03/01/2017	Y Cov	WAS049
Magnesium, Total as Mg	8.2	mg/l	03/01/2017	Y Cov	WAS049
Manganese , Total as Mn	2.59	mg/l	03/01/2017	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	21/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.117	mg/l	03/01/2017	Y Cov	WAS049
Potassium , Total as K	<1.80	mg/l	03/01/2017	Y Cov	WAS049
Sodium , Total as Na	6.48	mg/l	03/01/2017	Y Cov	WAS049
Vanadium , Total as V	<0.040	mg/l	03/01/2017	Y Cov	WAS049
Zinc, Total as Zn	0.339	mg/l	03/01/2017	Y Cov	WAS049
pH	6.9	pH units	15/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	787	uS/cm	15/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	571	mg/l	15/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	0.23	mg/l	19/12/2016	Y Cov	WAS067

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752011**

Sample **4** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW28**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	9.9	mg/l	16/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	16/12/2016	N Cov	WAS036
Phosphates , Total as P	<1.2	mg/l	03/01/2017	Y Cov	WAS049
Sulphate as SO4	18.1	mg/l	16/12/2016	N Cov	WAS036
BOD + ATU (5 day)	2	mg/l	20/12/2016	Y Cov	WAS001
COD (Total)	163	mg/l	19/12/2016	Y Cov	WAS040
TOC (Filtered)	13.4	mg/l	16/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	19/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	19/12/2016	N Cov	WAS018
Sulphide as S	0.097	mg/l	30/12/2016	N Cov	WAS033
Formaldehyde	0.033	mg/l	21/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	09/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	19/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	09/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	09/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	09/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	09/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	09/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	09/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752011**

Sample **4** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW28**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	09/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	09/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	09/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	09/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	09/01/2017	Y Cov	GEO47
Azinphos-ethyl	Analyst Com	ug/l	17/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	16/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	16/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.50	ug/l	30/12/2016	Y Cov	GEO20
2,4 - D	<0.50	ug/l	30/12/2016	Y Cov	GEO20
2,4 - DB	<0.50	ug/l	30/12/2016	Y Cov	GEO20
2,4,5 - T	<0.50	ug/l	30/12/2016	Y Cov	GEO20
Benazolin	<0.50	ug/l	30/12/2016	Y Cov	GEO20
Bentazone	<0.50	ug/l	30/12/2016	Y Cov	GEO20
Chlopyralid	<0.50	ug/l	30/12/2016	Y Cov	GEO20
Bromoxynil	<0.50	ug/l	30/12/2016	Y Cov	GEO20

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752011**

Sample **4** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW28**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Dicamba	<0.50	ug/l	30/12/2016	Y	Cov	GEO20
Dichlorprop	<0.50	ug/l	30/12/2016	Y	Cov	GEO20
Fenoprop	<0.50	ug/l	30/12/2016	Y	Cov	GEO20
Ioxynil	<0.50	ug/l	30/12/2016	Y	Cov	GEO20
MCPA	<0.50	ug/l	30/12/2016	Y	Cov	GEO20
MCPB	<0.50	ug/l	30/12/2016	Y	Cov	GEO20
Triclopyr	<0.50	ug/l	30/12/2016	Y	Cov	GEO20
Mecoprop	<0.40	ug/l	30/12/2016	Y	Cov	GEO20
Catechol	<0.10	ug/l	16/12/2016	N	Cov	338
Cresol, Total	<0.10	ug/l	16/12/2016	N	Cov	338
Xylenol, Total	<0.10	ug/l	16/12/2016	N	Cov	338
Naphthol	<0.10	ug/l	16/12/2016	N	Cov	338
Phenol	<0.10	ug/l	16/12/2016	N	Cov	338
Trimethylphenol, Total	<0.10	ug/l	16/12/2016	N	Cov	338
Phenols, Total	<0.50	ug/l	16/12/2016	N	Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	22/12/2016	Y	Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	22/12/2016	Y	Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	22/12/2016	Y	Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y	Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	22/12/2016	Y	Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	22/12/2016	Y	Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	22/12/2016	Y	Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y	Cov	GEO45
VPH >C5 - C10	<10	ug/l	22/12/2016	Y	Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	21/12/2016	N	Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	21/12/2016	N	Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	21/12/2016	N	Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	21/12/2016	N	Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	21/12/2016	N	Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	21/12/2016	N	Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	21/12/2016	N	Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	21/12/2016	N	Cov	GEO46
Aromatic EPH >C21 - C35	17	ug/l	21/12/2016	N	Cov	GEO46

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Issue **3**

Laboratory Number: **15752011**

Sample **4** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW28**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	17	ug/l	21/12/2016	N Cov	GEO46
EPH >C10 - C44	17	ug/l	21/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	17	ug/l	22/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	17	ug/l	22/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.02	ug/l	16/01/2017	Y Cov	GEO19
Acenaphthylene	<0.02	ug/l	16/01/2017	Y Cov	GEO19
Anthracene	<0.02	ug/l	16/01/2017	Y Cov	GEO19
Benzo (a) anthracene	<0.02	ug/l	16/01/2017	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.02	ug/l	16/01/2017	Y Cov	GEO19
Benzo (a) pyrene	<0.02	ug/l	16/01/2017	Y Cov	GEO19
Benzo (b) fluoranthene	<0.02	ug/l	16/01/2017	Y Cov	GEO19
Benzo (k) fluoranthene	<0.02	ug/l	16/01/2017	Y Cov	GEO19
Chrysene	<0.02	ug/l	16/01/2017	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.02	ug/l	16/01/2017	Y Cov	GEO19
Fluoranthene	0.065	ug/l	16/01/2017	Y Cov	GEO19
Fluorene	<0.02	ug/l	16/01/2017	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.02	ug/l	16/01/2017	Y Cov	GEO19
Naphthalene	<0.02	ug/l	16/01/2017	Y Cov	GEO19
Phenanthrene	0.072	ug/l	16/01/2017	Y Cov	GEO19
Pyrene	0.025	ug/l	16/01/2017	Y Cov	GEO19
PAH, Total	0.162	ug/l	16/01/2017	N Cov	GEO19
SVOC	Y	ug/l	18/12/2016	N Cov	GEO40
Phenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chlorophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylphenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
3&4-Methylphenol	<2.0	ug/l	18/12/2016	N Cov	GEO40
Dibenzofuran	<2.0	ug/l	18/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<2.0	ug/l	18/12/2016	Y Cov	GEO40

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752011**

Sample **4** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW28**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<2.0	ug/l	18/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachloroethane	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Nitrobenzene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Isophorone	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2-Nitrophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Dimethylphthalate	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthylene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Diethylphthalate	<2.0	ug/l	18/12/2016	Y Cov	GEO40
4-Nitrophenol	<10.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Fluorene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Diphenylamine	<2.0	ug/l	18/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobenzene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Pentachlorophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Phenanthrene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Anthracene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<2.0	ug/l	18/12/2016	Y Cov	GEO40

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752011**

Sample **4** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW28**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Pyrene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Chrysene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<10.0	ug/l	18/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2-Fluorophenol	93.3	%Recovery	18/12/2016	N Cov	GEO40
Phenol-d6	73.6	%Recovery	18/12/2016	N Cov	GEO40
Nitrobenzene-d5	84.1	%Recovery	18/12/2016	N Cov	GEO40
2-Fluorobiphenyl	87.2	%Recovery	18/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	76.4	%Recovery	18/12/2016	N Cov	GEO40
Terphenyl-d14	92.6	%Recovery	18/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	22/12/2016	N Cov	WAS036
Fluoroxypyr	<0.50	ug/l	30/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	27/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	27/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752011**

Sample **4** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW28**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	27/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	27/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	27/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	27/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	27/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	27/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	27/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	27/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	27/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	27/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	27/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752011**

Sample **4** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW28**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	27/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	27/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	27/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	27/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	27/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	27/12/2016	Y S	SUBCON

Analyst Comments for 15752011:

This sample has been analysed for Pesticides method GEO47, Iron Total as Fe, Manganese Total as Mn, Aluminium, Total as Al, Cadmium Total as Cd, Chromium Total as Cr, Lead Total as Pb, Nickel, Total as Ni, Zinc, Total as Zn, Calcium Total as Ca, Magnesium, Total as Mg, Sodium Total as Na, Potassium Total as K, Phosphates Total as P, Boron, Total as B, Vanadium Total as V, Barium, Total as Ba, Beryllium, Total as Be, Copper, ultra-low total as Cu outside recommended stability times. It is therefore possible that the results provided may be compromised. See attached SVOC-TIC Report.

The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.

Acid Herbicides, PAH & SVOC reporting limits raised due to nature of sample matrix. The reporting limit has been raised for metals due to interference with the internal standard

AQC failure for Azinphos-Ethyl, unable to indicate.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **23 January 2017**

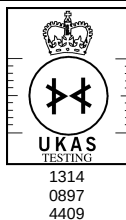
Title: **Organic Operations Manager**

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752012**

Sample **5** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW29**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	29/12/2016	N Cov	WAS043
Nitrate as NO3	18.3	mg/l	16/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	30/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	30/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	<0.0010	mg/l	30/12/2016	Y Cov	WAS060
Fluoride	<0.100	mg/l	21/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Aluminium, Total as Al	0.3	mg/l	29/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.046	mg/l	29/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	29/12/2016	Y Cov	WAS049
Boron, Total as B	<0.23	mg/l	29/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	29/12/2016	Y Cov	WAS049
Calcium , Total as Ca	178	mg/l	29/12/2016	Y Cov	WAS049
Chromium , Total as Cr	<0.002	mg/l	29/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	5.3	ug/l	30/12/2016	Y Cov	WAS060
Iron , Total as Fe	0.99	mg/l	29/12/2016	Y Cov	WAS049
Ferrous Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	29/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	12.0	mg/l	29/12/2016	Y Cov	WAS049
Manganese , Total as Mn	0.075	mg/l	29/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	21/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.006	mg/l	29/12/2016	Y Cov	WAS049
Potassium , Total as K	1.10	mg/l	29/12/2016	Y Cov	WAS049
Sodium , Total as Na	15.3	mg/l	29/12/2016	Y Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	29/12/2016	Y Cov	WAS049
Zinc, Total as Zn	0.02	mg/l	29/12/2016	Y Cov	WAS049
pH	7.1	pH units	15/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	904	uS/cm	15/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	423	mg/l	15/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	0.12	mg/l	17/12/2016	Y Cov	WAS067

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752012**

Sample **5** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW29**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	25.2	mg/l	16/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	16/12/2016	N Cov	WAS036
Phosphates , Total as P	<0.120	mg/l	29/12/2016	Y Cov	WAS049
Sulphate as SO4	88.3	mg/l	16/12/2016	N Cov	WAS036
BOD + ATU (5 day)	<1	mg/l	20/12/2016	Y Cov	WAS001
COD (Total)	16.0	mg/l	19/12/2016	Y Cov	WAS040
TOC (Filtered)	2.6	mg/l	16/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	19/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	19/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	30/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	21/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	09/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	19/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	09/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	09/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	09/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	09/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	09/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	09/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752012**

Sample **5** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW29**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	09/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	09/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	09/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	09/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	09/01/2017	Y Cov	GEO47
Azinphos-ethyl	Analyst Com	ug/l	17/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	16/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	16/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752012**

Sample **5** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW29**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	28/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	16/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Naphthol	<0.10	ug/l	16/12/2016	N Cov	338
Phenol	<0.10	ug/l	16/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	16/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	21/12/2016	N Cov	GEO46

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Issue **3**

Laboratory Number: **15752012**

Sample **5** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW29**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N Cov	GEO45/GEO4
Acenaphthene	0.041	ug/l	16/01/2017	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Anthracene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Chrysene	0.011	ug/l	16/01/2017	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Fluoranthene	1.65	ug/l	16/01/2017	Y Cov	GEO19
Fluorene	0.043	ug/l	16/01/2017	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Naphthalene	0.029	ug/l	16/01/2017	Y Cov	GEO19
Phenanthrene	1.29	ug/l	16/01/2017	Y Cov	GEO19
Pyrene	0.652	ug/l	16/01/2017	Y Cov	GEO19
PAH, Total	3.71	ug/l	16/01/2017	N Cov	GEO19
SVOC	Y	ug/l	18/12/2016	N Cov	GEO40
Phenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	18/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	18/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752012**

Sample **5** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW29**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	18/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752012**

Sample **5** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW29**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	18/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Fluorophenol	92.3	%Recovery	18/12/2016	N Cov	GEO40
Phenol-d6	72.4	%Recovery	18/12/2016	N Cov	GEO40
Nitrobenzene-d5	81.3	%Recovery	18/12/2016	N Cov	GEO40
2-Fluorobiphenyl	81.9	%Recovery	18/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	71.0	%Recovery	18/12/2016	N Cov	GEO40
Terphenyl-d14	91.1	%Recovery	18/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	22/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	28/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	27/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	27/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752012**

Sample **5** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW29**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	27/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	27/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	27/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	27/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	27/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
Bromoform	1.11	ug/l	27/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	27/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	27/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	27/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	27/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	27/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752012**

Sample **5** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW29**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	27/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	27/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	27/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	27/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	27/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	27/12/2016	Y S	SUBCON

Analyst Comments for 15752012:

This sample has been analysed for Pesticides method GEO47, Aluminium, Total as Al, Magnesium, Total as Mg, Sodium, Total as Na, Boron, Total as B, Barium, Total as Ba, Copper, ultra-low total as Cu outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: See attached SVOC-TIC Report. {*/}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.{*/} AQC failure for Azinphos-Ethyl, unable to indicate.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **23 January 2017**

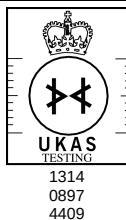
Title: **Organic Operations Manager**

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752013**

Sample **6** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW10**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	29/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	16/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	30/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	30/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	<0.0010	mg/l	30/12/2016	Y Cov	WAS060
Fluoride	0.242	mg/l	22/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Aluminium, Total as Al	<0.1	mg/l	29/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.063	mg/l	29/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	29/12/2016	Y Cov	WAS049
Boron, Total as B	<0.23	mg/l	29/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	29/12/2016	Y Cov	WAS049
Calcium , Total as Ca	118	mg/l	29/12/2016	Y Cov	WAS049
Chromium , Total as Cr	<0.002	mg/l	29/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	<1.9	ug/l	30/12/2016	Y Cov	WAS060
Iron , Total as Fe	<0.23	mg/l	29/12/2016	Y Cov	WAS049
Ferrous Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	29/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	7.6	mg/l	29/12/2016	Y Cov	WAS049
Manganese , Total as Mn	0.370	mg/l	29/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	21/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.003	mg/l	29/12/2016	Y Cov	WAS049
Potassium , Total as K	3.90	mg/l	29/12/2016	Y Cov	WAS049
Sodium , Total as Na	34.9	mg/l	29/12/2016	Y Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	29/12/2016	Y Cov	WAS049
Zinc, Total as Zn	<0.018	mg/l	29/12/2016	Y Cov	WAS049
pH	7.5	pH units	15/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	770	uS/cm	15/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	346	mg/l	15/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	0.38	mg/l	19/12/2016	Y Cov	WAS067

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Issue **3**

Laboratory Number: **15752013**

Sample **6** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW10**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	56.0	mg/l	16/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	16/12/2016	N Cov	WAS036
Phosphates , Total as P	<0.120	mg/l	29/12/2016	Y Cov	WAS049
Sulphate as SO4	27.3	mg/l	16/12/2016	N Cov	WAS036
BOD + ATU (5 day)	<1	mg/l	20/12/2016	Y Cov	WAS001
COD (Total)	23.0	mg/l	17/12/2016	Y Cov	WAS040
TOC (Filtered)	4.0	mg/l	16/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	19/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	19/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	30/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	21/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	09/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	19/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	09/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	09/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	09/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	09/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	09/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	09/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752013**

Sample **6** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW10**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	09/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	09/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	09/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	09/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	09/01/2017	Y Cov	GEO47
Azinphos-ethyl	Analyst Com	ug/l	17/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	16/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	16/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20

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Issue **3**

Laboratory Number: **15752013**

Sample **6** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW10**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	28/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	16/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Naphthol	<0.10	ug/l	16/12/2016	N Cov	338
Phenol	<0.10	ug/l	16/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	16/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	21/12/2016	N Cov	GEO46

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752013**

Sample **6** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW10**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Anthracene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Chrysene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Fluoranthene	0.012	ug/l	16/01/2017	Y Cov	GEO19
Fluorene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Naphthalene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
Phenanthrene	0.023	ug/l	16/01/2017	Y Cov	GEO19
Pyrene	<0.01	ug/l	16/01/2017	Y Cov	GEO19
PAH, Total	0.035	ug/l	16/01/2017	N Cov	GEO19
SVOC	Y	ug/l	18/12/2016	N Cov	GEO40
Phenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	18/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	18/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Laboratory Number: **15752013**

Sample **6** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW10**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	18/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Issue **3**

Laboratory Number: **15752013**

Sample **6** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW10**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	18/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Fluorophenol	89.6	%Recovery	18/12/2016	N Cov	GEO40
Phenol-d6	68.3	%Recovery	18/12/2016	N Cov	GEO40
Nitrobenzene-d5	81.2	%Recovery	18/12/2016	N Cov	GEO40
2-Fluorobiphenyl	83.0	%Recovery	18/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	72.3	%Recovery	18/12/2016	N Cov	GEO40
Terphenyl-d14	80.0	%Recovery	18/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	22/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	28/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	27/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	27/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON

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Issue **3**

Laboratory Number: **15752013**

Sample **6** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW10**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	27/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	27/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	27/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	27/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	27/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
Bromoform	0.26	ug/l	27/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	27/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	27/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	27/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	27/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	27/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752013**

Sample **6** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW10**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	27/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	27/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	27/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	27/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	27/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	27/12/2016	Y S	SUBCON

Analyst Comments for 15752013:

This sample has been analysed for Pesticides method GEO47, Aluminium, Total as Al, Magnesium, Total as Mg, Sodium, Total as Na, Boron, Total as B, Barium, Total as Ba, Copper, ultra-low total as Cu outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: See attached SVOC-TIC Report. {*/}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.{*/} AQC failure for Azinphos-Ethyl, unable to indicate.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **23 January 2017**

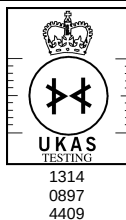
Title: **Organic Operations Manager**

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752014**

Sample **7** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW13**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	3.0	mg/l	29/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	16/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	30/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	30/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	0.010	mg/l	30/12/2016	Y Cov	WAS060
Fluoride	0.230	mg/l	21/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Aluminium, Total as Al	0.2	mg/l	29/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.12	mg/l	29/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	29/12/2016	Y Cov	WAS049
Boron, Total as B	<0.23	mg/l	29/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	29/12/2016	Y Cov	WAS049
Calcium , Total as Ca	141	mg/l	29/12/2016	Y Cov	WAS049
Chromium , Total as Cr	<0.002	mg/l	29/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	7.6	ug/l	30/12/2016	Y Cov	WAS060
Iron , Total as Fe	7.41	mg/l	29/12/2016	Y Cov	WAS049
Ferrous Iron	3.0	mg/l	29/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	29/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	7.6	mg/l	29/12/2016	Y Cov	WAS049
Manganese , Total as Mn	1.90	mg/l	29/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	21/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.004	mg/l	29/12/2016	Y Cov	WAS049
Potassium , Total as K	3.52	mg/l	29/12/2016	Y Cov	WAS049
Sodium , Total as Na	36.7	mg/l	29/12/2016	Y Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	29/12/2016	Y Cov	WAS049
Zinc, Total as Zn	0.03	mg/l	29/12/2016	Y Cov	WAS049
pH	7.4	pH units	15/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	876	uS/cm	15/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	402	mg/l	15/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	3.48	mg/l	17/12/2016	Y Cov	WAS067

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Laboratory Number: **15752014**

Sample **7** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW13**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	70.2	mg/l	16/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	16/12/2016	N Cov	WAS036
Phosphates , Total as P	0.80	mg/l	29/12/2016	Y Cov	WAS049
Sulphate as SO4	20.3	mg/l	16/12/2016	N Cov	WAS036
BOD + ATU (5 day)	6	mg/l	20/12/2016	Y Cov	WAS001
COD (Total)	67.0	mg/l	19/12/2016	Y Cov	WAS040
TOC (Filtered)	8.4	mg/l	16/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	19/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	19/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	30/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	21/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	09/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	09/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	19/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	09/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	09/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	09/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	09/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	09/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	09/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	09/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	09/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	09/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	09/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	09/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	09/01/2017	Y Cov	GEO47

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752014**

Sample **7** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW13**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	09/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	09/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	09/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	09/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	09/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	09/01/2017	Y Cov	GEO47
Azinphos-ethyl	Analyst Com	ug/l	17/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	09/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	09/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	09/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	16/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	16/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	09/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	09/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.10	ug/l	05/01/2017	Y Cov	GEO20
2,4 - D	<0.10	ug/l	05/01/2017	Y Cov	GEO20
2,4 - DB	<0.10	ug/l	05/01/2017	Y Cov	GEO20
2,4,5 - T	<0.10	ug/l	05/01/2017	Y Cov	GEO20
Benazolin	<0.10	ug/l	05/01/2017	Y Cov	GEO20
Bentazone	<0.10	ug/l	05/01/2017	Y Cov	GEO20
Chlopyralid	<0.10	ug/l	05/01/2017	Y Cov	GEO20
Bromoxynil	<0.10	ug/l	05/01/2017	Y Cov	GEO20

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Sample **7** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW13**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.10	ug/l	05/01/2017	Y Cov	GEO20
Dichlorprop	<0.10	ug/l	05/01/2017	Y Cov	GEO20
Fenoprop	<0.10	ug/l	05/01/2017	Y Cov	GEO20
Ioxynil	<0.10	ug/l	05/01/2017	Y Cov	GEO20
MCPA	<0.10	ug/l	05/01/2017	Y Cov	GEO20
MCPB	<0.10	ug/l	05/01/2017	Y Cov	GEO20
Triclopyr	<0.10	ug/l	05/01/2017	Y Cov	GEO20
Mecoprop	<0.08	ug/l	05/01/2017	Y Cov	GEO20
Catechol	<0.10	ug/l	16/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Naphthol	<0.10	ug/l	16/12/2016	N Cov	338
Phenol	<0.10	ug/l	16/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	16/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	49	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	49	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	30	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	30	ug/l	22/12/2016	Y Cov	GEO45
VPH >C5 - C10	79	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	116	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	25	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	21/12/2016	N Cov	GEO46

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Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW13**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	141	ug/l	21/12/2016	N Cov	GEO46
EPH >C10 - C44	141	ug/l	21/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	49	ug/l	22/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	171	ug/l	22/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	220	ug/l	22/12/2016	N Cov	GEO45/GEO4
Acenaphthene	0.102	ug/l	16/01/2017	Y Cov	GEO19
Acenaphthylene	<0.02	ug/l	16/01/2017	Y Cov	GEO19
Anthracene	<0.02	ug/l	16/01/2017	Y Cov	GEO19
Benzo (a) anthracene	<0.02	ug/l	16/01/2017	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.02	ug/l	16/01/2017	Y Cov	GEO19
Benzo (a) pyrene	<0.02	ug/l	16/01/2017	Y Cov	GEO19
Benzo (b) fluoranthene	<0.02	ug/l	16/01/2017	Y Cov	GEO19
Benzo (k) fluoranthene	0.032	ug/l	16/01/2017	Y Cov	GEO19
Chrysene	<0.02	ug/l	16/01/2017	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.02	ug/l	16/01/2017	Y Cov	GEO19
Fluoranthene	0.030	ug/l	16/01/2017	Y Cov	GEO19
Fluorene	0.084	ug/l	16/01/2017	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.02	ug/l	16/01/2017	Y Cov	GEO19
Naphthalene	0.450	ug/l	16/01/2017	Y Cov	GEO19
Phenanthrene	0.042	ug/l	16/01/2017	Y Cov	GEO19
Pyrene	<0.02	ug/l	16/01/2017	Y Cov	GEO19
PAH, Total	0.740	ug/l	16/01/2017	N Cov	GEO19
SVOC	Y	ug/l	18/12/2016	N Cov	GEO40
Phenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chlorophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylphenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
3&4-Methylphenol	<2.0	ug/l	18/12/2016	N Cov	GEO40
Dibenzofuran	<2.0	ug/l	18/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<2.0	ug/l	18/12/2016	Y Cov	GEO40

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Sample Point Description:

Sample Description: **SW13**

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Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<2.0	ug/l	18/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachloroethane	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Nitrobenzene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Isophorone	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2-Nitrophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Naphthalene	6.4	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylnaphthalene	4.4	ug/l	18/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Dimethylphthalate	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthylene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Diethylphthalate	<2.0	ug/l	18/12/2016	Y Cov	GEO40
4-Nitrophenol	<10.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Fluorene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Diphenylamine	<2.0	ug/l	18/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobenzene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Pentachlorophenol	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Phenanthrene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Anthracene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<2.0	ug/l	18/12/2016	Y Cov	GEO40

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Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW13**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Pyrene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Chrysene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<10.0	ug/l	18/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
2-Fluorophenol	113.6	%Recovery	18/12/2016	N Cov	GEO40
Phenol-d6	99.9	%Recovery	18/12/2016	N Cov	GEO40
Nitrobenzene-d5	90.5	%Recovery	18/12/2016	N Cov	GEO40
2-Fluorobiphenyl	87.3	%Recovery	18/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	87.4	%Recovery	18/12/2016	N Cov	GEO40
Terphenyl-d14	103.6	%Recovery	18/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	22/12/2016	N Cov	WAS036
Fluoroxypyr	<0.10	ug/l	05/01/2017	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	27/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	27/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	28.2	ug/l	27/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON

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Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW13**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	27/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	27/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	5.2	ug/l	27/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	27/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Benzene	0.80	ug/l	27/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	27/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	27/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	27/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
Chloroform	0.36	ug/l	27/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	27/12/2016	Y S	SUBCON
Ethyl Benzene	11.4	ug/l	27/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Isopropylbenzene	2.6	ug/l	27/12/2016	Y S	SUBCON
m&p-Xylene	14.9	ug/l	27/12/2016	Y S	SUBCON
Naphthalene	8.3	ug/l	27/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
n-Propylbenzene	2.5	ug/l	27/12/2016	Y S	SUBCON

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Sample **7** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW13**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	3.58	ug/l	27/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	27/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	27/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	27/12/2016	Y S	SUBCON
Toluene	0.62	ug/l	27/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	27/12/2016	Y S	SUBCON

Analyst Comments for 15752014:

This sample has been analysed for Pesticides method GEO47, Aluminium, Total as Al, Magnesium, Total as Mg, Sodium, Total as Na, Boron, Total as B, Barium, Total as Ba, Copper, ultra-low total as Cu outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: Reporting limits raised due to the nature of the sample matrix. See attached SVOC -TIC Report. {*/}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.{*/}
Acid Herbicides reporting limits raised due to nature of sample matrix.
Reporting limits raised for PAH due to nature of sample matrix.
AQC failure for Azinphos-Ethyl, unable to indicate.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is

<1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **23 January 2017**

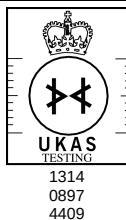
Title: **Organic Operations Manager**

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752015**

Sample **8** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW03**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	5.4	mg/l	29/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	16/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	30/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	30/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	0.015	mg/l	30/12/2016	Y Cov	WAS060
Fluoride	<0.100	mg/l	21/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Aluminium, Total as Al	2.8	mg/l	29/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.610	mg/l	29/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	29/12/2016	Y Cov	WAS049
Boron, Total as B	0.42	mg/l	29/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	0.0017	mg/l	29/12/2016	Y Cov	WAS049
Calcium , Total as Ca	200	mg/l	29/12/2016	Y Cov	WAS049
Chromium , Total as Cr	0.007	mg/l	29/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	24	ug/l	30/12/2016	Y Cov	WAS060
Iron , Total as Fe	59.8	mg/l	29/12/2016	Y Cov	WAS049
Ferrous Iron	5.5	mg/l	29/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Lead , Total as Pb	0.020	mg/l	29/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	31.3	mg/l	29/12/2016	Y Cov	WAS049
Manganese , Total as Mn	1.82	mg/l	29/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	21/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.053	mg/l	29/12/2016	Y Cov	WAS049
Potassium , Total as K	18.5	mg/l	29/12/2016	Y Cov	WAS049
Sodium , Total as Na	38.5	mg/l	29/12/2016	Y Cov	WAS049
Vanadium , Total as V	0.009	mg/l	29/12/2016	Y Cov	WAS049
Zinc, Total as Zn	0.08	mg/l	29/12/2016	Y Cov	WAS049
pH	6.9	pH units	15/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	1510	uS/cm	15/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	835	mg/l	15/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N	23.8	mg/l	27/12/2016	N Cov	WAS036

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752015**

Sample **8** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW03**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	59.3	mg/l	16/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	16/12/2016	N Cov	WAS036
Phosphates , Total as P	0.32	mg/l	29/12/2016	Y Cov	WAS049
Sulphate as SO4	66.2	mg/l	16/12/2016	N Cov	WAS036
BOD + ATU (5 day)	<1	mg/l	20/12/2016	Y Cov	WAS001
COD (Total)	186	mg/l	19/12/2016	Y Cov	WAS040
TOC (Filtered)	12.3	mg/l	16/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	19/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	19/12/2016	N Cov	WAS018
Sulphide as S	0.241	mg/l	30/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	21/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	10/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	10/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	10/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	19/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	10/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	10/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	10/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	10/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	10/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	10/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	10/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	10/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	10/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	10/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	10/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	10/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	10/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	10/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	10/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	10/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	10/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	10/01/2017	Y Cov	GEO47

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Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW03**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<5	ng/l	23/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	10/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	10/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	10/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	10/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	10/01/2017	Y Cov	GEO47
Azinphos-ethyl	Analyst Com	ug/l	23/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	10/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	10/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	10/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	10/01/2017	Y Cov	GEO47
Phosalone	<0.007	ug/l	23/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	23/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	30/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	30/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	30/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	30/12/2016	Y Cov	GEO20

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Laboratory Number: **15752015**

Sample **8** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW03**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	30/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	30/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Mecoprop	1.62	ug/l	30/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	16/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Naphthol	<0.10	ug/l	16/12/2016	N Cov	338
Phenol	<0.10	ug/l	16/12/2016	N Cov	338
Trimethylphenol, Total	11	ug/l	16/12/2016	N Cov	338
Phenols, Total	11	ug/l	16/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	23/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	23/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	23/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	23/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	23/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	23/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	23/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	23/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	23/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	21/12/2016	N Cov	GEO46

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Laboratory Number: **15752015**

Sample **8** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW03**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	23/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	23/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	23/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
Acenaphthylene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
Anthracene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
Benzo (a) anthracene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
Benzo (a) pyrene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
Benzo (b) fluoranthene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
Benzo (k) fluoranthene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
Chrysene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
Fluoranthene	0.034	ug/l	09/01/2017	Y Cov	GEO19
Fluorene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
Naphthalene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
Phenanthrene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
Pyrene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
PAH, Total	0.034	ug/l	09/01/2017	N Cov	GEO19
SVOC	Y	ug/l	18/12/2016	N Cov	GEO40
Phenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	18/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	18/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW03**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	18/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Laboratory Number: **15752015**

Sample **8** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW03**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	18/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Fluorophenol	115.6	%Recovery	18/12/2016	N Cov	GEO40
Phenol-d6	122.6	%Recovery	18/12/2016	N Cov	GEO40
Nitrobenzene-d5	100.3	%Recovery	18/12/2016	N Cov	GEO40
2-Fluorobiphenyl	86.5	%Recovery	18/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	89.6	%Recovery	18/12/2016	N Cov	GEO40
Terphenyl-d14	97.1	%Recovery	18/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	22/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	30/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	27/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	27/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752015**

Sample **8** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW03**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	27/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	27/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	27/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Benzene	<0.43	ug/l	27/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	27/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
Bromoform	<0.20	ug/l	27/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	27/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	27/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	27/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	27/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	27/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752015**

Sample **8** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW03**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	27/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	27/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	27/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	27/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	27/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Vinyl Chloride	<0.1	ug/l	27/12/2016	Y S	SUBCON

Analyst Comments for 15752015:

This sample has been analysed for Pesticides method GEO47, Ammoniacal Nitrogen as N, Aluminium, Total as Al, Magnesium, Total as Mg, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba, Copper, ultra-low total as Cu outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: See attached SVOC-TIC Report. {*/}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis. {*/}
Reporting limits raised for PAH & GCMSMS Pesticides due to nature of sample matrix.
AQC failure for Azinphos-Ethyl, unable to indicate.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **23 January 2017**

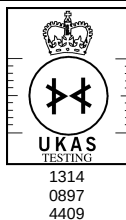
Title: **Organic Operations Manager**

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752016**

Sample **9** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW06**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	29/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	16/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	30/12/2016	Y Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	30/12/2016	Y Cov	WAS060
Arsenic, Ultra Low Total as As	0.0054	mg/l	03/01/2017	Y Cov	WAS060
Fluoride	0.112	mg/l	22/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Chloroethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Aluminium, Total as Al	3.5	mg/l	29/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.111	mg/l	29/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	29/12/2016	Y Cov	WAS049
Boron, Total as B	<0.23	mg/l	29/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	0.0033	mg/l	29/12/2016	Y Cov	WAS049
Calcium , Total as Ca	211	mg/l	29/12/2016	Y Cov	WAS049
Chromium , Total as Cr	0.007	mg/l	29/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	31	ug/l	30/12/2016	Y Cov	WAS060
Iron , Total as Fe	8.55	mg/l	29/12/2016	Y Cov	WAS049
Ferrous Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Lead , Total as Pb	0.038	mg/l	29/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	11.6	mg/l	29/12/2016	Y Cov	WAS049
Manganese , Total as Mn	2.08	mg/l	29/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	21/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.046	mg/l	29/12/2016	Y Cov	WAS049
Potassium , Total as K	1.90	mg/l	29/12/2016	Y Cov	WAS049
Sodium , Total as Na	2.10	mg/l	29/12/2016	Y Cov	WAS049
Vanadium , Total as V	0.015	mg/l	29/12/2016	Y Cov	WAS049
Zinc, Total as Zn	0.10	mg/l	29/12/2016	Y Cov	WAS049
pH	7.3	pH units	15/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	547	uS/cm	15/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	486	mg/l	15/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	<0.06	mg/l	19/12/2016	Y Cov	WAS067

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Issue **3**

Laboratory Number: **15752016**

Sample **9** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW06**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	5.7	mg/l	16/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	16/12/2016	N Cov	WAS036
Phosphates , Total as P	0.50	mg/l	29/12/2016	Y Cov	WAS049
Sulphate as SO4	14.9	mg/l	16/12/2016	N Cov	WAS036
BOD + ATU (5 day)	<1	mg/l	20/12/2016	Y Cov	WAS001
COD (Total)	153	mg/l	19/12/2016	Y Cov	WAS040
TOC (Filtered)	1.0	mg/l	16/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	19/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	19/12/2016	N Cov	WAS018
Sulphide as S	0.067	mg/l	30/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	21/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	10/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	10/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	10/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	19/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	10/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	10/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	10/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	10/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	10/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	10/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	10/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	10/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	10/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	10/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	10/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	10/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	10/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	10/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	10/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	10/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	10/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	10/01/2017	Y Cov	GEO47

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752016**

Sample **9** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW06**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<5	ng/l	23/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	10/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	10/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	10/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	10/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	10/01/2017	Y Cov	GEO47
Azinphos-ethyl	Analyst Com	ug/l	23/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	10/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	10/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	10/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	10/01/2017	Y Cov	GEO47
Phosalone	<0.007	ug/l	23/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	23/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20

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Issue **3**

Laboratory Number: **15752016**

Sample **9** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW06**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

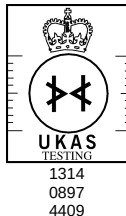
Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	28/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	16/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	16/12/2016	N Cov	338
Naphthol	<0.10	ug/l	16/12/2016	N Cov	338
Phenol	<0.10	ug/l	16/12/2016	N Cov	338
Trimethylphenol, Total	1.3	ug/l	16/12/2016	N Cov	338
Phenols, Total	1.3	ug/l	16/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	21/12/2016	N Cov	GEO46

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Issue **3**

Laboratory Number: **15752016**

Sample **9** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW06**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
Anthracene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
Chrysene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
Fluoranthene	0.084	ug/l	09/01/2017	Y Cov	GEO19
Fluorene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
Naphthalene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
Phenanthrene	0.097	ug/l	09/01/2017	Y Cov	GEO19
Pyrene	0.022	ug/l	09/01/2017	Y Cov	GEO19
PAH, Total	0.203	ug/l	09/01/2017	N Cov	GEO19
SVOC	Y	ug/l	18/12/2016	N Cov	GEO40
Phenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	18/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	18/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Certificate of Analysis



Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752016**

Sample **9** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW06**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	18/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	18/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752016**

Sample **9** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW06**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	18/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	18/12/2016	Y Cov	GEO40
2-Fluorophenol	118.7	%Recovery	18/12/2016	N Cov	GEO40
Phenol-d6	102.8	%Recovery	18/12/2016	N Cov	GEO40
Nitrobenzene-d5	103.7	%Recovery	18/12/2016	N Cov	GEO40
2-Fluorobiphenyl	88.4	%Recovery	18/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	80.1	%Recovery	18/12/2016	N Cov	GEO40
Terphenyl-d14	99.5	%Recovery	18/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	22/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	28/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	27/12/2016	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	27/12/2016	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752016**

Sample **9** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW06**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	27/12/2016	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	27/12/2016	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	27/12/2016	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	27/12/2016	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Benzene	<0.20	ug/l	27/12/2016	Y S	SUBCON
Bromobenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	27/12/2016	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
Bromoform	0.36	ug/l	27/12/2016	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	27/12/2016	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
Chloroform	<0.10	ug/l	27/12/2016	Y S	SUBCON
Chloromethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	27/12/2016	Y S	SUBCON
Dibromomethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Dichloromethane	<6.0	ug/l	27/12/2016	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	27/12/2016	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	27/12/2016	Y S	SUBCON
Naphthalene	<1.0	ug/l	27/12/2016	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON

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Report Number: **COV/1345620/2016**

Issue **3**

Laboratory Number: **15752016**

Sample **9** of **9**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW06**

Sample Matrix: **Ground Water**

Sample Date/Time: **13 December 2016**

Sample Received: **14 December 2016**

Analysis Complete: **23 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	27/12/2016	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	27/12/2016	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Styrene	<0.20	ug/l	27/12/2016	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	27/12/2016	Y S	SUBCON
Toluene	<0.50	ug/l	27/12/2016	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	27/12/2016	Y S	SUBCON
Trichloroethene	<0.10	ug/l	27/12/2016	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	27/12/2016	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	27/12/2016	Y S	SUBCON

Analyst Comments for 15752016:

This sample has been analysed for Pesticides method GEO47, Aluminium, Total as Al, Magnesium, Total as Mg, Sodium, Total as Na, Boron, Total as B, Barium, Total as Ba, Copper, ultra-low total as Cu outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: See attached SVOC-TIC Report. {*/}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.{*/} Reporting limits raised for GCMSMS Pesticides due to nature of sample matrix. AQC failure for Azinphos-Ethyl, unable to indicate.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG). For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

A I Horobin

Name: **A. Horobin**

Date: **23 January 2017**

Title: **Organic Operations Manager**

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Mr Downes
SKM Ireland c/o Jacobs
Engineering Ireland
Jacobs
Merrion House
Merrion Road
Dublin 4 South Dublin

17 January 2017

Test Report: COV/1346206/2016

Dear Mr Downes

Analysis of your sample(s) submitted on 15 December 2016 is now complete and we have pleasure in enclosing the appropriate test report(s).

An invoice for the analysis carried out will be sent under separate cover.

Should you have any queries regarding this report(s) or any part of our service, please contact Customer Services on +44 (0)24 7642 1213 who will be happy to discuss your requirements.

If you would like to arrange any further analysis, please contact Customer Services. To arrange container delivery or sample collection, please call the Couriers Department directly on 024 7685 6562.

Thank you for using ALS Environmental Ltd and we look forward to receiving your next samples.

Yours Sincerely,

Signed: 

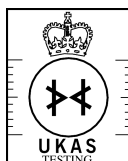
Name: A. Horobin

Title: Organic Operations Manager



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Report Summary



1314
0897
4409



Mr Ultan Downes
SKM Ireland c/o Jacobs
Engineering Ireland
Jacobs
Merrion House
Merrion Road
Dublin 4
South Dublin

Date of Issue: **17 January 2017**

Report Number: **COV/1346206/2016** Issue **3**

Job Description: Kerdiffstown Landfill

Job Location: 32EW5604 KLRP

Number of Samples
included in this report **6**

Job Received: **15 December 2016**

Number of Test Results
included in this report **1650**

Analysis Commenced: **16 December 2016**

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **17 January 2017**

Title: **Organic Operations Manager**

ALS Environmental Ltd was not responsible for sampling unless otherwise stated. Sampling is not covered by our UKAS accreditation.

Information on the methods of analysis and performance characteristics are available on request.

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation. The results relate only to the items tested.

Tests marked 'Not UKAS Accredited' in this Report/Certificate are not included in the UKAS Accreditation Schedule for our laboratory.

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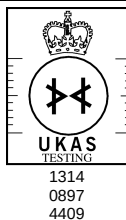
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Certificate of Analysis



Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756016**

Sample **1** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW11**

Sample Matrix: **Surface Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	29/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	16/12/2016	Y Cov	WAS036
Antimony Ultra Low Total as Sb	0.0027	mg/l	03/01/2017	N Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	03/01/2017	N Cov	WAS060
Arsenic, Ultra Low Total as As	0.0023	mg/l	03/01/2017	N Cov	WAS060
Fluoride	0.075	mg/l	22/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	03/01/2017	Y S	SUBCON
Chloroethane	<1.0	ug/l	03/01/2017	Y S	SUBCON
Aluminium, Total as Al	0.5	mg/l	30/12/2016	N Cov	WAS049
Barium, Total as Ba	0.042	mg/l	30/12/2016	N Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	30/12/2016	N Cov	WAS049
Boron, Total as B	<0.23	mg/l	30/12/2016	N Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	30/12/2016	N Cov	WAS049
Calcium , Total as Ca	43.0	mg/l	30/12/2016	N Cov	WAS049
Chromium , Total as Cr	0.003	mg/l	30/12/2016	N Cov	WAS049
Copper, Ultra-low Total as Cu	16	ug/l	03/01/2017	N Cov	WAS060
Iron , Total as Fe	1.61	mg/l	30/12/2016	N Cov	WAS049
Ferrous Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Lead , Total as Pb	0.009	mg/l	30/12/2016	N Cov	WAS049
Magnesium, Total as Mg	2.7	mg/l	30/12/2016	N Cov	WAS049
Manganese , Total as Mn	0.325	mg/l	30/12/2016	N Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	28/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.008	mg/l	30/12/2016	N Cov	WAS049
Potassium , Total as K	2.25	mg/l	30/12/2016	N Cov	WAS049
Sodium , Total as Na	27.2	mg/l	30/12/2016	N Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	30/12/2016	N Cov	WAS049
Zinc, Total as Zn	0.202	mg/l	30/12/2016	N Cov	WAS049
pH	7.8	pH units	16/12/2016	N Cov	WAS039
Conductivity- Electrical 20C	337	uS/cm	16/12/2016	N Cov	WAS039
Alkalinity as CaCO3	96.8	mg/l	16/12/2016	N Cov	WAS025
Ammoniacal Nitrogen as N (LL)	<0.06	mg/l	19/12/2016	N Cov	WAS067

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756016**

Sample **1** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW11**

Sample Matrix: **Surface Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	52.6	mg/l	16/12/2016	Y Cov	WAS036
Nitrite as N	<0.08	mg/l	16/12/2016	Y Cov	WAS036
Phosphates , Total as P	0.21	mg/l	30/12/2016	N Cov	WAS049
Sulphate as SO4	8.5	mg/l	16/12/2016	Y Cov	WAS036
BOD + ATU (5 day)	2	mg/l	26/12/2016	Y Cov	WAS001
COD (Total)	32.0	mg/l	20/12/2016	Y Cov	WAS040
TOC (Filtered)	4.2	mg/l	19/12/2016	N Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	19/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	19/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	30/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	21/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	10/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	10/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	10/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	23/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	10/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	10/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	10/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	10/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	10/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	10/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	10/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	10/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	10/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	10/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	10/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	10/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	10/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	10/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	10/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	10/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	10/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	10/01/2017	Y Cov	GEO47

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756016**

Sample **1** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW11**

Sample Matrix: **Surface Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	17/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	10/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	10/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	10/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	10/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	10/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	17/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Diazinon	<0.006	ug/l	10/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	10/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	10/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	10/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	10/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	17/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	17/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756016**

Sample **1** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW11**

Sample Matrix: **Surface Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	28/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	23/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Naphthol	<0.10	ug/l	23/12/2016	N Cov	338
Phenol	<0.10	ug/l	23/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	23/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	67	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	12	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	80	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	13	ug/l	21/12/2016	N Cov	GEO46

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Issue **3**

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Sample **1** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW11**

Sample Matrix: **Surface Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	13	ug/l	21/12/2016	N Cov	GEO46
EPH >C10 - C44	93	ug/l	21/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	80	ug/l	22/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	13	ug/l	22/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	93	ug/l	22/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
Acenaphthylene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
Anthracene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
Benzo (a) anthracene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
Benzo (a) pyrene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
Benzo (b) fluoranthene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
Benzo (k) fluoranthene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
Chrysene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
Fluoranthene	0.187	ug/l	09/01/2017	Y Cov	GEO19
Fluorene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
Naphthalene	<0.02	ug/l	09/01/2017	Y Cov	GEO19
Phenanthrene	0.048	ug/l	09/01/2017	Y Cov	GEO19
Pyrene	0.096	ug/l	09/01/2017	Y Cov	GEO19
PAH, Total	0.332	ug/l	09/01/2017	N Cov	GEO19
SVOC	Y	ug/l	21/12/2016	N Cov	GEO40
Phenol	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<2.0	ug/l	21/12/2016	Y Cov	GEO40
2-Chlorophenol	<2.0	ug/l	21/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<2.0	ug/l	21/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<2.0	ug/l	21/12/2016	Y Cov	GEO40
2-Methylphenol	<2.0	ug/l	21/12/2016	Y Cov	GEO40
3&4-Methylphenol	<2.0	ug/l	21/12/2016	N Cov	GEO40
Dibenzofuran	<2.0	ug/l	21/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<2.0	ug/l	21/12/2016	Y Cov	GEO40

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Laboratory Number: **15756016**

Sample **1** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW11**

Sample Matrix: **Surface Water**

Sample Date/Time: **14 December 2016**

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Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<2.0	ug/l	21/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Hexachloroethane	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Nitrobenzene	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Isophorone	<2.0	ug/l	21/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<2.0	ug/l	21/12/2016	Y Cov	GEO40
2-Nitrophenol	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<2.0	ug/l	21/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<2.0	ug/l	21/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<2.0	ug/l	21/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<2.0	ug/l	21/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<2.0	ug/l	21/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<2.0	ug/l	21/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<2.0	ug/l	21/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Dimethylphthalate	<2.0	ug/l	21/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Acenaphthylene	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Acenaphthene	<2.0	ug/l	21/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Diethylphthalate	<2.0	ug/l	21/12/2016	Y Cov	GEO40
4-Nitrophenol	<10.0	ug/l	21/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Fluorene	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Diphenylamine	<2.0	ug/l	21/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Hexachlorobenzene	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Pentachlorophenol	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Phenanthrene	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Anthracene	<2.0	ug/l	21/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<2.0	ug/l	21/12/2016	Y Cov	GEO40

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Report Number: **COV/1346206/2016**

Issue **3**

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Sample **1** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW11**

Sample Matrix: **Surface Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Pyrene	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Chrysene	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<10.0	ug/l	21/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<2.0	ug/l	21/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<2.0	ug/l	21/12/2016	Y Cov	GEO40
2-Fluorophenol	81.5	%Recovery	21/12/2016	N Cov	GEO40
Phenol-d6	72.1	%Recovery	21/12/2016	N Cov	GEO40
Nitrobenzene-d5	83.7	%Recovery	21/12/2016	N Cov	GEO40
2-Fluorobiphenyl	89.4	%Recovery	21/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	66.8	%Recovery	21/12/2016	N Cov	GEO40
Terphenyl-d14	85.9	%Recovery	21/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	22/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	28/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	03/01/2017	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	03/01/2017	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	03/01/2017	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	03/01/2017	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	03/01/2017	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	03/01/2017	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	03/01/2017	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	03/01/2017	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	03/01/2017	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	03/01/2017	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	03/01/2017	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	03/01/2017	Y S	SUBCON

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756016**

Sample **1** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW11**

Sample Matrix: **Surface Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

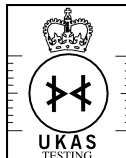
Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	03/01/2017	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	03/01/2017	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	03/01/2017	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	03/01/2017	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	03/01/2017	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	03/01/2017	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	03/01/2017	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	03/01/2017	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	03/01/2017	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	03/01/2017	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	03/01/2017	Y S	SUBCON
Benzene	<0.20	ug/l	03/01/2017	Y S	SUBCON
Bromobenzene	<1.0	ug/l	03/01/2017	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	03/01/2017	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	03/01/2017	Y S	SUBCON
Bromoform	0.31	ug/l	03/01/2017	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	03/01/2017	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	03/01/2017	Y S	SUBCON
Chloroform	<0.10	ug/l	03/01/2017	Y S	SUBCON
Chloromethane	<1.0	ug/l	03/01/2017	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	03/01/2017	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	03/01/2017	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	03/01/2017	Y S	SUBCON
Dibromomethane	<1.0	ug/l	03/01/2017	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	03/01/2017	Y S	SUBCON
Dichloromethane	16.4	ug/l	03/01/2017	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	03/01/2017	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	03/01/2017	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	03/01/2017	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	03/01/2017	Y S	SUBCON
Naphthalene	<1.0	ug/l	03/01/2017	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	03/01/2017	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	03/01/2017	Y S	SUBCON

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1314
0897
4409



Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756016**

Sample **1** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW11**

Sample Matrix: **Surface Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	03/01/2017	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	03/01/2017	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	03/01/2017	Y S	SUBCON
Styrene	<0.20	ug/l	03/01/2017	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	03/01/2017	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	03/01/2017	Y S	SUBCON
Toluene	<0.50	ug/l	03/01/2017	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	03/01/2017	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	03/01/2017	Y S	SUBCON
Trichloroethene	<0.10	ug/l	03/01/2017	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	03/01/2017	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	03/01/2017	Y S	SUBCON

Analyst Comments for 15756016:

This sample has been analysed for Pesticides method GEO47, pH, BOD + ATU (5 day), Aluminium, Total as Al, Magnesium, Total as Mg, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba, Copper, ultra-low total as Cu outside recommended stability times. It is therefore possible that the results provided may be compromised. See attached SVOC-TIC Report. This sample for the SVOC, has been analysed outside recommended stability times. It is therefore possible that the results provided may be compromised. The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis. The sample for Sulphide was received in a container inappropriate for this parameter. It is therefore possible that the results provided may be compromised. Reporting limits raised for PAH & SVOC due to nature of sample matrix.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG). For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **17 January 2017**

Title: **Organic Operations Manager**

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756017**

Sample **2** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW12**

Sample Matrix: **Surface Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	29/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	16/12/2016	Y Cov	WAS036
Antimony Ultra Low Total as Sb	0.0017	mg/l	03/01/2017	N Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	03/01/2017	N Cov	WAS060
Arsenic, Ultra Low Total as As	0.0014	mg/l	03/01/2017	N Cov	WAS060
Fluoride	0.041	mg/l	22/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	03/01/2017	Y S	SUBCON
Chloroethane	<1.0	ug/l	03/01/2017	Y S	SUBCON
Aluminium, Total as Al	0.6	mg/l	30/12/2016	N Cov	WAS049
Barium, Total as Ba	0.032	mg/l	30/12/2016	N Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	30/12/2016	N Cov	WAS049
Boron, Total as B	<0.23	mg/l	30/12/2016	N Cov	WAS049
Cadmium , Total as Cd	0.0007	mg/l	30/12/2016	N Cov	WAS049
Calcium , Total as Ca	38.7	mg/l	30/12/2016	N Cov	WAS049
Chromium , Total as Cr	0.003	mg/l	30/12/2016	N Cov	WAS049
Copper, Ultra-low Total as Cu	17	ug/l	03/01/2017	N Cov	WAS060
Iron , Total as Fe	1.29	mg/l	30/12/2016	N Cov	WAS049
Ferrous Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Lead , Total as Pb	0.010	mg/l	30/12/2016	N Cov	WAS049
Magnesium, Total as Mg	2.9	mg/l	30/12/2016	N Cov	WAS049
Manganese , Total as Mn	0.143	mg/l	30/12/2016	N Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	28/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.008	mg/l	30/12/2016	N Cov	WAS049
Potassium , Total as K	1.49	mg/l	30/12/2016	N Cov	WAS049
Sodium , Total as Na	13.6	mg/l	30/12/2016	N Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	30/12/2016	N Cov	WAS049
Zinc, Total as Zn	0.184	mg/l	30/12/2016	N Cov	WAS049
pH	7.8	pH units	16/12/2016	N Cov	WAS039
Conductivity- Electrical 20C	235	uS/cm	16/12/2016	N Cov	WAS039
Alkalinity as CaCO3	85.6	mg/l	16/12/2016	N Cov	WAS025
Ammoniacal Nitrogen as N (LL)	<0.06	mg/l	19/12/2016	N Cov	WAS067

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Issue **3**

Laboratory Number: **15756017**

Sample **2** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW12**

Sample Matrix: **Surface Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	25.0	mg/l	16/12/2016	Y Cov	WAS036
Nitrite as N	<0.08	mg/l	16/12/2016	Y Cov	WAS036
Phosphates , Total as P	0.19	mg/l	30/12/2016	N Cov	WAS049
Sulphate as SO4	5.0	mg/l	16/12/2016	Y Cov	WAS036
BOD + ATU (5 day)	2	mg/l	26/12/2016	Y Cov	WAS001
COD (Total)	41.0	mg/l	20/12/2016	Y Cov	WAS040
TOC (Filtered)	2.6	mg/l	19/12/2016	N Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	19/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	19/12/2016	N Cov	WAS018
Sulphide as S	0.034	mg/l	30/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	21/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	10/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	10/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	10/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	23/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	10/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	10/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	10/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	10/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	10/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	10/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	10/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	10/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	10/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	10/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	10/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	10/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	10/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	10/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	10/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	10/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	10/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	10/01/2017	Y Cov	GEO47

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Issue **3**

Laboratory Number: **15756017**

Sample **2** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW12**

Sample Matrix: **Surface Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	17/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	10/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	10/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	10/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	10/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	10/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	17/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Diazinon	<0.005	ug/l	10/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	10/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	10/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	10/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	10/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	17/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	17/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20

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Sample **2** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW12**

Sample Matrix: **Surface Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	28/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	23/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Naphthol	<0.10	ug/l	23/12/2016	N Cov	338
Phenol	<0.10	ug/l	23/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	23/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	47	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	47	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	11	ug/l	21/12/2016	N Cov	GEO46

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Laboratory Number: **15756017**

Sample **2** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW12**

Sample Matrix: **Surface Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Aromatic EPH >C35 - C44	<10	ug/l	21/12/2016	N	Cov	GEO46
Aromatic EPH >C10 - C44	11	ug/l	21/12/2016	N	Cov	GEO46
EPH >C10 - C44	57	ug/l	21/12/2016	N	Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	47	ug/l	22/12/2016	N	Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	11	ug/l	22/12/2016	N	Cov	GEO45/GEO4
VPH/EPH >C5 - C44	58	ug/l	22/12/2016	N	Cov	GEO45/GEO4
Acenaphthene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Acenaphthylene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Anthracene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Benzo (a) anthracene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Benzo (g,h,i) perylene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Benzo (a) pyrene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Benzo (b) fluoranthene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Benzo (k) fluoranthene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Chrysene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Dibenz (a,h) anthracene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Fluoranthene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Fluorene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Naphthalene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Phenanthrene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
Pyrene	<0.02	ug/l	16/01/2017	Y	Cov	GEO19
PAH, Total	<0.02	ug/l	16/01/2017	N	Cov	GEO19
SVOC	Y	ug/l	22/12/2016	N	Cov	GEO40
Phenol	<1.0	ug/l	22/12/2016	Y	Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	22/12/2016	Y	Cov	GEO40
2-Chlorophenol	<1.0	ug/l	22/12/2016	Y	Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	22/12/2016	Y	Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	22/12/2016	Y	Cov	GEO40
2-Methylphenol	<1.0	ug/l	22/12/2016	Y	Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	22/12/2016	N	Cov	GEO40
Dibenzofuran	<1.0	ug/l	22/12/2016	N	Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	22/12/2016	Y	Cov	GEO40

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Issue **3**

Laboratory Number: **15756017**

Sample **2** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW12**

Sample Matrix: **Surface Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	22/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	22/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	22/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40

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Laboratory Number: **15756017**

Sample **2** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW12**

Sample Matrix: **Surface Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	22/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Fluorophenol	69.0	%Recovery	22/12/2016	N Cov	GEO40
Phenol-d6	61.9	%Recovery	22/12/2016	N Cov	GEO40
Nitrobenzene-d5	75.6	%Recovery	22/12/2016	N Cov	GEO40
2-Fluorobiphenyl	78.7	%Recovery	22/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	76.7	%Recovery	22/12/2016	N Cov	GEO40
Terphenyl-d14	93.4	%Recovery	22/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	22/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	28/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	03/01/2017	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	03/01/2017	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	03/01/2017	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	03/01/2017	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	03/01/2017	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	03/01/2017	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	03/01/2017	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	03/01/2017	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	03/01/2017	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	03/01/2017	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	03/01/2017	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	03/01/2017	Y S	SUBCON

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756017**

Sample **2** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW12**

Sample Matrix: **Surface Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	03/01/2017	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	03/01/2017	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	03/01/2017	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	03/01/2017	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	03/01/2017	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	03/01/2017	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	03/01/2017	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	03/01/2017	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	03/01/2017	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	03/01/2017	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	03/01/2017	Y S	SUBCON
Benzene	<0.20	ug/l	03/01/2017	Y S	SUBCON
Bromobenzene	<1.0	ug/l	03/01/2017	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	03/01/2017	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	03/01/2017	Y S	SUBCON
Bromoform	0.25	ug/l	03/01/2017	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	03/01/2017	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	03/01/2017	Y S	SUBCON
Chloroform	<0.10	ug/l	03/01/2017	Y S	SUBCON
Chloromethane	<1.0	ug/l	03/01/2017	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	03/01/2017	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	03/01/2017	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	03/01/2017	Y S	SUBCON
Dibromomethane	<1.0	ug/l	03/01/2017	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	03/01/2017	Y S	SUBCON
Dichloromethane	18.5	ug/l	03/01/2017	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	03/01/2017	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	03/01/2017	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	03/01/2017	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	03/01/2017	Y S	SUBCON
Naphthalene	<1.0	ug/l	03/01/2017	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	03/01/2017	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	03/01/2017	Y S	SUBCON

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756017**

Sample **2** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **SW12**

Sample Matrix: **Surface Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	03/01/2017	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	03/01/2017	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	03/01/2017	Y S	SUBCON
Styrene	<0.20	ug/l	03/01/2017	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	03/01/2017	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	03/01/2017	Y S	SUBCON
Toluene	<0.50	ug/l	03/01/2017	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	03/01/2017	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	03/01/2017	Y S	SUBCON
Trichloroethene	<0.10	ug/l	03/01/2017	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	03/01/2017	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	03/01/2017	Y S	SUBCON

Analyst Comments for 15756017:

This sample has been analysed for Pesticides method GEO47, pH, BOD + ATU (5 day), Aluminium, Total as Al, Magnesium, Total as Mg, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba, Copper, ultra-low total as Cu outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: See attached SVOC-TIC Report.
{/*}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.
The sample for Sulphide was received in a container inappropriate for this parameter. It is therefore possible that the results provided may be compromised.{*/}
Reporting limits raised for PAH due to nature of sample matrix. This sample was re-analysed for PAH outside recommended stability times due to quality failure on the original sample. It is therefore possible that the results provided could be compromised.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **17 January 2017**

Title: **Organic Operations Manager**

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756018**

Sample **3** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW02**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	29/12/2016	N Cov	WAS043
Nitrate as NO3	26.9	mg/l	16/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	03/01/2017	Y Cov	WAS060
Selenium Ultra Low Total as Se	0.0008	mg/l	03/01/2017	Y Cov	WAS060
Arsenic, Ultra Low Total as As	0.0022	mg/l	03/01/2017	Y Cov	WAS060
Fluoride	0.066	mg/l	22/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	03/01/2017	Y S	SUBCON
Chloroethane	<1.0	ug/l	03/01/2017	Y S	SUBCON
Aluminium, Total as Al	1.2	mg/l	30/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.034	mg/l	30/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	30/12/2016	Y Cov	WAS049
Boron, Total as B	0.26	mg/l	30/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	0.0008	mg/l	30/12/2016	Y Cov	WAS049
Calcium , Total as Ca	155	mg/l	30/12/2016	Y Cov	WAS049
Chromium , Total as Cr	0.002	mg/l	30/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	6.5	ug/l	03/01/2017	Y Cov	WAS060
Iron , Total as Fe	1.89	mg/l	30/12/2016	Y Cov	WAS049
Ferrous Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Lead , Total as Pb	0.008	mg/l	30/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	10.0	mg/l	30/12/2016	Y Cov	WAS049
Manganese , Total as Mn	0.199	mg/l	30/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	28/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.010	mg/l	30/12/2016	Y Cov	WAS049
Potassium , Total as K	1.74	mg/l	30/12/2016	Y Cov	WAS049
Sodium , Total as Na	11.2	mg/l	30/12/2016	Y Cov	WAS049
Vanadium , Total as V	0.004	mg/l	30/12/2016	Y Cov	WAS049
Zinc, Total as Zn	0.03	mg/l	30/12/2016	Y Cov	WAS049
pH	7.2	pH units	16/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	717	uS/cm	16/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	399	mg/l	16/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	<0.06	mg/l	19/12/2016	Y Cov	WAS067

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756018**

Sample **3** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW02**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	7.6	mg/l	16/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	16/12/2016	N Cov	WAS036
Phosphates , Total as P	0.26	mg/l	30/12/2016	Y Cov	WAS049
Sulphate as SO4	32.2	mg/l	16/12/2016	N Cov	WAS036
BOD + ATU (5 day)	<1	mg/l	26/12/2016	Y Cov	WAS001
COD (Total)	36.0	mg/l	20/12/2016	Y Cov	WAS040
TOC (Filtered)	2.1	mg/l	19/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	19/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	19/12/2016	N Cov	WAS018
Sulphide as S	0.107	mg/l	30/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	21/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	10/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	10/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	10/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	23/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	10/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	10/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	10/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	10/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	10/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	10/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	10/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	10/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	10/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	10/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	10/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	10/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	10/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	10/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	10/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	10/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	10/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	10/01/2017	Y Cov	GEO47

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756018**

Sample **3** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW02**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	17/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	10/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	10/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	10/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	10/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	10/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	17/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	10/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	10/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	10/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	10/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	17/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	17/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756018**

Sample **3** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW02**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	28/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	28/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	28/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	23/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Naphthol	<0.10	ug/l	23/12/2016	N Cov	338
Phenol	<0.10	ug/l	23/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	23/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	21/12/2016	N Cov	GEO46

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756018**

Sample **3** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW02**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Aromatic EPH >C35 - C44	<10	ug/l	21/12/2016	N	Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	21/12/2016	N	Cov	GEO46
EPH >C10 - C44	<10	ug/l	21/12/2016	N	Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N	Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N	Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N	Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	09/01/2017	Y	Cov	GEO19
Acenaphthylene	<0.01	ug/l	09/01/2017	Y	Cov	GEO19
Anthracene	<0.01	ug/l	09/01/2017	Y	Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	09/01/2017	Y	Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	09/01/2017	Y	Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	09/01/2017	Y	Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	09/01/2017	Y	Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	09/01/2017	Y	Cov	GEO19
Chrysene	<0.01	ug/l	09/01/2017	Y	Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	09/01/2017	Y	Cov	GEO19
Fluoranthene	0.040	ug/l	09/01/2017	Y	Cov	GEO19
Fluorene	<0.01	ug/l	09/01/2017	Y	Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	09/01/2017	Y	Cov	GEO19
Naphthalene	<0.01	ug/l	09/01/2017	Y	Cov	GEO19
Phenanthrene	0.013	ug/l	09/01/2017	Y	Cov	GEO19
Pyrene	0.016	ug/l	09/01/2017	Y	Cov	GEO19
PAH, Total	0.070	ug/l	09/01/2017	N	Cov	GEO19
SVOC	Y	ug/l	22/12/2016	N	Cov	GEO40
Phenol	<1.0	ug/l	22/12/2016	Y	Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	22/12/2016	Y	Cov	GEO40
2-Chlorophenol	<1.0	ug/l	22/12/2016	Y	Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	22/12/2016	Y	Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	22/12/2016	Y	Cov	GEO40
2-Methylphenol	<1.0	ug/l	22/12/2016	Y	Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	22/12/2016	N	Cov	GEO40
Dibenzofuran	<1.0	ug/l	22/12/2016	N	Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	22/12/2016	Y	Cov	GEO40

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Certificate of Analysis



Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756018**

Sample **3** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW02**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	22/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	22/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	22/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756018**

Sample **3** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW02**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	22/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Fluorophenol	68.8	%Recovery	22/12/2016	N Cov	GEO40
Phenol-d6	59.2	%Recovery	22/12/2016	N Cov	GEO40
Nitrobenzene-d5	75.2	%Recovery	22/12/2016	N Cov	GEO40
2-Fluorobiphenyl	77.6	%Recovery	22/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	81.2	%Recovery	22/12/2016	N Cov	GEO40
Terphenyl-d14	96.2	%Recovery	22/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	22/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	28/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	03/01/2017	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	03/01/2017	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	03/01/2017	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	03/01/2017	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	03/01/2017	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	03/01/2017	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	03/01/2017	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	03/01/2017	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	03/01/2017	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	03/01/2017	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	03/01/2017	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	03/01/2017	Y S	SUBCON

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756018**

Sample **3** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW02**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	03/01/2017	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	03/01/2017	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	03/01/2017	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	03/01/2017	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	03/01/2017	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	03/01/2017	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	03/01/2017	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	03/01/2017	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	03/01/2017	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	03/01/2017	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	03/01/2017	Y S	SUBCON
Benzene	<0.20	ug/l	03/01/2017	Y S	SUBCON
Bromobenzene	<1.0	ug/l	03/01/2017	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	03/01/2017	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	03/01/2017	Y S	SUBCON
Bromoform	0.39	ug/l	03/01/2017	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	03/01/2017	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	03/01/2017	Y S	SUBCON
Chloroform	<0.10	ug/l	03/01/2017	Y S	SUBCON
Chloromethane	<1.0	ug/l	03/01/2017	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	03/01/2017	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	03/01/2017	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	03/01/2017	Y S	SUBCON
Dibromomethane	<1.0	ug/l	03/01/2017	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	03/01/2017	Y S	SUBCON
Dichloromethane	11.7	ug/l	03/01/2017	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	03/01/2017	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	03/01/2017	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	03/01/2017	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	03/01/2017	Y S	SUBCON
Naphthalene	<1.0	ug/l	03/01/2017	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	03/01/2017	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	03/01/2017	Y S	SUBCON

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756018**

Sample **3** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW02**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	03/01/2017	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	03/01/2017	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	03/01/2017	Y S	SUBCON
Styrene	<0.20	ug/l	03/01/2017	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	03/01/2017	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	03/01/2017	Y S	SUBCON
Toluene	<0.50	ug/l	03/01/2017	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	03/01/2017	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	03/01/2017	Y S	SUBCON
Trichloroethene	<0.10	ug/l	03/01/2017	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	03/01/2017	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	03/01/2017	Y S	SUBCON

Analyst Comments for 15756018:

This sample has been analysed for Pesticides method GEO47, pH, BOD + ATU (5 day), Aluminium, Total as Al, Magnesium, Total as Mg, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba, Copper, ultra-low total as Cu outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: See attached SVOC-TIC Report.
{/*}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-feric ratio between sampling and analysis.
The sample for Sulphide was received in a container inappropriate for this parameter. It is therefore possible that the results provided may be compromised.{/*}

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **17 January 2017**

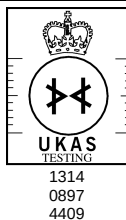
Title: **Organic Operations Manager**

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756019**

Sample **4** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW04**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	29/12/2016	N Cov	WAS043
Nitrate as NO3	129	mg/l	16/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	03/01/2017	Y Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	03/01/2017	Y Cov	WAS060
Arsenic, Ultra Low Total as As	0.0025	mg/l	03/01/2017	Y Cov	WAS060
Fluoride	<0.100	mg/l	22/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Chloroethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Aluminium, Total as Al	0.8	mg/l	30/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.149	mg/l	30/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	30/12/2016	Y Cov	WAS049
Boron, Total as B	0.84	mg/l	30/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	0.0012	mg/l	30/12/2016	Y Cov	WAS049
Calcium , Total as Ca	239	mg/l	30/12/2016	Y Cov	WAS049
Chromium , Total as Cr	0.002	mg/l	30/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	9.3	ug/l	03/01/2017	Y Cov	WAS060
Iron , Total as Fe	1.81	mg/l	30/12/2016	Y Cov	WAS049
Ferrous Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Lead , Total as Pb	0.008	mg/l	30/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	33.5	mg/l	30/12/2016	Y Cov	WAS049
Manganese , Total as Mn	0.427	mg/l	30/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	28/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.021	mg/l	30/12/2016	Y Cov	WAS049
Potassium , Total as K	15.3	mg/l	30/12/2016	Y Cov	WAS049
Sodium , Total as Na	45.0	mg/l	30/12/2016	Y Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	30/12/2016	Y Cov	WAS049
Zinc, Total as Zn	0.04	mg/l	30/12/2016	Y Cov	WAS049
pH	7.0	pH units	16/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	1370	uS/cm	16/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	626	mg/l	16/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	0.27	mg/l	19/12/2016	Y Cov	WAS067

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756019**

Sample **4** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW04**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	40.5	mg/l	16/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	16/12/2016	N Cov	WAS036
Phosphates , Total as P	0.28	mg/l	30/12/2016	Y Cov	WAS049
Sulphate as SO4	135	mg/l	16/12/2016	N Cov	WAS036
BOD + ATU (5 day)	<1	mg/l	26/12/2016	Y Cov	WAS001
COD (Total)	57.0	mg/l	20/12/2016	Y Cov	WAS040
TOC (Filtered)	10.8	mg/l	19/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	19/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	19/12/2016	N Cov	WAS018
Sulphide as S	0.103	mg/l	30/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	21/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	10/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	10/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	10/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	23/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	10/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	10/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	10/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	10/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	10/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	10/01/2017	Y Cov	GEO47
Dichlobenil	2	ng/l	10/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	10/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	10/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	10/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	10/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	10/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	10/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	10/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	10/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	10/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	10/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	10/01/2017	Y Cov	GEO47

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756019**

Sample **4** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW04**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	17/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	10/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	10/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	10/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	10/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	10/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	17/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	10/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	10/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	10/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	10/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	17/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	17/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	30/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	30/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	30/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	30/12/2016	Y Cov	GEO20

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756019**

Sample **4** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW04**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	30/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	30/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Mecoprop	0.40	ug/l	30/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	23/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Naphthol	<0.10	ug/l	23/12/2016	N Cov	338
Phenol	<0.10	ug/l	23/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	23/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	21/12/2016	N Cov	GEO46

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756019**

Sample **4** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW04**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
Anthracene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
Chrysene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
Fluoranthene	0.020	ug/l	09/01/2017	Y Cov	GEO19
Fluorene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
Naphthalene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
Phenanthrene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
Pyrene	<0.01	ug/l	09/01/2017	Y Cov	GEO19
PAH, Total	0.020	ug/l	09/01/2017	N Cov	GEO19
SVOC	Y	ug/l	22/12/2016	N Cov	GEO40
Phenol	4.3	ug/l	22/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	22/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	22/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756019**

Sample **4** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW04**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	22/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	22/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	22/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756019**

Sample **4** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW04**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	22/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Fluorophenol	72.1	%Recovery	22/12/2016	N Cov	GEO40
Phenol-d6	61.2	%Recovery	22/12/2016	N Cov	GEO40
Nitrobenzene-d5	77.0	%Recovery	22/12/2016	N Cov	GEO40
2-Fluorobiphenyl	79.5	%Recovery	22/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	85.0	%Recovery	22/12/2016	N Cov	GEO40
Terphenyl-d14	97.6	%Recovery	22/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	22/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	30/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	02/01/2017	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	02/01/2017	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756019**

Sample **4** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW04**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	02/01/2017	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	02/01/2017	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	02/01/2017	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Benzene	<0.20	ug/l	02/01/2017	Y S	SUBCON
Bromobenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	02/01/2017	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
Bromoform	<0.20	ug/l	02/01/2017	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	02/01/2017	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
Chloroform	<0.10	ug/l	02/01/2017	Y S	SUBCON
Chloromethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
Dibromomethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Dichloromethane	<6.0	ug/l	02/01/2017	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	02/01/2017	Y S	SUBCON
Naphthalene	<1.0	ug/l	02/01/2017	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756019**

Sample **4** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW04**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	02/01/2017	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	02/01/2017	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Styrene	<0.20	ug/l	02/01/2017	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	02/01/2017	Y S	SUBCON
Toluene	<0.50	ug/l	02/01/2017	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Trichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	02/01/2017	Y S	SUBCON

Analyst Comments for 15756019:

This sample has been analysed for Acid Herbs Waters method GEO20, Pesticides method GEO47, pH, BOD + ATU (5 day), Aluminium, Total as Al, Magnesium, Total as Mg, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba, Copper, ultra-low total as Cu outside recommended stability times. It is therefore possible that the results provided may be compromised. GEO40 SVOC Waters: See attached SVOC-TIC Report.

The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.

The sample for Sulphide was received in a container inappropriate for this parameter. It is therefore possible that the results provided may be compromised.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry (CV4 9GU), Che = Chester (CH4 9EP), Ott = Otterbourne (SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge (BA14 0XD), Wak = Wakefield (WF5 9TG). For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **17 January 2017**

Title: **Organic Operations Manager**

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756020**

Sample **5** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH36B**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	2.2	mg/l	29/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	16/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	0.0013	mg/l	03/01/2017	Y Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	03/01/2017	Y Cov	WAS060
Arsenic, Ultra Low Total as As	0.023	mg/l	03/01/2017	Y Cov	WAS060
Fluoride	0.296	mg/l	22/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Chloroethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Aluminium, Total as Al	2.3	mg/l	30/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.330	mg/l	30/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	30/12/2016	Y Cov	WAS049
Boron, Total as B	<0.23	mg/l	30/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	0.0027	mg/l	30/12/2016	Y Cov	WAS049
Calcium , Total as Ca	185	mg/l	30/12/2016	Y Cov	WAS049
Chromium , Total as Cr	0.006	mg/l	30/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	38	ug/l	03/01/2017	Y Cov	WAS060
Iron , Total as Fe	7.54	mg/l	30/12/2016	Y Cov	WAS049
Ferrous Iron	0.7	mg/l	29/12/2016	N Cov	WAS043
Ferric Iron	1.5	mg/l	29/12/2016	N Cov	WAS043
Lead , Total as Pb	0.023	mg/l	30/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	18.9	mg/l	30/12/2016	Y Cov	WAS049
Manganese , Total as Mn	2.94	mg/l	30/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	28/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.037	mg/l	30/12/2016	Y Cov	WAS049
Potassium , Total as K	4.85	mg/l	30/12/2016	Y Cov	WAS049
Sodium , Total as Na	38.4	mg/l	30/12/2016	Y Cov	WAS049
Vanadium , Total as V	0.009	mg/l	30/12/2016	Y Cov	WAS049
Zinc, Total as Zn	0.08	mg/l	30/12/2016	Y Cov	WAS049
pH	7.1	pH units	16/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	1040	uS/cm	16/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	419	mg/l	16/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	1.65	mg/l	19/12/2016	Y Cov	WAS067

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756020**

Sample **5** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH36B**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	139	mg/l	16/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	16/12/2016	N Cov	WAS036
Phosphates , Total as P	0.44	mg/l	30/12/2016	Y Cov	WAS049
Sulphate as SO4	25.6	mg/l	16/12/2016	N Cov	WAS036
BOD + ATU (5 day)	2	mg/l	26/12/2016	Y Cov	WAS001
COD (Total)	110	mg/l	20/12/2016	Y Cov	WAS040
TOC (Filtered)	12.7	mg/l	19/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	19/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	19/12/2016	N Cov	WAS018
Sulphide as S	0.274	mg/l	30/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	21/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	10/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	10/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	10/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	23/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	10/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	10/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	10/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	10/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	10/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	10/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	10/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	10/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	10/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	10/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	10/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	10/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	10/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	10/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	10/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	10/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	10/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	10/01/2017	Y Cov	GEO47

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Issue **3**

Laboratory Number: **15756020**

Sample **5** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH36B**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	17/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	10/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	10/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	10/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	10/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	10/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	17/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	10/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	10/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	10/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	10/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	17/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	17/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	05/01/2017	Y Cov	GEO20
2,4 - D	<0.05	ug/l	05/01/2017	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	05/01/2017	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	05/01/2017	Y Cov	GEO20
Benazolin	<0.05	ug/l	05/01/2017	Y Cov	GEO20
Bentazone	<0.05	ug/l	05/01/2017	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	05/01/2017	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	05/01/2017	Y Cov	GEO20

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Issue **3**

Laboratory Number: **15756020**

Sample **5** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH36B**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	05/01/2017	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	05/01/2017	Y Cov	GEO20
Fenoprop	<0.05	ug/l	05/01/2017	Y Cov	GEO20
Ioxynil	<0.05	ug/l	05/01/2017	Y Cov	GEO20
MCPA	<0.05	ug/l	05/01/2017	Y Cov	GEO20
MCPB	<0.05	ug/l	05/01/2017	Y Cov	GEO20
Triclopyr	<0.05	ug/l	05/01/2017	Y Cov	GEO20
Mecoprop	0.25	ug/l	05/01/2017	Y Cov	GEO20
Catechol	<0.10	ug/l	23/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Naphthol	<0.10	ug/l	23/12/2016	N Cov	338
Phenol	<0.10	ug/l	23/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	23/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	23/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	23/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	23/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	23/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	23/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	23/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	23/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	23/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	23/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	21/12/2016	N Cov	GEO46

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Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH36B**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Aromatic EPH >C35 - C44	<10	ug/l	21/12/2016	N	Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	21/12/2016	N	Cov	GEO46
EPH >C10 - C44	<10	ug/l	21/12/2016	N	Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	23/12/2016	N	Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	23/12/2016	N	Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	23/12/2016	N	Cov	GEO45/GEO4
Acenaphthene	0.037	ug/l	09/01/2017	Y	Cov	GEO19
Acenaphthylene	<0.01	ug/l	09/01/2017	Y	Cov	GEO19
Anthracene	<0.01	ug/l	09/01/2017	Y	Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	09/01/2017	Y	Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	09/01/2017	Y	Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	09/01/2017	Y	Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	09/01/2017	Y	Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	09/01/2017	Y	Cov	GEO19
Chrysene	<0.01	ug/l	09/01/2017	Y	Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	09/01/2017	Y	Cov	GEO19
Fluoranthene	<0.01	ug/l	09/01/2017	Y	Cov	GEO19
Fluorene	0.022	ug/l	09/01/2017	Y	Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	09/01/2017	Y	Cov	GEO19
Naphthalene	0.363	ug/l	09/01/2017	Y	Cov	GEO19
Phenanthrene	<0.01	ug/l	09/01/2017	Y	Cov	GEO19
Pyrene	<0.01	ug/l	09/01/2017	Y	Cov	GEO19
PAH, Total	0.422	ug/l	09/01/2017	N	Cov	GEO19
SVOC	Y	ug/l	22/12/2016	N	Cov	GEO40
Phenol	<1.0	ug/l	22/12/2016	Y	Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	22/12/2016	Y	Cov	GEO40
2-Chlorophenol	<1.0	ug/l	22/12/2016	Y	Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	22/12/2016	Y	Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	22/12/2016	Y	Cov	GEO40
2-Methylphenol	<1.0	ug/l	22/12/2016	Y	Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	22/12/2016	N	Cov	GEO40
Dibenzofuran	<1.0	ug/l	22/12/2016	N	Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	22/12/2016	Y	Cov	GEO40

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Sample **5** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH36B**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	22/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	22/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	22/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40

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Report Number: **COV/1346206/2016**

Issue **3**

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Sample **5** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH36B**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	22/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Fluorophenol	81.7	%Recovery	22/12/2016	N Cov	GEO40
Phenol-d6	71.7	%Recovery	22/12/2016	N Cov	GEO40
Nitrobenzene-d5	86.6	%Recovery	22/12/2016	N Cov	GEO40
2-Fluorobiphenyl	88.4	%Recovery	22/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	88.3	%Recovery	22/12/2016	N Cov	GEO40
Terphenyl-d14	95.6	%Recovery	22/12/2016	N Cov	GEO40
Nitrite as N02	<0.28	mg/l	22/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	05/01/2017	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	02/01/2017	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	02/01/2017	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON

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Issue **3**

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Sample **5** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH36B**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	02/01/2017	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	02/01/2017	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	02/01/2017	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Benzene	<0.20	ug/l	02/01/2017	Y S	SUBCON
Bromobenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	02/01/2017	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
Bromoform	<0.20	ug/l	02/01/2017	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	02/01/2017	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
Chloroform	<0.10	ug/l	02/01/2017	Y S	SUBCON
Chloromethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
Dibromomethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Dichloromethane	<6.0	ug/l	02/01/2017	Y S	SUBCON
Ethyl Benzene	0.16	ug/l	02/01/2017	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
m&p-Xylene	0.22	ug/l	02/01/2017	Y S	SUBCON
Naphthalene	<1.0	ug/l	02/01/2017	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756020**

Sample **5** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH36B**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	02/01/2017	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	02/01/2017	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Styrene	<0.20	ug/l	02/01/2017	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	02/01/2017	Y S	SUBCON
Toluene	<0.50	ug/l	02/01/2017	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Trichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	02/01/2017	Y S	SUBCON

Analyst Comments for 15756020:

This sample has been analysed for Acid Herbs Waters method GEO20, Pesticides method GEO47, pH, BOD + ATU (5 day), Aluminium, Total as Al, Magnesium, Total as Mg, Sodium Total as Na, Boron, Total as B, Barium, Total as Ba, Copper, ultra-low total as Cu outside recommended stability times. It is therefore possible that the results provided may be compromised. See attached SVOC-TIC Report.
GEO45 VPH Waters: Low surrogate recovery due to sample matrix interference.
The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.
The sample for Sulphide was received in a container inappropriate for this parameter. It is therefore possible that the results provided may be compromised.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry (CV4 9GU), Che = Chester (CH4 9EP), Ott = Otterbourne (SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge (BA14 0XD), Wak = Wakefield (WF5 9TG).
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **17 January 2017**

Title: **Organic Operations Manager**

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756021**

Sample **6** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **GWID**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	29/12/2016	N Cov	WAS043
Nitrate as NO3	4.5	mg/l	21/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	03/01/2017	Y Cov	WAS060
Selenium Ultra Low Total as Se	0.0010	mg/l	03/01/2017	Y Cov	WAS060
Arsenic, Ultra Low Total as As	<0.0010	mg/l	03/01/2017	Y Cov	WAS060
Fluoride	0.158	mg/l	22/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Chloroethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Aluminium, Total as Al	<0.1	mg/l	30/12/2016	Y Cov	WAS049
Barium, Total as Ba	0.096	mg/l	30/12/2016	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	30/12/2016	Y Cov	WAS049
Boron, Total as B	<0.23	mg/l	30/12/2016	Y Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	30/12/2016	Y Cov	WAS049
Calcium , Total as Ca	145	mg/l	30/12/2016	Y Cov	WAS049
Chromium , Total as Cr	<0.002	mg/l	30/12/2016	Y Cov	WAS049
Copper, Ultra-low Total as Cu	2.2	ug/l	03/01/2017	Y Cov	WAS060
Iron , Total as Fe	<0.23	mg/l	30/12/2016	Y Cov	WAS049
Ferrous Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	30/12/2016	Y Cov	WAS049
Magnesium, Total as Mg	21.0	mg/l	30/12/2016	Y Cov	WAS049
Manganese , Total as Mn	0.060	mg/l	30/12/2016	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	28/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.005	mg/l	30/12/2016	Y Cov	WAS049
Potassium , Total as K	1.81	mg/l	30/12/2016	Y Cov	WAS049
Sodium , Total as Na	14.2	mg/l	30/12/2016	Y Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	30/12/2016	Y Cov	WAS049
Zinc, Total as Zn	<0.018	mg/l	30/12/2016	Y Cov	WAS049
pH	7.6	pH units	16/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	759	uS/cm	16/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	327	mg/l	16/12/2016	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	<0.06	mg/l	19/12/2016	Y Cov	WAS067

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756021**

Sample **6** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **GWID**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	170	mg/l	17/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	17/12/2016	N Cov	WAS036
Phosphates , Total as P	<0.120	mg/l	30/12/2016	Y Cov	WAS049
Sulphate as SO4	108	mg/l	17/12/2016	N Cov	WAS036
BOD + ATU (5 day)	<1	mg/l	26/12/2016	Y Cov	WAS001
COD (Total)	<11.0	mg/l	29/12/2016	Y Cov	WAS040
TOC (Filtered)	0.8	mg/l	19/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	19/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	19/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	30/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	21/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	10/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	10/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	10/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	23/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	10/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	10/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	10/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	10/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	10/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	10/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	10/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	10/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	10/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	10/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	10/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	10/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	10/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	10/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	10/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	10/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	10/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	10/01/2017	Y Cov	GEO47

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756021**

Sample **6** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **GWID**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	17/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	10/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	10/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	10/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	10/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	10/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	17/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	10/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	10/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	10/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	10/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	10/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	17/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	17/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	10/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	10/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	30/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	30/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	30/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	30/12/2016	Y Cov	GEO20

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756021**

Sample **6** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **GWID**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	30/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	30/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	30/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	23/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Naphthol	<0.10	ug/l	23/12/2016	N Cov	338
Phenol	<0.10	ug/l	23/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	23/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	21/12/2016	N Cov	GEO46

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Issue **3**

Laboratory Number: **15756021**

Sample **6** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **GWID**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	21/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	22/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Anthracene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Chrysene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Fluoranthene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Fluorene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Naphthalene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Phenanthrene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Pyrene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
PAH, Total	<0.01	ug/l	17/01/2017	N Cov	GEO19
SVOC	Y	ug/l	22/12/2016	N Cov	GEO40
Phenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	22/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	22/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756021**

Sample **6** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **GWID**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	22/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	22/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	22/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40

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Certificate of Analysis



Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756021**

Sample **6** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **GWID**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	22/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Fluorophenol	77.8	%Recovery	22/12/2016	N Cov	GEO40
Phenol-d6	63.4	%Recovery	22/12/2016	N Cov	GEO40
Nitrobenzene-d5	84.1	%Recovery	22/12/2016	N Cov	GEO40
2-Fluorobiphenyl	86.2	%Recovery	22/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	69.9	%Recovery	22/12/2016	N Cov	GEO40
Terphenyl-d14	89.3	%Recovery	22/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	22/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	30/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	02/01/2017	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	02/01/2017	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON

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Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756021**

Sample **6** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **GWID**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	02/01/2017	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	02/01/2017	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	02/01/2017	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Benzene	<0.20	ug/l	02/01/2017	Y S	SUBCON
Bromobenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	02/01/2017	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
Bromoform	<0.20	ug/l	02/01/2017	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	02/01/2017	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
Chloroform	<0.10	ug/l	02/01/2017	Y S	SUBCON
Chloromethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
Dibromomethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Dichloromethane	9.3	ug/l	02/01/2017	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	02/01/2017	Y S	SUBCON
Naphthalene	<1.0	ug/l	02/01/2017	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON

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Certificate of Analysis



Report Number: **COV/1346206/2016**

Issue **3**

Laboratory Number: **15756021**

Sample **6** of **6**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **GWID**

Sample Matrix: **Ground Water**

Sample Date/Time: **14 December 2016**

Sample Received: **15 December 2016**

Analysis Complete: **17 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	02/01/2017	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	02/01/2017	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Styrene	<0.20	ug/l	02/01/2017	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	02/01/2017	Y S	SUBCON
Toluene	<0.50	ug/l	02/01/2017	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Trichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	02/01/2017	Y S	SUBCON

Analyst Comments for 15756021:

This sample has been analysed for Acid Herbs Waters method GEO20, Pesticides method GEO47, pH, BOD + ATU (5 day), Aluminium, Total as Al, Magnesium, Total as Mg, Sodium Total as Na, COD (Total), Boron, Total as B, Barium, Total as Ba, Nitrate as NO3, Copper, ultra-low total as Cu outside recommended stability times. It is therefore possible that the results provided may be compromised. See attached SVOC-TIC Report.

The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.

The sample for Sulphide was received in a container inappropriate for this parameter. It is therefore possible that the results provided may be compromised.

Sub sample taken from PET bottle for PAH due to quality failure on the original sample taken from the glass container and re-analysed outside recommended stability times. It is therefore possible that the results provided could be compromised.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry (CV4 9GU), Che = Chester (CH4 9EP), Ott = Otterbourne (SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge (BA14 0XD), Wak = Wakefield (WF5 9TG). For Microbiological determinands 0 or ND = Not Detected, For Legionella ND = Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S = Insufficient sample For soil/sludge samples: AR = As received, DW = Dry weight.

Signed: *A I Horobin*

Name: **A. Horobin**

Date: **17 January 2017**

Title: **Organic Operations Manager**

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Mr Downes
SKM Ireland c/o Jacobs
Engineering Ireland
Jacobs
Merrion House
Merrion Road
Dublin 4 South Dublin

18 January 2017

Test Report: COV/1346707/2016

Dear Mr Downes

Analysis of your sample(s) submitted on 16 December 2016 is now complete and we have pleasure in enclosing the appropriate test report(s).

An invoice for the analysis carried out will be sent under separate cover.

Should you have any queries regarding this report(s) or any part of our service, please contact Customer Services on +44 (0)24 7642 1213 who will be happy to discuss your requirements.

If you would like to arrange any further analysis, please contact Customer Services. To arrange container delivery or sample collection, please call the Couriers Department directly on 024 7685 6562.

Thank you for using ALS Environmental Ltd and we look forward to receiving your next samples.

Yours Sincerely,

Signed: 

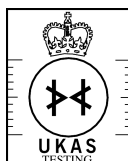
Name: C. Law

Title: Inorganics Operations Manager



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Report Summary



1314
0897
4409



**Mr Ultan Downes
SKM Ireland c/o Jacobs
Engineering Ireland
Jacobs
Merrion House
Merrion Road
Dublin 4
South Dublin**

Date of Issue: **18 January 2017**

Report Number: **COV/1346707/2016** Issue **3**

Job Description: Kerdiffstown Landfill

Number of Samples
included in this report **4**

Job Received: **16 December 2016**

Number of Test Results
included in this report **1100**

Analysis Commenced: **20 December 2016**

Signed:

Name: **C. Law**

Date: **18 January 2017**

Title: **Inorganics Operations Manager**

ALS Environmental Ltd was not responsible for sampling unless otherwise stated. Sampling is not covered by our UKAS accreditation.

Information on the methods of analysis and performance characteristics are available on request.

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation. The results relate only to the items tested.

Tests marked 'Not UKAS Accredited' in this Report/Certificate are not included in the UKAS Accreditation Schedule for our laboratory.

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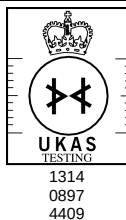
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Certificate of Analysis



Report Number: **COV/1346707/2016**

Issue **3**

Laboratory Number: **15759735**

Sample **1** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH42**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	3.1	mg/l	29/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	21/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	04/01/2017	Y Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	04/01/2017	Y Cov	WAS060
Arsenic, Ultra Low Total as As	0.011	mg/l	04/01/2017	Y Cov	WAS060
Fluoride	0.124	mg/l	22/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Chloroethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Aluminium, Total as Al	1.1	mg/l	04/01/2017	Y Cov	WAS049
Barium, Total as Ba	0.113	mg/l	04/01/2017	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	04/01/2017	Y Cov	WAS049
Boron, Total as B	0.40	mg/l	04/01/2017	Y Cov	WAS049
Cadmium , Total as Cd	0.0013	mg/l	04/01/2017	Y Cov	WAS049
Calcium , Total as Ca	232	mg/l	04/01/2017	Y Cov	WAS049
Chromium , Total as Cr	0.005	mg/l	04/01/2017	Y Cov	WAS049
Copper, Ultra-low Total as Cu	19	ug/l	04/01/2017	Y Cov	WAS060
Iron , Total as Fe	6.36	mg/l	04/01/2017	Y Cov	WAS049
Ferrous Iron	1.3	mg/l	29/12/2016	N Cov	WAS043
Ferric Iron	1.7	mg/l	29/12/2016	N Cov	WAS043
Lead , Total as Pb	0.021	mg/l	04/01/2017	Y Cov	WAS049
Magnesium, Total as Mg	21.7	mg/l	04/01/2017	Y Cov	WAS049
Manganese , Total as Mn	4.39	mg/l	04/01/2017	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	29/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.021	mg/l	04/01/2017	Y Cov	WAS049
Potassium , Total as K	16.1	mg/l	04/01/2017	Y Cov	WAS049
Sodium , Total as Na	28.5	mg/l	04/01/2017	Y Cov	WAS049
Vanadium , Total as V	0.005	mg/l	04/01/2017	Y Cov	WAS049
Zinc, Total as Zn	0.06	mg/l	04/01/2017	Y Cov	WAS049
pH	7.3	pH units	30/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	1120	uS/cm	30/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	320	mg/l	04/01/2017	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	3.42	mg/l	20/12/2016	Y Cov	WAS067

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Certificate of Analysis



Report Number: **COV/1346707/2016**

Issue **3**

Laboratory Number: **15759735**

Sample **1** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH42**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	25.1	mg/l	21/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	21/12/2016	N Cov	WAS036
Phosphates , Total as P	0.30	mg/l	04/01/2017	Y Cov	WAS049
Sulphate as SO4	337	mg/l	21/12/2016	N Cov	WAS036
BOD + ATU (5 day)	2	mg/l	27/12/2016	Y Cov	WAS001
COD (Total)	49.0	mg/l	21/12/2016	Y Cov	WAS040
TOC (Filtered)	8.2	mg/l	20/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	21/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	21/12/2016	N Cov	WAS018
Sulphide as S	0.140	mg/l	31/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	21/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	12/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	12/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	12/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	23/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	12/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	12/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	12/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	12/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	12/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	12/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	12/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	12/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	12/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	12/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	12/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	12/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	12/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	18/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	12/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	12/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	12/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	12/01/2017	Y Cov	GEO47

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Report Number: **COV/1346707/2016**

Issue **3**

Laboratory Number: **15759735**

Sample **1** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH42**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	18/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	12/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	12/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	12/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	12/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	12/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	18/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	12/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	12/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	18/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	12/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	12/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	12/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	12/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	12/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	12/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	12/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	12/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	12/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	12/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	12/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	12/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	12/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	12/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	12/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	30/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	30/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	30/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	30/12/2016	Y Cov	GEO20

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Report Number: **COV/1346707/2016**

Issue **3**

Laboratory Number: **15759735**

Sample **1** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH42**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	30/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	30/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Mecoprop	0.25	ug/l	30/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	23/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Naphthol	<0.10	ug/l	23/12/2016	N Cov	338
Phenol	<0.10	ug/l	23/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	23/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	23/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	23/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	23/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	23/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	23/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	23/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	23/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	23/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	23/12/2016	N Cov	GEO46

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Report Number: **COV/1346707/2016**

Issue **3**

Laboratory Number: **15759735**

Sample **1** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH42**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	23/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	23/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	23/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	23/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	23/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	23/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Anthracene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Benzo (a) anthracene	0.032	ug/l	17/01/2017	Y Cov	GEO19
Benzo (g,h,i) perylene	0.051	ug/l	17/01/2017	Y Cov	GEO19
Benzo (a) pyrene	0.049	ug/l	17/01/2017	Y Cov	GEO19
Benzo (b) fluoranthene	0.053	ug/l	17/01/2017	Y Cov	GEO19
Benzo (k) fluoranthene	0.026	ug/l	17/01/2017	Y Cov	GEO19
Chrysene	0.036	ug/l	17/01/2017	Y Cov	GEO19
Dibenz (a,h) anthracene	0.012	ug/l	17/01/2017	Y Cov	GEO19
Fluoranthene	0.067	ug/l	17/01/2017	Y Cov	GEO19
Fluorene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	0.041	ug/l	17/01/2017	Y Cov	GEO19
Naphthalene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Phenanthrene	0.034	ug/l	17/01/2017	Y Cov	GEO19
Pyrene	0.068	ug/l	17/01/2017	Y Cov	GEO19
PAH, Total	0.469	ug/l	17/01/2017	N Cov	GEO19
SVOC	Y	ug/l	22/12/2016	N Cov	GEO40
Phenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	22/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	22/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40

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Report Number: **COV/1346707/2016**

Issue **3**

Laboratory Number: **15759735**

Sample **1** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH42**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	22/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	22/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	22/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40

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Issue **3**

Laboratory Number: **15759735**

Sample **1** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH42**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	22/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Fluorophenol	87.2	%Recovery	22/12/2016	N Cov	GEO40
Phenol-d6	72.0	%Recovery	22/12/2016	N Cov	GEO40
Nitrobenzene-d5	90.4	%Recovery	22/12/2016	N Cov	GEO40
2-Fluorobiphenyl	85.6	%Recovery	22/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	82.3	%Recovery	22/12/2016	N Cov	GEO40
Terphenyl-d14	89.9	%Recovery	22/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	22/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	30/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	02/01/2017	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	02/01/2017	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON

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Report Number: **COV/1346707/2016**

Issue **3**

Laboratory Number: **15759735**

Sample **1** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH42**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	02/01/2017	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	02/01/2017	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	02/01/2017	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Benzene	<0.20	ug/l	02/01/2017	Y S	SUBCON
Bromobenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	02/01/2017	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
Bromoform	<0.20	ug/l	02/01/2017	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	02/01/2017	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
Chloroform	<0.10	ug/l	02/01/2017	Y S	SUBCON
Chloromethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
Dibromomethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Dichloromethane	<6.0	ug/l	02/01/2017	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	02/01/2017	Y S	SUBCON
Naphthalene	<1.0	ug/l	02/01/2017	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON

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Report Number: **COV/1346707/2016**

Issue **3**

Laboratory Number: **15759735**

Sample **1** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **BH42**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	02/01/2017	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	02/01/2017	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Styrene	<0.20	ug/l	02/01/2017	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	02/01/2017	Y S	SUBCON
Toluene	<0.50	ug/l	02/01/2017	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Trichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	02/01/2017	Y S	SUBCON

Analyst Comments for 15759735:

This sample has been analysed for Pesticides method GEO47, pH, BOD + ATU (5 day), Nitrite as N, Iron Total as Fe, Manganese Total as Mn, Aluminium, Total as Al, Cadmium Total as Cd, Chromium Total as Cr, Lead Total as Pb, Nickel, Total as Ni, Zinc, Total as Zn, Calcium Total as Ca, Magnesium, Total as Mg, Sodium Total as Na, Potassium Total as K, Phosphates Total as P, Boron, Total as B, Vanadium Total as V, Barium, Total as Ba, Nitrate as NO₃, Beryllium, Total as Be, Copper, ultra-low total as Cu outside recommended stability times. It is therefore possible that the results provided may be compromised. {/*}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.{*/}

Sub sample taken from PET bottle for PAH due to quality control failure, it is therefore possible that the results provided could be compromised.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG). For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **C. Law**

Date: **18 January 2017**

Title: **Inorganics Operations Manager**

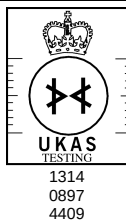
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Report Number: **COV/1346707/2016**

Issue **3**

Laboratory Number: **15759736**

Sample **2** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW15**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	16.9	mg/l	29/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	21/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	04/01/2017	Y Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	04/01/2017	Y Cov	WAS060
Arsenic, Ultra Low Total as As	0.031	mg/l	04/01/2017	Y Cov	WAS060
Fluoride	0.067	mg/l	22/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Chloroethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Aluminium, Total as Al	<0.1	mg/l	04/01/2017	Y Cov	WAS049
Barium, Total as Ba	0.289	mg/l	04/01/2017	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	04/01/2017	Y Cov	WAS049
Boron, Total as B	0.60	mg/l	04/01/2017	Y Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	04/01/2017	Y Cov	WAS049
Calcium , Total as Ca	255	mg/l	04/01/2017	Y Cov	WAS049
Chromium , Total as Cr	<0.002	mg/l	04/01/2017	Y Cov	WAS049
Copper, Ultra-low Total as Cu	2.2	ug/l	04/01/2017	Y Cov	WAS060
Iron , Total as Fe	18.9	mg/l	04/01/2017	Y Cov	WAS049
Ferrous Iron	2.9	mg/l	29/12/2016	N Cov	WAS043
Ferric Iron	14.0	mg/l	29/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	04/01/2017	Y Cov	WAS049
Magnesium, Total as Mg	35.3	mg/l	04/01/2017	Y Cov	WAS049
Manganese , Total as Mn	6.40	mg/l	04/01/2017	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	29/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.007	mg/l	04/01/2017	Y Cov	WAS049
Potassium , Total as K	30.2	mg/l	04/01/2017	Y Cov	WAS049
Sodium , Total as Na	54.5	mg/l	04/01/2017	Y Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	04/01/2017	Y Cov	WAS049
Zinc, Total as Zn	<0.018	mg/l	04/01/2017	Y Cov	WAS049
pH	7.2	pH units	30/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	1500	uS/cm	30/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	606	mg/l	04/01/2017	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	14.4	mg/l	20/12/2016	Y Cov	WAS067

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Report Number: **COV/1346707/2016**

Issue **3**

Laboratory Number: **15759736**

Sample **2** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW15**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	50.3	mg/l	21/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	21/12/2016	N Cov	WAS036
Phosphates , Total as P	0.85	mg/l	04/01/2017	Y Cov	WAS049
Sulphate as SO4	295	mg/l	21/12/2016	N Cov	WAS036
BOD + ATU (5 day)	1	mg/l	27/12/2016	Y Cov	WAS001
COD (Total)	50.0	mg/l	21/12/2016	Y Cov	WAS040
TOC (Filtered)	11.3	mg/l	20/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	21/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	21/12/2016	N Cov	WAS018
Sulphide as S	<0.020	mg/l	31/12/2016	N Cov	WAS033
Formaldehyde	0.143	mg/l	21/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	12/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	12/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	12/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	23/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	12/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	12/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	12/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	12/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	12/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	12/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	12/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	12/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	12/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	12/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	12/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	12/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	12/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	18/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	12/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	12/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	12/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	12/01/2017	Y Cov	GEO47

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Laboratory Number: **15759736**

Sample **2** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW15**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	18/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	12/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	12/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	12/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	12/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	12/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	18/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	12/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	12/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	18/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	12/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	12/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	12/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	12/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	12/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	12/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	12/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	12/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	12/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	12/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	12/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	12/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	12/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	12/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	12/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	05/01/2017	Y Cov	GEO20
2,4 - D	<0.05	ug/l	05/01/2017	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	05/01/2017	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	05/01/2017	Y Cov	GEO20
Benazolin	<0.05	ug/l	05/01/2017	Y Cov	GEO20
Bentazone	<0.05	ug/l	05/01/2017	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	05/01/2017	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	05/01/2017	Y Cov	GEO20

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Sample **2** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW15**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	05/01/2017	Y Cov	GEO20
Dichlorprop	0.06	ug/l	05/01/2017	Y Cov	GEO20
Fenoprop	<0.05	ug/l	05/01/2017	Y Cov	GEO20
Ioxynil	<0.05	ug/l	05/01/2017	Y Cov	GEO20
MCPA	<0.05	ug/l	05/01/2017	Y Cov	GEO20
MCPB	<0.05	ug/l	05/01/2017	Y Cov	GEO20
Triclopyr	<0.05	ug/l	05/01/2017	Y Cov	GEO20
Mecoprop	0.42	ug/l	05/01/2017	Y Cov	GEO20
Catechol	<0.10	ug/l	23/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Naphthol	<0.10	ug/l	23/12/2016	N Cov	338
Phenol	<0.10	ug/l	23/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	23/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	23/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	23/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	23/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	23/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	23/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	23/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	23/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	23/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	23/12/2016	N Cov	GEO46

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Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW15**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	23/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	23/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	23/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	23/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	23/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	23/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Anthracene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Chrysene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Fluoranthene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Fluorene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Naphthalene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Phenanthrene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Pyrene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
PAH, Total	<0.01	ug/l	17/01/2017	N Cov	GEO19
SVOC	Y	ug/l	22/12/2016	N Cov	GEO40
Phenol	1.2	ug/l	22/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	22/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	22/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40

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Sample **2** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW15**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	22/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	22/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	22/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40

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Issue **3**

Laboratory Number: **15759736**

Sample **2** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW15**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	22/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Fluorophenol	77.2	%Recovery	22/12/2016	N Cov	GEO40
Phenol-d6	62.8	%Recovery	22/12/2016	N Cov	GEO40
Nitrobenzene-d5	85.8	%Recovery	22/12/2016	N Cov	GEO40
2-Fluorobiphenyl	79.1	%Recovery	22/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	85.4	%Recovery	22/12/2016	N Cov	GEO40
Terphenyl-d14	90.7	%Recovery	22/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	22/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	05/01/2017	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	02/01/2017	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	02/01/2017	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON

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Sample **2** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW15**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	02/01/2017	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	02/01/2017	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	02/01/2017	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Benzene	<0.20	ug/l	02/01/2017	Y S	SUBCON
Bromobenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	02/01/2017	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
Bromoform	<0.20	ug/l	02/01/2017	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	02/01/2017	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
Chloroform	<0.10	ug/l	02/01/2017	Y S	SUBCON
Chloromethane	1.5	ug/l	02/01/2017	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
Dibromomethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Dichloromethane	<6.0	ug/l	02/01/2017	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	02/01/2017	Y S	SUBCON
Naphthalene	<1.0	ug/l	02/01/2017	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON

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Report Number: **COV/1346707/2016**

Issue **3**

Laboratory Number: **15759736**

Sample **2** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW15**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	02/01/2017	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	02/01/2017	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Styrene	<0.20	ug/l	02/01/2017	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	02/01/2017	Y S	SUBCON
Toluene	<0.50	ug/l	02/01/2017	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Trichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	02/01/2017	Y S	SUBCON

Analyst Comments for 15759736:

This sample has been analysed for Pesticides method GEO47, pH, BOD + ATU (5 day), Nitrite as N, Iron Total as Fe, Manganese Total as Mn, Aluminium, Total as Al, Cadmium Total as Cd, Chromium Total as Cr, Lead Total as Pb, Nickel, Total as Ni, Zinc, Total as Zn, Calcium Total as Ca, Magnesium, Total as Mg, Sodium Total as Na, Potassium Total as K, Phosphates Total as P, Boron, Total as B, Vanadium Total as V, Barium, Total as Ba, Nitrate as NO₃, Beryllium, Total as Be, Copper, ultra-low total as Cu outside recommended stability times. It is therefore possible that the results provided may be compromised. {/*}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.{*/}

Sub sample taken from PET bottle for PAH due to quality control failure, it is therefore possible that the results provided could be compromised.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG). For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **C. Law**

Date: **18 January 2017**

Title: **Inorganics Operations Manager**

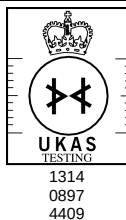
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Report Number: **COV/1346707/2016**

Issue **3**

Laboratory Number: **15759737**

Sample **3** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW16**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	0.7	mg/l	29/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	21/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	04/01/2017	Y Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	04/01/2017	Y Cov	WAS060
Arsenic, Ultra Low Total as As	0.0038	mg/l	04/01/2017	Y Cov	WAS060
Fluoride	0.028	mg/l	22/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Chloroethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Aluminium, Total as Al	1.5	mg/l	04/01/2017	Y Cov	WAS049
Barium, Total as Ba	0.170	mg/l	04/01/2017	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	04/01/2017	Y Cov	WAS049
Boron, Total as B	0.34	mg/l	04/01/2017	Y Cov	WAS049
Cadmium , Total as Cd	0.0014	mg/l	04/01/2017	Y Cov	WAS049
Calcium , Total as Ca	349	mg/l	04/01/2017	Y Cov	WAS049
Chromium , Total as Cr	0.003	mg/l	04/01/2017	Y Cov	WAS049
Copper, Ultra-low Total as Cu	23	ug/l	04/01/2017	Y Cov	WAS060
Iron , Total as Fe	2.90	mg/l	04/01/2017	Y Cov	WAS049
Ferrous Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Lead , Total as Pb	0.010	mg/l	04/01/2017	Y Cov	WAS049
Magnesium, Total as Mg	39.9	mg/l	04/01/2017	Y Cov	WAS049
Manganese , Total as Mn	4.01	mg/l	04/01/2017	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	29/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.033	mg/l	04/01/2017	Y Cov	WAS049
Potassium , Total as K	15.8	mg/l	04/01/2017	Y Cov	WAS049
Sodium , Total as Na	110	mg/l	04/01/2017	Y Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	04/01/2017	Y Cov	WAS049
Zinc, Total as Zn	0.03	mg/l	04/01/2017	Y Cov	WAS049
pH	6.9	pH units	30/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	2040	uS/cm	30/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	803	mg/l	04/01/2017	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	5.18	mg/l	20/12/2016	Y Cov	WAS067

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Report Number: **COV/1346707/2016**

Issue **3**

Laboratory Number: **15759737**

Sample **3** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW16**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	153	mg/l	21/12/2016	N Cov	WAS036
Nitrite as N	0.33	mg/l	21/12/2016	N Cov	WAS036
Phosphates , Total as P	0.34	mg/l	04/01/2017	Y Cov	WAS049
Sulphate as SO4	410	mg/l	21/12/2016	N Cov	WAS036
BOD + ATU (5 day)	1	mg/l	27/12/2016	Y Cov	WAS001
COD (Total)	86.0	mg/l	21/12/2016	Y Cov	WAS040
TOC (Filtered)	18.4	mg/l	20/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	21/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	21/12/2016	N Cov	WAS018
Sulphide as S	0.112	mg/l	31/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	21/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	12/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	12/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	12/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	23/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	12/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	12/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	12/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	12/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	12/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	12/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	12/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	12/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	12/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	12/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	12/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	12/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	12/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	18/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	12/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	12/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	12/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	12/01/2017	Y Cov	GEO47

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Issue **3**

Laboratory Number: **15759737**

Sample **3** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW16**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	18/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	12/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	12/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	12/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	12/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	12/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	18/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	12/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	12/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	18/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	12/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	12/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	12/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	12/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	12/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	12/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	12/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	12/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	12/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	12/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	12/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	12/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	12/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	12/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	12/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	30/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	30/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	30/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	30/12/2016	Y Cov	GEO20

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Report Number: **COV/1346707/2016**

Issue **3**

Laboratory Number: **15759737**

Sample **3** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW16**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	30/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	30/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Mecoprop	0.74	ug/l	30/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	23/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Naphthol	<0.10	ug/l	23/12/2016	N Cov	338
Phenol	<0.10	ug/l	23/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	23/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	23/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	23/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	23/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	23/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	23/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	23/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	23/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	23/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	23/12/2016	N Cov	GEO46

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Issue **3**

Laboratory Number: **15759737**

Sample **3** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW16**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	23/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	23/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	23/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	23/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	23/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	23/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Anthracene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Chrysene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Fluoranthene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Fluorene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Naphthalene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Phenanthrene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
Pyrene	<0.01	ug/l	17/01/2017	Y Cov	GEO19
PAH, Total	<0.01	ug/l	17/01/2017	N Cov	GEO19
SVOC	Y	ug/l	22/12/2016	N Cov	GEO40
Phenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	22/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	22/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40

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Issue **3**

Laboratory Number: **15759737**

Sample **3** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW16**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	22/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	22/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	22/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40

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Report Number: **COV/1346707/2016**

Issue **3**

Laboratory Number: **15759737**

Sample **3** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW16**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	22/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Fluorophenol	81.6	%Recovery	22/12/2016	N Cov	GEO40
Phenol-d6	68.0	%Recovery	22/12/2016	N Cov	GEO40
Nitrobenzene-d5	88.1	%Recovery	22/12/2016	N Cov	GEO40
2-Fluorobiphenyl	80.7	%Recovery	22/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	89.7	%Recovery	22/12/2016	N Cov	GEO40
Terphenyl-d14	85.6	%Recovery	22/12/2016	N Cov	GEO40
Nitrite as NO2	1.09	mg/l	22/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	30/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	02/01/2017	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	02/01/2017	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON

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Report Number: **COV/1346707/2016**

Issue **3**

Laboratory Number: **15759737**

Sample **3** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW16**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	02/01/2017	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	02/01/2017	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	02/01/2017	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Benzene	<0.20	ug/l	02/01/2017	Y S	SUBCON
Bromobenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	02/01/2017	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
Bromoform	<0.20	ug/l	02/01/2017	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	02/01/2017	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
Chloroform	<0.10	ug/l	02/01/2017	Y S	SUBCON
Chloromethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
Dibromomethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Dichloromethane	<6.0	ug/l	02/01/2017	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	02/01/2017	Y S	SUBCON
Naphthalene	<1.0	ug/l	02/01/2017	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON

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Report Number: **COV/1346707/2016**

Issue **3**

Laboratory Number: **15759737**

Sample **3** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW16**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	02/01/2017	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	02/01/2017	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Styrene	<0.20	ug/l	02/01/2017	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	02/01/2017	Y S	SUBCON
Toluene	<0.50	ug/l	02/01/2017	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Trichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	02/01/2017	Y S	SUBCON

Analyst Comments for 15759737:

This sample has been analysed for Pesticides method GEO47, pH, BOD + ATU (5 day), Nitrite as N, Iron Total as Fe, Manganese Total as Mn, Aluminium, Total as Al, Cadmium Total as Cd, Chromium Total as Cr, Lead Total as Pb, Nickel, Total as Ni, Zinc, Total as Zn, Calcium Total as Ca, Magnesium, Total as Mg, Sodium Total as Na, Potassium Total as K, Phosphates Total as P, Boron, Total as B, Vanadium Total as V, Barium, Total as Ba, Nitrate as NO₃, Beryllium, Total as Be, Copper, ultra-low total as Cu outside recommended stability times. It is therefore possible that the results provided may be compromised. {/*}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-ferric ratio between sampling and analysis.{*/}

Sub sample taken from PET bottle for PAH due to quality control failure, it is therefore possible that the results provided could be compromised.

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG). For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **C. Law**

Date: **18 January 2017**

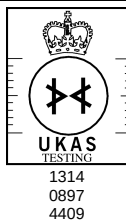
Title: **Inorganics Operations Manager**

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Report Number: **COV/1346707/2016**

Issue **3**

Laboratory Number: **15759738**

Sample **4** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW17**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Iron, Total	<0.5	mg/l	29/12/2016	N Cov	WAS043
Nitrate as NO3	<3.1	mg/l	21/12/2016	N Cov	WAS036
Antimony Ultra Low Total as Sb	<0.0012	mg/l	04/01/2017	Y Cov	WAS060
Selenium Ultra Low Total as Se	<0.0008	mg/l	04/01/2017	Y Cov	WAS060
Arsenic, Ultra Low Total as As	0.0011	mg/l	04/01/2017	Y Cov	WAS060
Fluoride	0.109	mg/l	22/12/2016	Y S	SUBCON
Bromomethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Chloroethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Aluminium, Total as Al	<0.1	mg/l	04/01/2017	Y Cov	WAS049
Barium, Total as Ba	0.054	mg/l	04/01/2017	Y Cov	WAS049
Beryllium, Total as Be	<0.0021	mg/l	04/01/2017	Y Cov	WAS049
Boron, Total as B	<0.23	mg/l	04/01/2017	Y Cov	WAS049
Cadmium , Total as Cd	<0.0006	mg/l	04/01/2017	Y Cov	WAS049
Calcium , Total as Ca	95.1	mg/l	04/01/2017	Y Cov	WAS049
Chromium , Total as Cr	<0.002	mg/l	04/01/2017	Y Cov	WAS049
Copper, Ultra-low Total as Cu	<1.9	ug/l	04/01/2017	Y Cov	WAS060
Iron , Total as Fe	<0.23	mg/l	04/01/2017	Y Cov	WAS049
Ferrous Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Ferric Iron	<0.5	mg/l	29/12/2016	N Cov	WAS043
Lead , Total as Pb	<0.006	mg/l	04/01/2017	Y Cov	WAS049
Magnesium, Total as Mg	10.9	mg/l	04/01/2017	Y Cov	WAS049
Manganese , Total as Mn	1.37	mg/l	04/01/2017	Y Cov	WAS049
Mercury, Total as Hg	<0.00010	mg/l	29/12/2016	N Cov	WAS013
Nickel, Total as Ni	0.005	mg/l	04/01/2017	Y Cov	WAS049
Potassium , Total as K	3.60	mg/l	04/01/2017	Y Cov	WAS049
Sodium , Total as Na	11.2	mg/l	04/01/2017	Y Cov	WAS049
Vanadium , Total as V	<0.004	mg/l	04/01/2017	Y Cov	WAS049
Zinc, Total as Zn	<0.018	mg/l	04/01/2017	Y Cov	WAS049
pH	7.4	pH units	30/12/2016	Y Cov	WAS039
Conductivity- Electrical 20C	529	uS/cm	30/12/2016	Y Cov	WAS039
Alkalinity as CaCO3	264	mg/l	04/01/2017	Y Cov	WAS025
Ammoniacal Nitrogen as N (LL)	1.39	mg/l	20/12/2016	Y Cov	WAS067

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Report Number: **COV/1346707/2016**

Issue **3**

Laboratory Number: **15759738**

Sample **4** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW17**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Chloride as Cl	19.5	mg/l	21/12/2016	N Cov	WAS036
Nitrite as N	<0.08	mg/l	21/12/2016	N Cov	WAS036
Phosphates , Total as P	<0.120	mg/l	04/01/2017	Y Cov	WAS049
Sulphate as SO4	8.8	mg/l	21/12/2016	N Cov	WAS036
BOD + ATU (5 day)	1	mg/l	27/12/2016	Y Cov	WAS001
COD (Total)	<11.0	mg/l	21/12/2016	Y Cov	WAS040
TOC (Filtered)	1.8	mg/l	20/12/2016	Y Cov	WAS005
Cyanide, Free as CN	<0.008	mg/l	21/12/2016	N Cov	WAS018
Cyanide, Total as CN	<0.009	mg/l	21/12/2016	N Cov	WAS018
Sulphide as S	0.024	mg/l	31/12/2016	N Cov	WAS033
Formaldehyde	<0.029	mg/l	21/12/2016	N Cov	WAS030
1,2,3-Trichlorobenzene	<10	ng/l	12/01/2017	Y Cov	GEO47
1,2,4-Trichlorobenzene	<10	ng/l	12/01/2017	Y Cov	GEO47
1,3,5-Trichlorobenzene	<10	ng/l	12/01/2017	N Cov	GEO47
SVOC with TICs	Y	ug/l	23/12/2016	N Cov	GEO40
Aldrin	<4	ng/l	12/01/2017	Y Cov	GEO47
alpha-Endosulphan	<4	ng/l	12/01/2017	Y Cov	GEO47
alpha-HCH	<3	ng/l	12/01/2017	Y Cov	GEO47
beta-Endosulphan	<4	ng/l	12/01/2017	Y Cov	GEO47
beta-HCH	<3	ng/l	12/01/2017	Y Cov	GEO47
alpha-Chlordane	<3	ng/l	12/01/2017	Y Cov	GEO47
Dichlobenil	<2	ng/l	12/01/2017	Y Cov	GEO47
Dieldrin	<4	ng/l	12/01/2017	Y Cov	GEO47
Endrin	<4	ng/l	12/01/2017	Y Cov	GEO47
gamma-HCH	<2.7	ng/l	12/01/2017	Y Cov	GEO47
Heptachlor Epoxide	<4	ng/l	12/01/2017	Y Cov	GEO47
Hexachlorobenzene	<2	ng/l	12/01/2017	Y Cov	GEO47
Hexachlorobutadiene	<7	ng/l	12/01/2017	N Cov	GEO47
Isodrin	<4	ng/l	18/01/2017	Y Cov	GEO47
o,p - DDE	<2	ng/l	12/01/2017	Y Cov	GEO47
p,p - DDE	<2	ng/l	12/01/2017	Y Cov	GEO47
o,p - TDE	<2	ng/l	12/01/2017	Y Cov	GEO47
p,p - TDE	<2	ng/l	12/01/2017	Y Cov	GEO47

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Report Number: **COV/1346707/2016**

Issue **3**

Laboratory Number: **15759738**

Sample **4** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW17**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o,p - DDT	<2	ng/l	18/01/2017	Y Cov	GEO47
p,p - DDT	<4	ng/l	12/01/2017	Y Cov	GEO47
Tecnazene	<10	ng/l	12/01/2017	Y Cov	GEO47
gamma-Chlordane	<4	ng/l	12/01/2017	Y Cov	GEO47
Triallate	<10	ng/l	12/01/2017	Y Cov	GEO47
Trifluralin	<30	ng/l	12/01/2017	Y Cov	GEO47
Azinphos-ethyl	<0.004	ug/l	18/01/2017	Y Cov	GEO47
Azinphos-methyl	<0.002	ug/l	12/01/2017	Y Cov	GEO47
Carbophenothion	<0.003	ug/l	12/01/2017	Y Cov	GEO47
Chlorfenvinphos	<0.002	ug/l	18/01/2017	Y Cov	GEO47
Chlorpyrifos	<0.002	ug/l	12/01/2017	Y Cov	GEO47
Diazinon	<0.003	ug/l	12/01/2017	Y Cov	GEO47
Dichlorvos	<0.002	ug/l	12/01/2017	Y Cov	GEO47
Dimethoate	<0.020	ug/l	12/01/2017	Y Cov	GEO47
Fenitrothion	<0.002	ug/l	12/01/2017	Y Cov	GEO47
Fenthion	<0.002	ug/l	12/01/2017	Y Cov	GEO47
Malathion	<0.004	ug/l	12/01/2017	Y Cov	GEO47
Mevinphos	<0.020	ug/l	12/01/2017	Y Cov	GEO47
Parathion-ethyl	<0.003	ug/l	12/01/2017	Y Cov	GEO47
Parathion-methyl	<0.003	ug/l	12/01/2017	Y Cov	GEO47
Phorate	<0.004	ug/l	12/01/2017	Y Cov	GEO47
Phosalone	<0.004	ug/l	12/01/2017	Y Cov	GEO47
Pirimiphos-methyl	<0.005	ug/l	12/01/2017	Y Cov	GEO47
Propetamphos	<0.003	ug/l	12/01/2017	Y Cov	GEO47
Triazophos	<0.002	ug/l	12/01/2017	Y Cov	GEO47
2,3,6 - TBA	<0.05	ug/l	30/12/2016	Y Cov	GEO20
2,4 - D	<0.05	ug/l	30/12/2016	Y Cov	GEO20
2,4 - DB	<0.05	ug/l	30/12/2016	Y Cov	GEO20
2,4,5 - T	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Benazolin	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Bentazone	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Chlopyralid	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Bromoxynil	<0.05	ug/l	30/12/2016	Y Cov	GEO20

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Report Number: **COV/1346707/2016**

Issue **3**

Laboratory Number: **15759738**

Sample **4** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW17**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Dicamba	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Dichlorprop	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Fenoprop	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Ioxynil	<0.05	ug/l	30/12/2016	Y Cov	GEO20
MCPA	<0.05	ug/l	30/12/2016	Y Cov	GEO20
MCPB	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Triclopyr	<0.05	ug/l	30/12/2016	Y Cov	GEO20
Mecoprop	<0.04	ug/l	30/12/2016	Y Cov	GEO20
Catechol	<0.10	ug/l	23/12/2016	N Cov	338
Cresol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Xylenol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Naphthol	<0.10	ug/l	23/12/2016	N Cov	338
Phenol	<0.10	ug/l	23/12/2016	N Cov	338
Trimethylphenol, Total	<0.10	ug/l	23/12/2016	N Cov	338
Phenols, Total	<0.50	ug/l	23/12/2016	N Cov	338
Aliphatic VPH >C5 - C6	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C6 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C8 - 10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C7	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C7 - C8	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C8 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aromatic VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
VPH >C5 - C10	<10	ug/l	22/12/2016	Y Cov	GEO45
Aliphatic EPH >C10 - C12	<10	ug/l	23/12/2016	N Cov	GEO46
Aliphatic EPH >C12 - C16	<10	ug/l	23/12/2016	N Cov	GEO46
Aliphatic EPH >C16 - C35	<10	ug/l	23/12/2016	N Cov	GEO46
Aliphatic EPH >C35 - C44	<10	ug/l	23/12/2016	N Cov	GEO46
Aliphatic EPH >C10 - C44	<10	ug/l	23/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C12	<10	ug/l	23/12/2016	N Cov	GEO46
Aromatic EPH >C12 - C16	<10	ug/l	23/12/2016	N Cov	GEO46
Aromatic EPH >C16 - C21	<10	ug/l	23/12/2016	N Cov	GEO46
Aromatic EPH >C21 - C35	<10	ug/l	23/12/2016	N Cov	GEO46

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Report Number: **COV/1346707/2016**

Issue **3**

Laboratory Number: **15759738**

Sample **4** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW17**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Aromatic EPH >C35 - C44	<10	ug/l	23/12/2016	N Cov	GEO46
Aromatic EPH >C10 - C44	<10	ug/l	23/12/2016	N Cov	GEO46
EPH >C10 - C44	<10	ug/l	23/12/2016	N Cov	GEO46
Aliphatic VPH/EPH >C5 - C44	<10	ug/l	23/12/2016	N Cov	GEO45/GEO4
Aromatic VPH/EPH >C5 - C44	<10	ug/l	23/12/2016	N Cov	GEO45/GEO4
VPH/EPH >C5 - C44	<10	ug/l	23/12/2016	N Cov	GEO45/GEO4
Acenaphthene	<0.01	ug/l	13/01/2017	Y Cov	GEO19
Acenaphthylene	<0.01	ug/l	13/01/2017	Y Cov	GEO19
Anthracene	<0.01	ug/l	13/01/2017	Y Cov	GEO19
Benzo (a) anthracene	<0.01	ug/l	13/01/2017	Y Cov	GEO19
Benzo (g,h,i) perylene	<0.01	ug/l	13/01/2017	Y Cov	GEO19
Benzo (a) pyrene	<0.01	ug/l	13/01/2017	Y Cov	GEO19
Benzo (b) fluoranthene	<0.01	ug/l	13/01/2017	Y Cov	GEO19
Benzo (k) fluoranthene	<0.01	ug/l	13/01/2017	Y Cov	GEO19
Chrysene	<0.01	ug/l	13/01/2017	Y Cov	GEO19
Dibenz (a,h) anthracene	<0.01	ug/l	13/01/2017	Y Cov	GEO19
Fluoranthene	<0.01	ug/l	13/01/2017	Y Cov	GEO19
Fluorene	<0.01	ug/l	13/01/2017	Y Cov	GEO19
Indeno (1,2,3) cd pyrene	<0.01	ug/l	13/01/2017	Y Cov	GEO19
Naphthalene	<0.01	ug/l	13/01/2017	Y Cov	GEO19
Phenanthrene	<0.01	ug/l	13/01/2017	Y Cov	GEO19
Pyrene	<0.01	ug/l	13/01/2017	Y Cov	GEO19
PAH, Total	<0.01	ug/l	13/01/2017	N Cov	GEO19
SVOC	Y	ug/l	22/12/2016	N Cov	GEO40
Phenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Bis(2-chloroethyl)ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Chlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
1,3-Dichlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
1,4-Dichlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Methylphenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
3&4-Methylphenol	<1.0	ug/l	22/12/2016	N Cov	GEO40
Dibenzofuran	<1.0	ug/l	22/12/2016	N Cov	GEO40
1,2-Dichlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40

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Issue **3**

Laboratory Number: **15759738**

Sample **4** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW17**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Bis(2-chloroisopropyl)ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
n-Nitrosodi-n-propylamine	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Hexachloroethane	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Nitrobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Isophorone	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4-Dimethylphenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Nitrophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Bis(2-chloroethoxy)methane	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4-Dichlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
1,2,4-Trichlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Naphthalene	<2.0	ug/l	22/12/2016	Y Cov	GEO40
Hexachlorobutadiene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
4-Chloro-3-methylphenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Methylnaphthalene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4,6-Trichlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4,5-Trichlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Chloronaphthalene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Dimethylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,6-Dinitrotoluene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Acenaphthylene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Acenaphthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2,4-Dinitrotoluene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Diethylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
4-Nitrophenol	<5.0	ug/l	22/12/2016	Y Cov	GEO40
4-Chlorophenyl phenyl ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Fluorene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Diphenylamine	<1.0	ug/l	22/12/2016	N Cov	GEO40
4-Bromophenyl Phenyl Ether	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Hexachlorobenzene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Pentachlorophenol	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Phenanthrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Anthracene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
di-n-Butylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40

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Issue **3**

Laboratory Number: **15759738**

Sample **4** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW17**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Fluoranthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Pyrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzyl Butyl Phthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(a)anthracene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Chrysene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Bis(2-ethylhexyl)phthalate	<5.0	ug/l	22/12/2016	Y Cov	GEO40
Di-n-octylphthalate	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(b)fluoranthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(k)fluoranthene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(a)pyrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Indeno(1,2,3-c,d)pyrene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Dibenz(a,h)anthracene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
Benzo(g,h,i)perylene	<1.0	ug/l	22/12/2016	Y Cov	GEO40
2-Fluorophenol	81.5	%Recovery	22/12/2016	N Cov	GEO40
Phenol-d6	66.5	%Recovery	22/12/2016	N Cov	GEO40
Nitrobenzene-d5	90.9	%Recovery	22/12/2016	N Cov	GEO40
2-Fluorobiphenyl	82.1	%Recovery	22/12/2016	N Cov	GEO40
2,4,6-Tribromophenol	80.6	%Recovery	22/12/2016	N Cov	GEO40
Terphenyl-d14	83.4	%Recovery	22/12/2016	N Cov	GEO40
Nitrite as NO2	<0.28	mg/l	22/12/2016	N Cov	WAS036
Fluoroxypyr	<0.05	ug/l	30/12/2016	Y Cov	GEO20
1,1,1,2-Tetrachloroethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1,1-Trichloroethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1,2,2-Tetrachloroethane	<0.20	ug/l	02/01/2017	Y S	SUBCON
1,1,2-Trichloroethane	<0.20	ug/l	02/01/2017	Y S	SUBCON
1,1-Dichloroethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1-Dichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,1-Dichloropropene	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,2,3-Trichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,2,3-Trichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,2,4-Trichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,2,4-Trimethylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,2-Dibromo-3-chloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON

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Sample **4** of **4**

Sample Source: **SKM Ireland c/o Jacobs Engineering Ireland**

Sample Point Description:

Sample Description: **EMW17**

Sample Matrix: **Ground Water**

Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
1,2-Dibromoethane	<0.50	ug/l	02/01/2017	Y S	SUBCON
1,2-Dichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,2-Dichloroethane	<0.50	ug/l	02/01/2017	Y S	SUBCON
1,2-Dichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,3,5-Trimethylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,3-Dichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
1,3-Dichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
1,4-Dichlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
2,2-Dichloropropane	<1.0	ug/l	02/01/2017	Y S	SUBCON
2-Chlorotoluene	<1.0	ug/l	02/01/2017	Y S	SUBCON
4-Chlorotoluene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Benzene	<0.20	ug/l	02/01/2017	Y S	SUBCON
Bromobenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Bromochloromethane	<2.0	ug/l	02/01/2017	Y S	SUBCON
Bromodichloromethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
Bromoform	<0.20	ug/l	02/01/2017	Y S	SUBCON
Carbon Tetrachloride	<0.10	ug/l	02/01/2017	Y S	SUBCON
Chlorobenzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
Chloroform	<0.10	ug/l	02/01/2017	Y S	SUBCON
Chloromethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
cis-1,2-Dichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
cis-1,3-Dichloropropene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Dibromochloromethane	<0.10	ug/l	02/01/2017	Y S	SUBCON
Dibromomethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Dichlorodifluoromethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Dichloromethane	<6.0	ug/l	02/01/2017	Y S	SUBCON
Ethyl Benzene	<0.10	ug/l	02/01/2017	Y S	SUBCON
Hexachlorobutadiene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Isopropylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
m&p-Xylene	<0.20	ug/l	02/01/2017	Y S	SUBCON
Naphthalene	<1.0	ug/l	02/01/2017	Y S	SUBCON
n-Butylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
n-Propylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON

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Report Number: **COV/1346707/2016**

Issue **3**

Laboratory Number: **15759738**

Sample **4** of **4**

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Sample Point Description:

Sample Description: **EMW17**

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Sample Date/Time: **15 December 2016**

Sample Received: **16 December 2016**

Analysis Complete: **18 January 2017**

Test Description	Result	Units	Analysis Date	Accreditation	Method
o-Xylene	<0.10	ug/l	02/01/2017	Y S	SUBCON
p-Isopropyltoluene	<1.0	ug/l	02/01/2017	Y S	SUBCON
sec-Butylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Styrene	<0.20	ug/l	02/01/2017	Y S	SUBCON
tert-Butylbenzene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Tetrachloroethene	<0.20	ug/l	02/01/2017	Y S	SUBCON
Toluene	<0.50	ug/l	02/01/2017	Y S	SUBCON
trans-1,2-Dichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
trans-1,3-Dichloropropene	<1.0	ug/l	02/01/2017	Y S	SUBCON
Trichloroethene	<0.10	ug/l	02/01/2017	Y S	SUBCON
Trichlorofluoromethane	<1.0	ug/l	02/01/2017	Y S	SUBCON
Vinyl Chloride	<0.10	ug/l	02/01/2017	Y S	SUBCON

Analyst Comments for 15759738:

This sample has been analysed for Pesticides method GEO47, pH, BOD + ATU (5 day), Nitrite as N, Iron Total as Fe, Manganese Total as Mn, Aluminium, Total as Al, Cadmium Total as Cd, Chromium Total as Cr, Lead Total as Pb, Nickel, Total as Ni, Zinc, Total as Zn, Calcium Total as Ca, Magnesium, Total as Mg, Sodium Total as Na, Potassium Total as K, Phosphates Total as P, Boron, Total as B, Vanadium Total as V, Barium, Total as Ba, Nitrate as NO₃, Beryllium, Total as Be, Copper, ultra-low total as Cu outside recommended stability times. It is therefore possible that the results provided may be compromised. {/*}The ferrous iron analysis was not carried out on site and there is the possibility of change in ferrous-feric ratio between sampling and analysis.{*/}

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:

Name: **C. Law**

Date: **18 January 2017**

Title: **Inorganics Operations Manager**

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