











# **Environmental Monitoring Report**

Reporting Period 30/08/2010-03/10/2010 Revision1.

Former Bayer Crop Science Site Hauxton Cambridgeshire

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#### 1.0 Introduction

#### 1.1. General

This report has been prepared and submitted in accordance Environmental Permitting Regulations 2007 with reference to the approved Deployment of Vertase FLI's Environmental Permit Ref: ERP/QP3293FY for the remediation works at the former Bayer CropScience site Hauxton, and in accordance with Condition 4 of the planning permission dated 5<sup>th</sup> February 2010.

The time period that this report represents is from the 30<sup>th</sup> of August 2010, until the 3<sup>rd</sup> of October 2010.

#### 1.2. The site

The site is the former Bayer Crop Science site, Cambridge Road, Hauxton, Cambridge. The site was used for the storage and production of agrichemicals from the 1940's through to ceasing production in 2004. The site was used primarily for the synthesis, formulation, packaging and storage of agrichemicals (both herbicides and pesticides). It is this former historical use that has led to the contamination legacy of soil and groundwater at the site.

There is also a Waste Water Treatment Plant (WWTP) and other agricultural land which is part of the former land holding of Bayer Crop Science and is part of that controlled by Harrow Estates. The WWTP will be utilised to assist in the treatment of recovered groundwater and will be improved to undertake this task and then maintained for the duration of the remediation. This area of the site will not be subject to remediation as part of this phase of works but will be remediated as a separate phase of work under a separate contract and separate Remediation Method Statement in the future.

#### 1.3. Remediation Brief and Philosophy

The philosophy for this remediation project is set out in detail in the agreed Remediation Method Statement. The remediation of the site has been developed from knowledge of the site gained from historical site investigations, Atkins Preliminary Conceptual Model Report August 2006 (interpretative report defining the current and correct understanding of the geological and



environmental conditions) and subsequent sampling and analysis defining the extent of contamination following further investigation. This information has allowed the conceptual site model and pollutant linkages to be developed to form the remediation methodology. Whilst the remediation work itself is complex and varied, the philosophy is simple and defines the proposed remedial action required. This philosophy has been designed with the brief in mind. This brief can be defined as "a remediation to address all pollutant linkages and ensure that following remediation and re-development no unacceptable risks will remain associated with the treated area of the site by applying the best available techniques not entailing excessive costs (BATNEEC)".

The philosophy behind the remediation is to remove all uncertainty relating to soils and groundwater within the site area by the excavation, characterisation and treatment. All pathways between the identified sources and receptors will be removed and the contaminant mass within soils reduced as far as the practical limits of cost effective technology permit. The Remediation Method Statement sets out how this philosophy or strategy will be achieved practically on site and validated with confirmative post remediation risk assessment.

These remediation works are also required to satisfy the regulators that adequate remediation works have been completed to satisfy their requirements under Part IIa of the Environmental Protection Act 1990.



### 2.0 Monthly Progress

#### Week 25. Week Commencing 30<sup>th</sup> August 2010

During the first half of the week the wind direction was towards the villages of Hauxton and Harston, no new excavation of contaminated ground was undertaken until the weather conditions were more favourable to prevent odours migrating to wards neighbouring residents. Crushing of the broken concrete stockpile commenced and was constantly monitored for dust generation, and stockpiles were wetted down when required. The treatment of materials using covered forced ventilation and vapour extraction methods continues. Excavation of grid squares H14 and H15 commenced on 2<sup>nd</sup> September with treatment beds being created adjacent to the excavation area, recently excavated materials were covered as quickly as possible to prevent odour generation and migration.

#### Week 26. Week Commencing 6th September 2010

The main excavation continued through grid square H14 and H15, excavated soils were formed into treatment beds and covered to prevent odour migration. Turning and processing of the treatment beds continued with treatment beds being selected for processing depending on their odour generation potential and predominant wind direction. Crushing of the broken concrete stockpile continued and was constantly monitored for dust generation, and stockpiles were wetted down when required. Excavation of contaminated soils was halted on 9<sup>th</sup> of September until the following week as the predominant wind direction was towards the Village of Hauxton.

#### Week 27. Week Commencing 13<sup>th</sup> September 2010

Excavation activity was not undertaken this week, due to the predominant wind direction being towards the residential areas to the south east and south of the site, works mainly consisted of breaking out concrete slab, crushing broken concrete and turning odourless treatment beds. Trial pitting was undertaken in grid squares H13 and H12 to ascertain the types and concentrations of contaminants in the next phase of excavation.

#### Week 28. Week Commencing 20th September 2010

Excavation recommenced in grid square H10, H11 and H12, crushing of broken concrete continued on site with the appropriate mitigation measures being applied to prevent dust



generation. Breaking out of concrete slab proceeded through parts of grid squares G and H, 11 to 13, this material was added to the stockpile of broken concrete being crushed and screened on site.

### Week 29. Week Commencing 27th September 2010

The breaking out of concrete slab continued through parts of grid squares G and H, 11 to13. Due to the predominant wind direction being towards residential areas to the south east of the site, excavation of contaminated ground was not undertaken until the 30<sup>th</sup> of September in grid square H11 through to H14, when the predominant wind direction was to the North. The crushing of the broken concrete stockpile was complete on the 1<sup>st</sup> October. The turning and processing of treatment beds was halted on the 29<sup>th</sup> September due to a heavy rain event.



### 3.0 Environmental Monitoring Summary

The environmental monitoring locations detailed in the Environmental Permit deployment form for the site are highlighted in drawing D907\_33C in Appendix A.

The detailed environmental monitoring data can be found in Appendix B, the following chapters summarise the finding from the monitoring undertaken by Vertase FLI Site Engineers.

#### 3.1. Odour and VOC Emissions

Odour and VOC monitoring around the site boundary commenced on the 22<sup>nd</sup> March 2010 and has been undertaken twice daily at eight compass points around the site boundary, in the public access areas. Odour and VOC related observations in between the eight compass points around the site are also noted by the Vertase FLI representative undertaking the monitoring.

In addition to physical control via covers and management of activities odour controlling suppressants and masking agent are being used around the site boundary to mitigate the impact of odour migration off site. Initially two mobile telescopic misting fans were used on site and a full boundary misting system was also erected to supplement the mobile units, along with the addition of two further mobile units to focus specifically on the excavation. The odour controlling solutions used in the misting and telescopic fan systems vary in fragrance from lemon, to pine, to bubblegum.

Site generated odours including those from the remediation processes and the odour suppression systems observed during the monitoring rounds beyond the site boundary are listed in the environmental monitoring data spreadsheet in Appendix B.

The Vertase FLI Environmental Engineers and Site Management team have been working closely to prevent odours and VOC's generated by the remediation processes migrating off site, along with trying to achieve a fine balance of using a variety of odour control fragrance's at a variety of dilutions to reduce the impact of any odours detected off site.

The Environmental Engineers have logged the actions undertaken on site to reduce the impact of VOC/odours off site, these are noted in the environmental monitoring data in Appendix B. All



mitigation measures have been in accordance with the actions stipulated in the deployment form, including some additional actions to reduce the potential of odour nuisance e.g. repositioning of mobile odour control systems.

During the twice daily environmental monitoring a Photoionisation Detector (PID) has been used to record VOC's present beyond the site boundary. During the reported period VOC's, were detected by the PID (Limit of detection of 0.1ppm) on the following occasion:

- 10/09/2010 (09:51) At the northeast monitoring location a maximum intermittent PID reading of 0.6ppm was recorded, the odour was described as a weak concrete and phenol odour. The crushing and turning activities were monitored closely to ensure the odours and PID readings did not intensify or migrate further.
- 21/09/2010 (17:26) Around the northeast monitoring location a maximum intermittent PID reading of 4.0ppm was recorded, the odour was described as a faint phenol, TCE and PCE odour. A mobile fogger unit was used to suppress the odours being generated by the tuning of treatment bed 103, this process was constantly monitored to ensure odour generation did not increase.

All PID reading above 1ppm recorded beyond the site boundary are reported to the Environment Agency immediately, along with details of the additional mitigation methods being implemented to reduce the migration of VOC's from the site.

Long term passive VOC monitoring is carried out at eight compass point locations around the site boundary, in the public accessible areas, further monitoring locations are located within the centre of the waste water treatment works, on Church Road, Hauxton and Queens Close, Harston. During the monitoring period a sampling error occurred on the northeast monitoring media causing a data loss for this location.

The results for the long term passive VOC monitoring carried out between 03/09/2010 and 01/09/2010 are presented in appendix C. The analysis indicates that the majority of the VOC's detected are around the baseline, except for Tetrachlroethylene and Toluene which continue to be slightly raised above the baseline values but are well below the levels considered to be within acceptable limits for published criteria.



The analysis for Church Road, Hauxton and Queens Close, Harston indicates there are some site related VOC's detected at these locations, but at levels that are considered to be within acceptable limits for published criteria.

The 28 day passive VOC monitoring results have been forwarded to the Health Protection Agency for review. The HPA have under taken independent risk assessment upon the data provided and have provided a positive non technical summary which is available on South Cambridgeshire District Councils website.

#### 3.2. Dust Fibre and Particulate Emission

Both real time dust measurement and long term dust deposition monitoring has been undertaken around the site boundary at six compass point locations, north, east, south, west with two monitoring positions in the northeast (drawing D907\_30C, Appendix A).

Real time airborne dust monitoring is undertaken as a minimum twice daily by an Environmental Engineer using a 'Dustmate' dust particle monitor around the site boundary as part of the environmental monitoring schedule, results are recorded in the environmental monitoring spreadsheet (Appendix B). The 'Dustmate' dust particle monitor will not function correctly in wet weather conditions, therefore on occasion data may be missing from the environmental monitoring spreadsheet for this reason. Dust migration is however less likely in wet weather conditions.

Dust particle measurements at each monitoring location have varied, with the higher dust readings being generally at the locations adjacent to the heavily trafficked Cambridge Road (A10). The average Total Suspended Particulates (TSP) reading around the site is 149.83  $\mu g/m^3$ , the average PM10 dust reading around the site is 80.96  $\mu g/m^3$ . Where a potential for dust has been observed, on site dust suppression methods have been deployed immediately to reduce the generation of site dust and all haul routes are continually wetted to prevent dust release.



Directional dust deposition gauges at the six monitoring locations are analysed every fortnight for Effective Area Coverage (EAC) (percentage of dust deposition relating to the potential to cause nuisance), results generated by an external laboratory are presented in Appendix D.

Baseline dust monitoring undertaken between 19/02/2010 to 19/03/2010 (4 locations monitored) recorded a maximum dust deposition rate of 0.54 %EAC at the western monitoring location.

Dust monitoring undertaken from the 20/08/2010 to 03/09/2010 (6 locations monitored) recorded a maximum dust deposition rate was 1.57 %EAC at the northwest 1 monitoring location. All other locations had a maximum dust deposition rate of 1.50 %EAC, or less.

Dust monitoring undertaken from the 03/09/2010 to 17/08/2010 (6 locations monitored) recorded a maximum dust deposition rate of 1.50% EAC at the northeast 2 monitoring location. All other locations had a maximum dust deposition rate of 1.43%EAC, or less.

Dust deposition values of less than 2.5% are regarded as having a very low nuisance potential. Only when percentages rise from 2.5% - 5% EAC is dust considered to have a low nuisance causing potential. During the reported period dust, fibre and particle emissions have been low, and have not caused visual dusting off site.

#### 3.3. Control of Mud and Debris

A pressure washer has been on site constantly to allow any maintenance or plant delivery vehicles leaving contaminated parts of the site to be washed down thoroughly first, as not to take potentially contaminated mud and debris through the clean zone and off site. The movement of vehicles between the contaminated and clean parts of the site is strictly controlled by the site management team.

#### 3.4. Noise

Noise monitoring around the site boundary commenced on the 22<sup>nd</sup> March 2010 and has been undertaken twice daily as a minimum, recording findings at eight compass points around the site boundary in the public access areas (drawing D907\_30C, Appendix A).



Site operations are restricted to 8am to 6pm and site noise levels are consistently at an average acceptable low background level of 66.60dB. Exceedance's of the 80dB threshold (stipulated in the Environmental Permit deployment document) have been recorded during the monitoring period, however traffic along the A10 has been identified as the source of the slightly elevated noise levels. Data is recorded in the environmental monitoring data spreadsheet, Appendix B.

#### 3.5. Litter

All litter occurrences are removed from within the site, and off site around the boundary fence, and disposed of appropriately. Litter is generally low off site, and is well managed on site, by all site personnel. All recordings of the presence of litter are noted in the Environmental Monitoring Data spreadsheet in Appendix B.



#### 4.0 Surface and Ground Water Condition

#### 4.1. Surface Water Monitoring

As part of the environmental monitoring programme, the Riddy Brook located to the east of the site (Drawing D907\_33C, Appendix A) is inspected daily as a minimum at two locations up and down stream for general observations, on any discolouration, sedimentation etc. The observations are recorded on the Environmental Monitoring Data (Appendix B). Throughout the monitoring period there have been no visual signs that the remediation works on site are having any impact on the Riddy Brook.

The water level within the Riddy Brook is monitored and recorded on a daily basis at a minimum of two locations, footbridge adjacent to Mill House (Riddy 1) and the most southerly footbridge over the Riddy Brook, adjacent to the eastern corner of the site (Riddy 4). Two further locations are also monitored, Riddy 2 at the footbridge over the Riddy Brook approximately 150m southeast of Mill House and the former fire exit bridge (Riddy 3), 210m southeast of Mill House. All the water level data is recorded in the main groundwater level data sheet in Appendix E. During the monitoring period there has been very little change in level and flow along the Riddy Brook.

#### 4.2. Surface Water Sampling and Analysis

Upstream and downstream water samples from both the River Cam (Granta) and the Riddy Brook are taken on a monthly basis. The results for samples taken on 23rd September 2010 are presented in Appendix F.

The surface water analysis ( $23^{rd}$  September 2010) shows traces of Tetrachloroethylene ( $<2 \mu g/l$ ) in both upstream and downstream Riddy Brook and River Cam samples. Traces of Cis1,2-Dichloroethylene ( $<3 \mu g/l$ ) and Trichloroethylene ( $<3 \mu g/l$ ) were detected in the downstream samples of the Riddy Brook. These trace levels of have been recorded in the baseline data collected prior to the commencement of the remediation project and are not related .to a specific incident.



#### 4.3. Groundwater Level Monitoring

Groundwater levels are recorded within at least 11 borehole locations onsite on a daily basis, to ensure the groundwater beneath the site remains in a static condition during the remediation works and does not pose a risk to surface and groundwater bodies beyond the site boundary.

During the initial excavation works on site very little groundwater has been encountered, the majority of excavations located in the northern parts of the site have exceeded a depth of 4m below current ground level and have penetrated the Gault Clay in parts.

The main source of water encountered during excavations has been discontinuous contaminated perched water present in the Made Ground. This water has been captured and treated in the Waste Water Treatment Works associated with the site.

From approximately 2-3m below ground level discontinuous thin sand and gravel bands have also produced some limited quantities of water, which have tended to dry up within 24 hours.

The groundwater levels measured at locations around the site are shown in drawing D907\_31E, in appendix A. The groundwater levels are presented in Appendix E.

Groundwater contour plots are drawn up on a weekly basis to interpret the potential movement of the water beneath the site. Contour plots D907\_104, D907\_105, D907\_106, D907\_107 and D907\_108 (Appendix G) illustrate the weekly groundwater levels for the reported period.

The five contour plots constructed (Appendix G) illustrate that there have been very few subtle changes in groundwater levels during the monitoring period.

There has been no recharge of groundwater in the central and northern part of the site where the main excavations have taken place, the base of excavations on site are approximately at 10.00mAOD and remain free of groundwater. There has not been any change to the pumping regime in this part of the site during the monitoring period.



### 4.4. Groundwater Sampling and Analysis

Groundwater samples from 11 monitoring locations on site are taken on a monthly basis. The results for samples taken on 23<sup>rd</sup> of September 2010 are presented in Appendix F.

The contaminant concentrations present in the samples taken on the 23<sup>rd</sup> of September are very similar to the baseline data collected during the summer of 2008, illustrating that there has been very little change to the groundwater's condition since 2008.



#### 5.0 Waste Water Treatment Plant

The Waste Water Treatment Plant (WWTP) is part of the former land holding of Bayer Cropscience and is part of that controlled by Harrow Estates. The WWTP was an integral part of the former Bayer Crop Science site, located to the west of the A10, specifically designed to treat and discharge liquid waste products derived from the production of agrochemicals (both herbicides and pesticides) and sewage from the facility.

The WWTP has been previously operated (until the 15<sup>th</sup> of March 2010) by Alpheus Environmental Ltd. to maintain the required discharge volume generated by the groundwater pumping systems on the main Bayer Cropscience site along the bentonite cut off wall and the high bay warehouse.

Vertase FLI have established a maintenance programme and control procedures to ensure the WWTP is operated within the constraints of the discharge consent. Essential system checks and improvements have been made to the plant to ensure it can treat the volume and concentrations of influent generated by the continued groundwater control and the contaminated water recovered during the remediation activities on the main site.

The composition of the water discharged to the River Cam (Granta) must not exceed the permitted levels in paragraphs 1.7.1, 1.8.1 and 1.8.2 of the discharge consent PR1NF/1744D01 Issued and regulated by the Environment Agency.

The treated effluent is sampled at the specified location as stipulated in the discharge consent. Vertase FLI also sample the influent to the WWTP, along with a sample taken after the primary carbon treatment, this is to assess the performance of main treatment process of the WWTP and highlight potential expiry of the primary carbon vessels.

The fortnightly samples are analytically tested for the water quality parameters and the chemical compounds specified in paragraph 1.7.1 of the discharge consent PR1NF/1744 D 01. The data is tabulated and presented in Appendix H along with the raw data from the laboratory reports.



Throughout the reporting period the WWTP has been successful in treating the compounds listed within paragraph 1.7.1 (consent PR1NF/1744D01) to acceptable levels for discharge to the River Cam (Granta) under the regulated discharge consent.

The Environment Agency carry out independent discharge monitoring at the WWTP on a monthly basis, during the reportable period Vertase FLI and Harrow Estates Plc have not been notified of any unacceptable effluent discharging to the River Cam (Granta) from the operating plant.



### 6.0 Contaminants Not Previously Identified

To fulfil the requirements of condition 4 and condition 9, Planning Condition Document ref:S/2307/06/f Issued 10/02/2010, Vertase FLI are continually undertaking soil characterisation sampling prior to remediation processes to identify the types and concentrations of contaminants present in the specific grid squares across the entire site.

The soil characterisation samples undergo a series of laboratory analyses consisting of targeted analysis, screening against known contaminants and a full GCMS scan to identify any contaminants not previously identified.

All characterisation samples analysed and found to contain previously unidentified contaminants are reported in accordance with condition 9 of the Planning Condition Document ref:S/2307/06/f Issued 10/02/2010.

From the commencement of site works (15/03/2010) to 03/10/2010, forty eight characterisation samples have been taken by Vertase FLI in partnership with Atkins to assess the contamination type and concentrations prior to remediation of the materials. Twenty eight characterisation samples analysed contained a total of seventeen compounds / potential contaminants that had not been previously identified.

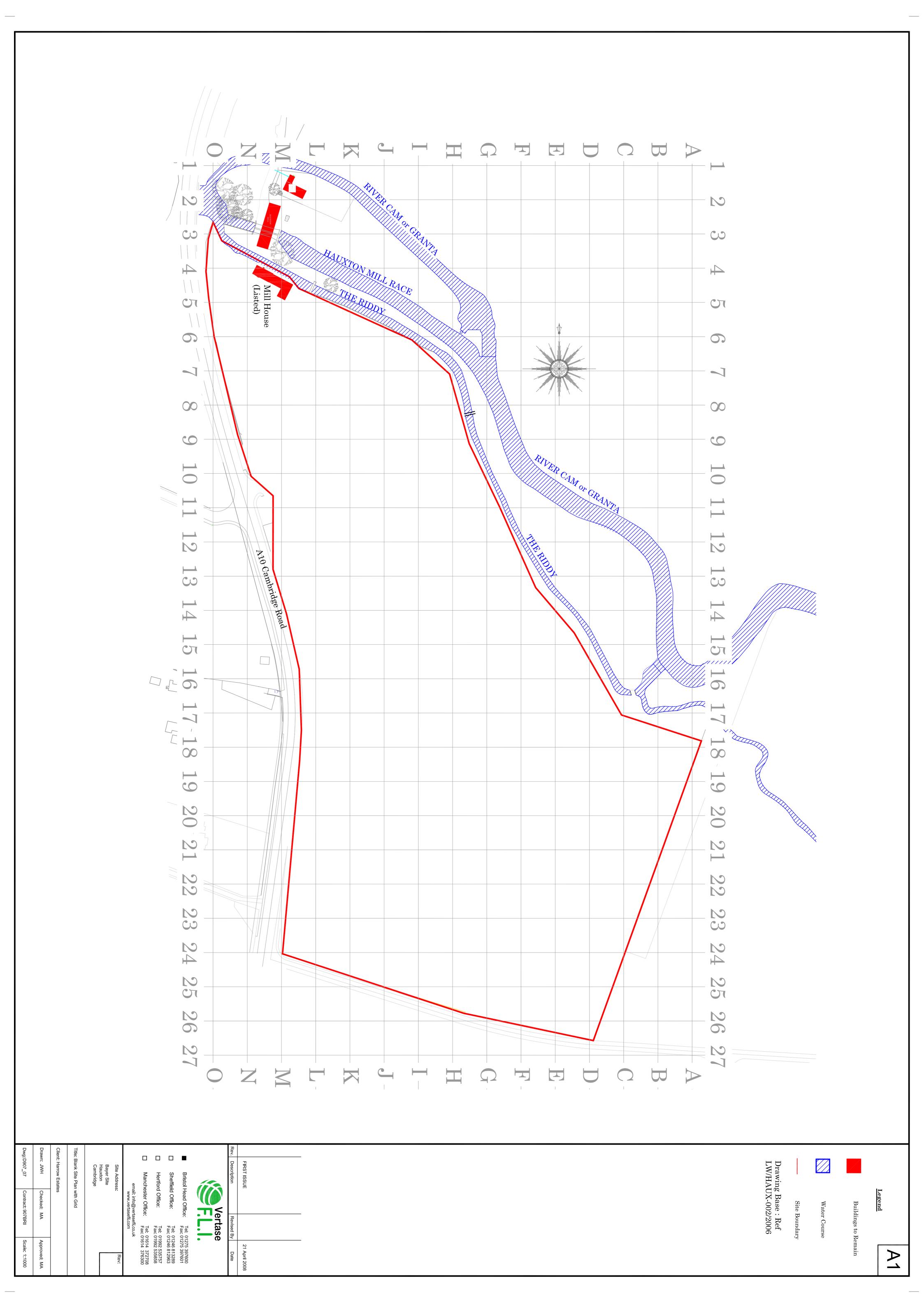
A summary table of the soil characterisation testing is presented in Appendix I, the previously unidentified compounds are listed here, with comments regarding the origin and likely usage on site.

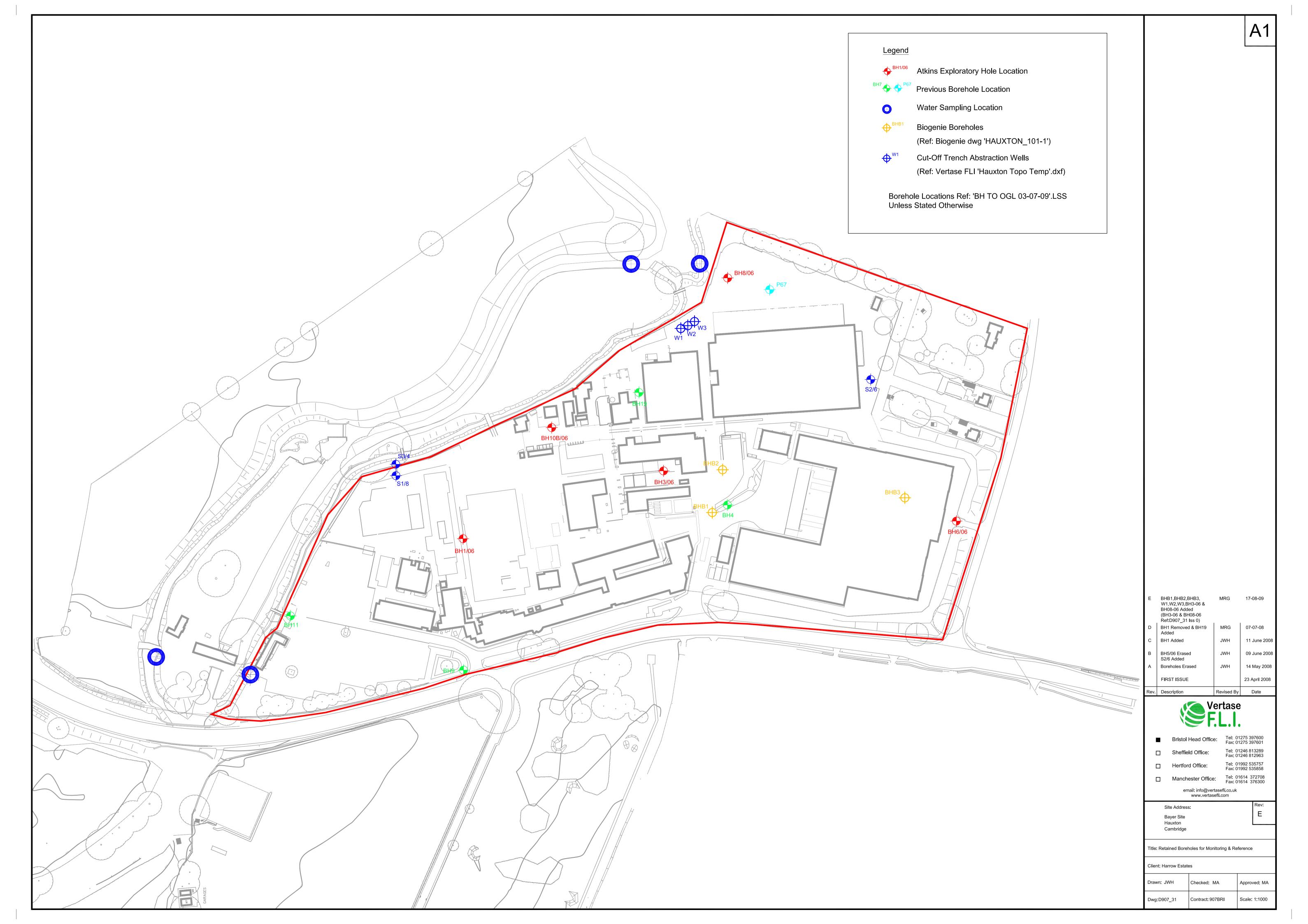
The remediation project consultants Atkins continuously review the soil characterisation analysis and report previously unidentified contaminates in accordance with condition 9, Planning Condition Document ref:S/2307/06/f Issued 10/02/2010.

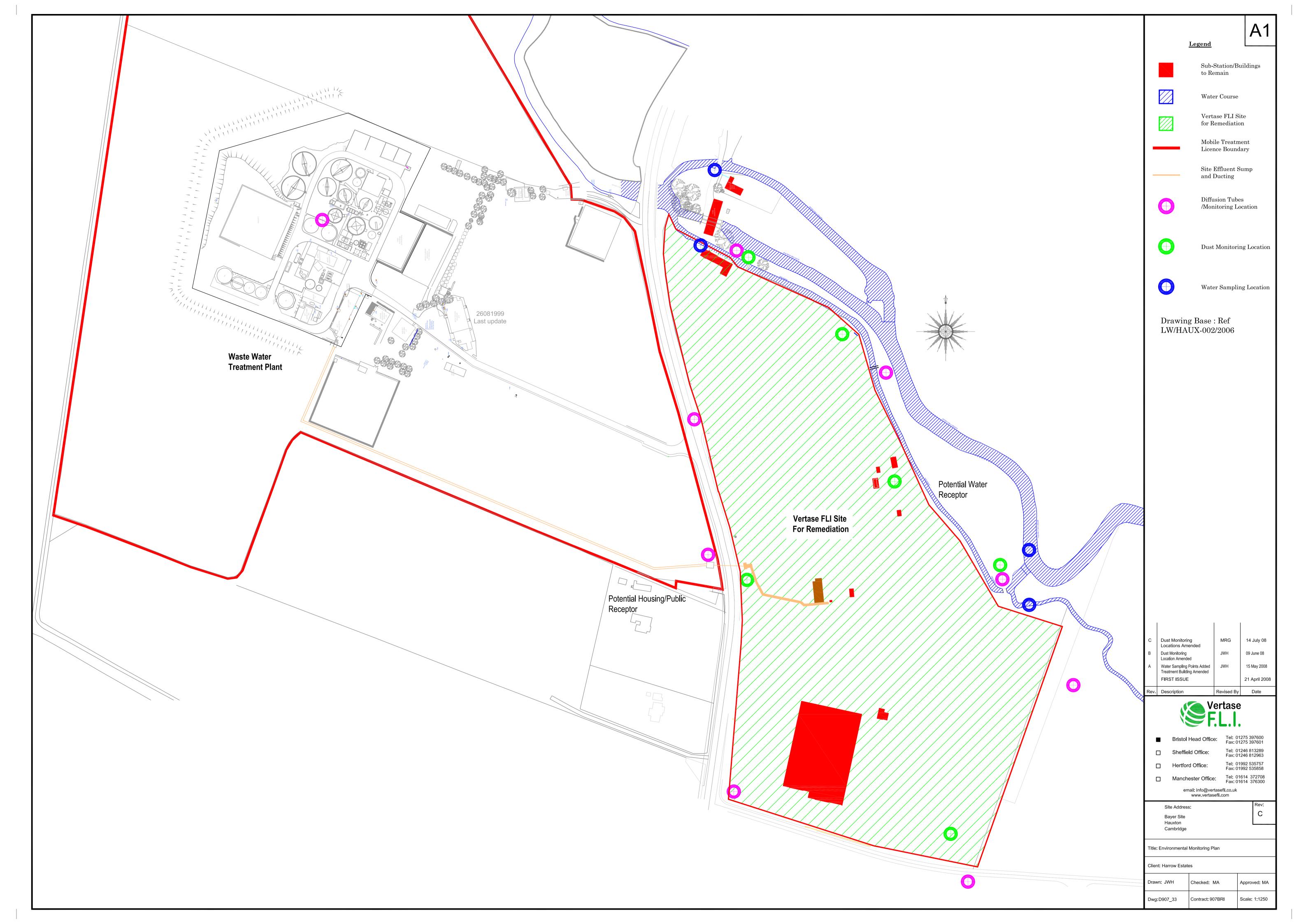


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**Drawings** 









**Appendix B** 

**Environmental Monitoring Data** 

					ODOUR				DU	JST	NOISE	LITTE	R	RIDDY BROOK	1		ME	TEOROLO	OGICAL A	ND ENVIRONMEN	TAL CO	NDITIONS	1
Assessor	Date	Daily Activity	Boundary Start Finish Time Time	Detectability Inter (Yes or No) (1 to	sity 9) Quality (Description)	Hedonic Tone	Location Sensitivity	Odour Source (1 to 5)	TSP	PM10	Average (dBa)	Present (Description)	Materials attracting	nspection Water Level (mAOD)	Complaints	s Action Required	Wind Speed	Wind	Air Temp	Description (Rain, Sun)	Cloud	Ground Conditions	
M Allsobrook M Allsobrook	31/08/2010	turning beds, breaking out concrete	N 11.33 11.37 NE 11.26 11.31	y !	wet vegetation	(+3 to+3)	(1 to 5)	(1 to 5) "	21.3	14.8	65.4	no n	scavengers no c	lear 9.209			(1 to 6)	N	(C) 22 s	un	(0 to 8)	(Wet, dry) wet	General Notes
M Allsobrook	31/08/2010	turning beds, breaking out concrete	NE1 11.21 11.24	y 2	slight wet veg damp vegetation	1	2 -	1 0	270.5 26.9	26 48.1	62.8	00 0	9 0	lear lear 9.649									
M Allsobrook M Allsobrook	31/08/2010 31/08/2010	turning beds, breaking out concrete turning beds, breaking out concrete	E 11.15 11.20 SE 11.07 11.12 S 11.00 11.05	y 3 y 2	vegetation/mild creosote slight vegetation	1	3 2	2 0	61.9	24.7	63.8 72.5	no n	10										
M Allsobrook	31/08/2010	turning beds, breaking out concrete turning beds, breaking out concrete	SW 10.52 10.57 W 10.45 10.50	y 4 by 5	traffic fumes traffic fumes	-1 -2	4	1 0	146.2	82.4	83.4 85.7	no n	10										
M Allsobrook I Stephenson I Stephenson		turning bads, breaking out concrete breaking out and turning bads breaking out and turning bads	NW 11.39 11.44 N 17.35 17.40 NE 17.30 17.35	y 5	traffic fumes	-2	2	1 0	162.2 53.2	38.7	81.7 58.3	no n	10 0	lear 9.209	no	no	0	NE	18 s	unny	1	dry	no odour at parish church on church road, Hauxton
		breaking out and turning beds breaking out and turning beds breaking out and turning beds					2	0	53.4	17.8	54.2	no n	10	lear lear 9.649	no no	no no							
I Stephenson	31/08/2010 31/08/2010	before the control of	SE 17.15 17.20 S 17.10 17.15	n n			2	0	305.4	74.2	58.9 50.1	no n	10		no no	no no							
I Stephenson	31/08/2010	breaking out and turning beds	SW 17.05 17.10 W 17.00 17.05	y 4 y 3	chlorinated volatiles - bed 59 being turned creosote odour Car turnes	0	4 2	5 0	75.3	14.1	64.2 69.4	no n	10		no	no no							
I Stephenson D Holman D Holman	01/09/2010	breaking out and turning bads crushing concrete, turning beds 61 and 62, moving bad 87 in warehouse crushing concrete, turning beds 61 and 62, moving bad 87 in warehouse	NEI 17.25 17.36 E 17.20 17.25 SE 17.16 17.20 S 17.10 17.15 SW 17.05 17.10 W 17.00 17.05 NW 17.40 17.45 N 10.42 10.47 NE 10.36 10.41 NEI 10.30 10.35 E 10.34 10.34	y 2	chlorinated volatiles bed 59 being turned conc/TCE	0	2 !	5 0	66.9 59.7	30.3	56 66	no n	10 0	lear 9.199		iio	0.5	S	26 s	un	4	dry	slight odour present along E footpath at various places <2/9 0.0ppm Conc/TCE/odour control
D Holman	01/09/2010	crushing concrete, turning beds 61 and 62, moving bed 87 in warehouse	NE1 10.30 10.35 E 10.24 10.29 SE 10.18 10.23	y 2	vegetation	0	2	1 0	124.7 22.5	59.4 13.3	61	no n	10	lear lear 9.649									
D Holman D Holman	01/09/2010	crushing concrete, turning beds 61 and 62, moving bed 87 in warehouse crushing concrete, turning beds 61 and 62, moving bed 87 in warehouse crushing concrete, turning beds 61 and 62, moving bed 87 in warehouse	SE 10.18 10.23 S 10.17 10.17	y 2 y 1	vegetation vegetation	0	2	1 0	290.3	158.4	49 62	no n	10										
D Holman D Holman	01/09/2010	crushing concrete, turning beds 61 and 62, moving bed 87 in warehouse crushing concrete, turning beds 61 and 62, moving bed 87 in warehouse crushing concrete, turning beds 61 and 62, moving bed 87 in warehouse	SE 10.17 10.17 S 10.17 10.17 SW 10.06 10.11 W 10.00 10.05 NW 10.48 10.53 N 17.32 17.37	y 3	vegetation vegetation	0	4	1 0	136	53.7	79 79	no n	10										
D Holman D Holman	01/09/2010	turning treatment beds, crushing concrete turning treatment beds, crushing concrete		y 1 y 2	vegetation vegetation	0	2	1 0		19.8 55.6	56 58	no n	10 0	lear 9.199			0.5	ENE	29 \$	un	4	dry	
D Holman D Holman D Holman	01/09/2010 01/09/2010	turning treatment beds, crushing concrete turning treatment beds, crushing concrete	NE1 17.20 17.25 E 17.14 17.19 SE 17.08 17.13	y 1	vegetation	0	2	1 0	45.2 82.4	33.6 33.1	58	no n	90	lear 9.649									
D Holman D Holman	01/09/2010	turning treatment beds, crushing concrete turning treatment beds, crushing concrete		y 1	vegetation wood preserver earthy soil and exhaust furnes	0	2	1 0	48.1	40.9	56 64	no n	10										
D Holman D Holman	01/09/2010	turning treatment back, crushing concrete turning treatment back, crushing concrete	SW 16.56 17.01 W 16.50 16.55 NW 17.38 17.43 N 10.01 10.06	y 1 y 2	manure-compost and concrete dust odour control and vegetation vegetation	-1	4 2	5 0	246.1	130.2	78 80	no n	10										
D Holman D Holman M Allsobrook M Allsobrook M Allsobrook	02/09/2010 02/09/2010	Juring Pasithner Soci graphing concrete huming treatment soci	N 10.01 10.06 NE 9.34 9.39	y I	vegetation vegetation	1	2	1 0	120.9 252.9	74.2 101.1	67.2 66.8	no n	10 0	lear 9.199 lear			0.3	NE	21 s	un dry	3	dry	
M Allsobrook M Allsobrook	02/09/2010	turning treatment beds, crushing concrete uurning treatment beds, crushing concrete uurning treatment beds, crushing concrete turning treatment beds, crushing concrete turning treatment beds, crushing concrete	NE 9.34 9.39 NE1 9.28 9.32 E 9.21 9.26 SE 9.15 9.28	y 3	damp ground and vegetation vegetation vegetation	-1	3	1 0	256.7 260.3	75.2 121.2	68.7	no n	90	lear 9.649			+		Ħ				
		turning treatment beds, crushing concrete turning treatment beds, crushing concrete		y 1 y 2	vegetation sweet phenoi & traffic	1	3		141.1 463.7	34.2	74.2 77.8	no n	10		2	no action required	Ŀ	E	Ħ		E		
M Allsobrook M Allsobrook M Allsobrook D Holman	02/09/2010	turning treatment beds, crushing concrete uurning treatment beds, crushing concrete turning treatment beds, crushing concrete	SW 8.51 8.56 W 8.45 8.50 NW 10.08 10.13 N 18.02 18.07 NE 17.56 18.01 NE1 17.50 17.55 E 17.44 17.45	y 3 y 8	sweet phenol & traffic traffic furnes traffic furnes vegetation	-3	2	1 0	463.7	119.3	79.9 80.1	no n	10	0.400			£				E		
D Holman D Holman D Holman	02/09/2010	turning treatment beds, crushing concrete turning treatment beds, crushing concrete turning treatment beds, crushing concrete	NE 17.56 18.01 NE1 17.50 17.50	V 2	vegetation vegetation	0	2	1 0	43.6 163.4 203.9	124.3 196.3	62	no n	NO 0	lear 9.199 lear			0.5	renew	Δ 5	un	Ĺ	ury	
D Holman D Holman	02/09/2010	turning treatment beds, crushing concrete turning treatment beds, crushing concrete		y 1 y 2	exhaust fumes and concrete dust exhaust and phenol	0	2	5 0	35.8	34.8	59 58	no n	10	9.649			E		П				
D Holman D Holman D Holman D Holman	02/09/2010	turning treatment beds, crushing concrete	S 17.32 17.37 SW 17.26 17.31 W 17.20 17.25	y 1 y 2	vegetation vegetation	0	4	1 0	46.9 19.8	38.1	64 72	no n	10		E		E	E	Ħ		E		
D Holman D Holman D Holman	02/09/2010 02/09/2010 03/09/2010	comming treatment backs, crushing concrete turning treatment backs, crushing concrete turning treatment backs, crushing concrete turning treatment backs, crushing concrete	NW 18.08 18.13 NW 10.42 10.47	y 1 y 2	vegetation exhaust fumes vegetation	0	2	1 0	116.8	67.1	79 81 56	no n	10	lear 9 209			0.5	NE	22 s	un	4	dry	
D Holman D Holman	03/09/2010	Excavating H14 H15, turning treatment beds, crushing concrete	NE 10.36 10.41 NE1 10.30 10.35	y i	vegetation vegetation	ő	2	1 0	36.3 45.5	11.1	62	no n	10 0	lear lear					Ħ	uii		uy.	
D Holman D Holman	03/09/2010			y 1 y 2	vegetation vegetation	0	2	1 0	19	9.8	61 54	no n	10	lear 9.649									
D Holman D Holman D Holman	03/09/2010 03/09/2010 03/09/2010	Consisting 111115, burning realisment beds, crushing concrete Exceeding 141416, burning realisment beds, crushing concrete Exceeding 1414116, burning realisment beds, crushing concrete Exceeding 1414116, burning realisment beds, crushing concrete	SE 10.18 10.23 S 10.12 10.17 SW 10.06 10.11 W 10.00 10.05 NW 10.48 10.53	y 2 y 3	concrete, earthy exhaust furnes and bis odour control and concrete exhaust furnes and TCE/PCE	0	4	5 0	67.5	68.3	74 78	no n no n	10										
D Holman	03/09/2010	Excavating H14 H15, turning treatment beds, crushing concrete crushing concrete, turning beds		y 3 y 2	exhaust fumes and TCE/PCE vegetation	0	2	3 0	35.6 196.8	14.1	80 54	no n	10	lear 9.209			5	NNE	26 5	un	4	dry	
D Holman D Holman D Holman D Holman D Holman	03/09/2010 03/09/2010	Excitation (114-115, burning bads  unushing concrete, burning bads	NE 16.36 16.41 NE1 16.30 16.35 E 16.24 16.29 SE 16.18 16.23	y 3	vegetation	0	2	1 0	196.8 112.3 43.7	169.3 86.9	52	no n	9	lear lear									
D Holman D Holman	03/09/2010 03/09/2010 03/09/2010	crushing concrete, turning beds crushing concrete, turning beds crushing concrete, turning beds	SE 16.18 16.23 SE 16.18 16.23	y 2 y 1	vegetation vegetation concrete	0	2 :	1 0	39.1	16.4	54 57	no n	10	9.649			1		H				
D Holman D Holman	03/09/2010	crushing concrete, turning beds crushing concrete, turning beds	SW 16.06 16.11 W 16.00 16.05	y 2	exhaust fumes and TCE/PCE concrete and odour control	-1 0	4 (	5 0 5 0	58.2	47.1	76 80	no n	10										
D Holman D Holman	03/09/2010	crushing concrete, turning beds excavating, breaking concrete, turning beds	NW 16.48 16.53 N 9.32 9.37	y 2	exhaust fumes vegetation	0	2	1 0	121.1	36.8	81 56	no n	10 0	lear 9.209			4	ESE	16.7 c	loudy	6	dry	
D Holman D Holman D Holman D Holman	06/09/2010 06/09/2010	excavating, breaking concrete, turning beds excavating, breaking concrete, turning beds excavating, breaking concrete, turning beds excavating, breaking concrete, turning beds	N 9.32 9.37 NE 9.26 9.31 NE1 9.20 9.25 E 9.14 9.19	y 1	vegetation vegetation	0	2	1 0	88 52	77.3	57	no n	90	lear lear 9.649			1		H				
D Holman D Holman	06/09/2010 06/09/2010	excavating, breaking concrete, turning beds excavating, breaking concrete, turning beds	S 9.02 9.07	y 1 'y 2	vegetation vegetation	0	2	1 0	88.5	60.1	53 65	no n	10										
D Holman D Holman D Holman	06/09/2010	excavating, breaking concrete, turning beds excavating, breaking concrete, turning beds excavating, breaking concrete, turning beds	SW 8.56 9.01 W 8.50 8.55 NW 9.38 9.43	y 4 y 3	musty, organic, manure exhaust fumes vegetation and exhaust fumes	-1	4 (	5 0	139.1	26.5	74 76	no n	10										
D Holman	01/02/2010			y 2 y 2	vegetation vegetation	0	2	1 0	285.8 107.3	230.5 99.8	57 56	no n	10 0	lear 9.209 lear			2	SE	14 6	ain	8	wet	
D Holman D Holman D Holman	06/09/2010 06/09/2010	excavating, breaking concrete, turning beds excavating, breaking concrete, turning beds	N 17.42 17.47 NE 17.36 17.41 NE1 17.30 17.35 E 17.24 17.29 SE 17.18 17.23 S 17.12 17.17 SW 17.00 17.05 W 17.00 17.05	у 3	venetation	0	2	1 0	115.1 93.9	91.9 81.1	53	no n	90 0	lear 9.649									
	06/09/2010 06/09/2010 06/09/2010	excavating, breaking concrete, turning beds excavating, breaking concrete, turning beds excavating, breaking concrete, turning beds	S 17.12 17.17 S 17.12 17.17 SW 17.06 17.11	y 4 y 2	vegetation vegetation	0	2	1 0	95.5	46.3	65 76	no n	10				1		H				
D Holman D Holman D Holman	06/09/2010	executation, brasiliori concrette, turming bedes	NW 17.48 17.53	y 2 y 3	vegetation vegetation vegetation vegetation vegetation vegetation vegetation vegetation vegetation	0	4	1 0	131.5	62.1	79 81	no n	10				E		ø		E		
I Stephenson I Stephenson	07/09/2010	excavating, breaking concrete, turning beds excavating, breaking concrete, turning beds excavating, breaking concrete, turning beds	N 10.42 10.47 NE 10.36 10.41 NE1 10.30 10.35	y y	vegetation concrete	0	2 1	1 0 5 0	122.5 186.1	90.4 116.1	55 69	no n	9 0	lear 9.209	E		E	E	٥	loudy	8	damp	
l Stephenson I Stephenson	07/09/2010 07/09/2010	excavasing, breaking concrete, turning beds	E 10.24 10.29	y 3 y 2	phenol and odour control vegetation	-1	2	1 0	115.1	88.4	56 71	no n	10	9.649			╞		H		F		
I Stephenson I Stephenson	07/09/2010 07/09/2010	excavating, breaking concrete, turning beds	S 10.12 10.17 SW 10.06 10.11	y 2 y 1	vegetation vegetation	0	4	1 0	69.1	65.3	62 73	no n	10				E						
I Stephenson I Stephenson	07/09/2010 07/09/2010	excavating, breaking concrete, turning beds excavating, breaking concrete, turning beds excavating, breaking concrete, turning beds	NW 10.48 10.53	y 2 y 3	vegetation vegetation vegetation	0	2	1 0	231.6	69.4 80	/8 81	no n	10	lear 9.209			0.5	s	22 c	laudy	5	damo	
I Stephenson I Stephenson	07/09/2010 07/09/2010	excavating, breaking concrete, turning beds	N 17.42 17.47 NE 17.36 17.41 NE1 17.30 17.35	y 2	crushed concrete	-1	2	5 0	154 64.1	105.4 48.5	65	no n	8	lear lear				Ě	Ë		Ĺ	-miny	
I Stochoonson	07/00/2010	excavating, breaking concrete, turning beds excavating, breaking concrete, turning beds	E 17.24 17.29 SE 17.18 17.23 S 17.12 17.17 SW 17.06 17.11	y 1 y 2	vegetation crushed concrete and odour control	0	2	1 0 5 0	43.3	36.2	62 61	no n	10	9.649			E		a		E		
I Stephenson I Stephenson I Stephenson I Stephenson	07/09/2010 07/09/2010 07/09/2010	excavating, breaking concrete, turning beds excavating, breaking concrete, turning beds excavating, breaking concrete, turning beds	S 17.12 17.17 SW 17.06 17.11 W 17.00 17.05	y 2 y 3	vegetation vegetation vegetation	0	4	1 0	208.1	58.7	76 79	no n	10				+		Ħ				
1 Stephenson	07/09/2010		NW 17.66 17.53 NW 17.48 17.53 N 10.52 10.57 NE 10.46 10.51 NE1 10.40 10.45	y y	vegetation vegetation vegetation	0	2	1 0	111.3 268.3	69.6	79 53	no n	10	lear 9.209			0.5	NW	16 c	foudy	8	dry	
D Holman D Holman D Holman D Holman	08/09/2010 08/09/2010	secoulistic besiding coccesses. Lumba Bedia secoulistic besiding coccesses. Lumba Bedia secoulistic besiding coccesses. Lumba Bedia secoulistic Bett, lumba genament bedia, crushing concesses secoulistic Bett, lumba genament bedia, secondary concesses secondary secondary concesses secondary seco	NE 10.46 10.51 NE1 10.40 10.45 E 10.34 10.39	y 4		0	2	1 0	268.3 229.4 239.4	101.4 114	56	no n		lear lear			⇇	ΙĒ	Ħ				
D Holman D Holman	08/09/2010 08/09/2010	Excavating H14, turning treatment beds, crushing concrete Excavating H14, turning treatment beds, crushing concrete	SE 10.34 10.39 SE 10.28 10.33 S 10.32 10.27 SW 10.16 10.21	y 1 y 2	vegetation TCE/PCE concrete and phenol	-1	2 1	5 0 5 0	209.8	110.8	57 65	no n	NO 10	2.042			╞		H		F		
D Holman D Holman	00/00/00/0	Excavating H14, turning treatment beds, crushing concrete Excavating H14, turning treatment beds, crushing concrete		y 1 y 1	concrete and phenol vegetation and odour control vegetation vegetation vegetation and exhaust fumes	0	4	3 0	239.6	196.8	72 79	no n	10										
D Holman D Holman	08/09/2010 08/09/2010		NW 10.16 10.13 NW 10.58 11.03 N 17.42 17.47 NE 17.36 17.41 NE1 17.30 17.35	y 2 y 3	vegetation and exhaust fumes vegetation	0	2	1 0	56.4	43.6	77 59	no n	0 0	lear 9.209			0.5	NNW	21 c	loudy	8	dry	slight odour at S fire gate 3/9 0.0ppm
D Holman D Holman	08/09/2010 08/09/2010 08/09/2010	turning beds, crushing concrete turning beds, crushing concrete turning beds, crushing concrete	NE1 17.30 17.41 E 17.24 17.29	y 3	vegetation	0	2	1 0	921.7 272.5	63.6 56.2	63	no n	0 0	lear lear 9.649		<u> </u>	£	E	Ħ		F		
D Holman D Holman	08/09/2010 08/09/2010	turning beds, crushing concrete	E 17.24 17.29 SE 17.18 17.23 S 17.12 17.17	y 1 y 2	odour control	1	2 5	5 0	88.9	71	56 64	no n	10 10				E						
D Holman D Holman D Holman	08/09/2010	son sing beds, cousting concrete turning beds, crushing concrete turning beds, crushing concrete turning beds, crushing concrete	SW 17.06 17.11 W 17.00 17.05 NW 17.48 17.53	y 1 y 2	concrete vegetation	0	4 (	5 0	39.1	17.7	76 80	no n	10				▐		H		t		
M Allsobrook	09/09/2010	turning beds, crushing concrete turning treatment beds, crushing concrete	NW 17.48 17.53 N 9.35 9.40	y 1	vegetation vegetation	Ĺ	3	10	102.2	69.1	65.4	no n		lear 9.199	L		L	SW	15.3 d	lry	6	wet	south boundary has constant weak to moderate smell of manure/muck spreading. NE1 strong vehicle fume odours
M Allsobrook	09/09/2010	turning treatment beds, crushing concrete turning treatment beds, crushing concrete	NE 9.25 9.30 NE1 9.22 9.24	y 2	veg and phenol	0	2	2 0	311.9		72.3	no n	10	lear lear			E		Ħ				
M Allsobrook M Allsobrook M Allsobrook	09/09/2010	turning treatment beds, crushing concrete turning treatment beds, crushing concrete turning treatment beds, crushing concrete	E 9.16 9.21 SE 9.10 9.15 S 9.02 9.07	y 6 y 1	tcp and vehicle furnes vegetation manure	0	3 5	1 0	192.4	121.4	68.4 65.2	no n	10	9.649			+		Ħ				
M Allsobrook M Allsobrook	09/09/2010 09/09/2010	turning treatment beds, crushing concrete turning treatment beds, crushing concrete turning treatment beds, crushing concrete	SW 8.56 9.01 W 8.50 8.55	y 3 y 2	wet ground muck spreading wet ground muck spreading	-1	3 4	1 0 1 0	170.2	62.3	82.3 79.9	no n	~ 10				ŧ		Ħ				
		·																					

M Allsobrook	00.000.000.00	turning treatment beds, crushing concrete NW	, ,	0.44	o set.	traffic fumes	a B	Is In a			nen be					,			ı	,
	09/09/2010	concrete crushing, bed turning N		9.41	9.46y 4	tranic turnes	-1 2	1 0.1	92.1	28.2	81.2 no	o no	-loar 0.100		no action required 1.9	NM	10	sunny spells	e dama	site odour just detectable in gusts of wind on church road up to organic food plant. Not detectable beyond
I Stephenson	09/09/2010	concrete crushing, bed turning concrete crushing, bed turning NE concrete crushing. Bed turning NE		17.48 17.40 17.35	17.50m		2	ő	121	74.7	59.2 no	0 no	lear lear	0	no action required	-	10	aumy spena	o damp	and could just detectable in goals or with on characteristic up to organic root plant. Hot detectable seyand
l Stephenson l Stephenson l Stephenson	09/09/2010	concrete crushing, bed turning NE concrete crushing, bed turning NE concrete crushing, bed turning E concrete crushing, bed turning E concrete crushing, bed turning SE		17.35	17.40y 4 17.35y 4	slightly fishy smell slightly fishy smell	1 2	5 0	74.7	18.9	53.9 no	o no	lear 9.649	0	no action required no action required no action required	+				
l Stephenson	09/09/2010 09/09/2010	concrete crushing, bed turning S concrete crushing, bed turning SW	,	17.25	17.30 y 3 17.25 n	hydrocarbons road fumes	0 2	0	37.3	19.17	56.5 no 67.8 no	o no o no		n n	no action required no action required					
l Stephenson l Stephenson	09/09/2010 09/09/2010	concrete crushing, bed turning W concrete crushing, bed turning NW	v	17.15	17.20m 18.00		4 2	0	14.5	8.16	68.3 no	o no		0	no action required					
D Holman D Holman	10/09/2010	crushing concrete, turning beds N crushing concrete, turning beds NE		17.15 17.55 9.57 9.51 9.45	10.02y 1 9.56y 4	vegetation concrete and phenol	0 2 -1 2	1 0 5 0.6	262 270.2	225.1 207.1	57 no 63 no	o no o no	olear 9.199 olear		8	s	17	rain	8 wet	no odour at church
D Holman	10/09/2010	crushing concrete, turning beds NE crushing concrete, turning beds E		9.39	9.44 y 1	vegetation	0 2	1 0	196.3 148.5	100.7 141.8	57 no	o no	clear clear 9.649							
D Holman D Holman	10/09/2010	crushing concrete, turning beds SE crushing concrete, turning beds S		9.33 9.27	9.38 y 2 9.32 y 1	chemical organic vegetation	0 2	5 0	58	44.6	55 no 63 no	o no o no								
D Holman D Holman		crushing concrete, turning beds SW crushing concrete, turning beds W crushing concrete, turning beds NW crushing concrete, turning beds NW		9.21 9.15		manure odour suppressant	0 4	5 0	119.1	80.5	72 no	o no o no								
D Holman D Holman	10/09/2010	crushing concrete, turning beas	v .	9.15 10.03 17.42 17.36 17.30 17.24 17.18 17.12 17.06	10.08y 3 17.47y 2	vegetation vegetation	0 2	1 0	61.3 106.2 191.3	58.7	56 no	0 00	clear 9.199		10	SSV	V 14	cloudy	8 wet	
D Holman D Holman	10/09/2010	crushing concrete, turning beds NE crushing concrete, turning beds NE crushing concrete, turning beds E	1	17.30	17.35 17.29v	vegetation	0 2	1 0	191.3	157.8 86.1	53 00	0 10	ilear lear 9.649							
D Holman D Holman D Holman D Holman D Holman	10/09/2010	crushing concrete, turning beds SE crushing concrete, turning beds S crushing concrete, turning beds S crushing concrete, turning beds SW		17.18	17.23 y 2 17.17 y 1	organio/manure vegetation vegetation	i1 2 0 2	5 0	123.5	16.4	53 no	o no				+				
D Holman D Holman	10/09/2010	crushing concrete, turning beds SW crushing concrete: turning beds W	/	17.06	17.11 y 3 17.05 y 2	vegetation vegetation	0 4	1 0	86.3	72.1	72 no	o no				+				
D Holman D Holman D Holman	10/09/2010	outsing concents, tuning bads  over the properties of the properti	V	17.00 17.48 10.42	17.53 y 2 10.47 y 1	vegetation vegetation vegetation concrete	0 2	1 0	119.2	84	79 no 55 no	o no o no	dear 9.199		3.5	wn	W 19	cloudy/sunny spells	5 dry	
		turning beds, crushing concrete NE turning beds, crushing concrete NE:			10.41 y 2 10.35		1 2	5 0		143.8 69.6	54 no	o no	clear clear							
D Holman D Holman D Holman	13/09/2010 13/09/2010	turning beds, crushing concrete E turning beds, crushing concrete SE		10.36 10.30 10.24 10.18 10.12	10.29y 1 10.23y 2	phenol and concrete concrete	i1 2	5 0	275.3	180.7	56 no	o no o no	dear 9.639							
D Holman	13/09/2010	turning beds, crushing concrete SW	/	10.12 10.06 10.00	10.17 y 2 10.11 y 1	concrete vegetation vegetation	0 2	1 0	71.9	46.3	65 no	o no o no								
D Holman D Holman	13/09/2010	turning beds, crushing concrete W turning beds, crushing concrete NW	V	10.48	10.05 y 1 10.53 y 2	vegetation and exhaust fumes vegetation and exhaust fumes	0 4 -1 2	1 0	134.2	58.4	77 no 76 no	o no o no								
D Holman D Holman	13/09/2010 13/09/2010	turning beds, crushing concrete N turning beds, crushing concrete NE		17.02 16.56 16.50	17.07y 1 17.01y 3	vegetation concrete	0 2 -1 2	5 0	104.3	80.5 90.4	61 no	o no o no	ilear 9.199 ilear		6	w	16.4	1 drizzle	8 damp	
D Holman D Holman D Holman	13/09/2010	santing back, crusting concrete  ME suming back, crusting concrete  Net suming back, crusting concrete  Net suming back, crusting concrete  Net suming back, crusting concrete  Extra suming back, crusting concrete  Extra suming back, crusting concrete  Set suming back, crusting concrete  Set suming back, crusting concrete  Set suming back, crusting concrete			16.55 16.49 y 1	concrete and phenol phenol organic compost	.1 2	5 0	286.6 238.4	220.1 100.4	69 no	o no	ilear ilear 9.639			+	_			
D Holman D Holman	13/09/2010	turning beas, crushing concrete SE turning beas, crushing concrete S		16.38 16.32 16.26 16.20 17.08 10.22	16.43y 2 16.37y 1	vegetation	0 2	1 0	208.9	56.4	63 no	o no				+	_			
D Holman	13/09/2010	turning beds, crushing concrete S turning beds, crushing concrete SW turning beds, crushing concrete W turning beds, crushing concrete W		16.20	16.25 y 1	vegetation vegetation	0 4	1 0	208.8	91.1	79 no	u no o no				$\pm$				
D Holman D Holman	14/09/2010 14/09/2010	Intering back, orusing according to the property of the proper		10.22 10.16	10.27 y 1 10.27 y 1	vegetation vegetation concrete	0 2	1 0	40.2 98.2	15.1 69.9	63 no	0 no 0 no	clear 9.199		8	sw	17	cloudy	8 dry	
D Holman D Holman	14/09/2010	turning beds, crushing concrete  United beds, crushing concrete  Figure 1	1	10.16 10.10 10.04	10.15 10.09 v 3	concrete vegetation concrete	0 2		270.1	169.3 60.9	62 N	o no	ilear Sear 9.639			+				
D Holman D Holman	14/09/2010	turning beds, crushing concrete SE turning beds, crushing concrete				vegetation concrete vegetation	0 2	3 0	33.8	24.3	64 no	0 no 0 no				+				
D Holman D Holman	14/09/2010	Juring Jobs, Cutaling controlled Services of Services	1	9.56 9.52 9.46 9.40 10.28 17.42 17.36 17.30	9.51 y 1 9.45 y 2	vegetálion concrete vegetálion concrete vegetálion vegetálion vegetálion vegetálion vegetálion vegetálion vegetálion vegetálion	0 4	1 0	33.8	58.3	73 no	o no o no				+	=			
D Holman D Holman	14/09/2010	turning beds, crushing concrete turning beds, crushing concrete N N	V	10.28	10.33y 2 17.47y 3	vegetation vegetation	0 2	1 0	91.2	54	81 no	o no	clear 9.199		13	w	14	heavy rain	8 wet	
		turning beds, crushing concrete NE turning beds, crushing concrete NE	1	17.36 17.30	17.41 y 2 17.33	concrete	1 2	5 0	163.9	98.7 68.6	65 no	o no	ilear ilear			Ë		,		
D Holman	14/09/2010	turning beds, crushing concrete E		17.24	17.29v 1 17.23v 3	vegetation concrete TCE/PCE	0 2	3 0	268.1	110.9	66 no	o no o no	dear 9.639							
D Holman D Holman	14/09/2010	See a construction of the	,	17.12	17.17y 2 17.11y 1	vegetation vegetation and exhaust fumes vegetation	0 2 0 4	1 0	25.4	17.3	65 no 74 no	o no o no								
D Holman D Holman	14/09/2010 14/09/2010	turning beds, crushing concrete W turning beds, crushing concrete NW	v	17.00 17.48 10.42 10.36 10.30	17.05 y 1 17.53 y 1	vegetation vegetation	0 4	1 0	31.8	26.2	80 no 81 no	o no o no				-	-			
D Holman D Holman	15/09/2010 15/09/2010	turning beds, crushing concrete N turning beds, crushing concrete NE		10.42	10.47 y 3 10.41 y 3	muck spreading phenol concrete and muck spreading	1 2	1 0	229.3 279.5	105.2 57	66 no	o no o no	clear 9.199 clear		12	SW	18	sunny	4 damp	strong odour of muck spreading in whole area
D Holman	15/09/2010	turning beds, crushing concrete NE: turning beds, crushing concrete E turning beds, crushing concrete SE	1	10.30 10.24 10.18	10.35 10.29 y 2	muck spreading and odour control	-1 2		143.7 207.8	85.7 105.6	64 no	o no	dear 9.639							
D Holman				10 12	10 17 v 2	muck spreading and concrete muck spreading	·1 2	2 0	38.7	6.5	61 no	o no o no								
D Holman D Holman D Holman	15/09/2010 15/09/2010	Surving Beds, routined poccess  Surving Beds, routined poccess  Surving Beds, routined poccess  British Beds, routined poccess  British Beds, routined poccess  British Beds, routined poccess  British British Beds, routined poccess  British British Beds, routined poccess  No many beds, routined poccess  No many beds, routined poccess  No many beds, routined poccess  British British Britis	1	10.06 10.00 10.48 17.42	10.11 y 4 10.05 y 2	vegetation and muck spreading muck spreading muck spreading	i1 4 i1 4	1 0	210.4	153.3	71 no	o no o no								
	15/09/2010 15/09/2010	turning beds, crushing concrete NW turning beds, crushing concrete N	V	17.42	10.53 y 3 17.47 y 1	muck spreading vegetation concrete and TCE/PCE	·1 2 0 2	1 0	165.5	85.8	78 no	o no o no	clear 9.199		10	w	16	cloudy	4 damp	
D Holman D Holman	15/09/2010 15/09/2010	turning beds, crushing concrete NE turning beds, crushing concrete NE	1	17.36	17.41 y 4 17.35	concrete and TCE/PCE	-1 2	5 0	114.5 198.5	20.1 84	66 no	o no	clear clear							
D Holman D Holman	15/09/2010 15/09/2010	turning beds, crushing concrete E turning beds, crushing concrete SE		17.18	17.23 y 3 17.23 y 3	phenol and concrete phenol and exhaust furnes	1 2	5 0	191.4	26.3	63 no	o no o no	9.639							
D Holman	15/09/2010 15/09/2010	turning beds, crushing concrete S turning beds, crushing concrete SW	/	17.42 17.36 17.30 17.20 17.18 17.12 17.06 17.00	17.17 y 2 17.11 y 2	muck spreading muck spreading	1 4	1 0	14	13	67 no	o no o no								
D Holman I Stephenson	15/09/2010 15/09/2010	turning beds, crushing concrete SW turning beds, crushing concrete W turning beds, crushing concrete NW turning beds, crushing concrete NW	v	17.48	17.05y 2 17.53y 1	exhaust rumes exhaust and vegetation and muck spreading	0 2	1 0	63.9	41.3	79 no 81 no	0 no 0 no	ilear 9.199				-	5 cloudy	8 damp	slight smell of crushed concrete at church
	16/09/2010	Available description of the second of the s		10.05	10.10y 2	undistinguishable site odour	0 2	3 0	37.5	75.7 89.9	71.7 no	0 10	ilear	00	00		14.3	s idoudy	o uamp	Signi since of crossed concrete architon
I Stephenson I Stephenson I Stephenson	16/09/2010	crushing concrete, turning beds  crushing concrete turning beds  E  crushing concrete turning beds  SF		10.15 10.20 10.25 10.35	10.20ly 2 10.25ly 3	top	0 2		210	49	69.8 no	o no	lear 9.649	no no	00	+				
I Stephenson I Stephenson	16/09/2010	crushing concrete, turning beds crushing concrete, turning beds crushing concrete, turning beds crushing concrete, turning beds SW	,	10.25	10.30ly 2 10.40ly 3	cut grass from neighbouring field cut grass from neighbouring field	0 4	1 0	215	40.6	65.3 no	o no		no no	00	+				
I Stephenson I Stephenson	16/09/2010 16/09/2010	crushing concrete, turning beds  Crushing concrete, turning beds  NW	v	9.55	10.000v 3	cut grass from neighbouring field	1 4	1 0	60.2	1.36	61.4 no	o no		no	no no	H				
I Stephenson	16/09/2010	crushing concrete, turning beds Crushing concrete, turning beds NE		16.45 16.51 16.58	16.50m 16.56m	and and	2 2	0	123 98	54.2 69.8	68.2 no 79.1 no	o no	ilear 9.199 ilear	no	no 2.9	w	16.3	3 sunny spells	7 damp	slight smell of crushed concrete at the church. Slight smell of TCP half way up church meadow
I Stephenson	16/09/2010 16/09/2010	orushing concrete, turning beds crushing concrete, turning beds Ecrushing concrete, turning beds E	1	16.58	17.03 17.10y 2	top	·1 2	5 0	64 208	12.5 111.4	51.3 no	o no	clear clear 9.649	no no	no no	Ŧ				
			3	16.58 17.05 17.11 17.18 17.24 17.31 17.38 10.52 10.46 10.40	17.16y 2 17.23y 4	top cut grass cut grass	0 2 1 4	5 0	205	91.9	71.9 no 64.2 no	o no o no		no no	no no	Ε	3			
l Stephenson l Stephenson	16/09/2010 16/09/2010	orushing concrete, turning bods  \$\$  Summing concrete, turning bods  SWS turning concrete, turning bods  We turning concrete construction  N turning bods  N turning	/	17.24	17.29ly 4 17.36in	cut grass	1 4	1 0	182	61	59.8 no 72.3 no	o no o no		no no	no no	Ε	3			
l Stephenson l Stephenson	16/09/2010 17/09/2010	crushing concrete, turning beds NW concrete crushing N	V	17.38 10.52	17.43m 10.57m		4 2	0	63.5	44.7	74.8 no 44.7 no	o no o no	ilear 9.199	no no	no 0	NW	16	sunny	1 dry	smells cold at church - very fresh. Smell of TCP approx 10m from site in church meadow - intermittent
l Stephenson l Stephenson	17/09/2010 17/09/2010	concrete crushing NE concrete crushing NE	1	10.46 10.40	10.51 n 10.45		2		46 159	105 117	45.1 no	o no	lear lear	no no	no no					
Stephenson Stephenson	17/09/2010 17/09/2010 17/09/2010	concrete crushing E concrete crushing SE concrete crushing SE		10.34 10.28 10.32	10.39th 10.33ty 3/4	TCP hydrocarbons and fumes	-1 2	4 0	200	22	55.2 no 48.4 no	o no o no	elear 9.639	no no	no no					
		concrete crushing CM/			10.27 y 3 10.21 n		4 4	3 0	30.7	49.5	68.4 no	o no		no no	no no	Ŧ	=			
l Stephenson	17/09/2010 17/09/2010	concrete crushing NW	v	10.16 10.58 17.43 17.37	10.15 y 3 11.03 n	car fumes	4	0	60.8	13.13	74.1 no	o no	0.400	no no	no no	+	_			
l Stephenson	17/09/2010	bed turning/concrete crushing N bed turning/concrete crushing NE		17.37	17.48m 17.42m		2	0	28.1 92.4	12.8 15.4	58.2 no	o no	clear 9.199	no no	no no	+	_			
I Stephenson	17/09/2010	bed turning/concrete crushing NE bed turning/concrete crushing E bed turning/concrete crushing SE		17.31 17.25 17.19	17.30y 3	hydrocarbons tcp/hydrocarbons	1 2	0	111.6	38.9	59.1 no	o no	lear 9.639	no no	no no	+				
I Stephenson	17/09/2010 17/09/2010	bed turning/concrete crushing SE bed turning/concrete crushing S	,	17.19 17.13 17.07 17.01	17.18y 3	top/hydrocarbons hydrocarbons/road fumes	1 3	3 0	155.9	71.2	54.1 no	0 no		yes	no odour detected non possible 1	nw	14	sunny	2 dry	very slight and intermittent odour of hydrocarbons at church. Barely detectable,
I Stephenson	17/09/2010	Seed surning concrete crushing St. Bod surning concrete crushing St. Bod surning concrete crushing SW Bod surning concrete crushing W W Bod surning concrete crushing W W W W W W W W W W W W W W W W W W W	v .	17.01	17.06 y 3	car furnes/hot road	1 4	1 0	76.4	64.3	74.5 no	0 no		no no	00	+				
			1	9.12 9.06 9.00 8.54 8.48	9.17 n	hydrocarbons	2	0	109	33	80.7 no	0 no	clear 9.199	no no	no 2.6	wsw	r 13	sunny	1 dry	
I Stephenson	20/09/2010	bed turning/concrete crushing NE bed turning/concrete crushing bed turning/concrete crushing E	1	9.00	9.05 8.59v	hydrocarbons hydrocarbons hydrocarbons	1 2	5 0	76 152	51 108	59.1	o no	lear lear 9.649	no no	no no	Ŧ				
I Stephenson I Stephenson	20/09/2010	bed turning/concrete crushing SE bed turning/concrete crushing S		8.48	8.53 y 4 8.47 n	hydrocarbons	1 3	5 0	88	30	63.2 no	o no o no		no no	no no	+	=			
I Stephenson I Stephenson	20/09/2010	Sed Euring/concrete crushing NE  Experimental Control	/	8.42 8.36 8.30	8.41 n 8.35 n		4	0	127	74	73.4 no	o no o no		no no	no no	+	=			
			V	9.18	9.23n		2 2		127	62	71.8 no	o no	clear 9.199	no no	no no	wsw	17	sunny	1 dry	no odour at church, slight solvent smell along eastern boundary
i ocephenson	20/09/2010	bed turning/concrete crushing NE bed turning/concrete crushing NE bed turning/concrete crushing E	1	16.56 16.50 16.44 16.38 16.32 16.26	17.01 y 2 16.55	undistinguishable site odour	0 2	3 0	127 55.4 447	171 212	64.9 no	o no	dear	no no	no no	Ŧ			- l'	
I Stephenson I Stephenson	20/09/2010 20/09/2010 20/09/2010	bed turning/concrete crushing E bed turning/concrete crushing SE		16.44 16.38	16.49in 16.43in		2	0	168	99.9	58.5 no 63.4 no	o no	lear 9.639	no no	no no	Ŧ				
I Stephenson I Stephenson	20/09/2010 20/09/2010	bed turning/concrete crushing S bed turning/concrete crushing SW	1	16.32 16.26	16.37 n 16.31 y 3	cut grass from neighbouring field	1 4	1 0	144	42.3	63.2 no 74.1 no	o no o no		no no	no no	Ŧ				
I Stephenson I Stephenson	20/09/2010	bed turning/concrete crushing W bed turning/concrete crushing NW				car fumes cut grass	1 2	1 0	53	74	73.1 no	o no o no		no	no no	Ŧ	Ŧ			
D Holman D Holman	21/09/2010 21/09/2010	bed turning/concrete crushing N bed turning/concrete crushing NE	đ	17.08 10.42 10.36	10.47 y 1 10.41 y 1	vegetation vegetation	0 2	1 0	273.5 251.6	232.4 158.8	59 no 62 no	o no o no	clear 9.209 clear		1	s	17	sun	2 dry	slight pce/ice odour between n and nw points 2/9 0.0ppm
														•						

D Holman 21/09/2010 D Holman 21/09/2010	bed turning/concrete crushing bed turning/concrete crushing	NE1 E	10.30	10.35 10.29 y	-	vegetation	0 2	1 0	271.8 245.8	154.6 172.6	56 n	10 n	10	clear	9.639					
D Holman 21/09/2010 D Holman 21/09/2010 D Holman 21/09/2010 D Holman 21/09/2010 D Holman 21/09/2010	od suming conceits creating bed suming conceits creating suming s	SE S	10.18 10.12 10.06 10.00 10.48 17.32	10.23 y	3 2	vegetation vegetation vegetation	0 3	1 0	245.8 166.3	68.9	53 n	10 n	10							
D Holman 21/09/2010 D Holman 21/09/2010	bed turning/concrete crushing	SW	10.06	10.11 y	1 2	vegetation vegetation vegetation and exhaust fumes	0 4	1 0	192	103.9	72 n	10 n	10							
D Holman 21/09/2010 D Holman 21/09/2010 D Holman 21/09/2010 D Holman 21/09/2010	bed turning/concrete crushing bed turning/concrete crushing	NW	10.48	10.53 y	2	vegetation and exhaust fumes vegetation	1 2	1 0	00.0	24.6	78 n	10 n	10	clear	9.209					
D Holman 21/09/2010	bed turning/concrete crushing	NE.			3	phenol TCE and PCE	1 2		256.5	219.3	64 n	10 f	10	clear	9.209	fogger moved ongoing assessment	6 sse 23 sun	2	dry	odour present along E boundary sporadically <4/9 <4.0ppm
D Holman 21/09/2010	bed turning/concrete crushing bed turning/concrete crushing	NE1 E	17.20	17.19y	1	vegetation	0 2	1 0	272.2 152	125.5 33.9	53 n	ю п	10	clear	9.639					
D Holman 21/09/2010 D Holman 21/09/2010 D Holman 21/09/2010	ted turning/concrete crushing ted turning/concrete crushing ted turning/concrete crushing	SE S	17.08	17.13 y	3	vegetation vegetation vegetation	0 3	1 0	106.1	66.2	65 n	10 n	10							
D Holman 21/09/2010 D Holman 21/09/2010	bed turning/concrete crushing bed turning/concrete crushing	SW	16.56 16.50	17.01 y 16.55 y	1 3	vegetation vegetation	-1 4	1 0	247.9	97.8	74 n	no n	10					-		
D Holman 21/09/2010 D Holman 22/09/2010	bed turning/concrete crushing bed turning/concrete crushing	NW N	16.56 16.50 17.38 10.42 10.36	17.43 y	2	vegetation odour control	0 2	1 0	201.9 216.3 131.2	74.1	80 n	10 0	10	clear	9 199		2 se 21 sun	5	dry	
D Holman 22/09/2010 D Holman 22/09/2010	bed turning/concrete crushing bed turning/concrete crushing	NE NE1	10.36	10.41 y	2	vegetation	0 2	1 0	216.3	61.1 116.9	64 n	10 n	10	clear						
	bed turning/concrete crushing bed turning/concrete crushing	E	10.24		3	freshly out wood/trees vegetation	0 2	1 0		83.2	53 n	ю г	10		9.649	I Milburn outting trees near footpath				
D Holman 22/09/2010 D Holman 22/09/2010 D Holman 22/09/2010	sed turning/concrete crushing bed turning/concrete crushing bed turning/concrete crushing	S	10.12	10.23 y	3	vegetation vegetation smoke and vegetation	0 3	1 0	127.5	99	62 n	10 f	10							
D Holman 22/09/2010	ped turning/concrete crushing bed turning/concrete crushing	W	10.06	10.11 y 10.05 y	2	vegetation	0 4	1 0	79.4	50.8	77 6	10 n	10							
D Holman 22/09/2010	bed turning/concrete crushing bed turning/concrete crushing bed turning/concrete crushing bed turning/concrete crushing	NW N	10.00 10.48 17.42	10.53 y	2	vegetation vegetation vegetation	0 2	1 0	237.5	191.3	78 n	10 11	10	clear	9.199	1 1	2 se 23 sun	6	dry	
D Holman 22/09/2010 D Holman 22/09/2010	bed turning/concrete crushing bed turning/concrete crushing	NE NE1	17.36	17.41 y			0 2	1 0	257.1 89.9	137.3 34.1	62 n	so r	00	clear						
D Holman 22/09/2010		E SF	17.36 17.24 17.18 17.12 17.06	17.29 y	2	fresh out wood venetation	0 2	1 0	89.9 69.8	19.3	54 n	10 n	10	clear	9.649					
D Holman 22/09/2010	eed turning/concrete crushing bed turning/concrete crushing bed turning/concrete crushing	S	17.12	17.17 y	3	vegetation vegetation vegetation vegetation TCE/PCE	0 3	1 0	116.9	103.2	66 n	10 11	10							
D Holman 22/09/2010 D Holman 22/09/2010	bed turning/concrete crushing bed turning/concrete crushing	W	17.00	17.05 y	i	vegetation	0 4	1 0	68.3	52.1	79 n	10 n	10							
D Holman 23/09/2010	sed turning/concrete crushing bed turning/concrete crushing bed turning/concrete crushing	NW N	0.44	0.54	2	odour control	0 2	5 0	253.7	156.4	79 n	10 f	10	clear	9.199		2.5 sse 15 light rain	8	damp	
D Holman 23/09/2010 D Holman 23/09/2010	bed turning/concrete crushing bed turning/concrete crushing	NE NE1	9.55	10.00 y	1	odour control and smoke	-1 2	3 0	278.6 212.6 183.9	189.6 185.2	65 n	10 n	10	clear						
D Holman 23/09/2010 D Holman 23/09/2010 D Holman 23/09/2010	bed turning/concrete crushing bed turning/concrete crushing	E SE	10.07	10.12 y 10.18 y	2	odour control vegetation and smoke	0 2	5 0 1 0	183.9	185.2 88.6	59 n	no n	10	clear	9.639			-		
D Holman 23/09/2010 D Holman 23/09/2010	bed turning/concrete crushing	S SW	9.55 10.01 10.07 10.13 10.19	10.24 y 10.30 v		smoke vegetation and smoke	-1 3 0 4	1 0		66	65 n	10 n	10				$+++\mp$	$\pm$	$\vdash$	
D Holman 23/09/2010 D Holman 23/09/2010	bed turning/concrete crushing bed turning/concrete crushing	W.	9.37 9.43	9.42 y 9.48 v	1	vegetation odour control	0 4	1 0 5 n	182.3	109.6	79 n	10 1	10							
D Holman 23/09/2010 D Holman 23/09/2010	bed turning/concrete crushing	N NE	17.27	17.32 y	1	phenol and odour control	0 2		48.2 198.7	19.8 141.6	58 0	10 0	10	clear	9.199		0.5 sse 18 cloudy	8	dry	smoke odour at church 2/9 0.0ppm
D Holman 23/09/2010	bed turning/concrete crushing bed turning/concrete crushing	NE1	17.21 17.15 17.09	17.20 y		odour control	¥	0	137.9	78.1	30 0	~	~	clear						
D Holman 23/09/2010	sed turning/concrete crushing sed furning/concrete crushing sed furning/concrete crushing sed furning/concrete crushing sed furning/concrete crushing sed furning/concrete crushing sed furning/concrete crushing	E SE	17.09	17.14 y 17.08 y	2	concrete and phenol concrete and phenol vegetation vegetation vegetation vegetation vegetation vegetation vegetation	0 2	5 0 5 0	137.9 111.3 68.5	68.7	56 n	10 n	10	ciear	9.639					
D Holman 23/09/2010 D Holman 23/09/2010	bed turning/concrete crushing bed turning/concrete crushing	SW	16.57	17.02 y 16.56 y	4	vegetation vegetation	0 3	1 0	68.5	9.2	64 n	10 n	10							
D Holman 23/09/2010 D Holman 23/09/2010 D Holman 23/09/2010 D Holman 23/09/2010 D Holman 23/09/2010	bed turning/concrete crushing bed turning/concrete crushing	W NW	17.03 16.57 16.51 16.45 17.33 10.12 10.06 10.00 9.54	16.50 y 17.38 y	3	vegetation vegetation	0 4	1 0	80.4	16.7	79 n 81 n	10 01	10			H T			1	
D Holman 24/09/2010 D Holman 24/09/2010	Breaking out concrete, crushing concrete, turning treatment beds Breaking out concrete, crushing concrete, turning treatment beds	N NE	10.12	10.17 Y	1	vegetation vegetation	0 2	1 0	289.5 276.1	248.2 262.4	65 n	10 n	10	clear	9.199		3 W 13 Cloudy	8	dry	
D Holman 24/09/2010 D Holman 24/09/2010 D Holman 24/09/2010	Breaking out concrete, crushing concrete, turning treatment beds Breaking out concrete, crushing concrete, turning treatment beds Breaking out concrete, crushing concrete, turning treatment beds	NE1	10.00	10.05			0 2		357.4	183.6	67		20	clear	0.540					
D Holman 24/09/2010	Breaking out concrete, crushing concrete, turning treatment beds Breaking out concrete, crushing concrete, turning treatment beds	SE	9.48	9.53 Y	i	Vegetation Vegetation + Exhaust traffic furnes Vegetation + Exhaust traffic furnes Vegetation + Exhaust traffic furnes	0 3	1 0	100.0	40.0	56 n	10 n	10		3.043					
D Holman 24/09/2010 D Holman 24/09/2010 D Holman 24/09/2010	Breaking out concrete, crushing concrete, turning treatment beds	SW	9.42	9.47 Y	2	Vegetation + Exhaust traffic fumes Vegetation + Exhaust traffic fumes	-1 4	1 0	122.9	48.9	79 n	10 f	10							
D Holman 24/09/2010 D Holman 24/09/2010	Breaking out concrete, crushing concrete, turning treatment beds  Breaking out concrete, crushing concrete, turning treatment beds	NW	9.48 9.42 9.36 9.30 10.18 17.12 17.06	9.35 Y 10.23 Y	2	vegetation	0 4	1 0	180	96.7	79 n	10 n	10							
D Holman 24/09/2010 D Holman 24/09/2010 D Holman 24/09/2010	Breaking out concrete, crushing concrete, turning treatment beds Breaking out concrete, crushing concrete, turning treatment beds	N NE	17.12	17.17 Y	1	vegetation vegetation	0 2	1 0	201.2 281.3 263.3	191.5 213.4	66 N	No N	No No	Clear	9.199		10 NNE 12 Showers	8	Damp	
D Holman 24/09/2010 D Holman 24/09/2010	Breaking out concrete, crushing concrete, turning treatment beds Breaking out concrete, crushing concrete, turning treatment beds	NE1 E	17.00	17.05 16.59 Y		vegetation	0 2	1 0	263.3 213.4	167.5 119.8	55 N	No N	No.	Clear	9.649					
D Holman 24/09/2010	Breaking out concrete, crushing concrete, turning treatment heris	SE	16.54 16.48 16.42 16.30 17.18 10.42 10.36 10.30 10.24 10.18 10.12 10.06	16.53 Y	2	venetation	0 3	1 0		68.3	58 N	No N	No No							
D Holman 24/09/2010 D Holman 24/09/2010 D Holman 24/09/2010	Breaking out concrete, crushing concrete, turning treatment bads	SW	16.36	16.41 Y	3	vegetation  vegetation + exhaust fumes  vegetation  vegetation	-1 4	1 0	183.7	103.6	78 N	No B	No.							
		NW	17.18	17.23 Y			0 2	1 0	167.2		82 1	40 P	No.							
D Holman 27/09/2010 D Holman 27/09/2010 D Holman 27/09/2010	Breaking out concrete, crushing concrete, turning treatment beds Breaking out concrete, crushing concrete, turning treatment beds	N NE	10.42	10.47 Y	1	vegetation vegetation	0 2	1 0	167.2 216.3	207.4 108.5	57 N	No P	No No	Clear Clear Clear	9.199		0.5 NW 14 Drizzling	8	Damp	
D Holman 27/09/2010 D Holman 27/09/2010	Breaking out concrete, crushing concrete, turning treatment beds Breaking out concrete, crushing concrete, turning treatment beds	NE1 E	10.30	10.35 10.29 Y		vegetation	0 2	1 0	216.3 95.5 208.3	90.1 199.2	59	No N	No	Clear	9.649					
D Holman 27/09/2010 D Holman 27/09/2010 D Holman 27/09/2010 D Holman 27/09/2010 D Holman 27/09/2010 D Holman 27/09/2010	Breaking out concrete, crushing concrete, turning treatment beds Breaking out concrete, crushing concrete, turning treatment beds	SE S	10.18	10.23 Y		vegetation	0 3		227.4	171.3	56 N	40 P	No No							
D Holman 27/09/2010 D Holman 27/09/2010	Breaking out concrete, crushing concrete, turning treatment beds Breaking out concrete, crushing concrete, turning treatment beds Breaking out concrete, crushing concrete, turning treatment beds	SW	10.06	10.11 Y	3	Wet vegetation Earthy soil odour	0 4	1 0		31.1	76 P	do N	No No							Standing water around main gate caused by water Authorities works outside site boundary
D Holman 27/09/2010	Breaking out concrete, crushing concrete, turning treatment beds	NW	10.48	10.53 Y		Vegetation Vegetation	0 2	1 0	147.6	42.7	81 N	No N	No No	Clear	0.100		0.5 N 14 Rain		West	Slight odour at S gate 3/9 0.0ppm, no action required.
D Holman 27/09/2010 D Holman 27/09/2010 D Holman 27/09/2010 D Holman 27/09/2010	The state of the s	NE	16.45 16.57 16.51 16.45 16.39 16.33 16.27	16.56 Y	2	Vegetation Vegetation Vegetation	0 2	1 0	71.1 147.5 127.7 177.5	59.7	60 N	40 P	No I	Clear	3.133		0.0 IV IV IV		TTWN.	ongin outsil at organic sea coppin, no action required.
D Holman 27/09/2010 D Holman 27/09/2010	Breaking out concrete, crushing concrete, turning treatment beds Breaking out concrete, crushing concrete, turning treatment beds	NE1 E	16.39	16.50 16.44 Y	4	Vegetation Odour control fragrance	0 2	1 0	421.0	194.4	61 N	4o N	No	Clear	9.649					
D Holman 27/09/2010	Breaking out concrete, crushing concrete, turning treatment beds	SE S	16.33	16.38 Y	1 1	vegetation	0 3	1 0	225.6	185.7	66 N	No P	No No							
D Holman 27/09/2010 D Holman 27/09/2010	Breaking out concrete, crushing concrete, turning treatment beds Breaking out concrete, crushing concrete, turning treatment beds	SW	16.21	16.26 Y 16.20 Y	1 1	earthy vegetation odours vegetation	0 4	1 0	291.3	88.1	74 P	No N	No No							
D Holman 27/09/2010 D Holman 28/09/2010	Breaking out concrete, crushing concrete, turning treatment beds Turning beds and crushing concrete	NW N	16.15 16.03	16.08 Y	2	vegetation + vehicle exhaust fumes Vegetation	0 2	1 0	39.7	7.7	79 N	do N	No No	Clear	9 209		0.5 NNE 15 Cloudy	8	Damo	
D. I. Lebeure 200/00/20040	Turning beds and crushing concrete Turning beds and crushing concrete Turning beds and crushing concrete	NE NF1	40.00	40.4457	2	Vegetation	0 2	4 0	120 1	99.9 96.7	56 N	No P	No	Clear						
D Holman 28/09/2010 D Holman 28/09/2010 D Holman 28/09/2010 D Holman 28/09/2010 D Holman 28/09/2010	running beds and crushing concrete	E	10.36 10.24 10.18 10.12 10.06	10.29 Y	3	Vegetation Vegetation	0 2	1 0	197.1	58.5	62 N	No h	No No	Clear	9.659					
D Holman 28/09/2010	Turning beds and crushing concrete Turning beds and crushing concrete	S	10.12	10.17 Y	3	Vegetation Vegetation	0 3	1 0	154.7	91.6	65 N	No P	No.							
D Holman 28/09/2010	Turning beds and crushing concrete Turning beds and crushing concrete	SW W			3	Vegetation Vegetation	0 4	1 0	216.2	131.8	77 B	vu h	No No							
D Holman 28/09/2010 D Holman 28/09/2010 D Holman 28/09/2010	Turning beds and crushing concrete Turning beds and crushing concrete Turning beds and crushing concrete	NW N	10.48 17.42 17.36	10.53 Y	3 2	vegetation + vehicle exhaust fumes Vegetation Vegetation	·1 2 0 2	1 0	97.2 116.3	62.9 109.6	80 N	No N	No No	Clear	9.209		0.5 SW 17 Cloudy	8	Damp	
D Holman 28/09/2010	Turning beds and crushing concrete	NE NE1	17.36 17.30	17.41 Y	3	vegetation	0 2		137.1	109.6 86.3	62	NO P	NO OW	Clear Clear					<u> </u>	
D Holman 28/09/2010	Turning beds and crushing concrete	E SE	17.24	17.29 Y	4	Vegetation Vegetation	0 2	1 0	125.9	93.5	58 N	40 h	No No	Clear	9.659	$+$ $\overline{-}$		1	F	
D Holman 28/09/2010 D Holman 29/09/2010	Turning beds and crushing concrete Executing and crushing concrete	S			3	Vegetation Vegetation Vegetation Vegetation Vegetation Vegetation Vegetation	0 3		198.2	105.1	64 h	40 h	No No							
D Holman 28/09/2010 D Holman 28/09/2010	Turning beds and crushing concrete Turning beds and crushing concrete	W	17.00	17.05 Y	3	Vegetation Vegetation	0 4		151.4	87.6	79 N	do h	No No						-	
D Holman 29/09/2010 D Holman 29/09/2010	Training betas and crushing concrete Excavating and crushing concrete Excavating and crushing concrete	N	17.06 17.00 17.48 10.12	10.17 Y	2	Vegetation Earthy soil odour and phenol odour Earthy soil odour and phenol odour	0 2	5 0	239.9	116.3	57	No h	No Mo	Clear	9.199		8 5 14 Rain	8	Wet	
D Holman 29/09/2010	Excavating and crushing concrete	NE1	10.00	10.05			U 2		214.6	84.7 86.5				Clear						
D Holman 29/09/2010 D Holman 29/09/2010	Excavating and crushing concrete Excavating and crushing concrete	E SE	9.54 9.48	9.59 Y 9.53 Y	3	Vegetation Vegetation	0 2	1 0	241.5	13.6	59 N	40 N	No No	Clear	9.649					
D Holman 29/09/2010 D Holman 29/09/2010	Excavating and crushing concrete Excavating and crushing concrete Excavating and crushing concrete Excavating and crushing concrete	S	9.42 9.36	9.47 Y 9.41 Y	1	Vegetation Vegetation Vegetation	0 3	1 0	267.4	210.8	67 N	No P	No No						<u> </u>	
D Holman 29/09/2010 D Holman 29/09/2010 D Holman 29/09/2010	Excavating and crushing concrete Excavating and crushing concrete	W NW	9.30	9.35 Y 10.23 Y	2	Vegetation Vegetation	0 4	1 0	211.3	92.8	79 N	No N	No No			H T			1	
D Holman 29/09/2010 D Holman 29/09/2010	Excavating and crushing concrete Excavating and crushing concrete	N NE	9.54 9.48 9.42 9.36 9.30 10.18 17.42 17.36 17.30 17.24	17.47 Y	1	Earthy soil odour Earthy soil odour and slight phenol odour	0 2	5 0	133.7 277.2	70.6 251.2	59 M	40 P	No No	Clear	9.199		3 SSE 15 Rain	8	Wet	
D Holman 29/09/2010 D Holman 29/09/2010	Excavating and crushing concrete Excavating and crushing concrete	NE1	17.30	17.35		Earthy soil odour	-		202.2	127.5	E7	do .	No.	Clear	0.640				<b>—</b>	
D Holman 29/09/2010		SE	17.24	17.23 Y		Vegetation	0 3	1 0		70.4	58 N	40 P	No.	Untral'	2.043					
D Holman 29/09/2010 D Holman 29/09/2010 D Holman 29/09/2010 D Holman 29/09/2010	Testability and Conflicts operated  Economic and Conflicts operate	SW	17.12 17.06 17.00	17.17 Y	- 1	Vagetation Vagetation Vagetation Vagetation Vagetation Vagetation Vagetation Vagetation Vagetation	0 3		219.1	11.7	67 P	NO P	No No							
D Holman 29/09/2010 D Holman 29/09/2010	Excavating and crushing concrete Excavating and crushing concrete	NW NW	17.00	17.05 Y 17.53 Y	3	Vegetation Vegetation	0 4			126.5	81 P	40 P	No No					ШΞ	L -	
D Holman 29/09/2010 D Holman 30/09/2010	Excavating and crushing concrete Excavating and crushing concrete	N NE	9.12 9.06 9.00 8.54	9.17 Y 9.11 Y	2	Vegetation Vegetation	0 2	1 0	68.7 196.3 141.6 59.2	37.2 83.9	55 N	40 h	No No	Clear	9.199	$+$ $\overline{-}$	2 SW 10 Cloudy	5	Damp	
D Holman 30/09/2010 D Holman 30/09/2010	Excavating and crushing concrete  Excavating and crushing concrete	NE1	9.00	9.06		Vegetation, earth and hydrocarbon	1 .	3 0	141.6	96.8 31.3	62	do A	Mo	Clear	9 549					
D Holman 30/09/2010	Excavating and crushing concrete	SE	8.48 8.42	8.53 Y	1 1	Vegetation	0 3	1 0	20.7	10.0	56	No h	No Mo							
D Holman 30/09/2010	Excavating and crushing concrete Excavating and crushing concrete Excavating and crushing concrete	SW			2	Vegetation Vegetation	0 4	1 0	49.6	13.0	72	No h	No.							
D Holman 30/09/2010 D Holman 30/09/2010	Excavating and crushing concrete	NW NW	8.36 8.30 9.18	8.35 Y 9.23 Y	3	Vegetation Vegetation	0 4	1 0		27.1	78 P	40 P	No No				0.9 SW 19.4 Sunny spells	_		
Stephenson 30/09/2010	Crushing concrete turning beds Crushing concrete turning beds	N NE	16.30	16.35 N		<u> </u>	2	0	121.4 88.8	64.2 16.4	54.9 N	No N	No No	Clear	9.199		0.9 SW 19.4 Sunny spells	5	Damp	No odour at parish church Hauxton, Very slight site odour along foot path through church meadow.
Stephenson 30/09/2010 Stephenson 30/09/2010	Crushing concrete turning beds Crushing concrete turning beds	NE1 E	16.20 16.15 16.10 16.05	16.25 16.20 V	4	Slight hydrocarbon odour	0 2		F2.0	16.2 91	68.2	No N	No	Clear	9.649	+		1	F	
Stephenson   30/09/2010   Stephenson   30/09/2010	Crushing concrete turning beds Crushing concrete turning beds	SE e	16.10	16.15 N		A PROPERTY NAMED	3	Ď	108.4	10.0	58.8	No 8	No No							
	Construing Concrete Willing Deas	0	10.05	10.1UN				1 10	01.7	113.0	~3× 0	*~ P	~						1	

Stephenson 30/09/2010 Crushing con-	oncrete turning beds	CW/	16.00	te ot N				Le .	1 1				602 N	lo.	Mo				-			
Stephenson 30/09/2010 Crushing con	orcine wining bear	J11	16.40	10.0004				-	1 1	100.4	-	v. 1	00.3 IN	i.	No.				-		_	
Suprienson Survey 20 to Crushing con	oncrete turning beas	**						*	-	100.4		20.1	71.6 IN	60	NO						_	
Stephenson 30/09/2010 Crushing con-	oncrete turning beds	NW	16.35	16.40 N				2		_			74.3 N	40	No							
D Holman 01/10/2010 Turning beds,	ds, relocating beds and crushing concrete	N	10.42	10.47 Y	2	Concrete odours and TCE odours	0	2	5 (	66.9	30	0.3	56 N	lo .	No	Clear	9.199		5 5	5 26 Sunny 4	Dry	Slight concrete, TCE and odour control fragrance odours present along Eastern footpath <3/9, 0.0ppm,
D Holman 01/10/2010 Turning beds,	ds, relocating beds and crushing concrete	NE	10.36	10.41 N				2	1 0	59.7	4:	2.4	66 N	lo .	No	Clear						
D Holman 01/10/2010 Turning beds.	ds, relocating beds and crushing concrete	NE1	10.30	10.35						124.7	55	3.4				Clear						
D Holman 01/10/2010 Turning beds.	ds, relocating beds and crushing concrete	E	10.24	10.29 Y	2	Vegetation	0	2	1 (	22.5	13	3.3	61 N	lo .	No	Clear	9.639					
D Holman 01/10/2010 Turning beds,	ds, relocating beds and crushing concrete ss, relocating beds and crushing concrete st, relocating beds and crushing concrete ds, relocating beds and crushing concrete ds, relocating beds and crushing concrete	SE	10.18	10.23 Y	2	Vegetation	0	3	1 (				49 N	lo .	No							
D Holman 01/10/2010 Turning beds,	ds, relocating beds and crushing concrete	S	10.17	10.17 Y	1	Vegetation	0	3	1 (	290.3	15	58.4	62 N	lo .	No							
D Holman 01/10/2010 Turning beds,	ds, relocating beds and crushing concrete	SW	10.06	10.11 Y	3	Vegetation	0	4	1 (				79 N	lo .	No							
	ds. relocating beds and crushing concrete	W	10.00	10.05 Y	1	Vegetation	0	4	1 (	136	53	3.7	79 N	lo .	No							
D Holman 01/10/2010 Turning beds.	ds, relocating beds and crushing concrete	NW	10.48	10.53 Y	2	Vegetation	0	2	1 (				81 N	lo .	No							
D Holman 01/10/2010 Crushing con-	oncrete turning beds	N	17.32	17.37 Y	1	Vegetation	0	2	1 (	36.4	19	9.8	56 N	lo .	No	Clear	9.199		0.5 E	ENE 29 Sunny	Dry	
D Holman 01/10/2010 Crushing con-	oncrete turning beds	NE	17.26	17.31 Y	2	Vegetation	0	2	1 (	79.9	58	5.6	58 N	lo .	No	Clear						
D Holman 01/10/2010 Crushing con	oncrete turning beds	NE1	17.20	17.25						45.2	33	3.6				Clear						
D Holman 01/10/2010 Crushing con-	oncrete turning beds	E	17.14	17.19 Y	1	Vegetation	0	2	1 (	82.4	33	3.1	58 N	lo .	No	Clear	9.649					
D Holman 01/10/2010 Crushing con-		SE	17.08	17.13 Y	1	Vegetation	0	3	1 (				56 N	lo .	No							
D Holman 01/10/2010 Crushing con-	oncrete turning beds	S	17.02	17.07 Y	2	Wood Preservative	0	3	1 (	48.1	40	0.9	64 N	lo .	No							
D Holman 01/10/2010 Crushing con-	oncrete turning beds	SW	16.56	17.01 Y	2	Earthy, soil odours and exhaust fumes	0	4	5 (				76 N	lo .	No							
D Holman 01/10/2010 Crushing con-	oncrete turning beds	W	16.50	16.55 Y	1	Manure, compost	-1	4	5 (	246.1	13	30.2	78 N	lo .	No							
D Holman 01/10/2010 Crushing con-	oncrete turning beds	NW	17.38	17.43 Y	2	odour control fragrance + vegetation	0	2	3 (				80 N	lo .	No							



Appendix C

**Long term Passive VOC Monitoring** 





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### LABORATORY ANALYSIS REPORT

**GCMS 4470** REPORT NUMBER CUSTOMER Vertase FLI Ltd **GRADKO LAB REFERENCE GMSE 1864-1875** 

**DATE SAMPLES RECEIVED** 07.10.10 SOR004605 **DESPATCH REF.NUMBER JOB NUMBER** 907BR1/5302

**BOOKING IN REF.** D 5233

> SEMI-QUANTITATIVE ANALYSIS FOR TOP 10 VOC'S ON TENAX DIFFUSION TUBES BY GC/MS

Analysis has been carried out in accordance with in-house method GLM 13

GRA 04131\*\* **Tube Number Exposure Time(mins)** 39056 Sample ID **North East** 

Unicarb tube labelled as Tenax and analysed on Tenax Method Compounds were not detected

**Tube Number GRA 01118** 39032 **Exposure Time(mins)** Sample ID East

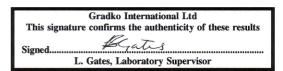
#### Top 10 VOC'S

Compounds	ng on tube	ppb in air*
Tetrachloroethylene	706.74	9.05
Toluene	171.21	2.19
Benzene, 1,2,3-trichloro-4-methyl-	60.41	0.77
m/p-Xylene	42.42	0.54
Trichloroethylene	30.20	0.39
Bis(2-chloroethyl) ether	28.80	0.37
Benzene, 1,2,4-trichloro-3-methyl-	27.94	0.36
Benzene, 1,4-dichloro-2-methyl-	23.74	0.30
Benzene, 1,2-dichloro-	21.51	0.28
o-Xylene	18.28	0.23

The Diffusion Tubes have been tested within the scope of Gradko International Ltd. Laboratory Quality Procedures calculations and assessments involving the exposure procedures and periods provided by the client are not within the scope of our UKAS accreditation. Those results obtained using exposure data shall be indicated by an asterisk. Any queries concerning the data in this report should be directed to the Laboratory Manager Gradko International Ltd.

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### LABORATORY ANALYSIS REPORT

Tube Number GRA 05103
Exposure Time(mins) 39030
Sample ID South East

### Top 10 VOC'S

Compounds	ng on tube	ppb in air*
Tetrachloroethylene	348.00	4.46
Toluene	100.66	1.29
Benzene, 1,2,3-trichloro-4-methyl-	33.87	0.43
m/p-Xylene	25.85	0.33
Trichloroethylene	20.42	0.26
Benzene	17.32	0.22
Benzene, 1,2,4-trichloro-3-methyl-	17.20	0.22
Benzene, 1,4-dichloro-2-methyl-	16.01	0.21
Bis(2-chloroethyl) ether	15.90	0.20
Benzene, 1,2-dichloro-	13.47	0.17

Tube Number GRA 03710
Exposure Time(mins) 39018
Sample ID South

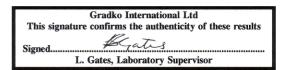
#### Top 10 VOC'S

Compounds	ng on tube	ppb in air*
Tetrachloroethylene	101.09	1.30
Toluene	44.10	0.57
Nonadecane	26.74	0.34
Benzene	23.38	0.30
Heptadecane	23.22	0.30
Octadecane	19.44	0.25
m/p-Xylene	16.72	0.21
Phenol	15.65	0.20
Hexadecane	14.65	0.19
Benzene, 1,2,3-trichloro-4-methyl-	12.62	0.16

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### LABORATORY ANALYSIS REPORT

Tube Number GRA 06231 Exposure Time(mins) 39015 Sample ID South West

### Top 10 VOC'S

Compounds	ng on tube	ppb in air*
Tetrachloroethylene	96.10	1.23
Toluene	52.66	0.67
Benzene	18.71	0.24
Cyclohexane, isothiocyanato-	16.34	0.21
m/p-Xylene	14.86	0.19
o-Xylene	13.61	0.17
Benzene, 1,2,3-trichloro-4-methyl-	13.42	0.17
Phenol	9.05	0.12
Cyclohexane, isocyanato-	8.61	0.11
1,4-Methanoazulene, decahydro-4,8,8-trimethyl-9-methylene-, [1S-		
(1.alpha.,3a.beta.,4.alpha.,8a.beta.)]-	7.69	0.10

Tube Number GRA 04264
Exposure Time(mins) 39015
Sample ID West

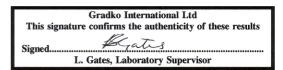
### Top 10 VOC'S

Compounds	ng on tube	ppb in air*
Tetrachloroethylene	95.32	1.22
Toluene	61.23	0.78
o-Xylene	25.03	0.32
Benzene	22.85	0.29
m/p-Xylene	22.84	0.29
Pentane, 3-methyl-	20.95	0.27
Pentane, 2-methyl-	16.21	0.21
Undecane	12.93	0.17
Phenol	12.54	0.16
Hexane	12.36	0.16

The Diffusion Tubes have been tested within the scope of Gradko International Ltd. Laboratory Quality Procedures calculations and assessments involving the exposure procedures and periods provided by the client are not within the scope of our UKAS accreditation. Those results obtained using exposure data shall be indicated by an asterisk. Any queries concerning the data in this report should be directed to the Laboratory Manager Gradko International Ltd.

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### LABORATORY ANALYSIS REPORT

Tube Number GRA 02342
Exposure Time(mins) 39010
Sample ID North West

### Top 10 VOC'S

Compounds	ng on tube	ppb in air*
Tetrachloroethylene	947.25	12.14
Toluene	251.42	3.22
Trichloroethylene	214.76	2.75
m/p-Xylene	166.07	2.13
Benzene, 1,2,3-trichloro-4-methyl-	69.59	0.89
Naphthalene, 2-methyl-	49.50	0.63
o-Xylene	47.79	0.61
Naphthalene	32.25	0.41
Ethylbenzene	31.61	0.41
Benzene, 1-chloro-2-methyl-	30.96	0.40

Tube Number GRA 06113
Exposure Time(mins) 39030
Sample ID North

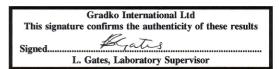
#### Top 10 VOC'S

Compounds	ng on tube	ppb in air*
Tetrachloroethylene	258.83	3.32
Toluene	104.13	1.33
Naphthalene	60.09	0.77
m/p-Xylene	54.96	0.70
Trichloroethylene	49.77	0.64
Benzene	21.43	0.27
o-Xylene	18.89	0.24
Benzene, 1,2,3-trichloro-4-methyl-	15.97	0.20
Naphthalene, 2-methyl-	15.38	0.20
Bis(2-chloroethyl) ether	13.31	0.17

The Diffusion Tubes have been tested within the scope of Gradko International Ltd. Laboratory Quality Procedures calculations and assessments involving the exposure procedures and periods provided by the client are not within the scope of our UKAS accreditation. Those results obtained using exposure data shall be indicated by an asterisk. Any queries concerning the data in this report should be directed to the Laboratory Manager Gradko International Ltd.

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### LABORATORY ANALYSIS REPORT

Tube Number	GRA 03068
Exposure Time(mins)	39030
Sample ID	wwtw

### Top 10 VOC'S

Compounds	ng on tube	ppb in air*
Benzene	26.50	0.34
Tetrachloroethylene	25.25	0.32
Toluene	13.39	0.17
Phenol	11.82	0.15
o-Xylene	7.06	0.09
Trichloroethylene	6.47	0.08
m/p-Xylene	6.31	0.08
Benzonitrile	4.26	0.05
Octane	4.17	0.05
Undecane	3.32	0.04

**Tube Number GRA 06221** 38975 **Exposure Time(mins)** Sample ID **Church Road** 

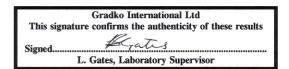
#### Top 10 VOC'S

Compounds	ng on tube	ppb in air*
Naphthalene	284.41	3.65
Tetrachloroethylene	41.62	0.53
Toluene	27.53	0.35
Benzene	24.40	0.31
Naphthalene, 2-methyl-	23.02	0.30
Acenaphthene	16.47	0.21
2-Benzo[b]tiophene	15.55	0.20
m/p-Xylene	14.38	0.18
Phenol	11.04	0.14
Phenanthrene	10.95	0.14

The Diffusion Tubes have been tested within the scope of Gradko International Ltd. Laboratory Quality Procedures calculations and assessments involving the exposure procedures and periods provided by the client are not within the scope of our UKAS accreditation. Those results obtained using exposure data shall be indicated by an asterisk. Any queries concerning the data in this report should be directed to the Laboratory Manager Gradko International Ltd.

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### LABORATORY ANALYSIS REPORT

Tube Number GRA 02268
Exposure Time(mins) 38957
Sample ID Queen's Close

### Top 10 VOC'S

Compounds	ng on tube	ppb in air*
Toluene	21.00	0.27
Benzene	15.50	0.20
m/p-Xylene	14.56	0.19
o-Xylene	11.86	0.15
Phenol	11.46	0.15
Tetrachloroethylene	7.83	0.10
Benzene, 1,2,4-trimethyl-	5.24	0.07
Ethylbenzene	4.75	0.06
Undecane	4.34	0.06
Hexadecane	3.98	0.05

<sup>\*\*</sup> Tube number GRA 04131 was Unicarb tube labelled as Tenax and analysed on Tenax Method.

Semi-quantitative results for ng on tube are calculated using toluene standards.

Analysts Name M.Angelova Date of Analysis 12.10.10

Date of Report 12.10.10

The Diffusion Tubes have been tested within the scope of Gradko International Ltd. Laboratory Quality Procedures calculations and assessments involving the exposure procedures and periods provided by the client are not within the scope of our UKAS accreditation. Those results obtained using exposure data shall be indicated by an asterisk. Any queries concerning the data in this report should be directed to the Laboratory Manager Gradko International Ltd.

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**Appendix D** 

**Directional Dust Monitoring** 

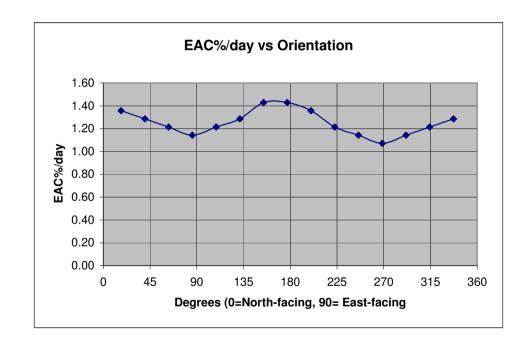


# **Sticky Pad Data**

## **Gauge Number - North location 907BRI**

**Sticky Pad Data** 

Sticky Fau	Dala				
Date On	20/08/2010	Date Off	03/09/2010	Days =	14
Clean =	90				
X Axis mm	Meter	Angle deg	EAC%/day		
20	72	337	1.29		
40	73	314	1.21		
60	74	291	1.14		
80	75	269	1.07		
100	74	246	1.14		
120	73	223	1.21		
140	71	200	1.36		
160	70	177	1.43		
180	70	154	1.43		
200	72	131	1.29		
220	73	109	1.21		
240	74	86	1.14		
260	73	63	1.21		
280	72	40	1.29		
300	71	17	1.36		



Note: Cells coloured yellow are inputs.

The rest are either constants or calculated values.

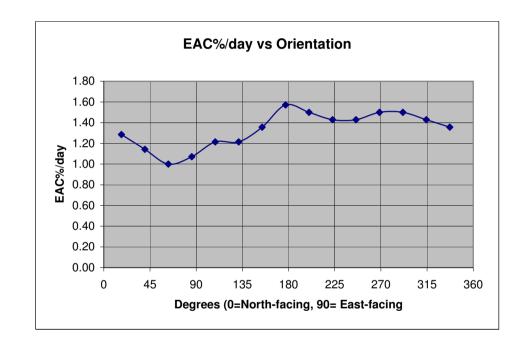
The calculation is based on taking readings at 40mm intervals along the sticky pad.



## **Gauge Number - NE1 location 907BRI**

Sticky Pad Data

Ottoky i da	Data			
Date On	20/08/2010	Date Off	03/09/2010	Days = 14
Clean =	90			
X Axis mm	Meter	Angle deg	EAC%/day	
20	71	337	1.36	
40	70	314	1.43	
60	69	291	1.50	
80	69	269	1.50	
100	70	246	1.43	
120	70	223	1.43	
140	69	200	1.50	
160	68	177	1.57	
180	71	154	1.36	
200	73	131	1.21	
220	73	109	1.21	
240	75	86	1.07	
260	76	63	1.00	
280	74	40	1.14	
300	72	17	1.29	



Note: Cells coloured yellow are inputs.

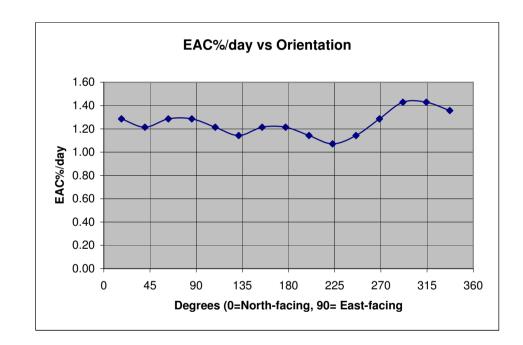
The rest are either constants or calculated values.



## **Gauge Number - NE2 location 907BRI**

Sticky Pad Data

Sticky i au Data								
Date On	20/08/2010	Date Off	03/09/2010	Days = 14				
Clean =	90							
X Axis mm	Meter	Angle deg	EAC%/day					
20	71	337	1.36					
40	70	314	1.43					
60	70	291	1.43					
80	72	269	1.29					
100	74	246	1.14					
120	75	223	1.07					
140	74	200	1.14					
160	73	177	1.21					
180	73	154	1.21					
200	74	131	1.14					
220	73	109	1.21					
240	72	86	1.29					
260	72	63	1.29					
280	73	40	1.21					
300	72	17	1.29					



Note: Cells coloured yellow are inputs.

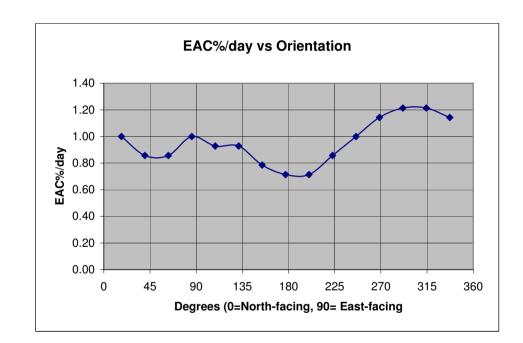
The rest are either constants or calculated values.



## **Gauge Number - South location 907BRI**

Sticky Pad Data

Ottoky i da	Dutu			
Date On	20/08/2010	Date Off	03/09/2010	Days = 14
Clean =	90			
X Axis mm	Meter	Angle deg	EAC%/day	
20	74	337	1.14	
40	73	314	1.21	
60	73	291	1.21	
80	74	269	1.14	
100	76	246	1.00	
120	78	223	0.86	
140	80	200	0.71	
160	80	177	0.71	
180	79	154	0.79	
200	77	131	0.93	
220	77	109	0.93	
240	76	86	1.00	
260	78	63	0.86	
280	78	40	0.86	
300	76	17	1.00	



Note: Cells coloured yellow are inputs.

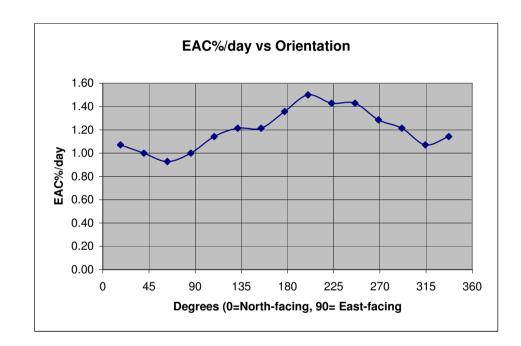
The rest are either constants or calculated values.



## **Gauge Number - West location 907BRI**

Sticky Pad Data

Sticky rau	Data			
Date On	20/08/2010	Date Off	03/09/2010	Days = 14
Clean =	90			
X Axis mm	Meter	Angle deg	EAC%/day	
20	74	337	1.14	
40	75	314	1.07	
60	73	291	1.21	
80	72	269	1.29	
100	70	246	1.43	
120	70	223	1.43	
140	69	200	1.50	
160	71	177	1.36	
180	73	154	1.21	
200	73	131	1.21	
220	74	109	1.14	
240	76	86	1.00	
260	77	63	0.93	
280	76	40	1.00	
300	75	17	1.07	



Note: Cells coloured yellow are inputs.

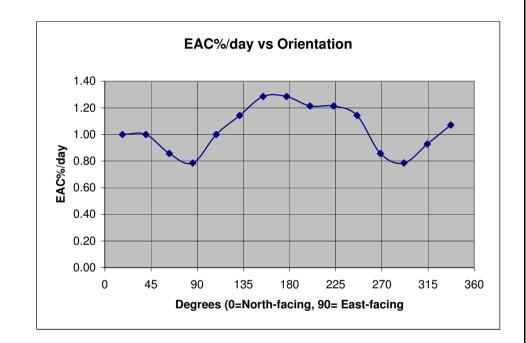
The rest are either constants or calculated values.



## **Gauge Number - East location 907BRI**

Sticky Pad Data

Ottoky i da	Dutu			
Date On	20/08/2010	Date Off	03/09/2010	Days = 14
Clean =	90			
X Axis mm	Meter	Angle deg	EAC%/day	
20	75	337	1.07	
40	77	314	0.93	
60	79	291	0.79	
80	78	269	0.86	
100	74	246	1.14	
120	73	223	1.21	
140	73	200	1.21	
160	72	177	1.29	
180	72	154	1.29	
200	74	131	1.14	
220	76	109	1.00	
240	79	86	0.79	
260	78	63	0.86	
280	76	40	1.00	
300	76	17	1.00	



Note: Cells coloured yellow are inputs.

The rest are either constants or calculated values.

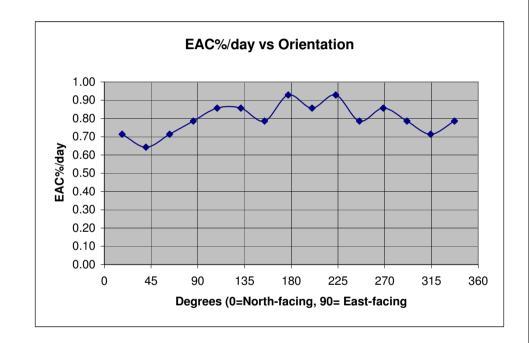


# **Sticky Pad Data**

## **Gauge Number - North location 907BRI**

Sticky Pad Data

Ottoky i da	Dutu			
Date On	03/09/2010	Date Off	17/09/2010	Days = 14
Clean =	90			
X Axis mm	Meter	Angle deg	EAC%/day	
20	79	337	0.79	
40	80	314	0.71	
60	79	291	0.79	
80	78	269	0.86	
100	79	246	0.79	
120	77	223	0.93	
140	78	200	0.86	
160	77	177	0.93	
180	79	154	0.79	
200	78	131	0.86	
220	78	109	0.86	
240	79	86	0.79	
260	80	63	0.71	
280	81	40	0.64	
300	80	17	0.71	



Note: Cells coloured yellow are inputs.

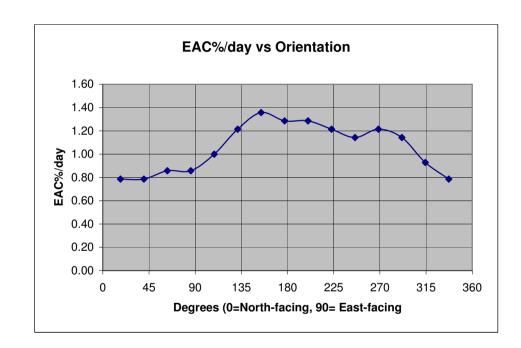
The rest are either constants or calculated values.



## **Gauge Number - NE1 location 907BRI**

Sticky Pad Data

Slicky Pau	Dala				
Date On	03/09/2010	Date Off	17/09/2010	Days =	14
Clean =	90				
X Axis mm	Meter	Angle deg	EAC%/day		
20	79	337	0.79		
40	77	314	0.93		
60	74	291	1.14		
80	73	269	1.21		
100	74	246	1.14		
120	73	223	1.21		
140	72	200	1.29		
160	72	177	1.29		
180	71	154	1.36		
200	73	131	1.21		
220	76	109	1.00		
240	78	86	0.86		
260	78	63	0.86		
280	79	40	0.79		
300	79	17	0.79		



Note: Cells coloured yellow are inputs.

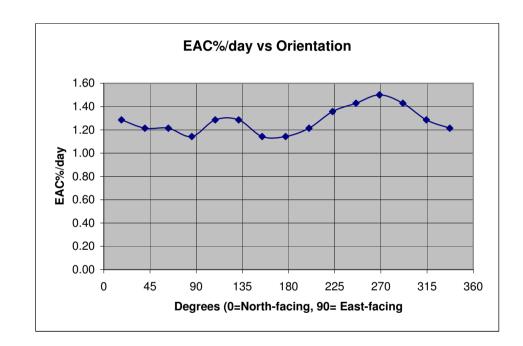
The rest are either constants or calculated values.



## **Gauge Number - NE2 location 907BRI**

Sticky Pad Data

Sticky Fau Data									
Date On	03/09/2010	Date Off	17/09/2010	Days = 14					
Clean =	90								
X Axis mm	Meter	Angle deg	EAC%/day						
20	73	337	1.21						
40	72	314	1.29						
60	70	291	1.43						
80	69	269	1.50						
100	70	246	1.43						
120	71	223	1.36						
140	73	200	1.21						
160	74	177	1.14						
180	74	154	1.14						
200	72	131	1.29						
220	72	109	1.29						
240	74	86	1.14						
260	73	63	1.21						
280	73	40	1.21						
300	72	17	1.29						



Note: Cells coloured yellow are inputs.

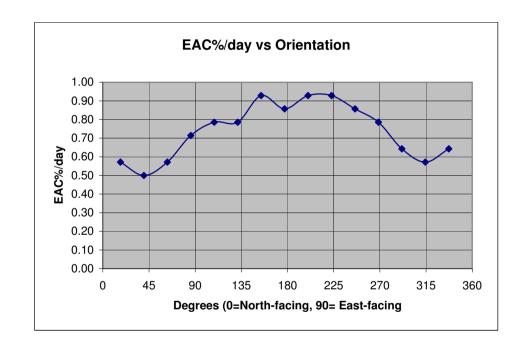
The rest are either constants or calculated values.



## **Gauge Number - South location 907BRI**

Sticky Pad Data

Slicky Fau	Data			
Date On	03/09/2010	Date Off	17/09/2010	Days = 14
Clean =	90			
X Axis mm	Meter	Angle deg	EAC%/day	
20	81	337	0.64	
40	82	314	0.57	
60	81	291	0.64	
80	79	269	0.79	
100	78	246	0.86	
120	77	223	0.93	
140	77	200	0.93	
160	78	177	0.86	
180	77	154	0.93	
200	79	131	0.79	
220	79	109	0.79	
240	80	86	0.71	
260	82	63	0.57	
280	83	40	0.50	
300	82	17	0.57	



Note: Cells coloured yellow are inputs.

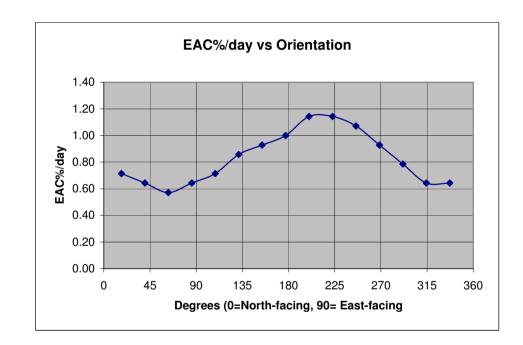
The rest are either constants or calculated values.



## **Gauge Number - West location 907BRI**

Sticky Pad Data

Slicky Fau	Data			
Date On	03/09/2010	Date Off	17/09/2010	Days = 14
Clean =	90			
X Axis mm	Meter	Angle deg	EAC%/day	
20	81	337	0.64	
40	81	314	0.64	
60	79	291	0.79	
80	77	269	0.93	
100	75	246	1.07	
120	74	223	1.14	
140	74	200	1.14	
160	76	177	1.00	
180	77	154	0.93	
200	78	131	0.86	
220	80	109	0.71	
240	81	86	0.64	
260	82	63	0.57	
280	81	40	0.64	
300	80	17	0.71	



Note: Cells coloured yellow are inputs.

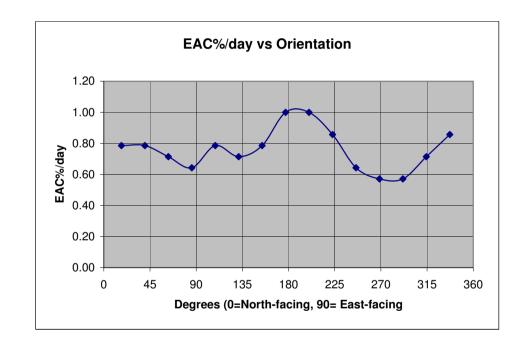
The rest are either constants or calculated values.



## **Gauge Number - East location 907BRI**

Sticky Pad Data

Slicky Fau	Data			
Date On	03/09/2010	Date Off	17/09/2010	Days = 14
Clean =	90			
X Axis mm	Meter	Angle deg	EAC%/day	
20	78	337	0.86	
40	80	314	0.71	
60	82	291	0.57	
80	82	269	0.57	
100	81	246	0.64	
120	78	223	0.86	
140	76	200	1.00	
160	76	177	1.00	
180	79	154	0.79	
200	80	131	0.71	
220	79	109	0.79	
240	81	86	0.64	
260	80	63	0.71	
280	79	40	0.79	
300	79	17	0.79	



Note: Cells coloured yellow are inputs.

The rest are either constants or calculated values.



Appendix E Groundwater Level Data

Former Bayer Cropscience Site Groundwater and surface water levels

Date	BH6/06	S3/4	BH4	P67**	BH19	BH10B/06	BH9	S1/8	BH11*	S2/6	BH1/06	BH3/06	BH8/06	BHB1	BHB2	BHB3	W1 (n)	W2	W3 (s)	Riddy 1	Riddy 2	Riddy 3	Riddy 4
31/08/2010	10.12	10.59	10.834	Blocked	Lost	10.481	10.509	9.834	9.713	10.683	Lost	covered	covered	10.08	Lost	Lost	10.41	10.36	10.39	9.209	9.294	9.550	9.649
01/09/2010	10.14	10.58	10.794	Blocked	Lost	10.521	10.499	9.844	9.723	10.673	Lost	covered	covered	10.03	Lost	Lost	10.4	10.34	10.37	9.199	9.294	9.550	9.649
02/09/2010	10.15	10.58	10.744	Blocked	Lost	10.591	10.499	9.824	9.733	10.643	Lost	covered	covered	10	Lost	Lost	10.39	10.34	10.36	9.199	9.294	9.550	9.649
03/09/2010	10.14	10.58	10.734	Blocked	Lost	10.611	10.489	9.814	9.723	10.623	Lost	covered	covered	9.97	Lost	Lost	10.36	10.3	10.35	9.209	9.304	9.550	9.649
06/09/2010	10.17	10.59	10.704	Blocked	Lost	10.661	10.499	9.824	9.763	10.613	Lost	covered	covered	9.96	Lost	Lost	10.34	10.25	10.33	9.209	9.294	9.550	9.649
07/09/2010	10.27	10.59	10.694	Blocked	Lost	10.731	10.529	9.864	9.753	10.593	Lost	covered	covered	9.93	Lost	Lost	10.33	10.24	10.31	9.209	9.304	9.550	9.649
08/09/2010	10.27	10.6	10.694	Blocked	Lost	10.701	10.499	9.864	9.733	10.603	Lost	covered	covered	9.95	Lost	Lost	10.32	10.24	10.3	9.209	9.294	9.550	9.649
09/09/2010	10.28	10.59	10.684	Blocked	Lost	10.671	10.489	9.854	9.723	10.593	Lost	covered	covered	9.96	Lost	Lost	10.32	10.24	10.3	9.199	9.294	9.550	9.649
10/09/2010		10.6	10.684	Blocked	Lost	10.661	10.489	9.864	9.693	10.593	Lost	covered	covered	9.98	Lost	Lost	10.3	10.23	10.3	9.199	9.294	9.550	9.649
13/09/2010	10.31	10.6	10.684	Blocked	Lost	10.591	10.489	9.854	9.663	10.603	Lost	covered	covered	9.99	Lost	Lost	10.29	10.23	10.26	9.199	9.294	9.550	9.639
14/09/2010	10.31	10.6	10.674	Blocked	Lost	10.541	10.469	9.854	9.653	10.603	Lost	covered	covered	9.99	Lost	Lost	10.28	10.22	10.25	9.199	9.284	9.540	9.639
15/09/2010	10.32	10.59	10.664	Blocked	Lost	10.541	10.479	9.844	9.653	10.583	Lost	covered	covered	10	Lost	Lost	10.27	10.22	10.26	9.199	9.284	9.540	9.639
16/09/2010		10.59	10.644	Blocked	Lost	10.521	10.479	9.834	9.653	10.583	Lost	covered	covered	10	Lost	Lost	10.26	10.23	10.26	9.199	9.284	9.540	9.649
17/09/2010	10.31	10.59	10.634	Blocked	Lost	10.511	10.479	9.824	9.653	10.593	Lost	covered	covered	9.99	Lost	Lost	10.27	10.22	10.26	9.199	9.284	9.550	9.639
20/09/2010	10.31	10.58	10.644	Blocked	Lost	10.511	10.469	9.834	9.663	10.573	Lost	covered	covered	9.99	Lost	Lost	10.29	10.25	10.3	9.199	9.294	9.540	9.649
21/09/2010		10.59	10.614	Blocked	Lost	10.491	10.449	9.804	9.653	10.543	Lost	covered	covered	9.96	Lost	Lost	10.26	10.24	10.27	9.209	9.304	9.550	9.639
22/09/2010	10.26	10.59	10.564	Blocked	Lost	10.471	10.459	9.794	9.663	10.533	Lost	covered	covered	9.94	Lost	Lost	10.26	10.23	10.25	9.199	9.294	9.540	9.649
23/09/2010	10.26	10.58	10.544	Blocked	Lost	10.451	10.459	9.784	9.663	10.513	Lost	covered	covered	9.92	Lost	Lost	10.25	10.21	10.25	9.199	9.294	9.540	9.639
24/09/2010	10.26	10.58	10.514	Blocked	Lost	10.441	10.459	9.784	9.653	10.503	Lost	covered	covered	9.9	Lost	Lost	10.24	10.21	10.24	9.199	9.294	9.550	9.649
27/09/2010	10.24	10.59	10.484	Blocked	Lost	10.421		Silted up	9.653	10.483	Lost	covered	covered	9.86	Lost	Lost	10.24	10.19	10.22	9.209	9.304	9.550	9.649
28/09/2010	10.24	10.59	10.474	Blocked	Lost	10.421	10.469	Silted up	9.653	10.473	Lost	covered	covered	9.84	Lost	Lost	10.24	10.18	10.23	9.209	9.304	9.550	9.659
29/09/2010	10.23	10.6	10.434	Blocked	Lost	10.421		Silted up	9.663	10.473	Lost	covered	covered	9.83	Lost	Lost	10.23	10.18	10.22	9.199	9.294	9.550	9.649
30/09/2010	10.1	10.59	10.444	Blocked	Lost	10.421	10.459	Silted up	9.653	10.353	Lost	covered	covered	9.82	Lost	Lost	10.22	10.17	10.21	9.199	9.304	9.550	9.649
01/10/2010	10.11	10.6	10.434	Blocked	Lost	10.411	10.449	Silted up	9.653	10.373	Lost	covered	covered	9.81	Lost	Lost	10.2	10.16	10.2	9.199	9.294	9.550	9.639



Appendix F Surface Water Analysis Reports



# Scientific Analysis Laboratories Certificate of Analysis

Hadfield House Hadfield Street Cornbrook Manchester M16 9FE

Tel: 0161 874 2400 Fax: 0161 874 2468

Scientific Analysis Laboratories is a limited company registered in England and Wales (No 2514788) whose address is at Hadfield House, Hadfield Street, Manchester M16 9FE

Report Number: 214723-1

Date of Report: 12-Oct-2010

Customer: VertaseFLI Limited

19 Napier Court
Barlborough Links
Barlborough
S43 4PZ

Customer Contact: The Project Management

Customer Job Reference: 907BRI
Customer Purchase Order: 907BRI
Date Job Received at SAL: 06-Oct-2010
Date Analysis Started: 06-Oct-2010
Date Analysis Completed: 12-Oct-2010

The results reported relate to samples received in the laboratory

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

This report should not be reproduced except in full without the written approval of the laboratory

Tests covered by this certificate were conducted in accordance with SAL SOPs



Report checked and authorised by : Amelia McVennon Project Manager Issued by : Amelia McVennon Project Manager SAL Reference: 214723 Customer Reference: 907BRI

Water Analysed as Water

Vertase Hauxton Suite

			SA	L Reference	214723 001	214723 002	214723 003	214723 004	214723 005	214723 006	214723 007
		Custon	ner Sampl	e Reference	BH8/06	4/06	BH6/06	BH4	BHB1	S2/6	ВН9
	Date Sampled					29-SEP-2010	29-SEP-2010	29-SEP-2010	29-SEP-2010	29-SEP-2010	01-OCT-2010
Determinand	Method	Test Sample	LOD	Units							
Electrical Conductivity	ectrical Conductivity T7 AR 10 µS/cm			μS/cm	900	1200	890	1400	2100	1300	3000
pH	T7	AR			7.4	7.3	7.1	7.0	6.7	7.6	6.8

SAL Reference: 214723
Customer Reference: 907BRI

Water Analysed as Water

Vertase Hauxton Suite

			SA	L Reference	214723 008	214723 009	214723 010	214723 011	214723 012	214723 013	214723 014
		Custon	ner Sampl	e Reference	BH11	S3/4	RIDDY UPSTREAM	CAM UPSTREAM	RIDDY DOWNSTREAM	CAM DOWNSTREAM	BH10B/06
	Date Sampled					01-OCT-2010	01-OCT-2010	01-OCT-2010	01-OCT-2010	01-OCT-2010	01-OCT-2010
Determinand	Determinand Method Test Sample LOD Units				174						
Electrical Conductivity	I Conductivity T7 AR 10 μS/cm			μS/cm	480	4600	820	790	800	800	1700
На	T7 AR			7.3	6.7	7.8	8.0	7.8	7.9	7.3	

SAL Reference: 214723 Customer Reference: 907BRI

Water Analysed as Water

Vertase Hauxton OP/ON Suite

			SA	L Reference	214723 001	214723 002	214723 003	214723 004	214723 005	214723 006	214723 007
		Custon	ner Sampl	e Reference	BH8/06	4/06	BH6/06	BH4	BHB1	S2/6	ВН9
			Da	ate Sampled	29-SEP-2010	29-SEP-2010	29-SEP-2010	29-SEP-2010	29-SEP-2010	29-SEP-2010	01-OCT-2010
Determinand	Method	Test Sample	LOD	Units					ž.		
Dimefox	T16	AR	0.1	μg/l	0.1	<sup>(9)</sup> <10	<0.1	<sup>(9)</sup> <10	<sup>(9)</sup> <10	<sup>(9)</sup> <10	<0.1
Ethofumesate	T16	AR	0.1	μg/l	63	3000	1.4	680	1200	930	23
Hempa	T16	AR	0.1	μg/l	<0.1	<sup>(9)</sup> <10	<0.1	<sup>(9)</sup> <10	<sup>(9)</sup> <10	<sup>(9)</sup> <10	<0.1
Schradan	T16	AR	0.1	μg/l	4.2	19	<0.1	9.9	<sup>(9)</sup> <10	<sup>(9)</sup> <10	<0.1
Simazine	T16	AR	0.01	μg/l	2.6	7.8	<0.01	2.9	<sup>(9)</sup> <1.0	47	<0.01

SAL Reference: 214723 Customer Reference: 907BRI

Water Analysed as Water

Vertase Hauxton OP/ON Suite

			SA	L Reference	214723 008	214723 009	214723 010	214723 011	214723 012	214723 013	214723 014
		Custor	ner Sampl	e Reference	BH11	S3/4	RIDDY UPSTREAM	CAM UPSTREAM	RIDDY DOWNSTREAM	CAM DOWNSTREAM	BH10B/06
			D	ate Sampled	01-OCT-2010	01-OCT-2010	01-OCT-2010	01-OCT-2010	01-OCT-2010	01-OCT-2010	01-OCT-2010
Determinand	Method	Test Sample	LOD	Units							
Dimefox	T16	AR	0.1	μg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<sup>(9)</sup> <10
Ethofumesate	T16	AR	0.1	μg/l	2.3	1.5	<0.1	<0.1	<0.1	<0.1	4300
Hempa	T16	AR	0.1	μg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<sup>(9)</sup> <10
Schradan	T16	AR	0.1	μg/l	<0.1	47	<0.1	<0.1	<0.1	<0.1	<sup>(9)</sup> <10
Simazine	T16	AR	0.01	μg/l	0.24	<0.01	<0.01	<0.01	<0.01	<0.01	750

SAL Reference: 214723 Customer Reference: 907BRI

Water Analysed as Water

Vertase Hauxton Phenoxy Acid Herbs Suite

			SA	L Reference	214723 001	214723 002	214723 003	214723 004	214723 005	214723 006	214723 007
		Custon	ner Sampl	e Reference	BH8/06	4/06	BH6/06	BH4	BHB1	S2/6	ВН9
			Da	ate Sampled	29-SEP-2010	29-SEP-2010	29-SEP-2010	29-SEP-2010	29-SEP-2010	29-SEP-2010	01-OCT-2010
Determinand	Method	Test Sample	LOD	Units							
Dicamba	T16	AR	0.1	μg/l	0.7	<0.1	<0.1	2.8	5.1	67	0.4
Dichlorprop	T16	AR	0.1	μg/l	0.3	7.2	<0.1	4.8	10	11	0.5
Phenoxy Acetic acid herbicide: MCPA	T16	AR	0.1	μg/l	8.2	6.3	<0.1	<0.1	3.3	<sup>(9)</sup> <1.0	<0.1
Mecoprop	ecoprop T16 AR 0.1 µg/l					22	0.1	88	160	84	140

SAL Reference: 214723 Customer Reference: 907BRI

Water Analysed as Water

Vertase Hauxton Phenoxy Acid Herbs Suite

			SA	L Reference	214723 008	214723 009	214723 010	214723 011	214723 012	214723 013	214723 014
		Custon	ner Sampl	le Reference	BH11	S3/4	RIDDY UPSTREAM	CAM UPSTREAM	RIDDY DOWNSTREA M	CAM DOWNSTREA M	BH10B/06
			D	ate Sampled	01-OCT-2010	01-OCT-2010	01-OCT-2010	01-OCT-2010	01-OCT-2010	01-OCT-2010	01-OCT-2010
Determinand	Method	Test Sample	LOD	Units				8			
Dicamba	T16	AR	0.1	μg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	31
Dichlorprop	T16	AR	0.1	μg/l	<0.1	8.1	<0.1	<0.1	<0.1	<0.1	75
Phenoxy Acetic acid herbicide: MCPA	T16	AR	0.1	μg/l	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<sup>(9)</sup> <1.0
Mecoprop	ορτορ T16 AR 0.1 μg/l					71	<0.1	<0.1	<0.1	<0.1	490

SAL Reference: 214723 Customer Reference: 907BRI

Water Analysed as Water

Vertase Hauxton SVOC Suite

			SA	L Reference	214723 001	214723 002	214723 003	214723 004	214723 005	214723 006	214723 007
		Custon	ner Sampl	e Reference	BH8/06	4/06	BH6/06	BH4	BHB1	S2/6	ВН9
			Da	ate Sampled	29-SEP-2010	29-SEP-2010	29-SEP-2010	29-SEP-2010	29-SEP-2010	29-SEP-2010	01-OCT-2010
Determinand	Method	Test Sample	LOD	Units			K. Olds	Service Services			
2,4,6-Trichlorophenol	T16	AR	10	μg/l	<10	10	<10	10	<10	40	<10
2-Methyl-4,6-dinitrophenol	T16	AR	10	μg/l	<10	<10	<10	20	<10	<10	<10
4-Chloro-2-methylphenol	T16	AR	10	μg/l	<10	120	<10	640	1200	<10	<10
Bis (2-chloroethyl) ether	T16	AR	10	μg/l	<10	1800	<10	150	290	<10	1200
Phenol	T16	AR	10	μg/l	(162) < 50	(162) <50	(162) <50	(162) < 50	(162) < 50	(162) < 50	(162) < 50

SAL Reference: 214723 Customer Reference: 907BRI

Water Analysed as Water

Vertase Hauxton SVOC Suite

			SA	L Reference	214723 008	214723 009	214723 010	214723 011	214723 012	214723 013	214723 014
		Custor	ner Sampl	e Reference	BH11	S3/4	RIDDY UPSTREAM	CAM UPSTREAM	RIDDY DOWNSTREAM	CAM DOWNSTREAM	BH10B/06
			D	ate Sampled	01-OCT-2010	01-OCT-2010	01-OCT-2010	01-OCT-2010	01-OCT-2010	01-OCT-2010	01-OCT-2010
Determinand	Method	Test Sample	LOD	Units							
2,4,6-Trichlorophenol	T16	AR	10	μg/l	<10	<10	<10	<10	<10	<10	520
2-Methyl-4,6-dinitrophenol	T16	AR	10	μg/l	<10	<10	<10	<10	<10	<10	90
4-Chloro-2-methylphenol	T16	AR	10	μg/l	<10	<10	<10	<10	<10	<10	120
Bis (2-chloroethyl) ether	T16	AR	10	μg/l	<10	3600	<10	<10	<10	<10	30
Phenol	T16	AR	10	μg/l	(162) <50	(162) <50	(162) < 50	<sup>(162)</sup> <50	(162) < 50	(162) < 50	(162) < 50

SAL Reference: 214723 Customer Reference: 907BRI

Water Analysed as Water

Vertase Hauxton VOC Suite

			SA	L Reference	214723 001	214723 002	214723 003	214723 004	214723 005	214723 006	214723 007
		Custon	ner Sampl	e Reference	BH8/06	4/06	BH6/06	BH4	BHB1	S2/6	ВН9
			Da	ate Sampled	29-SEP-2010	29-SEP-2010	29-SEP-2010	29-SEP-2010	29-SEP-2010	29-SEP-2010	01-OCT-2010
Determinand	Method	Test Sample	LOD	Units							
1,2-Dichlorobenzene	T54	AR	1	μg/l	3	33	<1	2	2	<1	<1
1,2-Dichloroethane	T54	AR	1	μg/l	<sup>(13)</sup> <1	<sup>(13)</sup> <1	<sup>(13)</sup> <1	(13) 7	<sup>(13)</sup> 16	<sup>(13)</sup> <1	<sup>(13)</sup> <1
Cis-1,2-Dichloroethylene	T54	AR	1	μg/l	<1	<1	<1	570	1100	<1	3
Cyclohexanone	T54	AR	10	μg/l	<10	<10	<10	<10	<10	<10	<10
Tetrachloroethylene	T54	AR	1	μg/l	29	<1	2	9	5	10	<1
Toluene	T54	AR	1	μg/l	<1	<sup>(19)</sup> 16000	1	17	27	14	<1
Trichloroethylene	T54	AR	1	μg/l	3	<1	<1	<1	6	5	<1
Vinyl chloride	T54	AR	1	μg/l	<1	<1	<1	110	370	<1	1
Xylene (Total)	T54	AR	1	μg/l	2	<sup>(19)</sup> 1100	<1	56	530	<1	<1

SAL Reference: 214723 Customer Reference: 907BRI

Water Analysed as Water

Vertase Hauxton VOC Suite

			SA	L Reference	214723 008	214723 009	214723 010	214723 011	214723 012	214723 013	214723 014
		Custon	ner Sampl	e Reference	BH11	S3/4	RIDDY UPSTREAM	CAM UPSTREAM	RIDDY DOWNSTREAM	CAM DOWNSTREAM	BH10B/06
			Da	ate Sampled	01-OCT-2010	01-OCT-2010	01-OCT-2010	01-OCT-2010	01-OCT-2010	01-OCT-2010	01-OCT-2010
Determinand	Method	Test Sample	LOD	Units							
1,2-Dichlorobenzene	T54	AR	1	μg/l	<1	<1	<1	<1	<1	<1	2
1,2-Dichloroethane	T54	AR	1	μg/l	(13) <1	(13) <1	(13) <1	(13) <1	(13) <1	<sup>(13)</sup> <1	<sup>(13)</sup> <1
Cis-1,2-Dichloroethylene	T54	AR	1	μg/l	<1	<1	<1	<1	3	<1	75
Cyclohexanone	T54	AR	10	μg/l	<10	<10	<10	<10	<10	<10	<10
Tetrachloroethylene	T54	AR	1	μg/l	<1	<1	2	2	2	2	15
Toluene	T54	AR	1	μg/l	<1	63	<1	<1	<1	<1	7
Trichloroethylene	T54	AR	1	μg/l	<1	<1	<1	<1	3	<1	14
Vinyl chloride	T54	AR	1	μg/l	<1	<1	<1	<1	<1	<1	17
Xylene (Total)	T54	ΔR	1	ug/l	-1	63	-1	<i>z</i> 1	-1	<i>c</i> 1	2

## Index to symbols used in 214723-1

	The state of the s
Value	Description
AR	As Received
9	LOD raised due to dilution of sample
19	Due to high levels the analysis was conducted on a diluted sample
13	Results have been blank corrected.
162	LOD determined by matrix spike recovery
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

#### **Method Index**

Value	Description
T7	Probe
T16	GC/MS
T54	GC/MS (Headspace)

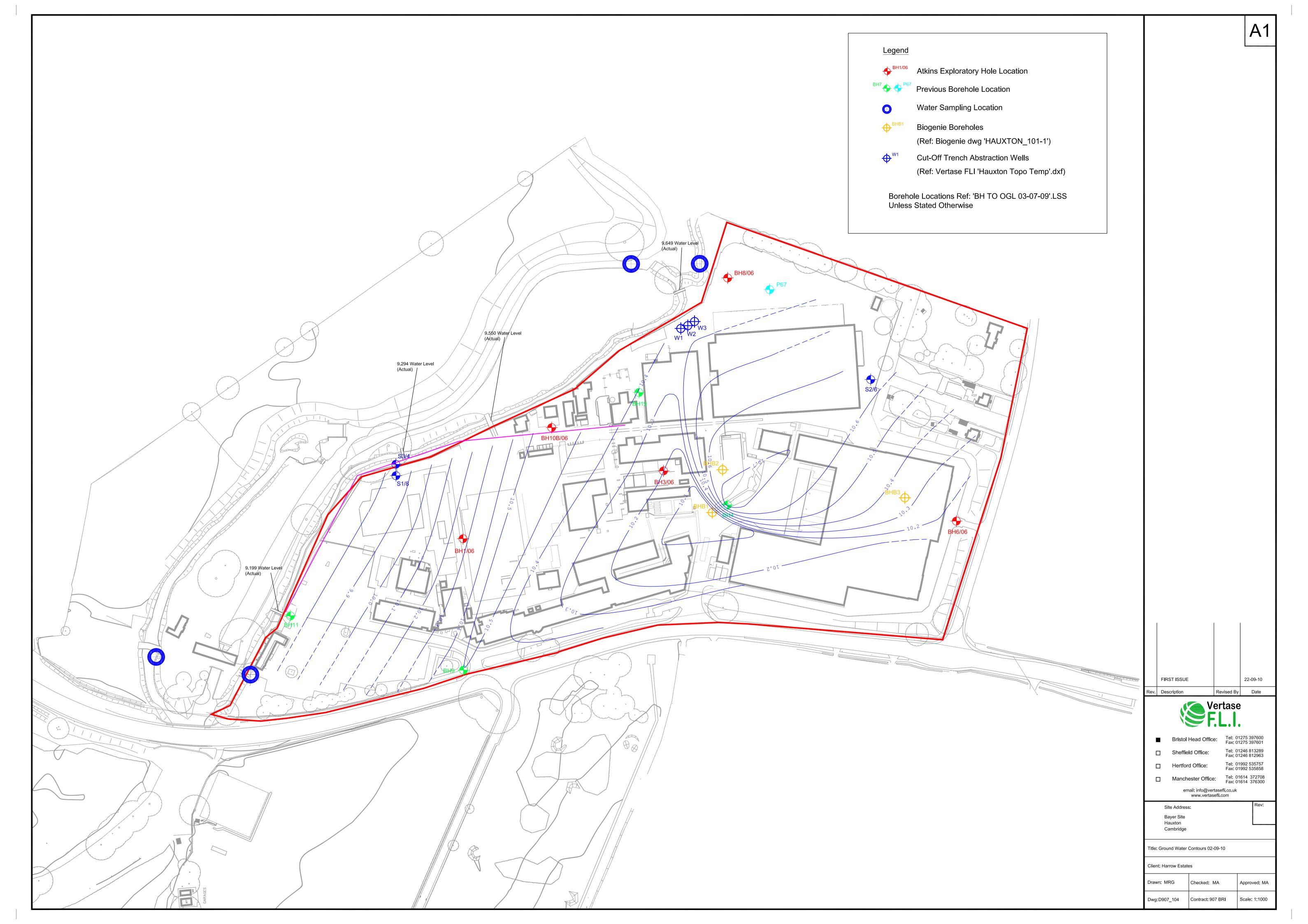
#### **Accreditation Summary**

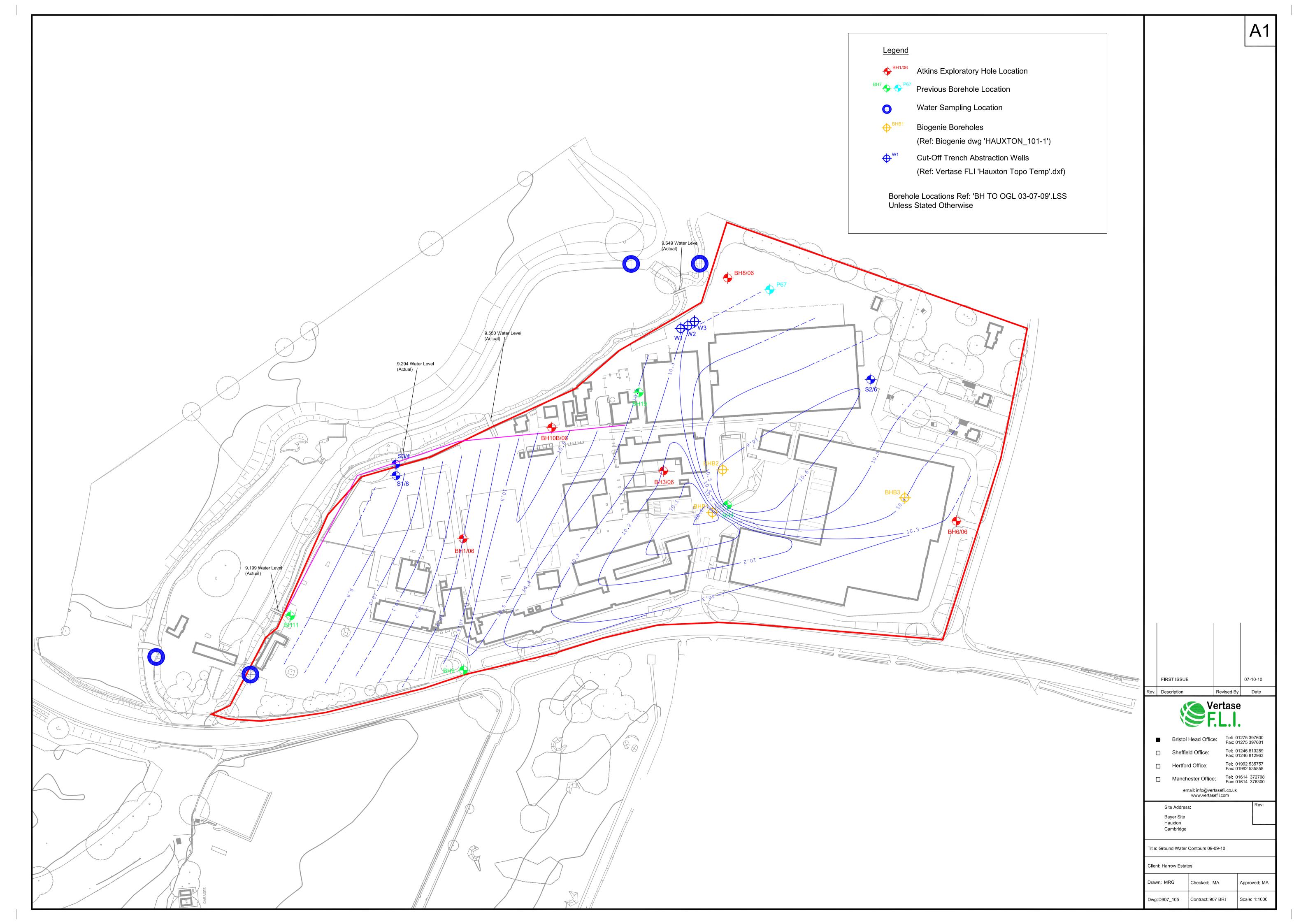
Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Electrical Conductivity	T7	AR	10	μS/cm	N	001-014
pH	T7	AR			U	001-014
Dimefox	T16	AR	0.1	μg/l	N	001-014
Ethofumesate	T16	AR	0.1	μg/l	N	001-014

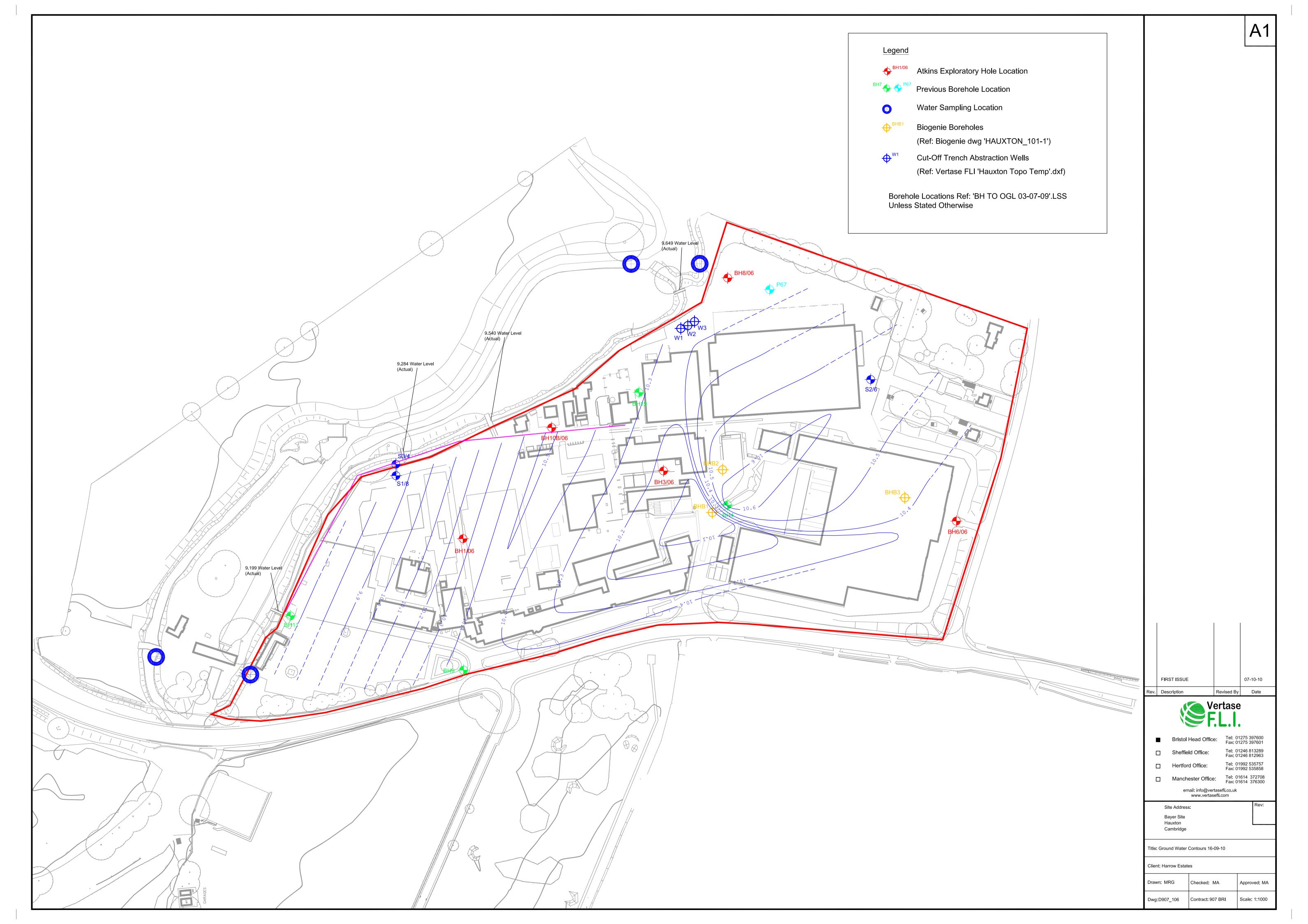
Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Hempa	T16	AR	0.1	μg/l	N	001-014
Schradan	T16	AR	0.1	μg/l	N	001-014
Simazine	T16	AR	0.01	μg/l	N	001-014
Dicamba	T16	AR	0.1	μg/l	N	001-014
Dichlorprop	T16	AR	0.1	μg/l	N	001-014
Phenoxy Acetic acid herbicide: MCPA	T16	AR	0.1	μg/l	N	001-014
Mecoprop	T16	AR	0.1	μg/l	N	001-014
2,4,6-Trichlorophenol	T16	AR	10	μg/l	U	001-014
2-Methyl-4,6-dinitrophenol	T16	AR	10	μg/l	N	001-014
4-Chloro-2-methylphenol	T16	AR	10	μg/l	N	001-014
Bis (2-chloroethyl) ether	T16	AR	10	μg/l	U	001-014
Phenol	T16	AR	10	μg/l	U	001-014
1,2-Dichlorobenzene	T54	AR	1	μg/l	U	001-014
1,2-Dichloroethane	T54	AR	1	μg/l	U	001-014
Cis-1,2-Dichloroethylene	T54	AR	1	μg/l	U	001-014
Cyclohexanone	T54	AR	10	μg/l	N	001-014
Tetrachloroethylene	T54	AR	1	μg/l	U	001-014
Toluene	T54	AR	1	μg/l	U	001-014
Trichloroethylene	T54	AR	1	μg/l	U	001-014
Vinyl chloride	T54	AR	1	μg/l	U	001-014
Xylene (Total)	T54	AR	1	μg/l	U	001-014

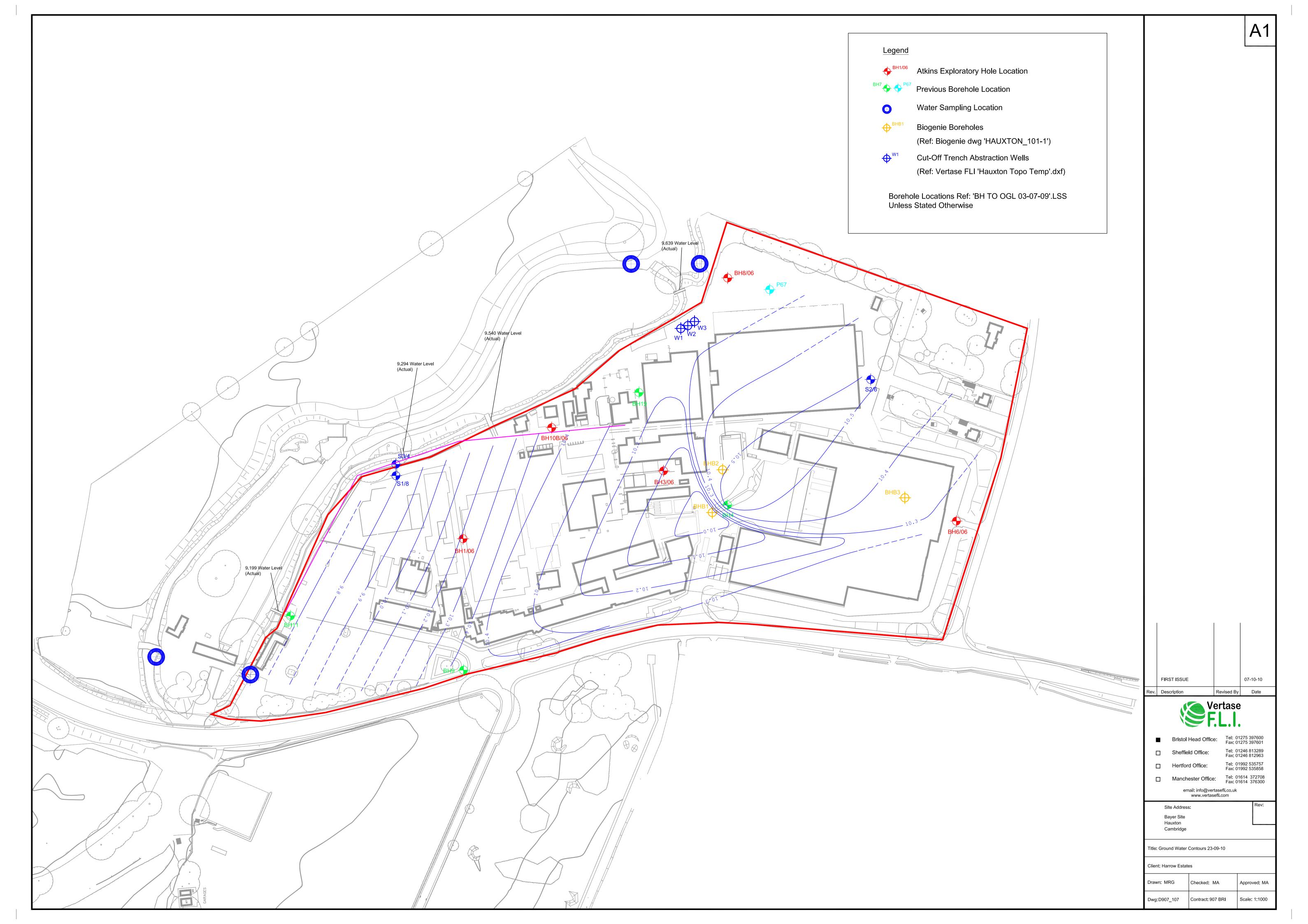


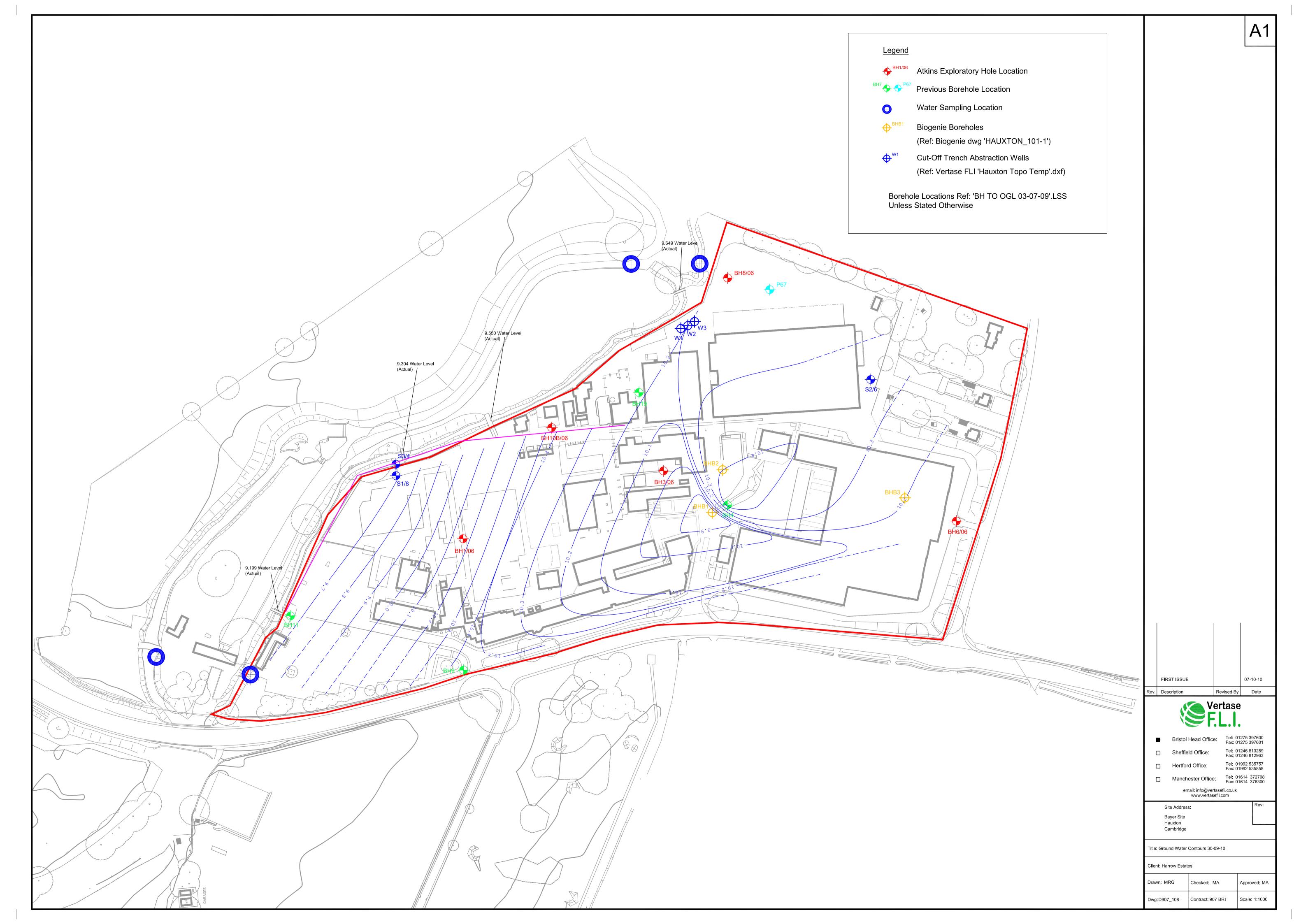
Appendix G
Groundwater Contour Plots













Appendix H
Waste Water Treatment Plant Discharge Analysis



# Scientific Analysis Laboratories Certificate of Analysis

Hadfield House Hadfield Street Cornbrook Manchester M16 9FE

Tel: 0161 874 2400 Fax: 0161 874 2468

Scientific Analysis Laboratories is a limited company registered in England and Wales (No 2514788) whose address is at Hadfield House, Hadfield Street, Manchester M16 9FE

Report Number: 211356-1

Date of Report: 09-Sep-2010

Customer: VertaseFLI Limited

19 Napier Court
Barlborough Links
Barlborough
S43 4PZ

Customer Contact: The Project Management

Customer Job Reference: 907BRI WWTW
Customer Purchase Order: 907BRI WWTW
Date Job Received at SAL: 02-Sep-2010
Date Analysis Started: 03-Sep-2010
Date Analysis Completed: 09-Sep-2010

The results reported relate to samples received in the laboratory

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

This report should not be reproduced except in full without the written approval of the laboratory

Tests covered by this certificate were conducted in accordance with SAL SOPs



Report checked and authorised by : Amelia McVennon Project Manager Issued by : Amelia McVennon Project Manager SAL Reference: 211356
Customer Reference: 907BRI WWTW

Water Analysed as Water

Miscellaneous

		211356 001	211356 002							
		WWTW PRIMARY B WWTW DISCH								
Date Sampled 26-AUG-2010 26-AUG-2010										
Determinand	Method	Test Sample	LOD	Units						
Ammoniacal nitrogen	T4	AR	50	μg/l	80	<50				
Biochemical Oxygen Demand	T7	AR	3000	μg/l	6400	5000				
pН	T7	AR			8.1	8.1				

SAL Reference: 211356
Customer Reference: 907BRI WWTW

Water Analysed as Water

Suite A

			211356 001	211356 002		
		WWTW PRIMARY B	WWTW DISCHARGE			
		26-AUG-2010	26-AUG-2010			
Determinand	Method	Test Sample	LOD	Units		
Atrazine	T16	AR	0.01	μg/l	<0.01	<0.01
Trietazine	T16	AR	0.01	μg/l	<0.01	<0.01

SAL Reference: 211356

Customer Reference: 907BRI WWTW

Water Analysed as Water

Suite B

		211356 001	211356 002			
		WWTW PRIMARY B	WWTW DISCHARGE			
		26-AUG-2010	26-AUG-2010			
Determinand	Method	Test Sample	LOD	Units		
Benazolin	T16	AR	0.1	μg/l	<0.1	<0.1
2,3,6-TCB	T16	AR	0.1	μg/l	4.4	<0.1

SAL Reference: 211356
Customer Reference: 907BRI WWTW

Water Analysed as Water

Suite C

		e Reference	WWTW PRIMARY B	WWTW DISCHARGE		
		26-AUG-2010	26-AUG-2010			
Determinand	Method					
Bromide	T253	AR	100	μg/l	2800	2600
Chloride	T253	AR	200	μg/l	180000	180000
Sulphate ion	T253	AR	100	μg/l	280000	280000
Suspended Solids (Total)	T2	AR	10000	ua/l	<10000	<10000

SAL Reference

211356 001

211356 002

SAL Reference: 211356 Customer Reference: 907BRI WWTW Water Analysed as Water Suite D SAL Reference 211356 001 211356 002 **Customer Sample Reference** WWTW PRIMARY B WWTW DISCHARGE Date Sampled 26-AUG-2010 26-AUG-2010 Test Determinand Method LOD Units Sample T16 Dicamba AR 0.1 <0.1 <0.1 μg/l T16 Hempa AR 0.1 μg/l 18 2.9 T16 Schradan AR 0.1 4.2 <0.1 μg/l Simazine T16 AR 0.01 μg/l <0.01 <0.01

SAL Reference: 211356 Customer Reference: 907BRI WWTW Water Analysed as Water Suite E SAL Reference 211356 001 211356 002 Customer Sample Reference | WWTW PRIMARY B | WWTW DISCHARGE **Date Sampled** 26-AUG-2010 26-AUG-2010 Test Sample Determinand Method LOD TVC at 22°C after 3 days T34 10 cfu/ml AR 10000 10000 TVC at 37°C after 2 days T34 AR 10 cfu/ml 10000 10000

#### Index to symbols used in 211356-1

Value	Description									
AR	As Received									
W	Analysis was performed at another SAL laboratory									
S	Analysis was subcontracted									
U	Analysis is UKAS accredited									
N	Analysis is not UKAS accredited									

#### **Method Index**

Value	Description
T4	Colorimetry
T253	IC(EID299)
T2	Grav
T7	Probe
T16	GC/MS
T34	Micro

#### **Accreditation Summary**

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Ammoniacal nitrogen	T4	AR	50	μg/l	U	001-002
Biochemical Oxygen Demand	T7	AR	3000	μg/l	N	001-002
pH	T7	AR			U	001-002
Atrazine	T16	AR	0.01	μg/l	N	001-002
Trietazine	T16	AR	0.01	μg/l	N	001-002
Benazolin	T16	AR	0.1	μg/l	N	001-002
2,3,6-TCB	T16	AR	0.1	μg/l	N	001-002
Bromide	T253	AR	100	μg/l	WU	001-002
Chloride	T253	AR	200	μg/l	WU	001-002
Sulphate ion	T253	AR	100	μg/l	WU	001-002
Suspended Solids (Total)	T2	AR	10000	μg/l	N	001-002
Dicamba	T16	AR	0.1	μg/l	N	001-002
Hempa	T16	AR	0.1	μg/l	N	001-002
Schradan	T16	AR	0.1	μg/l	N	001-002

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Simazine	T16	AR	0.01	μg/l	N	001-002
TVC at 22°C after 3 days	T34	AR	10	cfu/ml	SN	001-002
TVC at 37°C after 2 days	T34	AR	10	cfu/ml	SN	001-002



#### Water Quality Analysis of Effluent Discharge Sample

														Total Atrazine.					
							Suspended		Biochemical					Trietazine					
						Sulphate	Solids	Ammoniacal	Oxygen					and					
				Bromide	Chloride	Ion	(Total)	Nitrogen	Demand	pН	Atrazine	Trietazine	Simazine	Simazine	Benazolin	2,3,6-TBA	Dicamba	Hempa	Schradan
Sample Taken	Report Date	Report Number	Sample Location	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l		μg/l	μg/l	μg/l	ug/l	μg/l	μg/l	μg/l	μg/l	μg/l
	Cons	ented Levels		50	3000	5000	45	15	30	na	To	otal of all th	ree	250	50	20	50	274	135
01/03/2010			Discharge Point	0.30	84.00	150.00	<10	< 0.05	<3	8.4	<0.02	0.07	<0.01	0.07	<0.1	0.40	<0.1	<0.1	<0.1
30/03/2010			Discharge Point	0.40	110.00	180.00	<10	<0.05	<3	8.7	<0.01	<0.01	<0.01	0.00	<0.1	0.30	<0.1	0.40	<0.1
08/04/2010			T99 Circ	<1.0	110.00	190.00	<10	< 0.05	<3	8.0		<0.01	<0.01	0.00	<0.1	<0.1	<0.1	2.90	0.40
10/04/2010			T100 Circ	<1.0	110.00	190.00	<10	0.05	<3	7.9		0.01	<0.01	0.01	<0.1	<0.1	<0.1	0.90	0.30
12/04/2010			T100 Circ	<1.0	1100.00	200.00	<10	<0.05	<3	8.2		<0.01	<0.01	0.00	<0.1	<0.1	<0.1	1.50	<0.1
28/04/2010			Discharge Point	<1.0	130.00	200.00	<10	< 0.05	<3	8.1	<0.01	<0.01	<0.01	0.00	<0.1	<0.1	<0.1	5.10	1.50
07/05/2010			T99 Discharge	<1.0	110.00	200.00	<10	<0.05	6.60	8.2	<0.01	<0.01	<0.01	0.00	<0.2	3.00	<0.2	3.30	0.60
	01/06/2010		Discharge Point	<1.0	180.00	280.00	<10	0.09	<3	8.0		0.01	<0.01	0.01	0.60	5.20	0.20	6.30	3.80
28/05/2010			Discharge Point	<1.0	130.00	210.00	<10	<0.05	<3	8.1	<0.01	<0.01	<0.01	0.00	<0.1	1.30	<0.1	4.30	1.10
15/06/2010			WTW Discharge	2.7	240.00	320.00	<10	0.05	<3	8.1	<0.01	0.02	<0.01	0.02	<0.1	2.40	0.2	4.10	1.00
01/07/2010			WWTW Discharge	3.3	290.00	370.00	13	0.07	<3	8.1	<0.01	<0.01	<0.01	0.00	<0.1	0.40	<0.1	<0.1	<0.1
05/08/2010			WWTW Discharge	<1.0	160.00	300.00	<10	<0.05	<3	8.0		0.09	0.02	0.13	<0.5	0.40	<0.1	<0.1	<0.1
19/08/2010			WWTW Discharge	<1.0	160.00	260.00	<10	<0.05	<3	7.7	<0.01	<0.01	<0.01	0.00	<0.1	<0.1	<0.1	<0.1	<0.1
01/09/2010			WWTW Discharge	2.6	180.00	280.00	<10	<0.05	5	8.1	<0.01	<0.01	<0.01	0.00	<0.1	<0.1	<0.1	2.9	<0.1
16/09/2010			WWTW Discharge	<1.0	86.00	170.00	<10	0.08	<3	7.9		<0.01	<0.01	0.00	<0.1	<0.1	<0.1	24	3.5
24/09/2010	04/10/2010	213745	WWTW Discharge	<1.0	160.00	340.00	35.00	< 0.05	<3	8.0	<0.01	<0.01	<0.01	0.00	<0.1	<0.1	<0.1	24	0.6



# Scientific Analysis Laboratories Certificate of Analysis

Hadfield House Hadfield Street Cornbrook Manchester M16 9FE

Tel: 0161 874 2400 Fax: 0161 874 2468

Scientific Analysis Laboratories is a limited company registered in England and Wales (No 2514788) whose address is at Hadfield House, Hadfield Street, Manchester M16 9FE

Report Number: 212901-1

Date of Report: 29-Sep-2010

Customer: VertaseFLI Limited

19 Napier Court
Barlborough Links
Barlborough
S43 4PZ

Customer Contact: The Project Management

Customer Job Reference: 907 BRI

Date Job Received at SAL: 17-Sep-2010

Date Analysis Started: 17-Sep-2010

Date Analysis Completed: 29-Sep-2010

The results reported relate to samples received in the laboratory

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

This report should not be reproduced except in full without the written approval of the laboratory

Tests covered by this certificate were conducted in accordance with SAL SOPs



Report checked and authorised by : Amelia McVennon Project Manager Issued by : Amelia McVennon Project Manager SAL Reference: 212901 Customer Reference: 907 BRI

Water Analysed as Water

New Group

			212901 001	212901 002		
		WWTW DISCHARGE	WWTW PRIMARY B			
		10-SEP-2010 10-SEP-201				
Determinand	Method	Test Sample	LOD	Units		
Sample Disposal	T41	AR			-	-

SAL Reference: 212901 Customer Reference: 907 BRI

Water Analysed as Water

Miscellaneous

modenandous											
SAL Reference 212901 001 21290											
Customer Sample Reference   WWTW DISCHARGE   WWTW PRIMA											
Date Sampled 10-SEP-2010											
Determinand	Method	Test Sample	LOD	Units							
Ammoniacal nitrogen	T4	AR	50	μg/l	80	50					
Biochemical Oxygen Demand	T7	AR	3000	μg/l	<3000	<3000					
pН	T7	AR	63		7.9	8.1					

SAL Reference: 212901
Customer Reference: 907 BRI

Water Analysed as Water

Suite A

		212901 001	212901 002			
		WWTW DISCHARGE	WWTW PRIMARY B			
		10-SEP-2010	10-SEP-2010			
Determinand	Method	Test Sample	LOD	Units		
Atrazine	T16	AR	0.01	μg/l	<0.01	<0.01
Trietazine	T16	AR	0.01	µg/l	<0.01	0.33

SAL Reference: 212901 Customer Reference: 907 BRI

Water Analysed as Water

Suite B

		212901 001	212901 002							
		WWTW DISCHARGE	WWTW PRIMARY B							
		10-SEP-2010	10-SEP-2010							
Determinand	Method	_30/								
Benazolin	T16	AR	0.1	μg/l	<0.1	1.1				
2,3,6-TCB	T16	AR	0.1	µq/l	<0.1	33				

SAL Reference: 212901 Customer Reference: 907 BRI

Water Analysed as Water

Suite C

		212901 001	212901 002			
		WWTW DISCHARGE	WWTW PRIMARY B			
			D	ate Sampled	10-SEP-2010	10-SEP-2010
Determinand	Method	Test Sample	LOD	Units		
Bromide	T253	AR	100	μg/l	<sup>(9)</sup> <1000	<sup>(9)</sup> <1000
Chloride	T253	AR	200	μg/l	86000	85000
Sulphate ion	T253	AR	100	μg/l	170000	160000
Suspended Solids (Total)	T2	AR	10000	μg/l	<10000	<10000

SAL Reference: 212901 Customer Reference: 907 BRI

Water Analysed as Water

Suite D

		212901 001	212901 002							
		WWTW DISCHARGE	WWTW PRIMARY B							
		10-SEP-2010	10-SEP-2010							
Determinand	Method	Test Sample	LOD	Units						
Dicamba	T16	AR	0.1	μg/l	<0.1	0.4				
Hempa	T16	AR	0.1	μg/l	24	22				
Schradan	T16	AR	0.1	μg/l	3.5	20				
Simazine	T16	AR	0.01	μg/l	<0.01	<0.01				

SAL Reference: 212901 Customer Reference: 907 BRI Water Analysed as Water Suite E SAL Reference 212901 001 212901 002 Customer Sample Reference | WWTW DISCHARGE | WWTW PRIMARY B **Date Sampled** 10-SEP-2010 10-SEP-2010 Test Sample Determinand LOD TVC at 22°C after 3 days T34 10 3500 cfu/ml AR 10000 TVC at 37°C after 2 days T34 AR 10 cfu/ml 6300 3100

#### Index to symbols used in 212901-1

Value	Description
AR	As Received
9	LOD raised due to dilution of sample
S	Analysis was subcontracted
U	Analysis is UKAS accredited
N	Analysis is not UKAS accredited

#### **Method Index**

Value	Description
T34	Micro
T7	Probe
T16	GC/MS
T41	N/A
T4	Colorimetry
T253	IC(EID299)
T2	Grav

#### **Accreditation Summary**

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Ammoniacal nitrogen	T4	AR	50	μg/l	U	001-002
Biochemical Oxygen Demand	T7	AR	3000	μg/l	N	001-002
pH	T7	AR			U	001-002
Atrazine	T16	AR	0.01	μg/l	N	001-002
Trietazine	T16	AR	0.01	μg/l	N	001-002
Benazolin	T16	AR	0.1	μg/l	N	001-002
2,3,6-TCB	T16	AR	0.1	μg/l	N	001-002
Bromide	T253	AR	100	μg/l	U	001-002
Chloride	T253	AR	200	μg/l	U	001-002
Sulphate ion	T253	AR	100	μg/l	U	001-002
Suspended Solids (Total)	T2	AR	10000	μg/l	N	001-002
Dicamba	T16	AR	0.1	μg/l	N	001-002
Hempa	T16	AR	0.1	μg/l	N	001-002
Schradan	T16	AR	0.1	μg/l	N	001-002

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Simazine	T16	AR	0.01	μg/l	N	001-002
TVC at 22°C after 3 days	T34	AR	10	cfu/ml	SN	001-002
TVC at 37°C after 2 days	T34	AR	10	cfu/ml	SN	001-002
Sample Disposal	T41	AR			N	001-002





# Scientific Analysis Laboratories Certificate of Analysis

Hadfield House Hadfield Street Cornbrook Manchester M16 9FE

Tel: 0161 874 2400 Fax: 0161 874 2468

Scientific Analysis Laboratories is a limited company registered in England and Wales (No 2514788) whose address is at Hadfield House, Hadfield Street, Manchester M16 9FE

Report Number: 213745-1

Date of Report: 04-Oct-2010

Customer: VertaseFLI Limited

19 Napier Court
Barlborough Links
Barlborough
S43 4PZ

Customer Contact: The Project Management

Customer Job Reference: 907BRI WWTW

Date Job Received at SAL: 27-Sep-2010

Date Analysis Started: 27-Sep-2010

Date Analysis Completed: 04-Oct-2010

The results reported relate to samples received in the laboratory

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

This report should not be reproduced except in full without the written approval of the laboratory

Tests covered by this certificate were conducted in accordance with SAL SOPs



Report checked and authorised by : Amelia McVennon Project Manager Issued by : Amelia McVennon Project Manager SAL Reference: 213745
Customer Reference: 907BRI WWTW

Water Analysed as Water

Miscellaneous

SAL Reference 213745 001 213745 002											
Customer Sample Reference WWTW Discharge WWTW Prima											
Date Sampled 23-SEP-2010 23-SEP-2010											
Determinand	Method	Test Sample	LOD	Units							
Ammoniacal nitrogen	T4	AR	50	μg/l	<50	<50					
Biochemical Oxygen Demand	T7	AR	3000	μg/l	<3000	<3000					
pH	T7	AR			8.0	8.1					

SAL Reference: 213745
Customer Reference: 907BRI WWTW

Water Analysed as Water

Suite A

			SA	L Reference	213745 001	213745 002
		WWTW Discharge	WWTW Primary B			
		23-SEP-2010	23-SEP-2010			
Determinand	Method	Test Sample	LOD	Units	LA PORT	
Atrazine	T16	AR	0.01	μg/l	<0.01	<0.01
Trietazine	T16	AR	0.01	ua/l	<0.01	0.30

SAL Reference: 213745 Customer Reference: 907BRI WWTW Water Analysed as Water Suite B SAL Reference 213745 001 213745 002 **Customer Sample Reference WWTW Discharge WWTW Primary B** 23-SEP-2010 Date Sampled 23-SEP-2010 Test Sample Determinand Method LOD Units T16 0.1 2.7 Benazolin AR μg/l <0.1 2,3,6-TCB T16 AR 0.1 <0.1 26 μg/l

SAL Reference: 213745

Customer Reference: 907BRI WWTW

Water Analysed as Water

Suite C

		L Reference	213745 001	213745 002		
	WWTW Discharge	WWTW Primary B				
	23-SEP-2010	23-SEP-2010				
Determinand	Method	Test Sample	LOD			
Bromide	T253	AR	100	μg/l	<sup>(9)</sup> <1000	<sup>(9)</sup> <1000
Chloride	T253	AR	200	μg/l	160000	160000
Sulphate ion	T253	AR	100	μg/l	340000	340000
Suspended Solids (Total)	T2	AR	10000	μg/l	35000	<10000

SAL	SAL Reference:			213745					
Customer	Reference:	907BRI W	907BRI WWTW						
Water Suite D		Analysed	as Water						
			SA	L Reference	213745 001	213745 002			
		Custon	ner Sampl	e Reference	WWTW Discharge	WWTW Primary B			
			Da	ate Sampled	23-SEP-2010	23-SEP-2010			
Determinand	Method	Test Sample	LOD	Units					
Dicamba	T16	AR	0.1	μg/l	<0.1	0.7			
Hempa	T16	AR	0.1	μg/l	24	29			
Schradan	T16	AR	0.1	μg/l	0.6	17			
Simazine	T16	AR	0.01	μg/l	<0.01	<0.01			

SAL Referen	<b>ce</b> : 2137	45					
Customer Referen	<b>ce</b> : 907B	RI WWTW					
Water	Analy	/sed as Wa	ter				
Suite E							
	SAL Reference 213745 001 213745 002						
		Custon	ner Samp	le Reference	WWTW Discharge	WWTW Primary B	
			D	ate Sampled	23-SEP-2010	23-SEP-2010	
Determinand	Method	Test Sample	LOD	Units			
TVC at 22°C after 3 days	T34	AR	10	cfu/ml	6600	34	
TVC at 37°C after 2 days	T34	AR	10	cfu/ml	290	110	

## Index to symbols used in 213745-1

Value	Description
AR	As Received
9	LOD raised due to dilution of sample
W	Analysis was performed at another SAL laboratory
S	Analysis was subcontracted
U	Analysis is UKAS accredited
Ν	Analysis is not UKAS accredited

## **Method Index**

Value	Description
T16	GC/MS
T253	IC(EID299)
T2	Grav
T34	Micro
T4	Colorimetry
T7	Probe

## **Accreditation Summary**

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
Ammoniacal nitrogen	T4	AR	50	μg/l	U	001-002
Biochemical Oxygen Demand	T7	AR	3000	μg/l	N	001-002
рН	T7	AR			U	001-002
Atrazine	T16	AR	0.01	μg/l	N	001-002
Trietazine	T16	AR	0.01	μg/l	N	001-002
Benazolin	T16	AR	0.1	μg/l	N	001-002
2,3,6-TCB	T16	AR	0.1	μg/l	N	001-002
Bromide	T253	AR	100	μg/l	WU	001-002
Chloride	T253	AR	200	μg/l	WU	001-002
Sulphate ion	T253	AR	100	μg/l	WU	001-002
Suspended Solids (Total)	T2	AR	10000	μg/l	N	001-002
Dicamba	T16	AR	0.1	μg/l	N	001-002
Hempa	T16	AR	0.1	μg/l	N	001-002
Schradan	T16	AR	0.1	μg/l	N	001-002
Simazine	T16	AR	0.01	μg/l	N	001-002

Determinand	Method	Test Sample	LOD	Units	Symbol	SAL References
TVC at 22°C after 3 days	T34	AR	10	cfu/ml	SN	001-002
TVC at 37°:C after 2 days	T34	AR	10	cfu/ml	SN	001-002





Appendix I Soil Characterisation Results Summary

Results Received	Reported to SCDC	Grid square	Contaminant	Concentration (µg/kg)	Likely use/origin
12.04.2010	06.05.2010	K15		VOC/SVOC peak	ks detected
12.04.2010	06.05.2010	K16	Series of Aromatic Hydrocarbons circa C <sub>13</sub> -C <sub>16</sub>	17,000	Potential herbicide degradation products. The structrues are smaller and less complex than contaminants of concern and will therefore degrade more readily than the target contaminants and will be captured by the remediation process.
			2(1-methylpropyl)-phenol	10,000	Encountered and assessed during site investigation, not a priority contaminant
			2,6-bis(1-methylpropyl)-phenol	100,000	Commonly used in the manufacture of specialty surfactants used as wetting agents for agrochemicals.
15.04.2010	15.04.2010 06.05.2010 (09.06.2010)	1 116	2,6-bis(1,1-dimethylethyl)-4-(1-methylpropyl)-phenol	6,000	Commonly used as an antioxidant and stabiliser, also used in oils used in industrial applications.
			Unidentified branched aromatic alcohol, C <sub>14</sub>	240,000	Potential herbicide degradation products. The structrues are smaller and less complex
			Unidentified branched aromatic alcohol, C <sub>18</sub>	290,000	than contaminants of concern and will therefore degrade more readily than the target contaminants and will be captured b
			Phenanthrene	4,100	Encountered and assessed during site
15.04.2010	06.05.2010	K14	Fluoranthene	4,800	investigation, concentration below target
10.04.2010	00.00.2010	1014	Pyrene	3,900	value
			Benzo(b/k)Fluoranthene	2,200	
			Dodecanoic acid (Lauric acid), isooctyl ester	2,400	Lauric acid - main acid in coconut oil and palm kernel oil, is non-toxic and safe to handle, is used in many soaps, shampoos and body butters.
07.05.2010	24.05.2010	K9	Unidentified Aliphatic Hydrocarbon circa C <sub>30</sub>	2,300	Potential herbicide degradation products. The structrues are smaller and less complex than contaminants of concern and will therefore degrade more readily than the target contaminants and will be captured by the remediation process.

			2,4-Dichloro-o-cresol	9,000	Potential herbicide degradation product
			Bis(2-ethylhexyl) maleate	3,800	Commonly used as an intermediate in
					hydrogenation or acetylation reactions,
					possibly used in agrochemicals manufacture
			Cyclo octaatomic sulphur	2,800	S <sub>8</sub> is the most common form of sulphur in
				,	the solid state, widely used in insecticide and
					fungicide manufacture
07.05.2010	24.05.2010	L8	Dodecanoic acid (Lauric acid),	7,400	Lauric acid - main acid in coconut oil and
07.00.2010	(09.06.2010)	20	isooctyl ester		palm kernel oil, is non-toxic and safe to
					handle, is used in many soaps, shampoos
					and body butters.
			Unidentified aromatic	8,400	Potential herbicide degradation products.
			hydrocarbon containing O and Cl circa C <sub>7</sub>		The structrues are smaller and less complex than contaminants of concern and will
			circa C <sub>7</sub>		therefore degrade more readily than the
					target contaminants and will be captured by
					the remediation process.
07.05.2010	24.05.2010	L9	Unidentified Aliphatic	2,300	Potential herbicide degradation products.
			Hydrocarbon circa C <sub>30</sub>		The structures are smaller and less complex
					than contaminants of concern and will
					therefore degrade more readily than the
					target contaminants and will be captured by
					the remediation process.
13.05.2010	24.05.2010	H8	No VOC/SVOC peaks detected		
			1,2-bis(2,4,6-	6,900	Potential Prochloraz degradation product
			trichlorophenoxy)ethane	0.400	Te and the
			Prochloraz Unidentified aromatic	9,100	Fungicide
13.05.2010	24.05.2010	H9	hydrocarbon containing Cl circa	9,400	Potential herbicide degradation products.  The structures are smaller and less complex
13.05.2010	(09.06.2010)	ПЭ	C <sub>8</sub>		than contaminants of concern and will
					therefore degrade more readily than the
			Unidentified aromatic amine	2,100	target contaminants and will be captured by
			containing CI circa C <sub>11</sub>		the remediation process.
13.05.2010	24.05.2010	17	No SVOC peaks detected		
			2,4-Dichloro-o-cresol	29,000	
-	-	•	-		

## Contaminants Not Previously Identified

			2,3,6-Trichlorotoluene	47,000	Detection best initially desired define and detection
			1-(2-Chloroethoxy)-2-(o-Tolyloxy)	20,000	Potential herbicide degradation product
	24.05.2010		ethane Unidentified aromatic alcohol	25,000	Detential harbiside degradation products
13.05.2010	(09.06.2010)	19	containing CI circa C <sub>7</sub>	25,000	Potential herbicide degradation products.  The structures are smaller and less complex
	(00.00.2010)		Unidentified aromatic	40.000	than contaminants of concern and will
			hydrocarbon containing O circa	12,000	therefore degrade more readily than the
			C <sub>16-18</sub>		target contaminants and will be captured by
					the remediation process.
13.05.2010	24.05.2010	J7	No VOC/SVOC peaks detected		
20.05.2010	24.05.2010	J8	No VOC/SVOC peaks detected		
26.05.2010		J9	No VOC/SVOC peaks detected		
04.06.2010	16.06.2010 (09.06.2010)	H7	Dichloromethyl phenol	2,100	Same as 2,4-Dichloro-o-cresol (I9)
05.05.2010	16.06.2010	K7	1,2-bis(2,4,6-	2400.0	As for H9
	(09.06.2010)		trichlorophenoxy)ethane		
05.05.2010	16.06.2010	K8	No VOC/SVOC peaks detected		
			2-methyl phenol	5,500	Encountered and assessed during site
18.06.2010	29.06.2010	18			investigation, not a priority contaminant
			1,2-dichlorobenzene	3,600	Contaminant of concern, already included in the standard validation suite
17.06.2010	29.06.2010	K10	2,4-Dichloro-o-cresol	550,000	As for I9 and H7
	(09.06.2010)				
22.06.2010		L10	Cyclo octaatomic sulphur	16,000	As for L8 - Sulphur
			Dichloromethyl phenol	1,800,000	As for 2,4-Dichloro-o-cresol (I9, H7, K10)
			Naphthalene	4,600,000	Encountered and assessed during site
			2-methylnaphthalene	3,900,000	investigation, not a priority contaminant
20.07.2010	21.07.2010	K10 NAPL	1-methylnaphthalene	2,400,000	More toxic than 2-methylnaphthalene, must
			CAS 90-12-0 Dinoseb		be assessed separately
			CAS 88-85-7	68,000,000	2-(1-methylpropyl)-4,6-dinitro- phenol - herbicide and insecticide. Yellow crystalline
			CAS 00-00-7	00,000,000	solid.
			Dichloromethyl phenol	24,000	As for 2,4-Dichloro-o-cresol (I9, H7, K10)
			1-(2-Chloroethoxy)-2-(o-Tolyloxy)		, , ,
			ethane CAS 21120-	13,000	Same as I9
			80-9		

21.07.2010	22.07.2010	J10	1,2,4-Trichlorobenzene Trichlorobenzene	28,000 32,000	Encountered and assessed during site
			2-Chlorotoluene	60,000	investigation, not a priority contaminant
			Trichloro toluene isomer	48,000	Same as I9
			Trichloro benzenamine isomer	11,000	
			2,3-Dichlorotoluene CAS 32768-54-0	290,000	Potential herbicide degradation product
21.07.2010	22.07.2010	L11	Dichloromethyl phenol	5,000	As for 2,4-Dichloro-o-cresol (I9, H7, K10, J10)
			2,4-Dichloro-o-cresol CAS 1570-65-6	10,000	As for I9, H7, K10, J10, L11
28.07.2010	02.08.2010	H10	Trichloro toluene isomers	58,000	Same as I9, J10
26.07.2010	02.06.2010	НІО	Dichlorotoluene isomer	52,000	6 possible isomers, but very little data, using surrogate.
			2-Chlorotoluene	39,000	Encountered and assessed during site
			Trichlorobenzene	350,000	investigation, not a priority contaminant
28.07.2010	02.08.2010	l10	2,4-Dichloro-o-cresol CAS 1570-65-6	5,000	As for I9, H7, K10, J10, L11, H10
20.07.2010	02.00.2010	110	Trichloro toluene isomers	24,000	Same as I9, J10, H10
03.08.2010	04.08.2010	L12	2,4-Dichloro-o-cresol CAS 1570-65-6	7,000	As for I9, H7, K10, J10, L11, H10, I10
03.08.2010	04.08.2010	L13	No VOC/SVOC peaks detected		
03.08.2010	04.08.2010	K12	2,4-Dichloro-o-cresol CAS 1570-65-6	7,000	As for I9, H7, K10, J10, L11, H10, I10, L12
03.08.2010	04.08.2010	K13 sand & gravel	Cyclo octaatomic sulphur	68,000	As for L8, L10 - Sulphur
05.08.2010	N/A	K13 chalk	2,4-Dichloro-o-cresol CAS 1570-65-6	650,000	As for I9, H7, K10, J10, L11, H10, I10, L12, K12
			Trichloro toluene isomers	1,140,000	Same as I9, J10, H10, I10
			1-(2-Chloroethoxy)-2-(o-Tolyloxy) ethane CAS 21120- 80-9	140,000	Same as I9 and J10
			Dichlorotoluene isomer	99,000	Same as J10, H10

			2-Chlorotoluene	12,000	Encountered and assessed during site investigation, not a priority contaminant
05.08.2010	N/A	K11	2,4-Dichloro-o-cresol CAS 1570-65-6	22,000	As for I9, H7, K10, J10, L11, H10, I10, L12, K12, K13
05.08.2010	N/A	J11	2,4-Dichloro-o-cresol CAS 1570-65-6	220,000	As for I9, H7, K10, J10, L11, H10, I10, L12, K12, K13
			Trichloro toluene isomers	376,000	Same as I9, J10, H10, I10, K13
			Dinoseb CAS 88-85-7	90,000	Same as K10
			Dichlorotoluene isomer	18,000	Same as H10, K13
			2-Chlorotoluene	13,000	Encountered and assessed during site investigation, not a priority contaminant
12.08.2010	17.08.2010	J12	2-chloro Benzenemethanol CAS 17849-38-6	620	Potential agrochemical synthesis ingredient - further investigation is required
			2-Chlorobenzalazine CAS 5328-80-3	5,900	
			2,4-Dichloro-o-cresol CAS 1570-65-6	2,000	As for I9, H7, K10, J10, L11, H10, I10, L12, K12, K13, J11
			2(1-methylpropyl)-phenol	610	Encountered and assessed during site investigation, not a priority contaminant
12.08.2010	N/A	J13	2,4-Dichloro-o-cresol CAS 1570-65-6	3,400	As for I9, H7, K10, J10, L11, H10, I10, L12, K12, K13, J11, J12
24.08.2010	25.08.2010	J14	Total Petroleum Hydrocarbons (C5-C12)	43,000	Encountered and assessed during site investigation, not a priority contaminant
			1,3,5-Trimethylbenzene CAS 108-67-8	1,600	Encountered and assessed during site investigation, not a priority contaminant
			1,2,4-Trimethylbenzene CAS 95-63-6	600	
			1,2,3-Trimethylbenzene CAS 526-73-8	700	Isomers encountered and assessed during site investigation, quantitative risk assessment not required
			1-Ethyl-2-Methylbenzene CAS 611-14-3	500	Potential agrochemical synthesis ingredient - further investigation is required
25.08.2010	N/A	l13	1-methylnaphthalene CAS 90-12-0	100	Same as K10NAPL

# Contaminants Not Previously Identified

1			Phenanthrene	200	Encountered and assessed during site
			Fluoranthene	300	investigation, not a priority contaminant
			Pyrene	300	
			Benzo(b/k)Fluoranthene	200	
01.09.2010	N/A	l14	Trichloro methyl benzene (trichloro toluene)	400	Same as I9, J10, H10, I10, K13, J11
01.09.2010	N/A	l15	Dichlorocresol	2600	As for I9, H7, K10, J10, L11, H10, I10, L12, K12, K13, J11, J12
			Dichlorophenoxybutyric acid	6300	Herbicide encountered and assessed during site investigation, similar to MCPA and Mecoprop which are higher risk substances, therefore not a priority contaminant
01.09.2010	N/A	H14	No VOC/SVOC peaks detected		•
01.09.2010	N/A	H15	No VOC/SVOC peaks detected		
03.09.2010	N/A	l11	Dichlorocresol	3,300	As for I9, H7, K10, J10, L11, H10, I10, L12, K12, K13, J11, J12, I15
			Trichloro methyl benzene (trichloro toluene)	1,000	Same as I9, J10, H10, I10, K13, J11, I14
			Prochloraz CAS 67747-09-5	800	Same as H9
03.09.2010	N/A	l12	1-methylnaphthalene CAS 90-12-0	40,000	Same as K10NAPL, I13
			Dibenzofuran	24,000	Encountered and assessed during site
			Phenanthrene	60,000	investigation, not a priority contaminant
			Fluoranthene	29,000	
			Acenaphthene	31,000	
24.09.2010	N/A	J15	Methylpropyl phenol	340	Encountered and assessed during site investigation, not a priority contaminant
24.09.2010	28.09.2010	H13	Oxathiane 4,4-dioxide CAS 107-61-9	220	
	N/A		Trichloro methyl benzene (trichloro toluene)	230	Same as I9, J10, H10, I10, K13, J11, I14, I11
			Dichloromethylphenol	2100	As for I9, H7, K10, J10, L11, H10, I10, L12, K12, K13, J11, J12, I15, I11

# Former Bayer Cropscience Site

# Contaminants Not Previously Identified

			1-(2-Chloroethoxy)-2-(o-Tolyloxy) ethane CAS 21120- 80-9	470	Same as I9, J10, K13
01.10.2010	N/A	H11	No VOC/SVOC peaks detected		
01.10.2010	05.10.2010	H12	Indane CAS 496-11-7	3700000	2-ring hydrocarbon
	N/A		Ethyltoluene (ethyl methyl benzene) isomer	4500000	As J14
			Bis methylpropyl phenol isomer	980000	As J16
			1,3,5-Trimethylbenzene	3900000	Encountered and assessed during site
			1,2,4-Trimethylbenzene	10000000	investigation, not a priority contaminant
			1,2,3-Trimethylbenzene	3100000	