

## Site Details:

Hednesford Hills

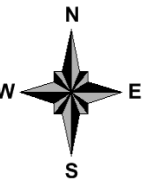
Client Ref: EMS\_127424\_174676  
Report Ref: S EMS-127424\_174676  
Grid Ref: 400733, 312723

Map Name: County Series

Map date: 1902

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1902  
Revised 1902  
Edition NA  
Copyright NA  
Levelled NA



Produced by  
GroundSure Environmental Insight  
[www.groundsure.com](http://www.groundsure.com)

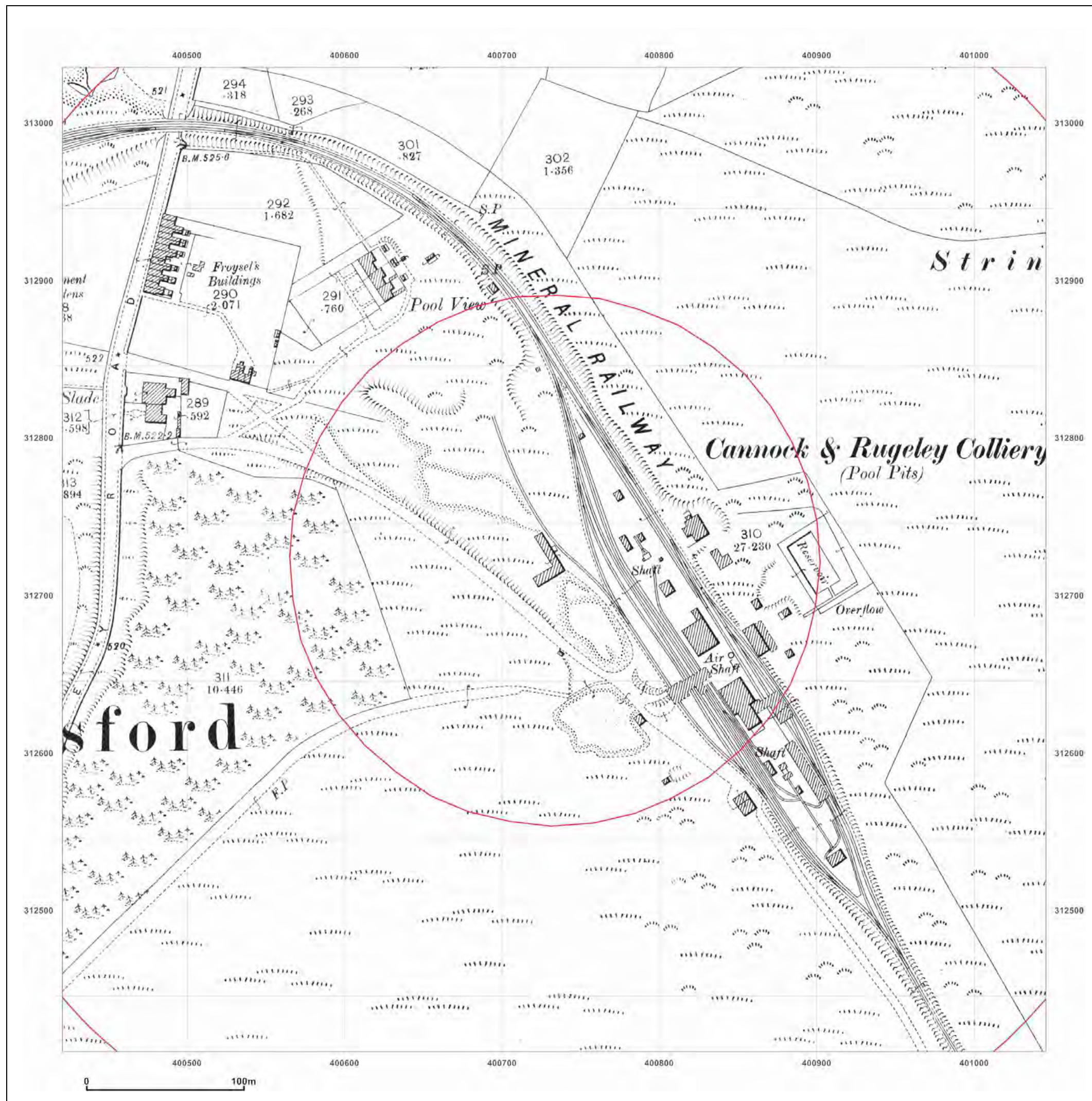


Supplied by:  
[www.emapsite.com](http://www.emapsite.com)  
sales@emapsite.com

Crown copyright all rights reserved. Licence No: 100035207

Production date: 12 May 2011

To view map legend click here [Legend](#)





**Site Details:**

Hednesford Hills

Client Ref: EMS\_127424\_174676  
 Report Ref: S EMS-127424\_174676  
 Grid Ref: 400733, 312723

Map Name: County Series

Map date: 1884

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1884  
 Revised 1884  
 Edition NA  
 Copyright NA  
 Levelled NA

Produced by  
**GroundSure** GroundSure Environmental Insight  
[www.groundsure.com](http://www.groundsure.com)



Supplied by:  
[www.emapsite.com](http://www.emapsite.com)  
 sales@emapsite.com

Crown copyright all rights reserved. Licence No: 100035207

Production date: 12 May 2011

To view map legend click here [Legend](#)





**Site Details:**

Hednesford Hills

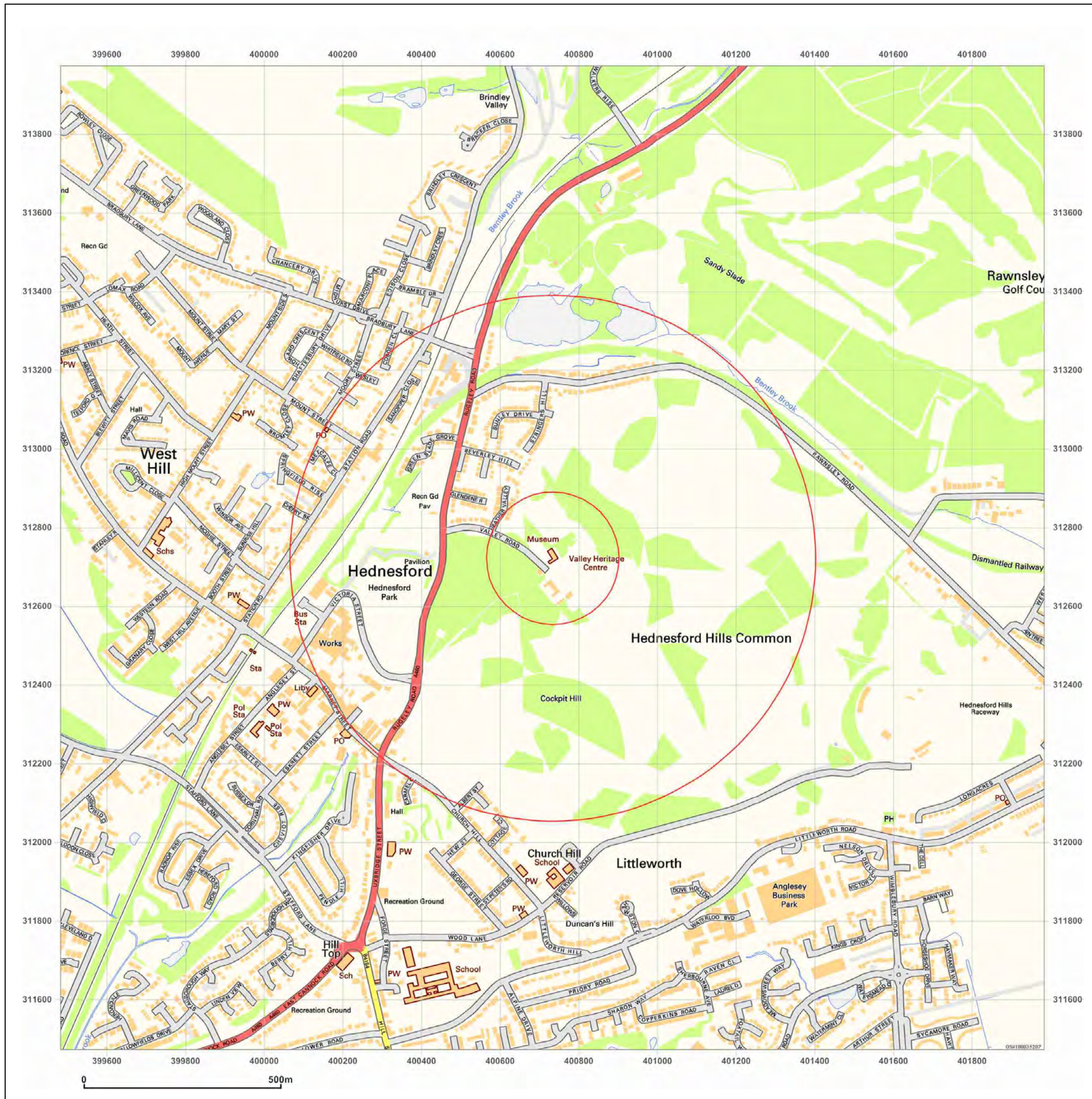
**Client Ref:** EMS\_127424\_174676  
**Report Ref:** S EMS-127424\_174676  
**Grid Ref:** 400733, 312723

**Map Name:** National Grid

**Map date:** 2011

**Scale:** 1:10,000

**Printed at:** 1:10,000



Produced by  
**GroundSure** GroundSure Environmental Insight  
[www.groundsure.com](http://www.groundsure.com)



Supplied by:  
[www.emapsite.com](http://www.emapsite.com)  
 sales@emapsite.com

Crown copyright all rights reserved. Licence No: 100035207

Production date: 12 May 2011

To view map legend click here [Legend](#)



### Site Details:

Hednesford Hills

Client Ref: EMS\_127424\_174676  
Report Ref: S EMS-127424\_174676  
Grid Ref: 400733, 312723

Map Name: 1:10,000 Raster

Map date: 2002

Scale: 1:10,000

Printed at: 1:10,000



Produced by  
GroundSure Environmental Insight  
[www.groundsure.com](http://www.groundsure.com)



Supplied by:  
[www.emapsite.com](http://www.emapsite.com)  
sales@emapsite.com

Crown copyright all rights reserved. Licence No: 100035207

Production date: 12 May 2011

To view map legend click here [Legend](#)

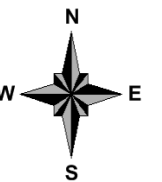




**Site Details:**

Hednesford Hills

**Client Ref:** EMS\_127424\_174676  
**Report Ref:** S EMS-127424\_174676  
**Grid Ref:** 400733, 312723

**Map Name:** National Grid**Map date:** 1993-1994**Scale:** 1:10,000**Printed at:** 1:10,000

Surveyed 1980  
Revised 1993  
Edition NA  
Copyright NA  
Levelled NA

Surveyed 1983  
Revised 1994  
Edition NA  
Copyright NA  
Levelled NA



Produced by  
GroundSure Environmental Insight  
[www.groundsure.com](http://www.groundsure.com)



Supplied by:  
[www.emapsite.com](http://www.emapsite.com)  
sales@emapsite.com

Crown copyright all rights reserved. Licence No: 100035207

Production date: 12 May 2011

To view map legend click here [Legend](#)

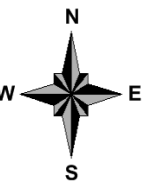




**Site Details:**

Hednesford Hills

**Client Ref:** EMS\_127424\_174676  
**Report Ref:** S EMS-127424\_174676  
**Grid Ref:** 400733, 312723

**Map Name:** National Grid**Map date:** 1981-1985**Scale:** 1:10,000**Printed at:** 1:10,000

Surveyed 1980  
Revised 1981  
Edition NA  
Copyright NA  
Levelled NA

Surveyed 1983  
Revised 1985  
Edition NA  
Copyright NA  
Levelled NA



Produced by  
GroundSure Environmental Insight  
[www.groundsure.com](http://www.groundsure.com)

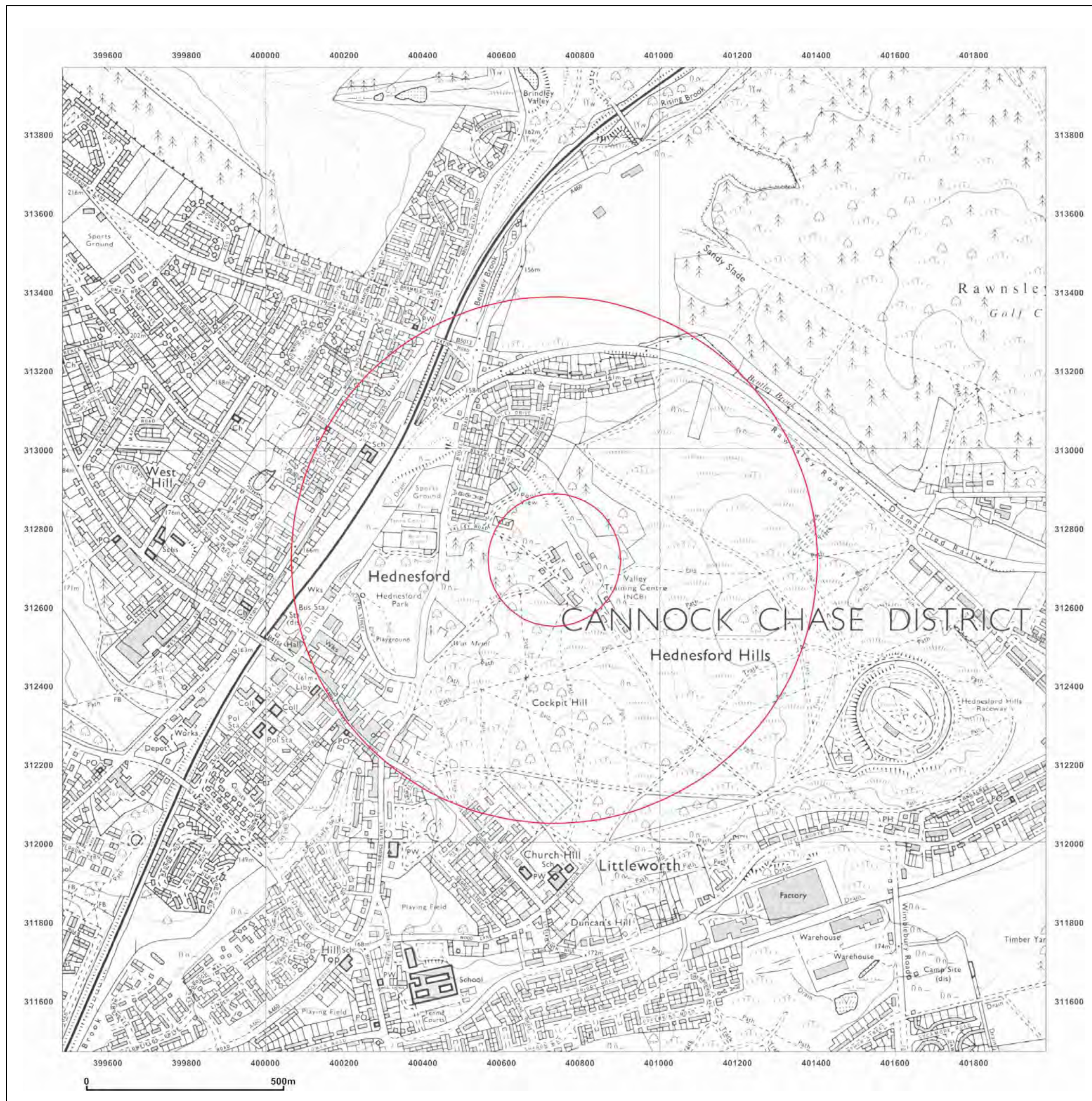


Supplied by:  
[www.emapsite.com](http://www.emapsite.com)  
sales@emapsite.com

Crown copyright all rights reserved. Licence No: 100035207

Production date: 12 May 2011

To view map legend click here [Legend](#)

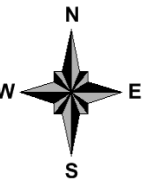




**Site Details:**

Hednesford Hills

**Client Ref:** EMS\_127424\_174676  
**Report Ref:** S EMS-127424\_174676  
**Grid Ref:** 400733, 312723

**Map Name:** National Grid**Map date:** 1975**Scale:** 1:10,000**Printed at:** 1:10,000

Surveyed 1973  
Revised 1975  
Edition NA  
Copyright NA  
Levelled NA

Surveyed 1974  
Revised 1975  
Edition NA  
Copyright NA  
Levelled NA



Produced by  
GroundSure Environmental Insight  
[www.groundsure.com](http://www.groundsure.com)



Supplied by:  
[www.emapsite.com](http://www.emapsite.com)  
sales@emapsite.com

Crown copyright all rights reserved. Licence No: 100035207

Production date: 12 May 2011

To view map legend click here [Legend](#)

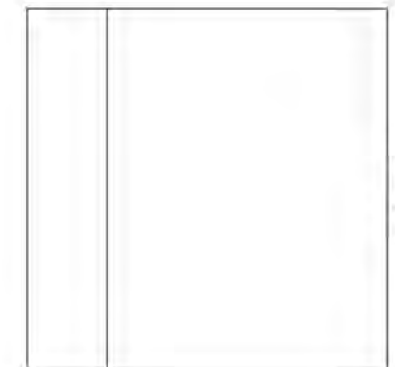
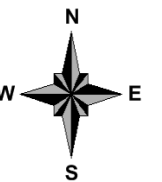




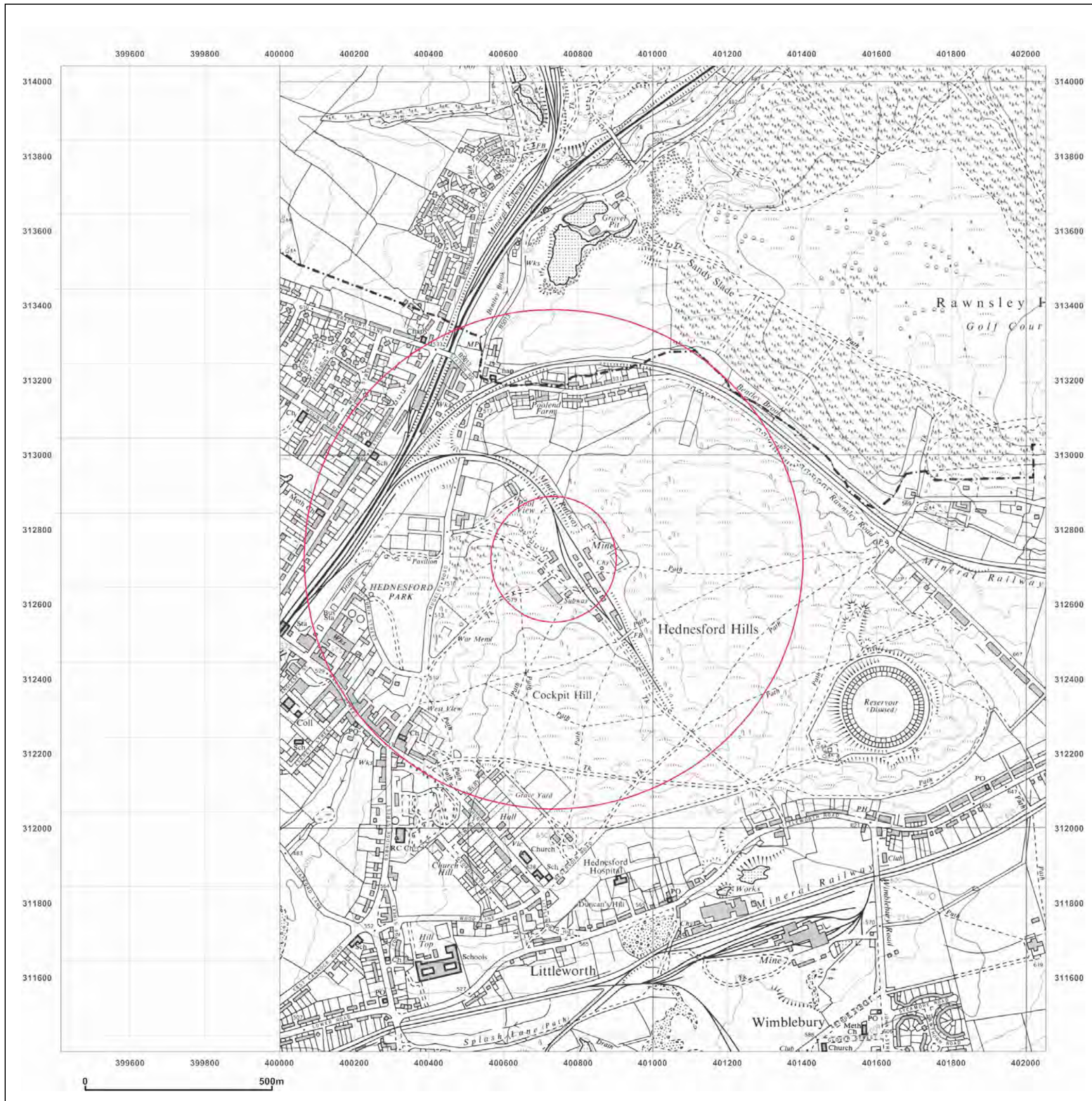
**Site Details:**

Hednesford Hills

**Client Ref:** EMS\_127424\_174676  
**Report Ref:** S EMS-127424\_174676  
**Grid Ref:** 400733, 312723

**Map Name:** Provisional**Map date:** 1968**Scale:** 1:10,560**Printed at:** 1:10,560

Surveyed 1968  
Revised 1968  
Edition NA  
Copyright NA  
Levelled NA



Produced by  
GroundSure Environmental Insight  
[www.groundsure.com](http://www.groundsure.com)



Supplied by:  
[www.emapsite.com](http://www.emapsite.com)  
[sales@emapsite.com](mailto:sales@emapsite.com)

Crown copyright all rights reserved. Licence No: 100035207

Production date: 12 May 2011

To view map legend click here [Legend](#)



### Site Details:

Hednesford Hills

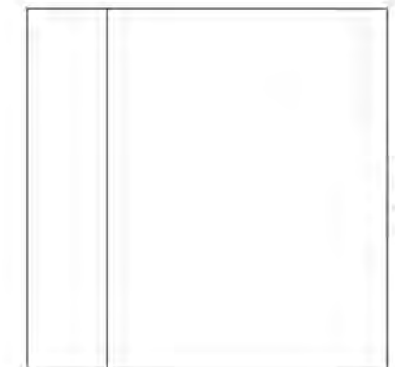
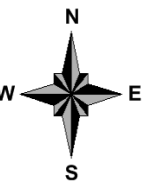
Client Ref: EMS\_127424\_174676  
Report Ref: S EMS-127424\_174676  
Grid Ref: 400733, 312723

Map Name: Provisional

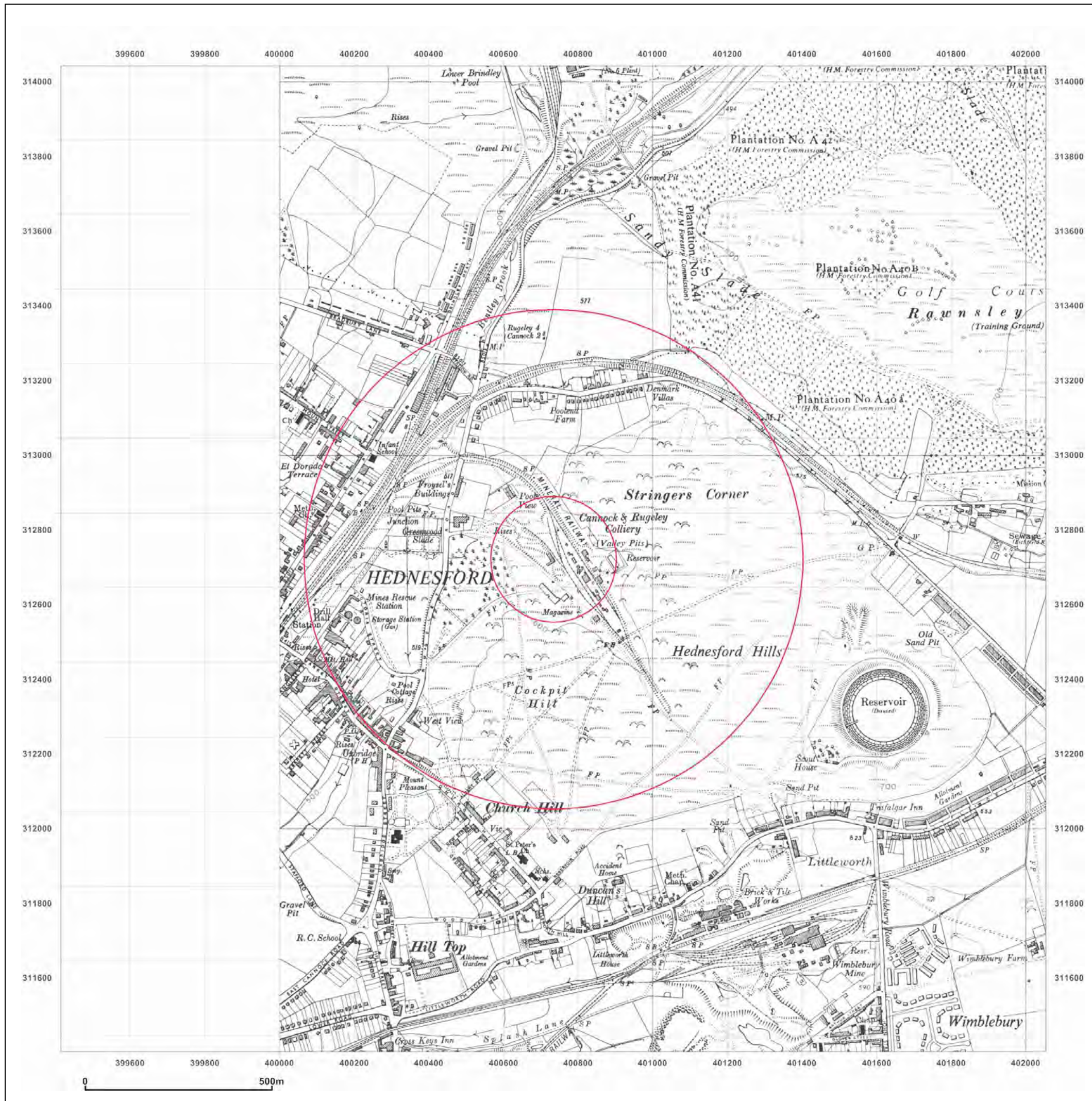
Map date: 1949

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1949  
Revised 1949  
Edition NA  
Copyright NA  
Levelled NA



Produced by  
GroundSure Environmental Insight  
[www.groundsure.com](http://www.groundsure.com)



Supplied by:  
[www.emapsite.com](http://www.emapsite.com)  
sales@emapsite.com

Crown copyright all rights reserved. Licence No: 100035207

Production date: 12 May 2011

To view map legend click here [Legend](#)



## Site Details:

Hednesford Hills

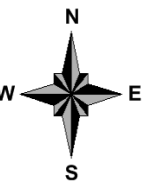
Client Ref: EMS\_127424\_174676  
Report Ref: S EMS-127424\_174676  
Grid Ref: 400733, 312723

Map Name: County Series

Map date: 1921

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1882  
Revised 1921  
Edition NA  
Copyright NA  
Levelled NA



Produced by  
GroundSure Environmental Insight  
[www.groundsure.com](http://www.groundsure.com)

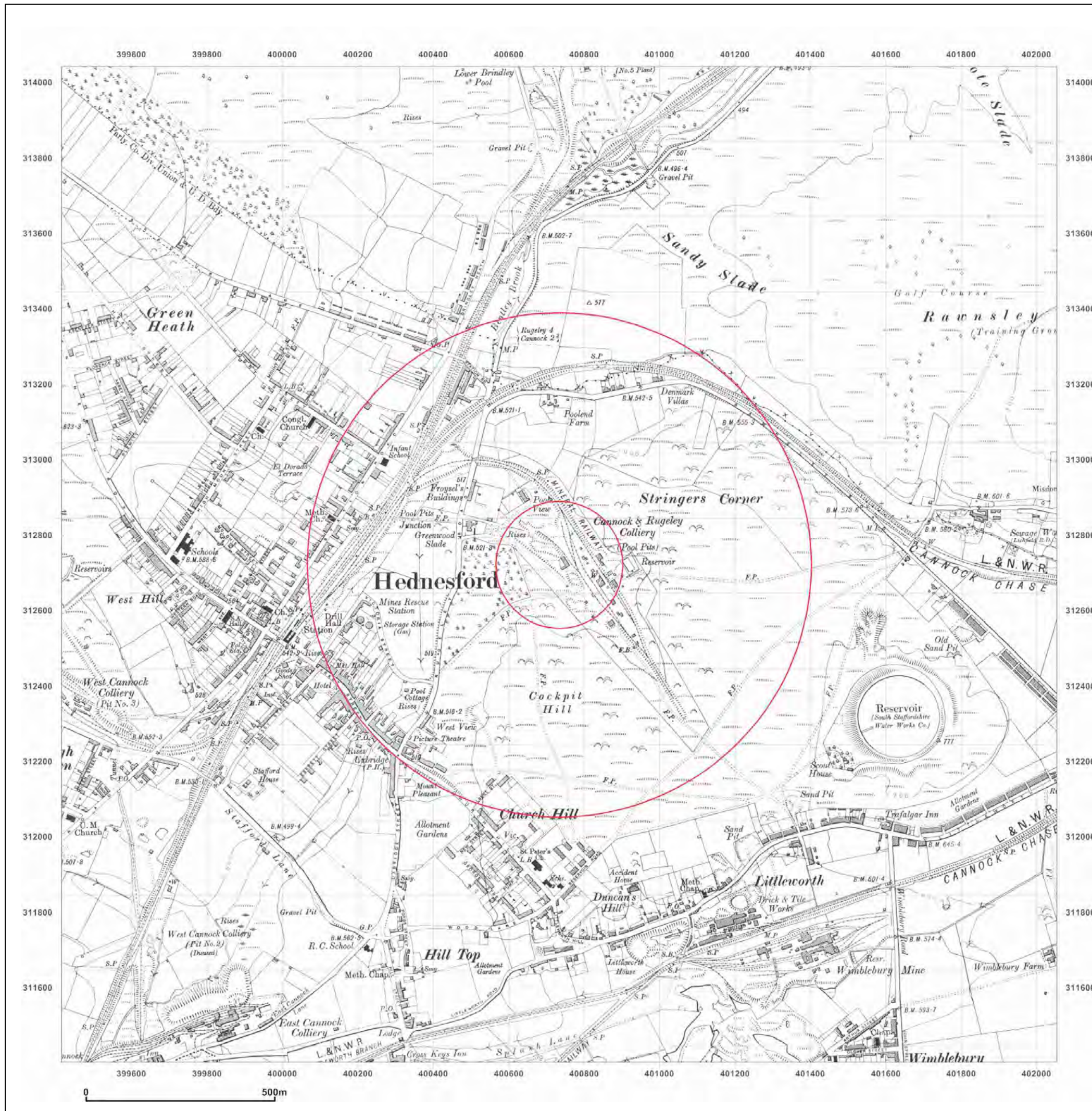


Supplied by:  
[www.emapsite.com](http://www.emapsite.com)  
sales@emapsite.com

Crown copyright all rights reserved. Licence No: 100035207

Production date: 12 May 2011

To view map legend click here [Legend](#)





**Site Details:**

Hednesford Hills

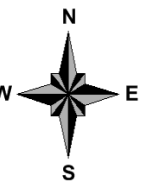
**Client Ref:** EMS\_127424\_174676  
**Report Ref:** S EMS-127424\_174676  
**Grid Ref:** 400733, 312723

**Map Name:** County Series

**Map date:** 1900-1901

**Scale:** 1:10,560

**Printed at:** 1:10,560



Surveyed 1882  
 Revised 1900  
 Edition NA  
 Copyright NA  
 Levelled NA

Surveyed 1882  
 Revised 1900  
 Edition NA  
 Copyright NA  
 Levelled NA

Surveyed 1882  
 Revised 1900  
 Edition NA  
 Copyright NA  
 Levelled NA

Surveyed 1882  
 Revised 1901  
 Edition NA  
 Copyright NA  
 Levelled NA



Produced by  
 GroundSure Environmental Insight  
[www.groundsure.com](http://www.groundsure.com)

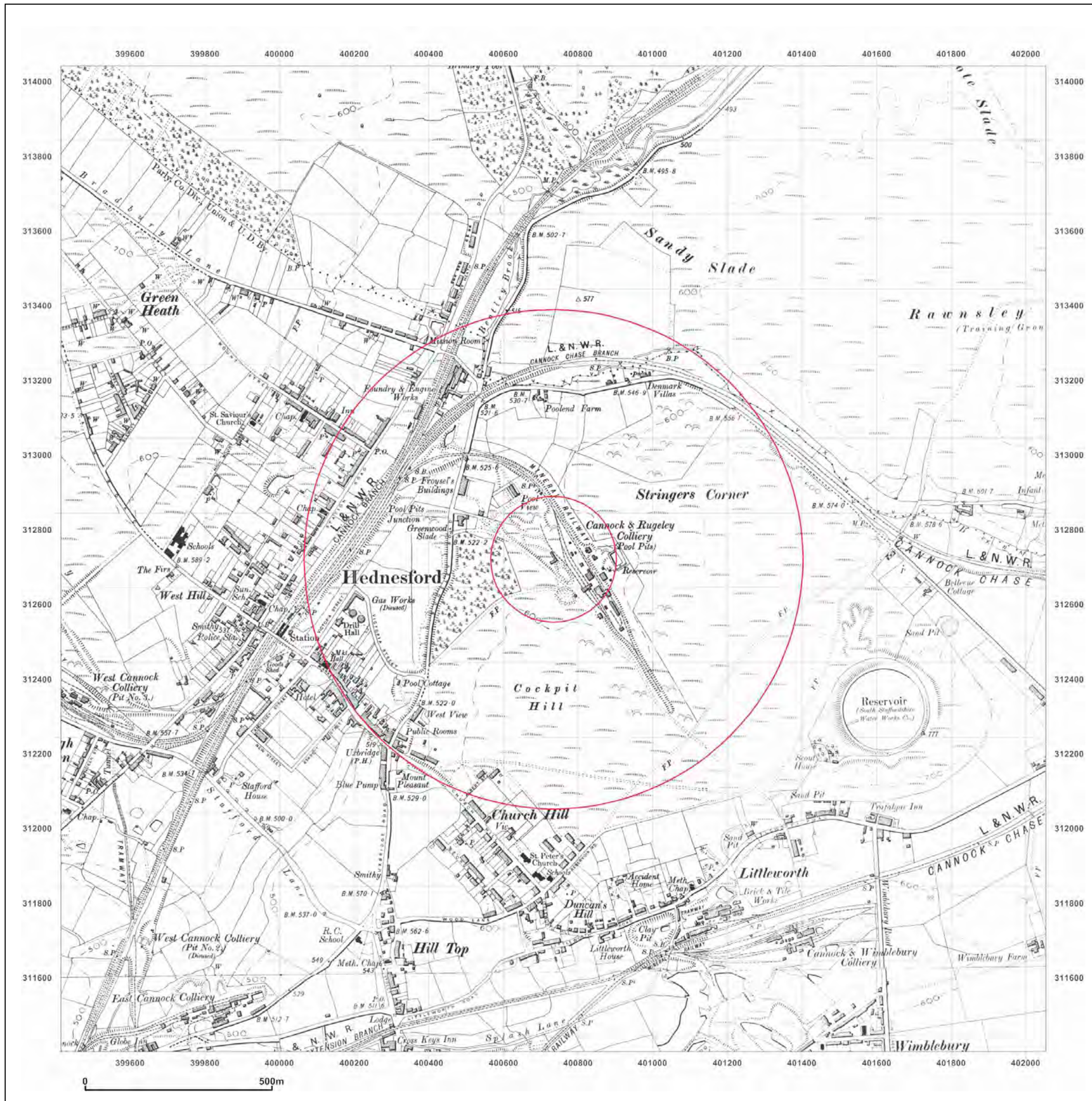


Supplied by:  
[www.emapsite.com](http://www.emapsite.com)  
 sales@emapsite.com

Crown copyright all rights reserved. Licence No: 100035207

Production date: 12 May 2011

To view map legend click here [Legend](#)





### Site Details:

Hednesford Hills

**Client Ref:** EMS\_127424\_174676  
**Report Ref:** S EMS-127424\_174676  
**Grid Ref:** 400733, 312723

**Map Name:** County Series

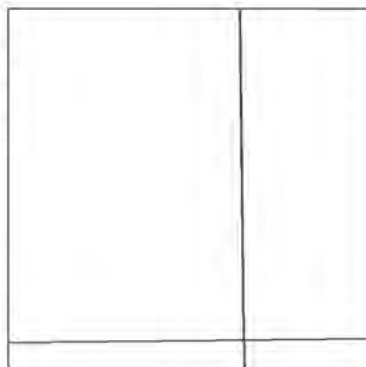
**Map date:** 1883

**Scale:** 1:10,560

**Printed at:** 1:10,560



Surveyed 1883  
Revised 1883  
Edition NA  
Copyright NA  
Levelled NA



Surveyed 1883  
Revised 1883  
Edition NA  
Copyright NA  
Levelled NA

Surveyed 1883  
Revised 1883  
Edition NA  
Copyright NA  
Levelled NA

Surveyed 1883  
Revised 1883  
Edition NA  
Copyright NA  
Levelled NA



Produced by  
GroundSure Environmental Insight  
[www.groundsure.com](http://www.groundsure.com)

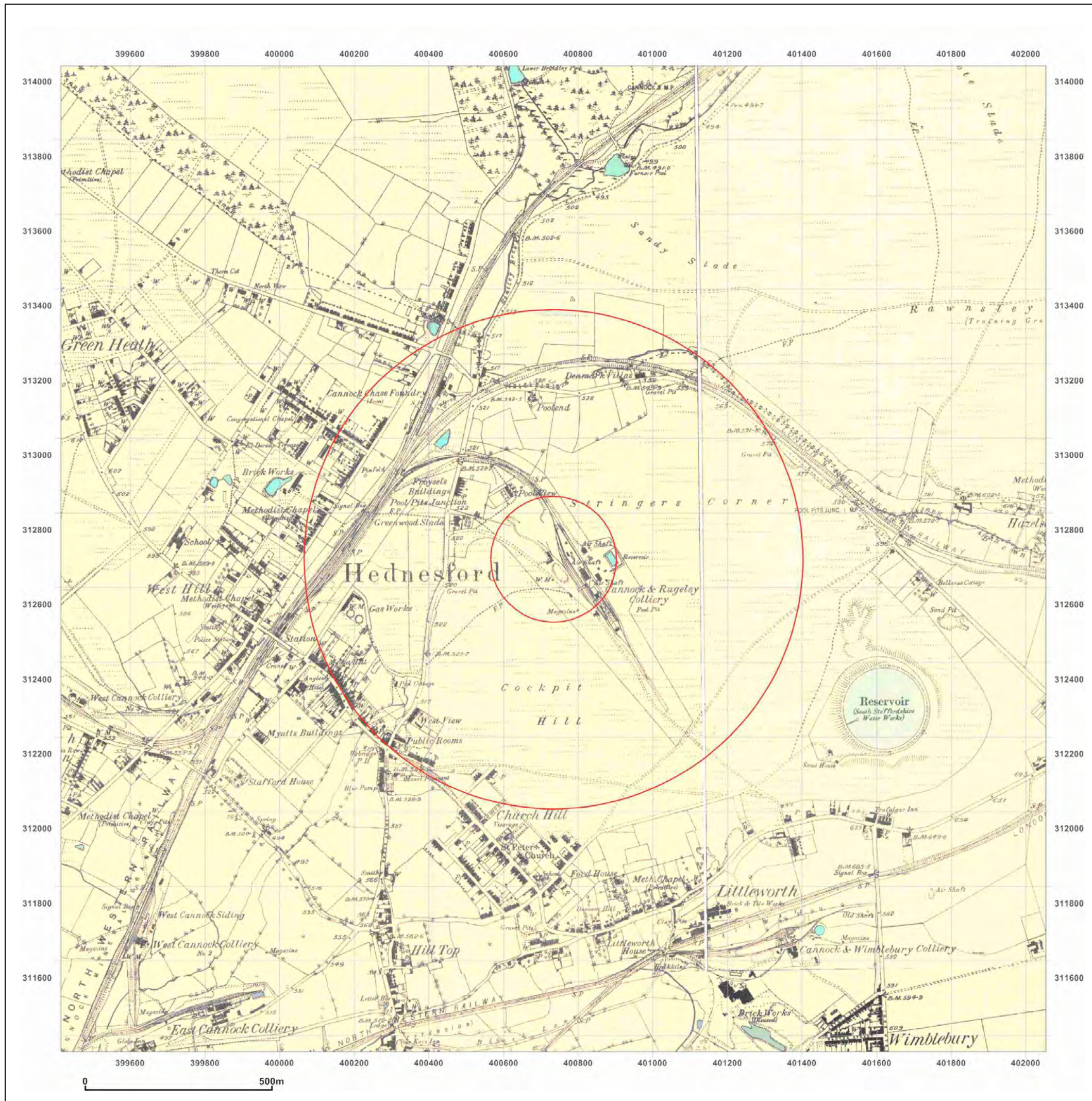


Supplied by:  
[www.emapsite.com](http://www.emapsite.com)  
sales@emapsite.com

Crown copyright all rights reserved. Licence No: 100035207

Production date: 12 May 2011

To view map legend click here [Legend](#)





**APPENDIX D**

**SITE INVESTIGATION REPORTS**





Project: Hednesford Hills, Cannock

Project ID: GL17950

Coordinates:

Ground Level:

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test		Remarks and Test Results	Installations
				Type	Depth (m)		
Grass top over TOPSOIL				ES1	0.10		
MADE GROUND. Red brown mottled dark brown slightly clayey gravelly SAND. Gravel is fine to coarse rounded to subangular coal brick sandstone quartz. Locally pockets of grey clay.		0.20		ES2	0.50		
		1.30		ES3	1.00		
				ES4	1.50		
MADE GROUND. Brown mottled grey gravelly very sandy CLAY. Gravel is fine to coarse rounded to subangular clinker metallic slag coal brick sandstone and quartz				ES5	2.50		
		3.60		ES6	3.50		
MADE GROUND. Firm orange streaked light grey gravelly sandy CLAY. Gravel is fine to medium coal and shale with rare fine brick.				ES7	4.00		
		4.90		ES8	4.50		

Window sample hole Continued

Water Level Observations

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)	Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
87	0.00	1.10	-	30/01/14	4.80	-	4.80	-	
87	1.10	2.10	-						
77	2.10	3.10	-						
77	3.10	4.10	-						
67	4.10	5.10	-						
67	5.10	6.10	-						
57	5.10	6.10	-						

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 30/01/2014  
**Plant:** Premier Window Sampling Rig  
**Drilled By:** Harrison Group Environmental  
**Logged By:** P Price  
**Checked By:** J Keay

**Remarks:**

- Groundwater struck at 4.8mbgl.
- Installation details: 50mm diameter HDPE standpipe installed from 2.50mbgl to GL. Slotted from 2.50mbgl to 1.0mbgl, plain from 1.00mbgl to GL. Finished with end cap and flush fitting cover. Geosock used.
- Backfill details: bentonite from 6.0mbgl to 2.5mbgl, gravel filter packs from 2.5mbgl to 1.0mbgl, bentonite pellets from 1.0mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.







Project: Hednesford Hills, Cannock

Project ID: GL17950

Coordinates:

Ground Level:

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test		Remarks and Test Results	Installations
				Type	Depth (m)		
Brown grey gravelly SAND. Gravel is fine to coarse rounded quartz and sandstone.				ES9	5.50		
Window Sample Complete at 6.00 m		6.00					6.00

### Water Level Observations

#### Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)	Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
87	0.00	1.10	-	30/01/14	4.80	-	4.80	-	
87	1.10	2.10	-						
77	2.10	3.10	-						
77	3.10	4.10	-						
67	4.10	5.10	-						
57	5.10	6.10	-						

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 30/01/2014  
**Plant:** Premier Window Sampling Rig  
**Drilled By:** Harrison Group Environmental  
**Logged By:** P Price  
**Checked By:** J Keay

Remarks:





Project: Hednesford Hills, Cannock

Project ID: GL17950

Coordinates:

Ground Level:

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test		Remarks and Test Results	Installations
				Type	Depth (m)		
Grass top over TOPSOIL		0.10		ES1	0.05		
MADE GROUND. Dark brown slightly clayey gravelly SAND. Gravel is fine to coarse rounded to subangular sandstone brick coal clinker tile and quartz				ES2	0.50		
Orange red brown gravelly SAND. Gravel is fine to coarse rounded sandstone and quartz		0.85		ES3	0.80		
Orange red brown gravelly SAND. Gravel is fine to coarse rounded sandstone and quartz				ES4	1.00		
		2.00		ES5	2.00		
Window Sample Complete at 2.20 m		2.20					

**Water Level Observations**

**Drive Records**

Diameter (mm)	From (m)	To (m)	Recovery (%)	Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
87	0.00	1.10	-						
87	1.10	2.10	-						
67	2.10	3.10	-						

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 30/01/2014  
**Plant:** Premier Window Sampling Rig  
**Drilled By:** Harrison Group Environmental  
**Logged By:** P Price  
**Checked By:** J Keay

**Remarks:**  
 1. Groundwater was not encountered.  
 2. Installation details: 50mm diameter HDPE standpipe installed from 2.20mbgl to GL. Slotted from 2.20mbgl to 1.0mbgl, plain from 1.00mbgl to GL. Finished with end cap and flush fitting cover. Geosock used.  
 3. Backfill details: gravel filter packs from 2.2mbgl to 1.0mbgl, bentonite pellets from 1.0mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.  
 4. Terminated on dense strata.





Project: Hednesford Hills, Cannock

Project ID: GL17950

Coordinates:

Ground Level:

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test		Remarks and Test Results	Installations
				Type	Depth (m)		
Grass top over TOPSOIL		0.15		ES1	0.10		
MADE GROUND. Red brown slightly clayey gravelly SAND. Gravel is fine to coarse rounded to subangular sandstone quartz brick coal and clinker.		0.15		ES2	0.50		
				ES3	1.00		
MADE GROUND. Soft to firm dark grey mottled light grey mottled yellow slightly sandy gravelly CLAY. Gravel is fine to coarse rounded to angular shale coal clinker and rare fine brick. Iron stain noted.		1.40		ES4	1.60		
				ES5	2.50		
Grey mottled cream yellow weak shale with no discernable orientation.		2.10					
Grey mottled cream yellow gravelly CLAY. Gravel is randomly oriented shale fragments and fine to coarse blades and pockets of black carboniferous material and fine to medium angular coal.		3.10		ES6	3.50		
				ES7	4.50		

Window sample hole Continued

Water Level Observations

Drive Records				Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	From (m)	To (m)	Recovery (%)						
87	0.00	1.10	-						
87	1.10	2.10	-						
77	2.10	3.10	-						
77	3.10	4.10	-						
67	4.10	5.10	-						
57	5.10	6.10	-						

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 30/01/2014  
**Plant:** Premier Window Sampling Rig  
**Drilled By:** Harrison Group Environmental  
**Logged By:** P Price  
**Checked By:** J Keay

**Remarks:**  
 1. Groundwater was not encountered.  
 2. Installation details: 50mm diameter HDPE standpipe installed from 6.00mbgl to GL. Slotted from 6.00mbgl to 3.00mbgl, plain from 3.00mbgl to GL. Finished with end cap and flush fitting cover. Geosock used.  
 3. Backfill details: gravel filter packs from 6.00mbgl to 3.00mbgl, bentonite pellets from 3.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.





Project: Hednesford Hills, Cannock

Project ID: GL17950

Coordinates:

Ground Level:

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test		Remarks and Test Results	Installations
				Type	Depth (m)		
Grey mottled cream yellow gravelly CLAY. Gravel is randomly oriented shale fragments and fine to coarse blades and pockets of black carboniferous material and fine to medium angular coal.				ES8	5.50		
Window Sample Complete at 6.00 m		6.00					6.00

Water Level Observations

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)	Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
87	0.00	1.10	-						
87	1.10	2.10	-						
77	2.10	3.10	-						
77	3.10	4.10	-						
67	4.10	5.10	-						
57	5.10	6.10	-						

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 30/01/2014  
**Plant:** Premier Window Sampling Rig  
**Drilled By:** Harrison Group Environmental  
**Logged By:** P Price  
**Checked By:** J Keay

Remarks:





Project: Hednesford Hills, Cannock

Project ID: GL17950

Coordinates:

Ground Level:

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test		Remarks and Test Results	Installations
				Type	Depth (m)		
Grass top over TOPSOIL				ES1	0.10		
MADE GROUND. Dark brown slightly clayey gravelly SAND. Gravel is fine to coarse rounded to subangular sandstone quartz and brick.		0.15		ES2	0.50		
(Dense) Orange mottled red sandy GRAVEL of fine to coarse rounded sandstone and quartz		0.60		ES3	1.00		
Window Sample Complete at 2.10 m		2.10		ES4	2.00		

### Water Level Observations

#### Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)	Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
87	0.00	1.10	-						
87	1.10	2.10	-						
67	2.10	3.10	-						

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 30/01/2014  
**Plant:** Premier Window Sampling Rig  
**Drilled By:** Harrison Group Environmental  
**Logged By:** P Price  
**Checked By:** J Keay

**Remarks:**

- Groundwater was not encountered.
- Installation details: 50mm diameter HDPE standpipe installed from 2.10mbgl to GL. Slotted from 2.10mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with end cap and flush fitting cover. Geosock used.
- Backfill details: gravel filter packs from 2.10mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.
- Terminated on dense strata.





Project: Hednesford Hills, Cannock

Project ID: GL17950

Coordinates:

Ground Level:

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test		Remarks and Test Results	Installations
				Type	Depth (m)		
Grass top over TOPSOIL		0.15		ES1	0.10		
MADE GROUND. Dark brown slightly clayey gravelly SAND. Gravel is fine to coarse rounded sandstone quartz brick and coal.		1.30		ES2	0.50		
(Loose) Red sandy GRAVEL of fine to coarse rounded sandstone and quartz.		2.80		ES3	1.00		
Soft red gravelly very sandy CLAY. Gravel is fine to coarse rounded sandstone and quartz.		3.00		ES4	2.00		
Soft red gravelly very sandy CLAY. Gravel is fine to coarse rounded sandstone and quartz.		3.10		ES5	3.00		
Window Sample Complete at 3.10 m							

### Water Level Observations

#### Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)	Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
87	0.00	1.10	-						
87	1.10	2.10	-						
87	2.10	2.10	-						
77	3.10	3.10	-						

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 27/01/2014  
**Plant:** Premier Window Sampling Rig  
**Drilled By:** Harrison Group Environmental  
**Logged By:** P Price  
**Checked By:** J Keay

**Remarks:**

- Groundwater was not encountered.
- Installation details: 50mm diameter HDPE standpipe installed from 2.00mbgl to GL. Slotted from 2.00mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with end cap and flush fitting cover. Geosock used.
- Backfill details: bentonite from 3.00mbgl to 2.00mbgl, gravel filter packs from 2.00mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.
- Terminated on dense strata.





Project: Hednesford Hills, Cannock

Project ID: GL17950

Coordinates:

Ground Level:

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test		Remarks and Test Results	Installations
				Type	Depth (m)		
Grass top over TOPSOIL		0.15		ES1	0.10		
MADE GROUND. Dark brown mottled orange red slightly silty gravelly SAND. Gravel is fine to coarse rounded coal sandstone brick and quartz		1.00		ES2	0.50		
Red gravelly SAND. Gravel is fine to coarse rounded sandstone and quartz. Locally pockets of silty sand.				ES3	1.00		
				ES4	1.50		
				ES5	2.50		
				ES6	3.50		
				ES7	4.50		

Window sample hole Continued

Water Level Observations

Drive Records				Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
Diameter (mm)	From (m)	To (m)	Recovery (%)						
87	0.00	1.10	-	28/01/14	3.80	-	3.80	-	
87	1.10	2.10	-						
77	2.10	3.10	-						
77	3.10	4.10	-						
67	4.10	5.10	-						
67	4.10	5.10	-						
57	5.10	5.80	-						

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 28/01/2014  
**Plant:** Premier Window Sampling Rig  
**Drilled By:** Harrison Group Environmental  
**Logged By:** P Price  
**Checked By:** J Keay

**Remarks:**  
 1. Groundwater struck at 3.8mbgl.  
 2. Hole collapsed from 5.8mbgl to 5.2mbgl.  
 3. Installation details: 50mm diameter HDPE standpipe installed from 5.20mbgl to GL. Slotted from 5.20mbgl to 1.50mbgl, plain from 1.50mbgl to GL. Finished with end cap and flush fitting cover. Geosock used.  
 3. Backfill details: gravel filter packs from 5.20mbgl to 1.50mbgl, bentonite pellets from 1.50mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.




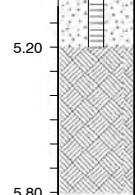


Project: Hednesford Hills, Cannock

Project ID: GL17950

Coordinates:

Ground Level:

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test		Remarks and Test Results	Installations
				Type	Depth (m)		
Red gravelly SAND. Gravel is fine to coarse rounded sandstone and quartz. Locally pockets of silty sand.		5.80		ES8	5.50		
Window Sample Complete at 5.80 m							

Water Level Observations

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)	Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
87	0.00	1.10	-	28/01/14	3.80	-	3.80	-	
87	1.10	2.10	-						
77	2.10	3.10	-						
77	3.10	4.10	-						
67	4.10	5.10	-						
57	5.10	5.80	-						

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 28/01/2014  
**Plant:** Premier Window Sampling Rig  
**Drilled By:** Harrison Group Environmental  
**Logged By:** P Price  
**Checked By:** J Keay

Remarks:





Project: Hednesford Hills, Cannock

Project ID: GL17950

Coordinates:

Ground Level:

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test		Remarks and Test Results	Installations
				Type	Depth (m)		
Grass top over TOPSOIL		0.20		ES1	0.10		
MADE GROUND. Dark brown mottled orange red slightly clayey gravelly SAND. Gravel is fine to coarse rounded sandstone quartz and occasional brick.		1.10		ES2	0.50		
Red gravelly SAND. Gravel is fine to coarse rounded sandstone and quartz. Locally pockets of silty sand.		4.40		ES3	1.00		
Window Sample Complete at 4.40 m		4.40		ES4	1.50		
				ES5	2.50		
				ES6	3.50		

### Water Level Observations

#### Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)	Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
87	0.00	1.10	-						
87	1.10	2.10	-						
77	2.10	3.10	-						
77	3.10	4.10	-						
67	4.10	4.40	-						

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 28/01/2014  
**Plant:** Premier Window Sampling Rig  
**Drilled By:** Harrison Group Environmental  
**Logged By:** P Price  
**Checked By:** J Keay

**Remarks:**

- Groundwater was not encountered.
- Installation details: 50mm diameter HDPE standpipe installed from 4.40mbgl to GL. Slotted from 4.40mbgl to 1.50mbgl, plain from 1.50mbgl to GL. Finished with end cap and flush fitting cover. Geosock used.
- Backfill details: gravel filter packs from 4.40mbgl to 1.50mbgl, bentonite pellets from 1.50mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.
- Terminated on dense strata.





Project: Hednesford Hills, Cannock

Project ID: GL17950

Coordinates:

Ground Level:

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test		Remarks and Test Results	Installations
				Type	Depth (m)		
Grass top over TOPSOIL				ES1	0.15		
MADE GROUND. Light grey mottled black sandy gravelly CLAY. Gravel is fine to coarse rounded to angular brick coal clinker sandstone and quartz. Pockets of coal.		0.30		ES2	0.56		
Dark orange brown slightly gravelly clayey SAND. Gravel is fine to coarse rounded quartz and sandstone.		1.90		ES3	1.00		
Red brown slightly clayey gravelly SAND. Gravel is fine to coarse rounded quartz and sandstone.		3.30		ES4	1.50		
				ES5	2.50		
				ES6	3.50		
				ES7	4.50		

Window sample hole Continued

Water Level Observations

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)	Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
87	0.00	1.10	-						
87	1.10	2.10	-						
77	2.10	3.10	-						
67	3.10	4.10	-						
67	4.10	5.10	-						
57	5.10	6.10	-						

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 27/01/2014  
**Plant:** Premier Window Sampling Rig  
**Drilled By:** Harrison Group Environmental  
**Logged By:** P Price  
**Checked By:** J Keay

**Remarks:**  
 1. Groundwater was not encountered.  
 2. Installation details: 50mm diameter HDPE standpipe installed from 2.50mbgl to GL. Slotted from 2.50mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with end cap and flush fitting cover. Geosock used.  
 3. Backfill details: bentonite 6.00mbgl to 2.50mbgl, gravel filter pack from 2.50mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.







Project: Hednesford Hills, Cannock

Project ID: GL17950

Coordinates:

Ground Level:

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test		Remarks and Test Results	Installations
				Type	Depth (m)		
Red brown slightly clayey gravelly SAND. Gravel is fine to coarse rounded quartz and sandstone.				ES8	5.50		
Window Sample Complete at 6.00 m		6.00					6.00

Water Level Observations

Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)	Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
87	0.00	1.10	-						
87	1.10	2.10	-						
77	2.10	3.10	-						
67	3.10	4.10	-						
67	4.10	5.10	-						
57	5.10	6.10	-						

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 27/01/2014  
**Plant:** Premier Window Sampling Rig  
**Drilled By:** Harrison Group Environmental  
**Logged By:** P Price  
**Checked By:** J Keay

Remarks:





Project: Hednesford Hills, Cannock

Project ID: GL17950

Coordinates:

Ground Level:

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test		Remarks and Test Results	Installations
				Type	Depth (m)		
Grass Top over MADE GROUND. Dark brown clayey gravelly SAND. Gravel is fine to coarse brick sandstone and quartz.		0.50		ES1	0.15		
				ES2	0.25		
Red gravelly SAND. Gravel is fine to coarse rounded quartz sandstone and mudstone.		4.00		ES3	0.75		
				ES4	1.75		
				ES5	2.75		
				ES6	3.75		
Window Sample Complete at 4.00 m							

### Water Level Observations

#### Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)	Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
87	1.00	2.10	-	27/01/14	3.40	-	3.40	-	
77	2.10	3.10	-						
77	3.10	4.10	-						
67	4.10	4.10	-						

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 27/01/2014  
**Plant:** Premier Window Sampling Rig  
**Drilled By:** Harrison Group Environmental  
**Logged By:** P Price  
**Checked By:** J Keay

**Remarks:**

- Groundwater struck at 3.4mbgl.
- Hole collapsed from 4.00mbgl to 3.60mbgl.
- Installation details: 50mm diameter HDPE standpipe installed from 3.00mbgl to GL. Slotted from 3.00mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with end cap and flush fitting cover. Geosock used.
- Backfill details: bentonite from 3.60mbgl to 3.00mbgl, gravel filter packs from 3.00mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.





Project: Hednesford Hills, Cannock

Project ID: GL17950

Coordinates:

Ground Level:

Description	Legend	Depth (m)	O.D. Level (m)	Sample Test		Remarks and Test Results	Installations
				Type	Depth (m)		
Black peaty gravelly SAND. Gravel is fine to coarse rounded quartz and sandstone.		0.10		ES1	0.05		
Dark brown becoming red gravelly SAND. Gravel is fine to coarse rounded sandstone and quartz.				ES2	0.35		
				ES3	1.35		
				ES4	2.35		
				ES5	3.35		
				ES6	4.35		
Window Sample Complete at 4.80 m		4.80					

### Water Level Observations

#### Drive Records

Diameter (mm)	From (m)	To (m)	Recovery (%)	Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)	Casing Depth (m)	Depth Sealed (m)
87	0.00	1.10	-						
87	1.10	2.10	-						
77	2.10	3.10	-						
77	3.10	4.10	-						

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 28/01/2014  
**Plant:** Premier Window Sampling Rig  
**Drilled By:** Harrison Group Environmental  
**Logged By:** P Price  
**Checked By:** J Keay

**Remarks:**

- Groundwater was not encountered.
- Hole collapsed from 4.8mbgl to 4.1mbgl
- Installation details: 50mm diameter HDPE standpipe installed from 4.1 mbgl to GL. Slotted from 4.10mbgl to 1.00mbgl, plain from 1.00mbgl to GL. Finished with end cap and flush fitting cover. Geosock used.
- Backfill details: gravel filter packs from 4.10mbgl to 1.00mbgl, bentonite pellets from 1.00mbgl to 0.20mbgl and concrete from 0.20mbgl to GL.
- Terminated on dense strata.





Project: Hednesford Hills, Cannock

Project ID: GL17950

Trial Pit Length: 0.25m  
Trial Pit Width: 0.25m  
Trial Pit Orientation:

Coordinates:

Ground Level:

**SECTION**

Depth (m)  
Ground Level



Sample / Test		Remarks and Test Results
Type	Depth(m)	

ES1	0.25	
-----	------	--

**LITHOLOGY**

A TOPSOIL

B MADE GROUND. Dark orange brown slightly clayey gravelly SAND. Gravel is fine to coarse rounded to subangular sandstone quartz tile brick and glass.

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 28/01/2014  
**Plant:** Hand Excavated Trial Pit  
**Logged By:** P Price  
**Checked By:** J Keay

Water Level Observations			
Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)

Remarks: 1. Trial pit complete at 0.25m bgl.  
 2. Groundwater was not encountered.  
 3. Backfill details: Arisings from 0.25mbgl to GL.





Project: Hednesford Hills, Cannock

Project ID: GL17950

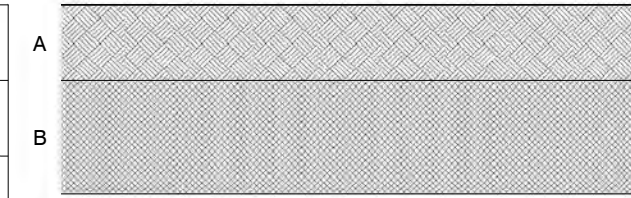
Trial Pit Length: 0.25m  
Trial Pit Width: 0.25m  
Trial Pit Orientation:

Coordinates:

Ground Level:

**SECTION**

Depth (m)  
Ground Level



Sample / Test		Remarks and Test Results
Type	Depth(m)	

ES1	0.25	
-----	------	--

**LITHOLOGY**

A TOPSOIL

B MADE GROUND. Dark orange brown slightly clayey gravelly SAND. Gravel is fine to coarse rounded to subangular sandstone quartz tile brick and glass.

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 28/01/2014  
**Plant:** Hand Excavated Trial Pit  
**Logged By:** P Price  
**Checked By:** J Keay

Water Level Observations			
Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)

Remarks: 1. Trial pit complete at 0.25m bgl.  
 2. Groundwater was not encountered.  
 3. Backfill details: Arisings from 0.25mbgl to GL.





Project: Hednesford Hills, Cannock

Project ID: GL17950

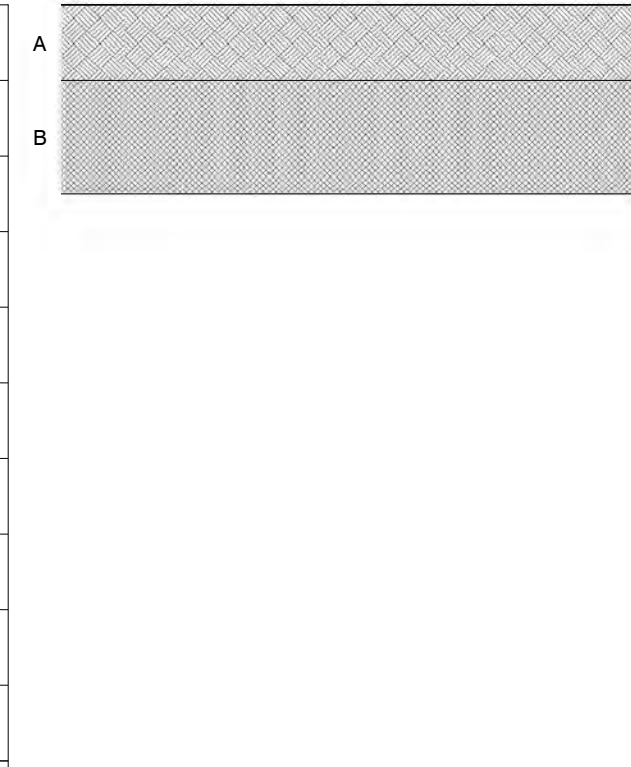
Trial Pit Length: 0.25m  
Trial Pit Width: 0.25m  
Trial Pit Orientation:

Coordinates:

Ground Level:

#### SECTION

Depth (m)  
Ground Level



Sample / Test		Remarks and Test Results
Type	Depth(m)	

ES1	0.25	
-----	------	--

#### LITHOLOGY

A TOPSOIL

B MADE GROUND. Dark orange brown slightly clayey gravelly SAND. Gravel is fine to coarse rounded to subangular sandstone quartz tile brick and glass.

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 28/01/2014  
**Plant:** Hand Excavated Trial Pit  
**Logged By:** P Price  
**Checked By:** J Keay

#### Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)

Remarks: 1. Trial pit complete at 0.25m bgl.  
 2. Groundwater was not encountered.  
 3. Backfill details: Arisings from 0.25mbgl to GL.





Project: Hednesford Hills, Cannock

Project ID: GL17950

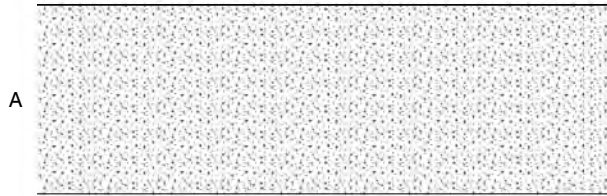
Trial Pit Length: 0.25m  
Trial Pit Width: 0.25m  
Trial Pit Orientation:

Coordinates:

Ground Level:

**SECTION**

Depth (m)  
Ground Level



Sample / Test		Remarks and Test Results
Type	Depth(m)	

ES1	0.25	
-----	------	--

**LITHOLOGY**

A Dark brown gravelly SAND. Gravel is fine to coarse rounded quartz and sandstone.

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 29/01/2014  
**Plant:** Hand Excavated Trial Pit  
**Logged By:** P Price  
**Checked By:** J Keay

Water Level Observations			
Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)

Remarks: 1. Trial pit complete at 0.25m bgl.  
 2. Groundwater was not encountered.  
 3. Backfill details: Arisings from 0.25mbgl to GL.





Project: Hednesford Hills, Cannock

Project ID: GL17950

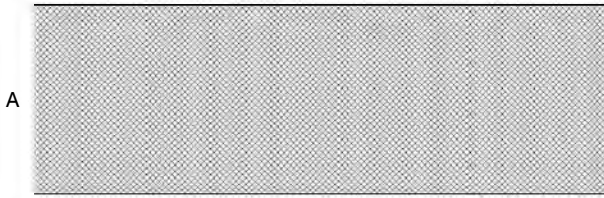
Trial Pit Length: 0.25m  
Trial Pit Width: 0.25m  
Trial Pit Orientation:

Coordinates:

Ground Level:

**SECTION**

Depth (m)  
Ground Level



Sample / Test		Remarks and Test Results
Type	Depth(m)	

ES1	0.25	
-----	------	--

**LITHOLOGY**

A MADE GROUND. Dark brown gravelly SAND. Gravel is fine to coarse rounded to angular brick pottery sandstone quartz concrete and tile.

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 29/01/2014  
**Plant:** Hand Excavated Trial Pit  
**Logged By:** P Price  
**Checked By:** J Keay

Water Level Observations			
Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)

Remarks: 1. Trial pit complete at 0.25m bgl.  
 2. Groundwater was not encountered.  
 3. Backfill details: Arisings from 0.25mbgl to GL.





Project: Hednesford Hills, Cannock

Project ID: GL17950

Trial Pit Length: 0.25m  
Trial Pit Width: 0.25m  
Trial Pit Orientation:

Coordinates:

Ground Level:

**SECTION**

Depth (m)  
Ground Level



Sample / Test		Remarks and Test Results
Type	Depth(m)	

ES1	0.25	
-----	------	--

**LITHOLOGY**

A MADE GROUND. Black gravelly SAND. Gravel is fine to coarse subangular to rounded brick sandstone quartz and occasional coal.

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 29/01/2014  
**Plant:** Hand Excavated Trial Pit  
**Logged By:** P Price  
**Checked By:** J Keay

Water Level Observations			
Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)

Remarks: 1. Trial pit complete at 0.25m bgl.  
 2. Groundwater was not encountered.  
 3. Backfill details: Arisings from 0.25mbgl to GL.





Project: Hednesford Hills, Cannock

Project ID: GL17950

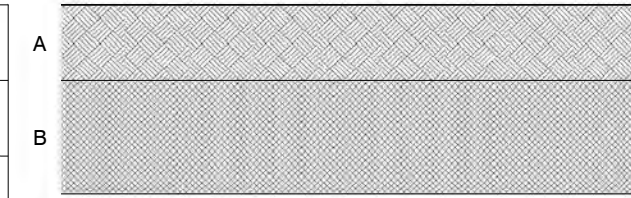
Trial Pit Length: 0.25m  
Trial Pit Width: 0.25m  
Trial Pit Orientation:

Coordinates:

Ground Level:

**SECTION**

Depth (m)  
Ground Level



Sample / Test		Remarks and Test Results
Type	Depth(m)	

ES1	0.25	
-----	------	--

**LITHOLOGY**

A TOPSOIL

B MADE GROUND. Dark brown gravelly SAND. Gravel is fine to coarse rounded subangular brick sandstone quartz and pottery.

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 29/01/2014  
**Plant:** Hand Excavated Trial Pit  
**Logged By:** P Price  
**Checked By:** J Keay

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)

Remarks: 1. Trial pit complete at 0.25m bgl.  
 2. Groundwater was not encountered.  
 3. Backfill details: Arisings from 0.25mbgl to GL.





Project: Hednesford Hills, Cannock

Project ID: GL17950

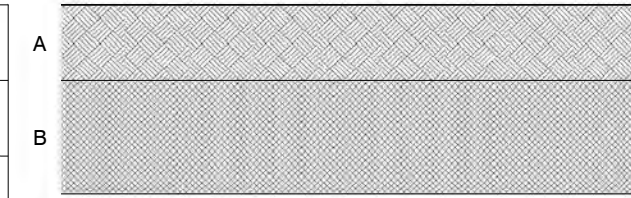
Trial Pit Length: 0.25m  
Trial Pit Width: 0.25m  
Trial Pit Orientation:

Coordinates:

Ground Level:

**SECTION**

Depth (m)  
Ground Level



Sample / Test		Remarks and Test Results
Type	Depth(m)	

ES1 0.25

**LITHOLOGY**

A TOPSOIL

B MADE GROUND. Red brown gravelly SAND. Gravel is fine to coarse rounded to subangular sandstone quartz and brick.

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 29/01/2014  
**Plant:** Hand Excavated Trial Pit  
**Logged By:** P Price  
**Checked By:** J Keay

Water Level Observations			
Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)

Remarks: 1. Trial pit complete at 0.25m bgl.  
 2. Groundwater was not encountered.  
 3. Backfill details: Arisings from 0.25mbgl to GL.



Project: Hednesford Hills, Cannock

Project ID: GL17950

Trial Pit Length: 0.25m  
Trial Pit Width: 0.25m  
Trial Pit Orientation:

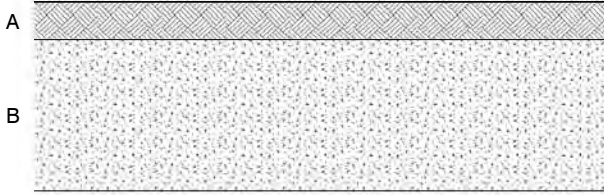
Coordinates:

Ground Level:

**SECTION**

Depth (m)  
Ground Level

0.05



0.25

Sample / Test		Remarks and Test Results
Type	Depth(m)	
ES1	0.25	

ES1

0.25

**LITHOLOGY**

A TOPSOIL

B Brown gravelly SAND. Gravel is fine to coarse rounded sandstone and quartz.

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 29/01/2014  
**Plant:** Hand Excavated Trial Pit  
**Logged By:** P Price  
**Checked By:** J Keay

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)

Remarks: 1. Trial pit complete at 0.25m bgl.  
 2. Groundwater was not encountered.  
 3. Backfill details: Arisings from 0.25mbgl to GL.





Project: Hednesford Hills, Cannock

Project ID: GL17950

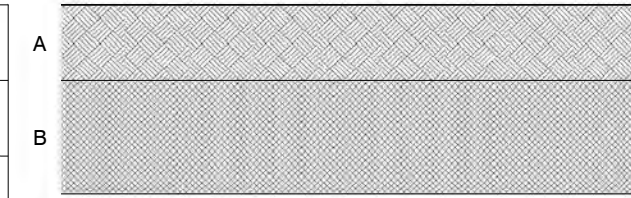
Trial Pit Length: 0.25m  
Trial Pit Width: 0.25m  
Trial Pit Orientation:

Coordinates:

Ground Level:

**SECTION**

Depth (m)  
Ground Level



Sample / Test		Remarks and Test Results
Type	Depth(m)	

ES1	0.25	
-----	------	--

**LITHOLOGY**

A TOPSOIL

B MADE GROUND. Black mottled light grey slightly clayey gravelly SAND. Gravel is fine to coarse coal shale sandstone and quartz.

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 29/01/2014  
**Plant:** Hand Excavated Trial Pit  
**Logged By:** P Price  
**Checked By:** J Keay

Water Level Observations			
Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)

Remarks: 1. Trial pit complete at 0.25m bgl.  
 2. Groundwater was not encountered.  
 3. Backfill details: Arisings from 0.25mbgl to GL.



Project: Hednesford Hills, Cannock

Project ID: GL17950

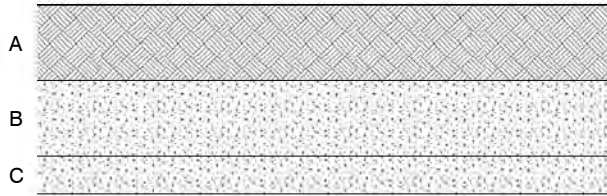
Trial Pit Length: 0.25m  
Trial Pit Width: 0.25m  
Trial Pit Orientation:

Coordinates:

Ground Level:

**SECTION**

Depth (m)  
Ground Level



Sample / Test		Remarks and Test Results
Type	Depth(m)	

ES1 0.25

**LITHOLOGY**

- A TOPSOIL
- B Black gravelly SAND. Gravel is fine to coarse rounded sandstone and quartz.
- C Red grey gravelly SAND. Gravel is fine to coarse rounded sandstone and quartz.

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 29/01/2014  
**Plant:** Hand Excavated Trial Pit  
**Logged By:** P Price  
**Checked By:** J Keay

Water Level Observations			
Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)

Remarks: 1. Trial pit complete at 0.25m bgl.  
 2. Groundwater was not encountered.  
 3. Backfill details: Arisings from 0.25mbgl to GL.





Project: Hednesford Hills, Cannock

Project ID: GL17950

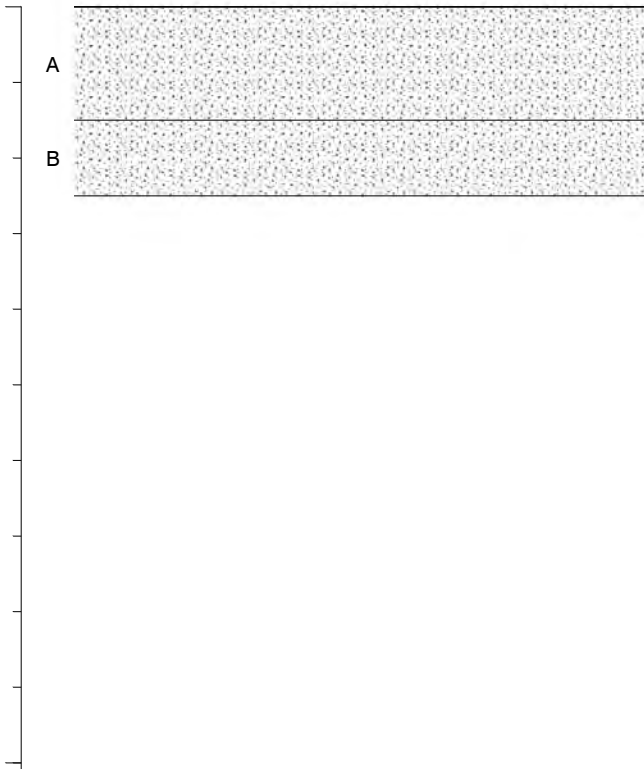
Trial Pit Length: 0.25m  
Trial Pit Width: 0.25m  
Trial Pit Orientation:

Coordinates:

Ground Level:

### SECTION

Depth (m)  
Ground Level



Sample / Test		Remarks and Test Results
Type	Depth(m)	

ES1	0.25	
-----	------	--

### LITHOLOGY

A Black gravelly SAND. Gravel is fine to coarse rounded sandstone and quartz.

B Red grey gravelly SAND. Gravel is fine to coarse rounded sandstone and quartz.

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 29/01/2014  
**Plant:** Hand Excavated Trial Pit  
**Logged By:** P Price  
**Checked By:** J Keay

Water Level Observations			
Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)

Remarks: 1. Trial pit complete at 0.25m bgl.  
 2. Groundwater was not encountered.  
 3. Backfill details: Arisings from 0.25mbgl to GL.



Project: Hednesford Hills, Cannock

Project ID: GL17950

Trial Pit Length: 0.25m  
Trial Pit Width: 0.25m  
Trial Pit Orientation:

Coordinates:

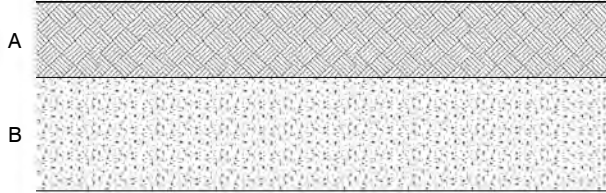
Ground Level:

**SECTION**

Depth (m)  
Ground Level

0.10

0.25



Sample / Test		Remarks and Test Results
Type	Depth(m)	

ES1

0.25

**LITHOLOGY**

A TOPSOIL

B Red grey gravelly SAND. Gravel is fine to coarse rounded sandstone and quartz.

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 29/01/2014  
**Plant:** Hand Excavated Trial Pit  
**Logged By:** P Price  
**Checked By:** J Keay

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)

Remarks: 1. Trial pit complete at 0.25m bgl.  
 2. Groundwater was not encountered.  
 3. Backfill details: Arisings from 0.25mbgl to GL.





Project: Hednesford Hills, Cannock

Project ID: GL17950

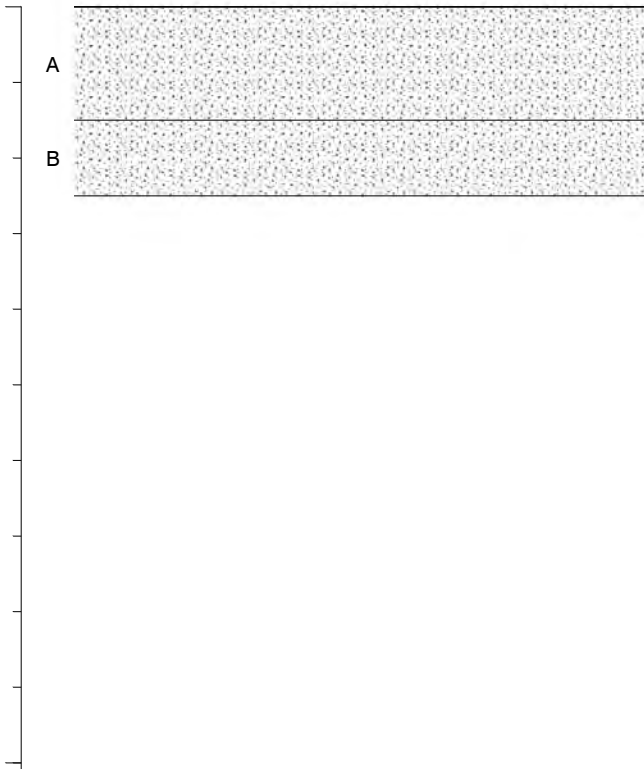
Trial Pit Length: 0.25m  
Trial Pit Width: 0.25m  
Trial Pit Orientation:

Coordinates:

Ground Level:

**SECTION**

Depth (m)  
Ground Level



Sample / Test		Remarks and Test Results
Type	Depth(m)	

ES1	0.25	
-----	------	--

**LITHOLOGY**

A Black peaty gravelly SAND. Gravel is fine to coarse rounded quartz and sandstone.

B Red grey gravelly SAND. Gravel is fine to coarse rounded sandstone and quartz.

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 29/01/2014  
**Plant:** Hand Excavated Trial Pit  
**Logged By:** P Price  
**Checked By:** J Keay

Water Level Observations			
Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)

Remarks: 1. Trial pit complete at 0.25m bgl.  
 2. Groundwater was not encountered.  
 3. Backfill details: Arisings from 0.25mbgl to GL.



Project: Hednesford Hills, Cannock

Project ID: GL17950

Trial Pit Length: 0.25m  
Trial Pit Width: 0.25m  
Trial Pit Orientation:

Coordinates:

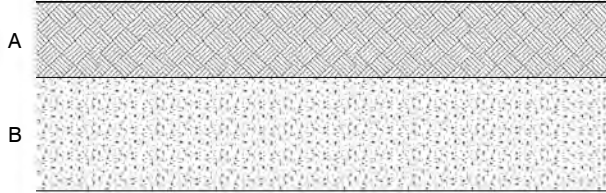
Ground Level:

**SECTION**

Depth (m)  
Ground Level

0.10

0.25



Sample / Test		Remarks and Test Results
Type	Depth(m)	
ES1	0.25	

Sample / Test		Remarks and Test Results
Type	Depth(m)	
ES1	0.25	

**LITHOLOGY**

A TOPSOIL

B Red grey gravelly SAND. Gravel is fine to coarse rounded sandstone and quartz.

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 29/01/2014  
**Plant:** Hand Excavated Trial Pit  
**Logged By:** P Price  
**Checked By:** J Keay

Water Level Observations			
Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)

Remarks: 1. Trial pit complete at 0.25m bgl.  
 2. Groundwater was not encountered.  
 3. Backfill details: Arisings from 0.25mbgl to GL.





Project: Hednesford Hills, Cannock

Project ID: GL17950

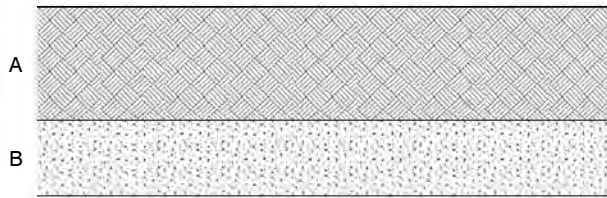
Trial Pit Length: 0.25m  
Trial Pit Width: 0.25m  
Trial Pit Orientation:

Coordinates:

Ground Level:

**SECTION**

Depth (m)  
Ground Level



Sample / Test		Remarks and Test Results
Type	Depth(m)	

ES1 0.25

**LITHOLOGY**

A TOPSOIL

B Red grey gravelly SAND. Gravel is fine to coarse rounded sandstone and quartz.

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 29/01/2014  
**Plant:** Hand Excavated Trial Pit  
**Logged By:** P Price  
**Checked By:** J Keay

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)

Remarks: 1. Trial pit complete at 0.25m bgl.  
 2. Groundwater was not encountered.  
 3. Backfill details: Arisings from 0.25mbgl to GL.



Project: Hednesford Hills, Cannock

Project ID: GL17950

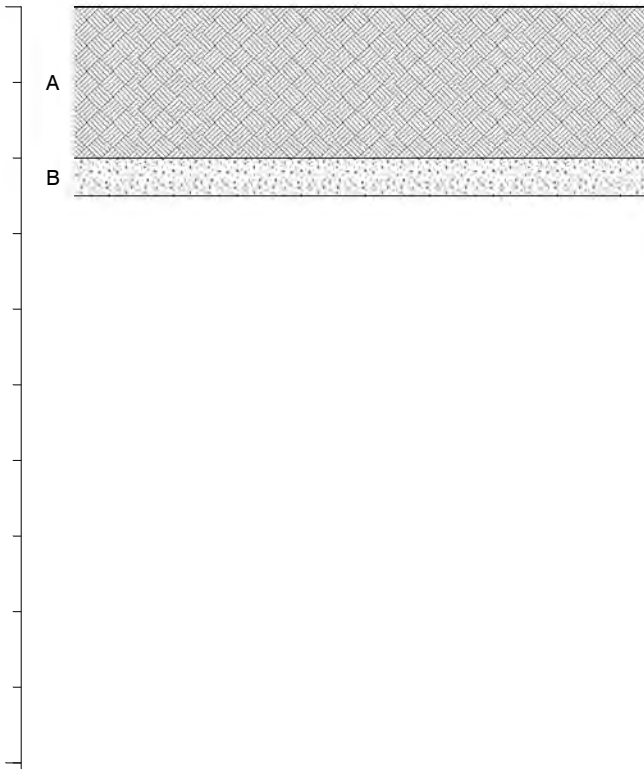
Trial Pit Length: 0.25m  
Trial Pit Width: 0.25m  
Trial Pit Orientation:

Coordinates:

Ground Level:

**SECTION**

Depth (m)  
Ground Level



Sample / Test		Remarks and Test Results
Type	Depth(m)	
ES1	0.25	

**LITHOLOGY**

A TOPSOIL

B Orange red gravelly SAND. Gravel is fine to coarse rounded sandstone and quartz

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 29/01/2014  
**Plant:** Hand Excavated Trial Pit  
**Logged By:** P Price  
**Checked By:** J Keay

Water Level Observations			
Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)

Remarks: 1. Trial pit complete at 0.25m bgl.  
 2. Groundwater was not encountered.  
 3. Backfill details: Arisings from 0.25mbgl to GL.





Project: Hednesford Hills, Cannock

Project ID: GL17950

Trial Pit Length: 0.25m  
Trial Pit Width: 0.25m  
Trial Pit Orientation:

Coordinates:

Ground Level:

**SECTION**

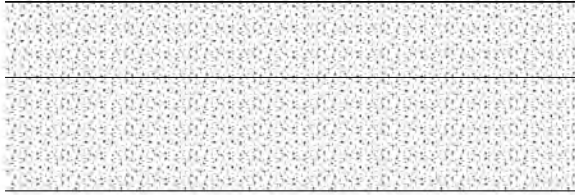
Depth (m)  
Ground Level

0.10

0.25

A

B



Sample / Test  
Type      Depth(m)

Remarks  
and  
Test Results

ES1

0.25

**LITHOLOGY**

A Black peaty gravelly SAND. Gravel is fine to coarse rounded quartz and sandstone.

B Red grey gravelly SAND with low cobble content. Gravel is fine to coarse rounded sandstone and quartz.

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 29/01/2014  
**Plant:** Hand Excavated Trial Pit  
**Logged By:** P Price  
**Checked By:** J Keay

Water Level Observations

Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)

Remarks: 1. Trial pit complete at 0.25m bgl.  
2. Groundwater was not encountered.  
3. Backfill details: Arisings from 0.25mbgl to GL.



Project: Hednesford Hills, Cannock

Project ID: GL17950

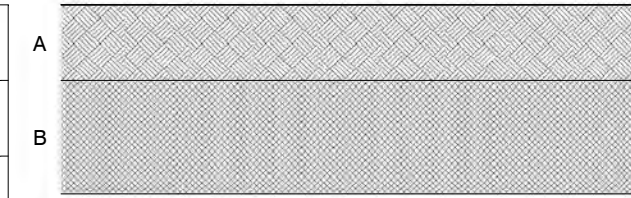
Trial Pit Length: 0.25m  
Trial Pit Width: 0.25m  
Trial Pit Orientation:

Coordinates:

Ground Level:

**SECTION**

Depth (m)  
Ground Level



Sample / Test		Remarks and Test Results
Type	Depth(m)	

ES1	0.25	
-----	------	--

**LITHOLOGY**

A TOPSOIL

B MADE GROUND. Dark brown mottled dark red brown slightly clayey gravelly SAND. Gravel is fine to coarse rounded sandstone quartz and metal.

**Client:** Campbell Reith Hill LLP  
**Engineer:** Campbell Reith Hill LLP  
**Contractor:** Harrison Group Environmental Limited  
**Date:** 29/01/2014  
**Plant:** Hand Excavated Trial Pit  
**Logged By:** P Price  
**Checked By:** J Keay

Water Level Observations			
Date	Water Strike (m)	Standing Time (Mins)	Standing Level (m)

Remarks: 1. Trial pit complete at 0.25m bgl.  
 2. Groundwater was not encountered.  
 3. Backfill details: Arisings from 0.25mbgl to GL.

















**Philip Price**

Harrison Group  
Unit A11  
Poplar Business park  
10 Prestons Road  
London  
E14 9RL

**t:** 02075379233  
**f:** 02079870361  
**e:** GL@harrisongroup.co.uk

i2 Analytical Ltd.  
7 Woodshots Meadow,  
Croxley Green  
Business Park,  
Watford,  
Herts,  
WD18 8YS

**t:** 01923 225404  
**f:** 01923 237404  
**e:** reception@i2analytical.com

**Analytical Report Number : 14-50630**

**Project / Site name:** Hedensford Hills , Cannock

**Samples received on:** 03/02/2014

**Your job number:** GL17950

**Samples instructed on:** 06/02/2014

**Your order number:** GL17950

**Analysis completed by:** 17/02/2014

**Report Issue Number:** 1

**Report issued on:** 17/02/2014

**Samples Analysed:** 42 soil samples

**Signed:**

Dr Claire Stone  
Quality Manager  
**For & on behalf of i2 Analytical Ltd.**

**Signed:**

Rexona Rahman  
Customer Services Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting  
leachates - 2 weeks from reporting  
waters - 2 weeks from reporting  
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Analytical Report Number: 14-50630

Project / Site name: Hedensford Hills , Cannock

Your Order No: GL17950

Lab Sample Number	313989				313990				313991				313992				313993			
Sample Reference	HA1				HA10				HA11				HA12				HA13			
Sample Number	ES1				ES1				ES1				ES1				ES1			
Depth (m)	0.25				0.25				0.25				0.25				0.25			
Date Sampled	28/01/2014				28/01/2014				28/01/2014				28/01/2014				28/01/2014			
Time Taken	None Supplied				None Supplied				None Supplied				None Supplied				None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status																	
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		
Moisture Content	%	N/A	NONE	11	15	7.6	5.6	7.5												
Total mass of sample received	kg	0.001	NONE	0.45	0.95	0.53	0.49	0.49												
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected												

#### General Inorganics

pH	pH Units	N/A	MCERTS	8.1	6.1	6.4	6.4	6.7
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	< 1
Organic Matter	%	0.1	MCERTS	-	-	-	-	-
Total Organic Carbon (TOC)	%	0.1	MCERTS	-	-	1.3	-	-

#### Total Phenols

Total Phenols (monohydric)	mg/kg	2	MCERTS	< 2.0	-	< 2.0	-	< 2.0
----------------------------	-------	---	--------	-------	---	-------	---	-------

#### Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20	0.73	< 0.20	< 0.20	< 0.20
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.2	MCERTS	< 0.20	0.31	< 0.20	< 0.20	< 0.20
Pyrene	mg/kg	0.2	MCERTS	< 0.20	0.25	< 0.20	< 0.20	< 0.20
Benzo(a)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

#### Total PAH

Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6
-----------------------------	-------	-----	--------	-------	-------	-------	-------	-------

#### Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	8.0	12	6.2	5.2	12
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.3	0.4	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	15	14	16	15	13
Copper (aqua regia extractable)	mg/kg	1	MCERTS	27	41	62	38	36
Lead (aqua regia extractable)	mg/kg	2	MCERTS	640	52	13	8.9	21
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	14	27	13	15	13
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	180	120	68	59	63





Analytical Report Number: 14-50630

Project / Site name: Hedensford Hills , Cannock

Your Order No: GL17950

Lab Sample Number				313989	313990	313991	313992	313993
Sample Reference				HA1	HA10	HA11	HA12	HA13
Sample Number				ES1	ES1	ES1	ES1	ES1
Depth (m)				0.25	0.25	0.25	0.25	0.25
Date Sampled				28/01/2014	28/01/2014	28/01/2014	28/01/2014	28/01/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

**Monoaromatics**

Compound	Units	Limit of detection	Accreditation Status	313989	313990	313991	313992	313993
Benzene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
Toluene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
p & m-xylene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
o-xylene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	-	-	-

**Petroleum Hydrocarbons**

TPH1 (C10 - C40)	mg/kg	Limit of detection	Accreditation Status	313989	313990	313991	313992	313993
TPH1 (C10 - C40)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	< 2.0	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	< 8.0	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	< 8.0	-	-	-
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	-	< 10	-	-	-
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	-	-	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	< 2.0	-	-	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	< 10	-	-	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	< 10	-	-	-
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	-	< 10	-	-	-

Analytical Report Number: 14-50630

Project / Site name: Hedensford Hills , Cannock

Your Order No: GL17950

Lab Sample Number	313994				313995				313996				313997				313998						
Sample Reference	HA14				HA15				HA16				HA17				HA18						
Sample Number	ES1				ES1				ES1				ES1				ES1						
Depth (m)	0.25				0.25				0.25				0.25				0.25						
Date Sampled	28/01/2014				28/01/2014				28/01/2014				28/01/2014				28/01/2014						
Time Taken	None Supplied				None Supplied				None Supplied				None Supplied				None Supplied						
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status																				
Stone Content	%	0.1	NONE	59				< 0.1				59				< 0.1							
Moisture Content	%	N/A	NONE	10				13				7.4				13				14			
Total mass of sample received	kg	0.001	NONE	0.43				0.48				0.66				0.44				0.46			
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected				Not-detected				Not-detected				Not-detected				Not-detected			

#### General Inorganics

	pH Units	N/A	MCERTS	5.4				6.2				6.1				4.7				4.3			
Total Cyanide	mg/kg	1	MCERTS	< 1				< 1				< 1				< 1				< 1			
Free Cyanide	mg/kg	1	NONE	< 1				< 1				< 1				< 1				< 1			
Organic Matter	%	0.1	MCERTS	-				-				-				-				-			
Total Organic Carbon (TOC)	%	0.1	MCERTS	-				-				-				1.7				-			

#### Total Phenols

Total Phenols (monohydric)	mg/kg	2	MCERTS	-				< 2.0				< 2.0				-				-			
----------------------------	-------	---	--------	---	--	--	--	-------	--	--	--	-------	--	--	--	---	--	--	--	---	--	--	--

#### Speciated PAHs

	mg/kg	0.05	MCERTS	< 0.05				< 0.05				< 0.05				< 0.05				< 0.05			
Naphthalene	mg/kg	0.05	MCERTS	< 0.05				< 0.05				< 0.05				< 0.05				< 0.05			
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20				< 0.20				< 0.20				< 0.20				< 0.20			
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10				< 0.10				< 0.10				< 0.10				< 0.10			
Fluorene	mg/kg	0.2	MCERTS	< 0.20				< 0.20				< 0.20				< 0.20				< 0.20			
Phenanthrene	mg/kg	0.2	MCERTS	0.91				< 0.20				< 0.20				< 0.20				< 0.20			
Anthracene	mg/kg	0.1	MCERTS	0.14				< 0.10				< 0.10				< 0.10				< 0.10			
Fluoranthene	mg/kg	0.2	MCERTS	1.5				< 0.20				< 0.20				< 0.20				< 0.20			
Pyrene	mg/kg	0.2	MCERTS	1.3				< 0.20				< 0.20				< 0.20				< 0.20			
Benzo(a)anthracene	mg/kg	0.2	MCERTS	0.85				< 0.20				< 0.20				< 0.20				< 0.20			
Chrysene	mg/kg	0.05	MCERTS	0.91				< 0.05				< 0.05				< 0.05				< 0.05			
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.90				< 0.10				< 0.10				< 0.10				< 0.10			
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	0.45				< 0.20				< 0.20				< 0.20				< 0.20			
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.64				< 0.10				< 0.10				< 0.10				< 0.10			
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20				< 0.20				< 0.20				< 0.20				< 0.20			
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20				< 0.20				< 0.20				< 0.20				< 0.20			
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05				< 0.05				< 0.05				< 0.05				< 0.05			

#### Total PAH

Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	7.6				< 1.6				< 1.6				< 1.6				< 1.6			
-----------------------------	-------	-----	--------	-----	--	--	--	-------	--	--	--	-------	--	--	--	-------	--	--	--	-------	--	--	--

#### Heavy Metals / Metalloids

	mg/kg	1	MCERTS	18				9.1				7.1				8.9				10			
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	18				9.1				7.1				8.9				10			
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.1				0.4				< 0.2				< 0.2				< 0.2			
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0				< 4.0				< 4.0				< 4.0				< 4.0			
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	16				14				13				7.5				8.3			
Copper (aqua regia extractable)	mg/kg	1	MCERTS	97				35				23				25				10			
Lead (aqua regia extractable)	mg/kg	2	MCERTS	170				28				12				45				28			
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3				< 0.3				< 0.3				< 0.3				< 0.3			
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	39				14				11				5.7				2.8			
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0				< 1.0				< 1.0				< 1.0				< 1.0			
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	250				82				46				25				18			





Analytical Report Number: 14-50630

Project / Site name: Hedensford Hills , Cannock

Your Order No: GL17950

Lab Sample Number				313994	313995	313996	313997	313998
Sample Reference				HA14	HA15	HA16	HA17	HA18
Sample Number				ES1	ES1	ES1	ES1	ES1
Depth (m)				0.25	0.25	0.25	0.25	0.25
Date Sampled				28/01/2014	28/01/2014	28/01/2014	28/01/2014	28/01/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
<b>Monoaromatics</b>								
Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	-
o-xylene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-

**Petroleum Hydrocarbons**

TPH1 (C10 - C40)	mg/kg	10	MCERTS	130	< 10	< 10	110	39
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	-	-	-	-
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	-	-	-	-
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	-	-	-	-	-

Analytical Report Number: 14-50630

Project / Site name: Hedensford Hills , Cannock

Your Order No: GL17950

Lab Sample Number	313999				314000		314001		314002		314003	
Sample Reference	HA19				HA2		HA3		HA4		HA5	
Sample Number	ES1				ES1		ES1		ES1		ES1	
Depth (m)	0.25				0.25		0.25		0.25		0.25	
Date Sampled	28/01/2014				28/01/2014		28/01/2014		28/01/2014		28/01/2014	
Time Taken	None Supplied				None Supplied		None Supplied		None Supplied		None Supplied	
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status									
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Moisture Content	%	N/A	NONE	12	15	11	9.9	11	11	11	11	
Total mass of sample received	kg	0.001	NONE	0.54	0.92	0.49	0.47	0.52	0.52	0.52	0.52	
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected	

#### General Inorganics

pH	pH Units	N/A	MCERTS	5.9	5.4	6.5	5.9	6.1
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	< 1
Organic Matter	%	0.1	MCERTS	-	-	-	-	-
Total Organic Carbon (TOC)	%	0.1	MCERTS	-	-	-	-	1.6

#### Total Phenols

Total Phenols (monohydric)	mg/kg	2	MCERTS	< 2.0	-	< 2.0	-	< 2.0
----------------------------	-------	---	--------	-------	---	-------	---	-------

#### Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	0.32	< 0.20	< 0.20
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	0.66	< 0.20	< 0.20
Pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	0.63	< 0.20	< 0.20
Benzo(a)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	0.40	< 0.20	< 0.20
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.40	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.51	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	0.26	< 0.20	< 0.20
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	0.35	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

#### Total PAH

Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.6	< 1.6	3.6	< 1.6	< 1.6
-----------------------------	-------	-----	--------	-------	-------	-----	-------	-------

#### Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.7	8.5	14	7.9	5.1
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.3	0.4	0.3	0.2	0.3
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	10	11	33	11	19
Copper (aqua regia extractable)	mg/kg	1	MCERTS	23	42	83	23	29
Lead (aqua regia extractable)	mg/kg	2	MCERTS	31	1100	130	46	24
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	0.6	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	9.7	14	33	11	16
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	48	150	140	110	92





Analytical Report Number: 14-50630

Project / Site name: Hedensford Hills , Cannock

Your Order No: GL17950

Lab Sample Number				313999	314000	314001	314002	314003
Sample Reference				HA19	HA2	HA3	HA4	HA5
Sample Number				ES1	ES1	ES1	ES1	ES1
Depth (m)				0.25	0.25	0.25	0.25	0.25
Date Sampled				28/01/2014	28/01/2014	28/01/2014	28/01/2014	28/01/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
<b>Monoaromatics</b>								
Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	-
o-xylene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-

**Petroleum Hydrocarbons**

TPH1 (C10 - C40)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	-	-	-	-
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	-	-	-	-
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	-	-	-	-	-

Analytical Report Number: 14-50630

Project / Site name: Hedensford Hills , Cannock

Your Order No: GL17950

Lab Sample Number	314004				314005		314006		314007		314008	
Sample Reference	HA6				HA7		HA8		HA9		WS1	
Sample Number	ES1				ES1		ES1		ES1		ES1	
Depth (m)	0.25				0.25		0.25		0.25		0.10	
Date Sampled	28/01/2014				28/01/2014		28/01/2014		28/01/2014		28/01/2014	
Time Taken	None Supplied				None Supplied		None Supplied		None Supplied		None Supplied	
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status									
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Moisture Content	%	N/A	NONE	20	10	13	9.2	11				
Total mass of sample received	kg	0.001	NONE	0.44	0.43	0.42	0.43	0.48				
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	-				

#### General Inorganics

pH	pH Units	N/A	MCERTS	6.3	6.4	5.9	5.9	6.8
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	< 1
Organic Matter	%	0.1	MCERTS	-	-	-	-	-
Total Organic Carbon (TOC)	%	0.1	MCERTS	-	-	-	-	-

#### Total Phenols

Total Phenols (monohydric)	mg/kg	2	MCERTS	-	< 2.0	-	< 2.0	-
----------------------------	-------	---	--------	---	-------	---	-------	---

#### Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Phenanthrene	mg/kg	0.2	MCERTS	0.52	< 0.20	< 0.20	0.35	< 0.20
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.2	MCERTS	0.71	< 0.20	< 0.20	0.55	< 0.20
Pyrene	mg/kg	0.2	MCERTS	0.57	< 0.20	< 0.20	0.50	< 0.20
Benzo(a)anthracene	mg/kg	0.2	MCERTS	0.39	< 0.20	< 0.20	0.23	< 0.20
Chrysene	mg/kg	0.05	MCERTS	0.48	< 0.05	< 0.05	0.23	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	0.53	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	0.28	< 0.20	< 0.20	< 0.20	< 0.20
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.37	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

#### Total PAH

Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	4.0	< 1.6	< 1.6	2.0	< 1.6
-----------------------------	-------	-----	--------	-----	-------	-------	-----	-------

#### Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	21	15	6.1	6.4	42
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	2.1	0.4	< 0.2	< 0.2	1.0
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23	23	12	14	100
Copper (aqua regia extractable)	mg/kg	1	MCERTS	100	53	18	28	300
Lead (aqua regia extractable)	mg/kg	2	MCERTS	580	110	29	26	220
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	110	34	15	8.6	180
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	580	110	74	53	220





Analytical Report Number: 14-50630

Project / Site name: Hedensford Hills , Cannock

Your Order No: GL17950

Lab Sample Number				314004	314005	314006	314007	314008
Sample Reference				HA6	HA7	HA8	HA9	WS1
Sample Number				ES1	ES1	ES1	ES1	ES1
Depth (m)				0.25	0.25	0.25	0.25	0.10
Date Sampled				28/01/2014	28/01/2014	28/01/2014	28/01/2014	28/01/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
<b>Monoaromatics</b>								
Benzene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
Toluene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
o-xylene	µg/kg	1	MCERTS	< 1.0	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	-	-	-	-

**Petroleum Hydrocarbons**

TPH1 (C10 - C40)	mg/kg	10	MCERTS	15	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	15	-	-	-	-
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	15	-	-	-	-
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	-	-	-	-
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10	-	-	-	-

Analytical Report Number: 14-50630

Project / Site name: Hedensford Hills , Cannock

Your Order No: GL17950

Lab Sample Number				314009	314010	314011	314012	314013
Sample Reference				WS1	WS1	WS1	WS10	WS2
Sample Number				ES2	ES4	ES7	ES2	ES1
Depth (m)				0.50	1.50	4.00	0.35	0.05
Date Sampled				28/01/2014	28/01/2014	28/01/2014	28/01/2014	28/01/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	7.1	9.8	13	6.5	18
Total mass of sample received	kg	0.001	NONE	0.52	0.53	0.47	0.51	0.45
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	-	-	-

#### General Inorganics

pH	pH Units	N/A	MCERTS	6.7	-	-	5.7	6.6
Total Cyanide	mg/kg	1	MCERTS	< 1	-	-	< 1	< 1
Free Cyanide	mg/kg	1	NONE	< 1	-	-	< 1	< 1
Organic Matter	%	0.1	MCERTS	2.3	1.9	0.7	-	-
Total Organic Carbon (TOC)	%	0.1	MCERTS	1.4	1.1	0.4	-	-

#### Total Phenols

Total Phenols (monohydric)	mg/kg	2	MCERTS	-	-	-	< 2.0	-
----------------------------	-------	---	--------	---	---	---	-------	---

#### Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	-	-	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	-	-	< 0.20	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	-	-	< 0.10	< 0.10
Fluorene	mg/kg	0.2	MCERTS	< 0.20	-	-	< 0.20	< 0.20
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20	-	-	< 0.20	< 0.20
Anthracene	mg/kg	0.1	MCERTS	< 0.10	-	-	< 0.10	< 0.10
Fluoranthene	mg/kg	0.2	MCERTS	< 0.20	-	-	< 0.20	0.42
Pyrene	mg/kg	0.2	MCERTS	< 0.20	-	-	< 0.20	0.42
Benzo(a)anthracene	mg/kg	0.2	MCERTS	< 0.20	-	-	< 0.20	0.26
Chrysene	mg/kg	0.05	MCERTS	< 0.05	-	-	< 0.05	0.30
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	-	-	< 0.10	0.38
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	-	-	< 0.20	0.20
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	-	-	< 0.10	0.21
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	-	-	< 0.20	< 0.20
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	-	-	< 0.20	< 0.20
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	-	-	< 0.05	< 0.05

#### Total PAH

Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.6	-	-	< 1.6	2.2
-----------------------------	-------	-----	--------	-------	---	---	-------	-----

#### Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	-	-	6.6	9.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.4	-	-	< 0.2	0.5
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	-	-	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	14	-	-	12	17
Copper (aqua regia extractable)	mg/kg	1	MCERTS	61	-	-	23	130
Lead (aqua regia extractable)	mg/kg	2	MCERTS	31	-	-	17	94
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	-	-	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	23	-	-	8.0	19
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	140	-	-	32	190





Analytical Report Number: 14-50630

Project / Site name: Hedensford Hills , Cannock

Your Order No: GL17950

Lab Sample Number				314009	314010	314011	314012	314013
Sample Reference				WS1	WS1	WS1	WS10	WS2
Sample Number				ES2	ES4	ES7	ES2	ES1
Depth (m)				0.50	1.50	4.00	0.35	0.05
Date Sampled				28/01/2014	28/01/2014	28/01/2014	28/01/2014	28/01/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
<b>Monoaromatics</b>								
Benzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0

**Petroleum Hydrocarbons**

TPH1 (C10 - C40)	mg/kg	10	MCERTS	< 10	-	-	< 10	< 10
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	-	-	-	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	-	-	-	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	-	-	-	< 8.0
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10	-	-	-	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	-	-	-	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	-	-	-	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	-	-	-	< 10
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10	-	-	-	< 10

Analytical Report Number: 14-50630

Project / Site name: Hedensford Hills , Cannock

Your Order No: GL17950

Lab Sample Number	314014				314015		314016		314017		314018	
Sample Reference	WS2				WS3		WS3		WS3		WS3	
Sample Number	ES2				ES1		ES2		ES3		ES4	
Depth (m)	0.50				0.10		0.50		1.00		1.60	
Date Sampled	28/01/2014				28/01/2014		28/01/2014		28/01/2014		28/01/2014	
Time Taken	None Supplied				None Supplied		None Supplied		None Supplied		None Supplied	
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status									
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	
Moisture Content	%	N/A	NONE	13	16	10	8.1	18	18	18	18	
Total mass of sample received	kg	0.001	NONE	0.47	0.44	0.53	0.52	0.45	0.45	0.45	0.45	
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	Not-detected	-	-	-	-	-	

#### General Inorganics

pH	pH Units	N/A	MCERTS	6.8	6.7	7.2	-	-
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	-	-
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	-	-
Organic Matter	%	0.1	MCERTS	-	-	-	1.3	2.2
Total Organic Carbon (TOC)	%	0.1	MCERTS	-	-	-	-	-

#### Total Phenols

Total Phenols (monohydric)	mg/kg	2	MCERTS	< 2.0	-	< 2.0	-	-
----------------------------	-------	---	--------	-------	---	-------	---	---

#### Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	-	-
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	-	-
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	-	-
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	-	-
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20	0.38	< 0.20	-	-
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	-	-
Fluoranthene	mg/kg	0.2	MCERTS	< 0.20	0.45	< 0.20	-	-
Pyrene	mg/kg	0.2	MCERTS	< 0.20	0.40	< 0.20	-	-
Benzo(a)anthracene	mg/kg	0.2	MCERTS	< 0.20	0.26	< 0.20	-	-
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.25	< 0.05	-	-
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	0.29	< 0.10	-	-
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	-	-
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	0.18	< 0.10	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	-	-
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	-	-

#### Total PAH

Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.6	2.2	< 1.6	-	-
-----------------------------	-------	-----	--------	-------	-----	-------	---	---

#### Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	43	14	9.6	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.4	0.9	< 0.2	-	-
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	59	17	15	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	870	63	43	-	-
Lead (aqua regia extractable)	mg/kg	2	MCERTS	310	100	20	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	-	-
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	55	30	26	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	330	200	76	-	-



Analytical Report Number: 14-50630

Project / Site name: Hedensford Hills , Cannock

Your Order No: GL17950

Lab Sample Number				314014	314015	314016	314017	314018
Sample Reference				WS2	WS3	WS3	WS3	WS3
Sample Number				ES2	ES1	ES2	ES3	ES4
Depth (m)				0.50	0.10	0.50	1.00	1.60
Date Sampled				28/01/2014	28/01/2014	28/01/2014	28/01/2014	28/01/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
<b>Monoaromatics</b>								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-

**Petroleum Hydrocarbons**

TPH1 (C10 - C40)	mg/kg	10	MCERTS	28	< 10	< 10	-	-
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	-	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	-	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	-	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	-	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	13	< 8.0	< 8.0	-	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	16	8.5	< 8.0	-	-
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	29	< 10	< 10	-	-
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	-	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	-	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	-	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	-	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10	-	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10	-	-
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10	< 10	< 10	-	-



Analytical Report Number: 14-50630

Project / Site name: Hedensford Hills , Cannock

Your Order No: GL17950

Lab Sample Number	314019				314020				314021				314022				314023						
Sample Reference	WS3				WS4				WS4				WS5				WS5						
Sample Number	ES6				ES1				ES2				ES1				ES2						
Depth (m)	3.50				0.10				0.50				0.10				0.50						
Date Sampled	28/01/2014				28/01/2014				28/01/2014				28/01/2014				28/01/2014						
Time Taken	None Supplied				None Supplied				None Supplied				None Supplied				None Supplied						
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status																				
Stone Content	%	0.1	NONE	< 0.1				< 0.1				< 0.1				< 0.1							
Moisture Content	%	N/A	NONE	12				21				7.6				25				9.0			
Total mass of sample received	kg	0.001	NONE	0.50				0.38				0.49				0.39				0.40			
Asbestos in Soil	Type	N/A	ISO 17025	-				-				Not-detected				-				Not-detected			

#### General Inorganics

	pH Units	N/A	MCERTS																				
pH				-				7.0				7.7				7.4				7.4			
Total Cyanide	mg/kg	1	MCERTS	-				< 1				< 1				< 1				< 1			
Free Cyanide	mg/kg	1	NONE	-				< 1				< 1				< 1				< 1			
Organic Matter	%	0.1	MCERTS	1.7				-				-				-				-			
Total Organic Carbon (TOC)	%	0.1	MCERTS	1.0				-				0.8				-				1.9			

#### Total Phenols

Total Phenols (monohydric)	mg/kg	2	MCERTS	-				< 2.0				-				-				< 2.0			
----------------------------	-------	---	--------	---	--	--	--	-------	--	--	--	---	--	--	--	---	--	--	--	-------	--	--	--

#### Speciated PAHs

	mg/kg	0.05	MCERTS	-				< 0.05				< 0.05				< 0.05				< 0.05			
Naphthalene	mg/kg	0.05	MCERTS	-				< 0.05				< 0.05				< 0.05				< 0.05			
Acenaphthylene	mg/kg	0.2	MCERTS	-				< 0.20				< 0.20				< 0.20				< 0.20			
Acenaphthene	mg/kg	0.1	MCERTS	-				< 0.10				< 0.10				< 0.10				0.30			
Fluorene	mg/kg	0.2	MCERTS	-				< 0.20				< 0.20				< 0.20				0.20			
Phenanthrene	mg/kg	0.2	MCERTS	-				0.52				< 0.20				0.42				2.5			
Anthracene	mg/kg	0.1	MCERTS	-				0.12				< 0.10				< 0.10				0.75			
Fluoranthene	mg/kg	0.2	MCERTS	-				1.0				< 0.20				0.90				7.1			
Pyrene	mg/kg	0.2	MCERTS	-				0.98				< 0.20				0.88				6.7			
Benzo(a)anthracene	mg/kg	0.2	MCERTS	-				0.54				< 0.20				0.60				3.6			
Chrysene	mg/kg	0.05	MCERTS	-				0.62				< 0.05				0.62				3.3			
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	-				0.79				< 0.10				0.84				6.1			
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	-				0.39				< 0.20				0.71				3.2			
Benzo(a)pyrene	mg/kg	0.1	MCERTS	-				0.60				< 0.10				0.63				5.6			
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	-				0.21				< 0.20				0.26				2.3			
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	-				< 0.20				< 0.20				< 0.20				0.48			
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-				0.35				< 0.05				0.33				2.7			

#### Total PAH

Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	-				6.2				< 1.6				6.2				45			
-----------------------------	-------	-----	--------	---	--	--	--	-----	--	--	--	-------	--	--	--	-----	--	--	--	----	--	--	--

#### Heavy Metals / Metalloids

	mg/kg	1	MCERTS	-				14				7.8				8.3				7.4			
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-				14				7.8				8.3				7.4			
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-				1.2				0.5				0.3				0.4			
Chromium (hexavalent)	mg/kg	4	MCERTS	-				< 4.0				< 4.0				< 4.0				< 4.0			
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-				60				21				11				22			
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-				86				40				33				52			
Lead (aqua regia extractable)	mg/kg	2	MCERTS	-				150				41				52				46			
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-				< 0.3				< 0.3				< 0.3				< 0.3			
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	-				42				39				25				41			
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-				< 1.0				< 1.0				< 1.0				< 1.0			
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	-				280				170				110				160			



Analytical Report Number: 14-50630

Project / Site name: Hedensford Hills , Cannock

Your Order No: GL17950

Lab Sample Number				314019	314020	314021	314022	314023
Sample Reference				WS3	WS4	WS4	WS5	WS5
Sample Number				ES6	ES1	ES2	ES1	ES2
Depth (m)				3.50	0.10	0.50	0.10	0.50
Date Sampled				28/01/2014	28/01/2014	28/01/2014	28/01/2014	28/01/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
<b>Monoaromatics</b>								
Benzene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0

**Petroleum Hydrocarbons**

TPH1 (C10 - C40)	mg/kg	10	MCERTS	-	50	< 10	51	570
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	-	-	-	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	-	-	-	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	-	< 0.1	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	< 2.0	3.8
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	-	-	< 8.0	8.8
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	-	-	17	160
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	-	-	-	17	170
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	-	-	-	< 0.1	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	-	-	-	< 0.1	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	-	-	< 0.1	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	-	-	< 2.0	6.8
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	-	-	< 10	82
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	-	-	25	300
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	-	-	-	25	390

Analytical Report Number: 14-50630

Project / Site name: Hedensford Hills , Cannock

Your Order No: GL17950

Lab Sample Number				314024	314025	314026	314027	314028
Sample Reference				WS6	WS6	WS7	WS7	WS8
Sample Number				ES1	ES2	ES1	ES2	ES1
Depth (m)				0.10	0.50	0.10	0.50	0.15
Date Sampled				28/01/2014	28/01/2014	28/01/2014	28/01/2014	28/01/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	19	8.8	16	7.3	9.2
Total mass of sample received	kg	0.001	NONE	0.40	0.55	0.43	0.52	0.46
Asbestos in Soil	Type	N/A	ISO 17025	-	Not-detected	-	Not-detected	-

#### General Inorganics

	pH Units	N/A	MCERTS	7.1	7.0	6.4	6.7	6.5
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Free Cyanide	mg/kg	1	NONE	< 1	< 1	< 1	< 1	< 1
Organic Matter	%	0.1	MCERTS	-	3.0	-	-	-
Total Organic Carbon (TOC)	%	0.1	MCERTS	-	1.7	-	-	-

#### Total Phenols

Total Phenols (monohydric)	mg/kg	2	MCERTS	-	-	< 2.0	-	-
----------------------------	-------	---	--------	---	---	-------	---	---

#### Speciated PAHs

	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Phenanthrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Anthracene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Benzo(a)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Benzo(a)pyrene	mg/kg	0.1	MCERTS	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

#### Total PAH

Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6
-----------------------------	-------	-----	--------	-------	-------	-------	-------	-------

#### Heavy Metals / Metalloids

	mg/kg	1	MCERTS	6.1	8.7	6.5	9.7	5.9
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.1	8.7	6.5	9.7	5.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.2	< 0.2	0.4	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	8.8	15	11	22	12
Copper (aqua regia extractable)	mg/kg	1	MCERTS	23	24	24	25	18
Lead (aqua regia extractable)	mg/kg	2	MCERTS	46	39	54	64	29
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	7.7	14	11	19	8.0
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	98	87	120	81	63





Analytical Report Number: 14-50630

Project / Site name: Hedensford Hills , Cannock

Your Order No: GL17950

Lab Sample Number				314024	314025	314026	314027	314028
Sample Reference				WS6	WS6	WS7	WS7	WS8
Sample Number				ES1	ES2	ES1	ES2	ES1
Depth (m)				0.10	0.50	0.10	0.50	0.15
Date Sampled				28/01/2014	28/01/2014	28/01/2014	28/01/2014	28/01/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
<b>Monoaromatics</b>								
Benzene	µg/kg	1	MCERTS	-	< 1.0	-	-	< 1.0
Toluene	µg/kg	1	MCERTS	-	< 1.0	-	-	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	-	< 1.0
p & m-xylene	µg/kg	1	MCERTS	-	< 1.0	-	-	< 1.0
o-xylene	µg/kg	1	MCERTS	-	< 1.0	-	-	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	-	-	< 1.0

**Petroleum Hydrocarbons**

TPH1 (C10 - C40)	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	-	< 0.1	-	-	< 0.1
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	-	< 0.1	-	-	< 0.1
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	< 0.1	-	-	< 0.1
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	-	-	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	< 2.0	-	-	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	< 8.0	-	-	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	< 8.0	-	-	< 8.0
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	-	< 10	-	-	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	-	< 0.1	-	-	< 0.1
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	-	< 0.1	-	-	< 0.1
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	-	< 0.1	-	-	< 0.1
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	-	-	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	< 2.0	-	-	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	< 10	-	-	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	< 10	-	-	< 10
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	-	< 10	-	-	< 10

Analytical Report Number: 14-50630

Project / Site name: Hedensford Hills , Cannock

Your Order No: GL17950

Lab Sample Number				314029	314030		
Sample Reference				WS8	WS9		
Sample Number				ES2	ES2		
Depth (m)				0.56	0.25		
Date Sampled				28/01/2014	28/01/2014		
Time Taken				None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Stone Content	%	0.1	NONE	< 0.1	< 0.1		
Moisture Content	%	N/A	NONE	12	16		
Total mass of sample received	kg	0.001	NONE	0.46	0.45		
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-		

#### General Inorganics

pH	pH Units	N/A	MCERTS	6.9	7.5		
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1		
Free Cyanide	mg/kg	1	NONE	< 1	< 1		
Organic Matter	%	0.1	MCERTS	4.4	-		
Total Organic Carbon (TOC)	%	0.1	MCERTS	2.5	3.2		

#### Total Phenols

Total Phenols (monohydric)	mg/kg	2	MCERTS	-	-		
----------------------------	-------	---	--------	---	---	--	--

#### Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05		
Acenaphthylene	mg/kg	0.2	MCERTS	< 0.20	< 0.20		
Acenaphthene	mg/kg	0.1	MCERTS	< 0.10	< 0.10		
Fluorene	mg/kg	0.2	MCERTS	< 0.20	< 0.20		
Phenanthrene	mg/kg	0.2	MCERTS	0.75	0.92		
Anthracene	mg/kg	0.1	MCERTS	< 0.10	0.23		
Fluoranthene	mg/kg	0.2	MCERTS	0.37	1.8		
Pyrene	mg/kg	0.2	MCERTS	0.30	1.5		
Benzo(a)anthracene	mg/kg	0.2	MCERTS	0.20	0.86		
Chrysene	mg/kg	0.05	MCERTS	0.20	0.97		
Benzo(b)fluoranthene	mg/kg	0.1	MCERTS	< 0.10	1.0		
Benzo(k)fluoranthene	mg/kg	0.2	MCERTS	< 0.20	0.71		
Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.10	0.86		
Indeno(1,2,3-cd)pyrene	mg/kg	0.2	MCERTS	< 0.20	0.35		
Dibenz(a,h)anthracene	mg/kg	0.2	MCERTS	< 0.20	< 0.20		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	0.47		

#### Total PAH

Speciated Total EPA-16 PAHs	mg/kg	1.6	MCERTS	2.0	9.8		
-----------------------------	-------	-----	--------	-----	-----	--	--

#### Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	8.3	8.2		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.3	0.6		
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	11	20		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	35	81		
Lead (aqua regia extractable)	mg/kg	2	MCERTS	36	93		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3		
Nickel (aqua regia extractable)	mg/kg	2	MCERTS	26	23		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0		
Zinc (aqua regia extractable)	mg/kg	2	MCERTS	120	210		



Analytical Report Number: 14-50630

Project / Site name: Hedensford Hills , Cannock

Your Order No: GL17950

Lab Sample Number				314029	314030			
Sample Reference				WS8	WS9			
Sample Number				ES2	ES2			
Depth (m)				0.56	0.25			
Date Sampled				28/01/2014	28/01/2014			
Time Taken				None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
<b>Monoaromatics</b>								
Benzene	µg/kg	1	MCERTS	< 1.0	-			
Toluene	µg/kg	1	MCERTS	< 1.0	-			
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	-			
p & m-xylene	µg/kg	1	MCERTS	< 1.0	-			
o-xylene	µg/kg	1	MCERTS	< 1.0	-			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	-			

**Petroleum Hydrocarbons**

TPH1 (C10 - C40)	mg/kg	10	MCERTS	< 10	53			
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.1	MCERTS	< 0.1	-			
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.1	MCERTS	< 0.1	-			
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	-			
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	-			
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	-			
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	-			
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	-			
<b>TPH-CWG - Aliphatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10	-			
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.1	MCERTS	< 0.1	-			
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.1	MCERTS	< 0.1	-			
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.1	MCERTS	< 0.1	-			
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	-			
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	-			
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	-			
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	-			
<b>TPH-CWG - Aromatic (EC5 - EC35)</b>	mg/kg	10	MCERTS	< 10	-			





**Analytical Report Number : 14-50630**

**Project / Site name: Hedensford Hills , Cannock**

\* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and topsoil/loam soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of

a sample is calculated as the % weight of the stones not passing a 2 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
313989	HA1	ES1	0.25	Brown topsoil and clay with gravel and vegetation.
313990	HA10	ES1	0.25	Brown topsoil and sand with gravel and vegetation.
313991	HA11	ES1	0.25	Brown topsoil and sand with gravel and vegetation.
313992	HA12	ES1	0.25	Brown sandy topsoil with gravel and vegetation.
313993	HA13	ES1	0.25	Brown sandy topsoil with gravel and vegetation.
313994	HA14	ES1	0.25	Brown topsoil and sand with stones and vegetation.
313995	HA15	ES1	0.25	Brown topsoil and sand with gravel and vegetation.
313996	HA16	ES1	0.25	Brown clay and topsoil with stones and vegetation.
313997	HA17	ES1	0.25	Brown topsoil and sand with gravel and vegetation.
313998	HA18	ES1	0.25	Brown topsoil and sand with gravel and vegetation.
313999	HA19	ES1	0.25	Brown clay and topsoil with gravel and vegetation.
314000	HA2	ES1	0.25	Brown topsoil and sand with gravel and vegetation.
314001	HA3	ES1	0.25	Brown topsoil and sand with gravel and vegetation.
314002	HA4	ES1	0.25	Brown sandy topsoil with gravel and vegetation.
314003	HA5	ES1	0.25	Brown sandy topsoil with gravel and vegetation.
314004	HA6	ES1	0.25	Brown topsoil and sand with gravel and vegetation.
314005	HA7	ES1	0.25	Brown topsoil and sand with brick and vegetation.
314006	HA8	ES1	0.25	Brown sandy topsoil with gravel and vegetation.
314007	HA9	ES1	0.25	Brown sandy topsoil with gravel and vegetation.
314008	WS1	ES1	0.10	Brown topsoil and clay with gravel and vegetation.
314009	WS1	ES2	0.50	Brown topsoil and sand with gravel.
314010	WS1	ES4	1.50	Brown clay and sand with brick.
314011	WS1	ES7	4.00	Light brown clay.
314012	WS10	ES2	0.35	Brown topsoil and sand with gravel and vegetation.
314013	WS2	ES1	0.05	Brown sandy topsoil with gravel and vegetation.
314014	WS2	ES2	0.50	Brown sandy topsoil with gravel and vegetation.
314015	WS3	ES1	0.10	Brown sandy topsoil with gravel and vegetation.
314016	WS3	ES2	0.50	Brown topsoil and clay with gravel.
314017	WS3	ES3	1.00	Brown topsoil and clay with gravel.
314018	WS3	ES4	1.60	Grey clay and sand.
314019	WS3	ES6	3.50	Grey clay and sand.
314020	WS4	ES1	0.10	Brown topsoil and sand with vegetation.
314021	WS4	ES2	0.50	Brown topsoil and sand with gravel and vegetation.
314022	WS5	ES1	0.10	Brown topsoil and sand with gravel and vegetation.
314023	WS5	ES2	0.50	Brown topsoil and clay with rubble.
314024	WS6	ES1	0.10	Brown topsoil and sand with vegetation.
314025	WS6	ES2	0.50	Brown topsoil and sand with gravel and vegetation.
314026	WS7	ES1	0.10	Brown topsoil and sand with gravel and vegetation.
314027	WS7	ES2	0.50	Brown topsoil and clay with gravel and vegetation.
314028	WS8	ES1	0.15	Brown sandy topsoil with gravel and vegetation.
314029	WS8	ES2	0.56	Brown sandy clay with coal.
314030	WS9	ES2	0.25	Brown topsoil and clay with gravel and vegetation.



**Analytical Report Number : 14-50630**

**Project / Site name: Hedensford Hills , Cannock**

**Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)**

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
BTEX and MTBE in soil	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073S-PL	W	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
pH in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L005-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Stones not passing through a 10 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L023-PL	D	MCERTS
TPH1 (Soil)	Determination of dichloromethane/hexane extractable hydrocarbons in soil by GC-MS.	In-house method	L064-PL	D	MCERTS
TPHCWG (Soil)	Determination of pentane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method	L076-PL	W	MCERTS

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 300C.**



**John Keay**  
Harrison Group  
Unit F12  
Lantern's Court  
Millharbour  
London  
E14 9TU

**t:** 020 79877396  
**f:** 020 79878448  
**e:** johnk@harrisongroupuk.com

i2 Analytical Ltd.  
7 Woodshots Meadow,  
Croxley Green  
Business Park,  
Watford,  
Herts,  
WD18 8YS

**t:** 01923 225404  
**f:** 01923 237404  
**e:** reception@i2analytical.com

## **Analytical Report Number : 14-51482**

**Project / Site name:** Cannock Chase Hednesford Hills

**Samples received on:** 03/02/2014

**Your job number:** GL17950

**Samples instructed on:** 28/02/2014

**Your order number:**

**Analysis completed by:** 05/03/2014

**Report Issue Number:** 1

**Report issued on:** 05/03/2014

**Samples Analysed:** 30 soil samples

**Signed:**

Thurstan Plummer  
Organics Technical Manager  
**For & on behalf of i2 Analytical Ltd.**

**Signed:**

Rexona Rahman  
Customer Services Manager  
**For & on behalf of i2 Analytical Ltd.**

Other office located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting  
leachates - 2 weeks from reporting  
waters - 2 weeks from reporting  
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.





**Analytical Report Number: 14-51482**

**Project / Site name: Cannock Chase Hednesford Hills**

Lab Sample Number				319789	319790	319791	319792	319793
Sample Reference				HA1 Subsample 1	HA1 Subsample 2	HA1 Subsample 3	HA1 Subsample 4	HA1 Subsample 5
Sample Number				313989	313989	313989	313989	313989
Depth (m)				0.25	0.25	0.25	0.25	0.25
Date Sampled				28/01/2014	28/01/2014	28/01/2014	28/01/2014	28/01/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	11	11	11	11	11
Total mass of sample received	kg	0.001	NONE	0.45	0.45	0.45	0.45	0.45

**Speciated PAHs**

Benzo(a)pyrene	mg/kg	0.1	MCERTS	-	-	-	-	-
----------------	-------	-----	--------	---	---	---	---	---

**Heavy Metals / Metalloids**

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Lead (aqua regia extractable)	mg/kg	2	MCERTS	2000	2100	1800	1700	1700



Analytical Report Number: 14-51482

Project / Site name: Cannock Chase Hednesford Hills

Lab Sample Number				319794	319795	319796	319797	319798
Sample Reference				HA2 Subsample 1	HA2 Subsample 2	HA2 Subsample 3	HA2 Subsample 4	HA2 Subsample 5
Sample Number				314000	314000	314000	314000	314000
Depth (m)				0.25	0.25	0.25	0.25	0.25
Date Sampled				28/01/2014	28/01/2014	28/01/2014	28/01/2014	28/01/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	15	15	15	15	15
Total mass of sample received	kg	0.001	NONE	0.92	0.92	0.92	0.92	0.92

**Speciated PAHs**

Benzo(a)pyrene	mg/kg	0.1	MCERTS	-	-	-	-	-
----------------	-------	-----	--------	---	---	---	---	---

**Heavy Metals / Metalloids**

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Lead (aqua regia extractable)	mg/kg	2	MCERTS	88	92	90	92	82



**Analytical Report Number: 14-51482**

**Project / Site name: Cannock Chase Hednesford Hills**

Lab Sample Number				319799	319800	319801	319802	319803
Sample Reference				HA6 Subsample 1	HA6 Subsample 2	HA6 Subsample 3	HA6 Subsample 4	HA6 Subsample 5
Sample Number				314004	314004	314004	314004	314004
Depth (m)				0.25	0.25	0.25	0.25	0.25
Date Sampled				28/01/2014	28/01/2014	28/01/2014	28/01/2014	28/01/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	20	20	20	20	20
Total mass of sample received	kg	0.001	NONE	0.44	0.44	0.44	0.44	0.44

**Speciated PAHs**

Benzo(a)pyrene	mg/kg	0.1	MCERTS	-	-	-	-	-
----------------	-------	-----	--------	---	---	---	---	---

**Heavy Metals / Metalloids**

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Lead (aqua regia extractable)	mg/kg	2	MCERTS	310	290	280	440	300





Analytical Report Number: 14-51482

Project / Site name: Cannock Chase Hednesford Hills

Lab Sample Number				319804	319805	319806	319807	319808
Sample Reference				WS1 Subsample 1	WS1 Subsample 2	WS1 Subsample 3	WS1 Subsample 4	WS1 Subsample 5
Sample Number				314008	314008	314008	314008	314008
Depth (m)				0.10	0.10	0.10	0.10	0.10
Date Sampled				28/01/2014	28/01/2014	28/01/2014	28/01/2014	28/01/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	11	11	11	11	11
Total mass of sample received	kg	0.001	NONE	0.48	0.48	0.48	0.48	0.48

**Speciated PAHs**

Benzo(a)pyrene	mg/kg	0.1	MCERTS	-	-	-	-	-
----------------	-------	-----	--------	---	---	---	---	---

**Heavy Metals / Metalloids**

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	30	31	30	35	30
Lead (aqua regia extractable)	mg/kg	2	MCERTS	-	-	-	-	-



**Analytical Report Number: 14-51482**

**Project / Site name: Cannock Chase Hednesford Hills**

Lab Sample Number				319809	319810	319811	319812	319813
Sample Reference				WS2 Subsample 1	WS2 Subsample 2	WS2 Subsample 3	WS2 Subsample 4	WS2 Subsample 5
Sample Number				314014	314014	314014	314014	314014
Depth (m)				0.50	0.50	0.50	0.50	0.50
Date Sampled				28/01/2014	28/01/2014	28/01/2014	28/01/2014	28/01/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	13	13	13	13	13
Total mass of sample received	kg	0.001	NONE	0.47	0.47	0.47	0.47	0.47

**Speciated PAHs**

Benzo(a)pyrene	mg/kg	0.1	MCERTS	-	-	-	-	-
----------------	-------	-----	--------	---	---	---	---	---

**Heavy Metals / Metalloids**

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	36	37	40	36	34
Lead (aqua regia extractable)	mg/kg	2	MCERTS	-	-	-	-	-



**Analytical Report Number: 14-51482**

**Project / Site name: Cannock Chase Hednesford Hills**

Lab Sample Number				319814	319815	319816	319817	319818
Sample Reference				WS5 Subsample 1	WS5 Subsample 2	WS5 Subsample 3	WS5 Subsample 4	WS5 Subsample 5
Sample Number				314023	314023	314023	314023	314023
Depth (m)				0.50	0.50	0.50	0.50	0.50
Date Sampled				28/01/2014	28/01/2014	28/01/2014	28/01/2014	28/01/2014
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	9.0	9.0	9.0	9.0	9.0
Total mass of sample received	kg	0.001	NONE	0.40	0.40	0.40	0.40	0.40

**Speciated PAHs**

Benzo(a)pyrene	mg/kg	0.1	MCERTS	0.99	0.90	0.94	1.2	1.1

**Heavy Metals / Metalloids**

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	-	-	-	-
Lead (aqua regia extractable)	mg/kg	2	MCERTS	-	-	-	-	-





**Analytical Report Number : 14-51482**

**Project / Site name: Cannock Chase Hednesford Hills**

\* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and topsoil/loam soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of

a sample is calculated as the % weight of the stones not passing a 2 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
319789	HA1 Subsample	313989	0.25	Brown topsoil and clay with gravel and vegetation.
319790	HA1 Subsample	313989	0.25	Brown topsoil and clay with gravel and vegetation.
319791	HA1 Subsample	313989	0.25	Brown topsoil and clay with gravel and vegetation.
319792	HA1 Subsample	313989	0.25	Brown topsoil and clay with gravel and vegetation.
319793	HA1 Subsample	313989	0.25	Brown topsoil and clay with gravel and vegetation.
319794	HA2 Subsample	314000	0.25	Brown topsoil and sand with gravel and vegetation.
319795	HA2 Subsample	314000	0.25	Brown topsoil and sand with gravel and vegetation.
319796	HA2 Subsample	314000	0.25	Brown topsoil and sand with gravel and vegetation.
319797	HA2 Subsample	314000	0.25	Brown topsoil and sand with gravel and vegetation.
319798	HA2 Subsample	314000	0.25	Brown topsoil and sand with gravel and vegetation.
319799	HA6 Subsample	314004	0.25	Brown topsoil and sand with gravel and vegetation.
319800	HA6 Subsample	314004	0.25	Brown topsoil and sand with gravel and vegetation.
319801	HA6 Subsample	314004	0.25	Brown topsoil and sand with gravel and vegetation.
319802	HA6 Subsample	314004	0.25	Brown topsoil and sand with gravel and vegetation.
319803	HA6 Subsample	314004	0.25	Brown topsoil and sand with gravel and vegetation.
319804	VS1 Subsample	314008	0.10	Brown topsoil and clay with gravel and vegetation.
319805	VS1 Subsample	314008	0.10	Brown topsoil and clay with gravel and vegetation.
319806	VS1 Subsample	314008	0.10	Brown topsoil and clay with gravel and vegetation.
319807	VS1 Subsample	314008	0.10	Brown topsoil and clay with gravel and vegetation.
319808	VS1 Subsample	314008	0.10	Brown topsoil and clay with gravel and vegetation.
319809	VS2 Subsample	314014	0.50	Brown sandy topsoil with gravel and vegetation.
319810	VS2 Subsample	314014	0.50	Brown sandy topsoil with gravel and vegetation.
319811	VS2 Subsample	314014	0.50	Brown sandy topsoil with gravel and vegetation.
319812	VS2 Subsample	314014	0.50	Brown sandy topsoil with gravel and vegetation.
319813	VS2 Subsample	314014	0.50	Brown sandy topsoil with gravel and vegetation.
319814	VS5 Subsample	314023	0.50	Brown topsoil and clay with rubble.
319815	VS5 Subsample	314023	0.50	Brown topsoil and clay with rubble.
319816	VS5 Subsample	314023	0.50	Brown topsoil and clay with rubble.
319817	VS5 Subsample	314023	0.50	Brown topsoil and clay with rubble.
319818	VS5 Subsample	314023	0.50	Brown topsoil and clay with rubble.



**Analytical Report Number : 14-51482**

**Project / Site name: Cannock Chase Hednesford Hills**

**Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)**

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Stones not passing through a 10 mm sieve is determined gravimetrically and reported as a percentage of the dry weight. Sample	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE

**For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.**

**For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.**

**Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.**



Harrison Group Ltd  
Unit C14  
Poplar Business Park  
10 Prestons Road  
London  
E14 9RL

**Attention:** G I

## CERTIFICATE OF ANALYSIS

**Date:** 28 February 2014  
**Customer:** H\_HARRIS\_LON  
**Sample Delivery Group (SDG):** 140225-38  
**Your Reference:** GI17950  
**Location:** Hednesford  
**Report No:** 261648

We received 3 samples on Tuesday February 25, 2014 and 2 of these samples were scheduled for analysis which was completed on Friday February 28, 2014. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:

**Sonia McWhan**  
Operations Manager







**SDG:** 140225-38  
**Job:** H\_HARRIS\_LON-94  
**Client Reference:** GI17950

**Location:** Hednesford  
**Customer:** Harrison Group Ltd  
**Attention:** G I

**Order Number:**  
**Report Number:** 261648  
**Superseded Report:**

### Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
8897752	WS1			20/02/2014
8897749	WS5			20/02/2014
8897750	WS8			20/02/2014

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



SDG: 140225-38  
Job: H\_HARRIS\_LON-94  
Client Reference: GI17950

Location: Hednesford  
Customer: Harrison Group Ltd  
Attention: G I

Order Number:  
Report Number: 261648  
Superseded Report:

<b>GAS</b> <b>Results Legend</b> <input checked="" type="checkbox"/> Test <input type="checkbox"/> No Determination Possible	<b>Lab Sample No(s)</b>	8897750 8897752
	<b>Customer Sample Reference</b>	WS8 WS1
	<b>AGS Reference</b>	
	<b>Depth (m)</b>	
	<b>Container</b>	Tedlar Tedlar
Bulk Gas	All	NDPs: 0 Tests: 2 <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>



CERTIFICATE OF ANALYSIS

SDG: 140225-38
Job: H\_HARRIS\_LON-94
Client Reference: GI17950

Location: Hednesford
Customer: Harrison Group Ltd
Attention: G I

Order Number:
Report Number: 261648
Superseded Report:

Bulk Gas

Table with columns for Component, LOD/Units, Method, and results for samples WS1 and WS8. Includes a Results Legend and Customer Sample R details.





SDG: 140225-38  
Job: H\_HARRIS\_LON-94  
Client Reference: GI17950

Location: Hednesford  
Customer: Harrison Group Ltd  
Attention: G I

Order Number:  
Report Number: 261648  
Superseded Report:

### Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample <sup>1</sup>	Surrogate Corrected
TM053	MEWAM Methane & Hydrocarbon gases HMSO 1988	Determination of Bulk Gas Composition		

<sup>1</sup> Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.



SDG: 140225-38  
Job: H\_HARRIS\_LON-94  
Client Reference: GI17950

Location: Hednesford  
Customer: Harrison Group Ltd  
Attention: G I

Order Number:  
Report Number: 261648  
Superseded Report:

### Test Completion Dates

<b>Lab Sample No(s)</b>	8897752	8897750
<b>Customer Sample Ref.</b>	WS1	WS8
<b>AGS Ref.</b>		
<b>Depth</b>		
<b>Type</b>	GAS	GAS
<b>Bulk Gas</b>	28-Feb-2014	28-Feb-2014

**SDG:** 140225-38  
**Job:** H\_HARRIS\_LON-94  
**Client Reference:** GI17950

**Location:** Hednesford  
**Customer:** Harrison Group Ltd  
**Attention:** G I

**Order Number:**  
**Report Number:** 261648  
**Superseded Report:**

## Appendix General

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH<sub>4</sub> by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

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

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

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

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

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

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

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

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethylphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

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

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

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

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

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

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

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

## Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before preservation was performed
§	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

## Asbestos

### Identification of Asbestos in Bulk Materials & Soils

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

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

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

### Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than:

-  
Trace -Where only one or two asbestos fibres were identified.

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

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



## Ground-Gas Solutions Ltd

Greenheys

Manchester Science Park, Pencroft Way,  
Manchester, M15 6JJ

**Telephone:** 0161 232 7465

**Email:** [info@ground-gassolutions.co.uk](mailto:info@ground-gassolutions.co.uk)

**Web:** [www.ground-gassolutions.co.uk](http://www.ground-gassolutions.co.uk)



# GGs DataPack<sup>®</sup> Hednesford Hill, Cannock Chase

**Prepared for:**  
Campbell Reith

## Document Control Page



<b>Client</b>	Campbell Reith Artillery House 11-19 Artillery Row London SW1P 1RT
<b>Project Title</b>	GGG DataPack® Hednesford Hill, Cannock Chase
<b>Report Ref</b>	GGG162DP01
<b>Project Revision</b>	
<b>Revision Detail</b>	First Issue
<b>Issue Status</b>	FINAL

	Name	Position	Signature	Date
Prepared By:	Stacey McKenna	Graduate Geo-Environmental Specialist		07 March 2014
Checked and Approved By:	Kristoffer Harries	Operations Manager		07 March 2014

# GGG DataPack<sup>®</sup>

## Hednesford Hill, Cannock Chase

### FOREWORD

This report has been prepared based on information made available to Ground-Gas Solutions Limited (GGG) at the time of the reporting using all reasonable skill, care and diligence and within the limitations of the scope of works agreed with, and resources provided by, the client.

GGG has relied on information provided by others and has prepared this report on the basis of this information being accurate.

The report and recommendations therein are provided based on information available to GGG at the time of preparing the report and completed to recognised UK guidance and legislation. GGG will not accept any liability for inaccurate or incomplete information provided to GGG or any liability arising from the future change of any such guidance or legislation.

GGG is not obliged and disclaims any obligation to carry out further works or update the report for events occurring after such works have been carried out, and / or report issued in final form. This also applies to transfer of the report to other parties.

This report must be issued as final and be signed by the author and approved by a company director before the report may be relied upon by the client and subject to full payment for our services being made.

Any third parties using or relying on the information, comments, conclusions and recommendations do so at their own risk. Should any third party wish to use or rely upon the content of the report, written approval must be sought from a GGG Director; a charge may be levied against such approval.

The copyright and other intellectual property rights in all material in this report (including without limitation photographs, data and graphical images) are owned by GGG.



# Contents



## Contents

<b>1</b>	<b>Introduction.....</b>	<b>1</b>
1.1	Scope of works.....	1
1.2	Site context .....	1
1.3	Continuous monitoring .....	1
1.3.1	Definition.....	1
1.3.2	Benefits of continuous data .....	2
1.3.3	Concentration duration analysis .....	2
1.3.4	GGs Purge and Recovery Test (GGs PRT).....	2
<b>2</b>	<b>Methodology .....</b>	<b>3</b>
2.1	Periodic 'spot' monitoring .....	3
2.2	GGs PRT .....	3
2.3	Continuous monitoring .....	3
<b>3</b>	<b>Results.....</b>	<b>5</b>
3.1	Continuous monitoring results.....	5
3.1.1	Key observations of the continuous monitoring results.....	9
3.2	Purge and Recovery Test results.....	9
3.3	Ground-gas flux calculations.....	11
3.4	Concentration duration graphs.....	12
3.5	Periodic 'spot' monitoring results.....	15
<b>4</b>	<b>Instrumentation specifications .....</b>	<b>16</b>
4.1	GasData GFM 430/435 .....	16
4.2	GGs GasClam® .....	17
4.3	PhoCheck Tiger PID .....	18
<b>5</b>	<b>Limitations .....</b>	<b>19</b>

GGs DataPack®  
Hednesford Hill, Cannock Chase

## Appendices

### **Appendix A**

Periodic 'Spot' Monitoring Record

### **Appendix B**

Purge & Recovery Data

### **Appendix C**

Continuous Monitoring Data

### **Appendix D**

Calibration Certificates

### **Appendix E**

GasClam® Overview & Deployment Information Sheet

# GGG DataPack<sup>®</sup>

## Hednesford Hill, Cannock Chase

### 1 Introduction

Ground-Gas Solutions Limited (GGG) has been commissioned by Campbell Reith to undertake continuous ground-gas monitoring of 3 No. boreholes at Hednesford Hill, Cannock Chase and prepare a factual report (GGG DataPack<sup>®</sup>) containing the following information:

- Environmental monitoring data and other observations;
- Continuous monitoring data and graphs;
- Purge and recovery graphs;
- Concentration duration graphs;
- Calibration certificates.

#### 1.1 Scope of works

The scope of works is set out below:

- An initial visit to site by Miss Stacey McKenna and Mr João Dyer of GGG on 6<sup>th</sup> February 2014 to deploy 3 No. GasClam<sup>®</sup> devices in 3 No. boreholes following GGG Purge and Recovery Tests (GGG PRT<sup>®</sup>). All boreholes were periodically 'spot' monitored prior to GasClam<sup>®</sup> installation along with a further 7 No. boreholes being spot monitored;
- A final visit on 27<sup>th</sup> February 2014 to retrieve all equipment from site and replace original standpipe bungs. All 10 No. boreholes including those with GasClam<sup>®</sup> instrumentation installed were periodically 'spot' monitored;
- Provision of a Factual GGG DataPack<sup>®</sup> report.

#### 1.2 Site context

The site is located approximately 600 metres north-east of Hednesford town centre with national grid reference SK 00636 12868 (approximate centre of site). The site currently comprises a housing estate and Hednesford Hills Nature Reserve.

#### 1.3 Continuous monitoring

##### 1.3.1 Definition

When the frequency of sampling matches, or is greater than, the frequency of a parameter change, the data collected can be termed 'continuous'. A continuous data set will therefore capture the full range of variation in the parameter being recorded.

# GGG DataPack<sup>®</sup>

## Hednesford Hill, Cannock Chase

### 1.3.2 Benefits of continuous data

The reasons for using continuous monitoring over conventional: The availability of continuous data from the GasClam<sup>®</sup> instrumentation allows for a new approach in ground-gas monitoring methodologies and risk assessment. The collection of time series data of permanent gases (selected bulk gases, trace gases and total volatile organic compounds) and other environmental parameters provides a wealth of information significantly assisting the assessor to identify the dominant processes of gas generation and migration. This leads to a much more detailed understanding of the ground-gas regime and allows for an accurate and truly site specific risk assessment to be completed.

### 1.3.3 Concentration duration analysis

Concentration duration analysis involves calculating the percentage of the monitoring period at which ground-gas concentrations were equalled to, or in exceedance of, a particular value. For example, high methane concentrations may be detected, but may only be present for a small percentage of the monitoring period. This is a valuable tool in risk assessment as it can be used to show the percentage time for which high risk gas concentrations are present throughout the monitoring period.

### 1.3.4 GGS Purge and Recovery Test (GGG PRT)

The GGS PRT<sup>®</sup> allows the recovery rate of ground-gas into a monitoring well to be recorded following displacement of gases within the borehole with nitrogen gas, thus enabling ground-gas flux to be calculated. A ground-gas flux can provide an indication of gas generation rates and for use within detailed assessment and modelling. Please note that the flux values should not be used as a surrogate for flow rates used within GSV calculations.



## 2 Methodology

### 2.1 Periodic 'spot' monitoring

A GGS experienced geo-environmental specialist undertook periodic 'spot' monitoring at the site on 6<sup>th</sup> February 2014 and 27<sup>th</sup> February 2014.

GGG periodic 'spot' monitoring included measurement of borehole flow rates, bulk gas concentrations (methane, carbon dioxide and oxygen), trace gas compounds (hydrogen sulphide and carbon monoxide) and barometric pressure. A photo ionisation detector (PID) was also used to measure total volatile organic compounds. Groundwater and borehole base depths were measured using a dip meter.

A summary of the periodic monitoring results is shown in Section 3.5 and the periodic 'spot' monitoring site records are presented in Appendix A.

### 2.2 GGS PRT

Each borehole was subjected to a GGS Purge and Recovery Test (GGG PRT<sup>®</sup>) to provide an indication of ground-gas flux. Boreholes were purged with nitrogen until oxygen, carbon dioxide and methane fell to negligible levels; a GasClam<sup>®</sup> device was then immediately installed, sealed with a rubber neck collar, and activated in the borehole to measure gas at three minute intervals. GasClam<sup>®</sup> recorded data at this frequency for up to an hour or until ground-gas concentrations reached a plateau. PRT graphs are presented in Section 3.2. PRT data is presented in Appendix B.

### 2.3 Continuous monitoring

GGG configured GasClam<sup>®</sup> instruments to record at 60 minute intervals for the remainder of the monitoring period, to monitor bulk gas concentrations, methane (CH<sub>4</sub>), carbon dioxide (CO<sub>2</sub>) and oxygen (O<sub>2</sub>) and trace gases including total volatile organic compounds (TVOC), hydrogen sulphide (H<sub>2</sub>S) and carbon monoxide (CO). GasClam<sup>®</sup> also recorded atmospheric pressure, borehole pressure and temperature.

Table 2.1 details the schedule of continuous monitoring at the site, the ID number of each GasClam<sup>®</sup> and deployment date ranges are shown.

GGs DataPack<sup>®</sup>  
Hednesford Hill, Cannock Chase

BHID	06/02/14 to 27/02/14
CRH-WS2	000030/12/09
CRH-WS3	000033/12/09
CRH-WS4	000317/06/12

**Table 2.1: GasClam<sup>®</sup> locations and monitoring periods**

Continuous monitoring graphs are presented in Section 3.1, the raw data is presented in Appendix C.

### 3 Results

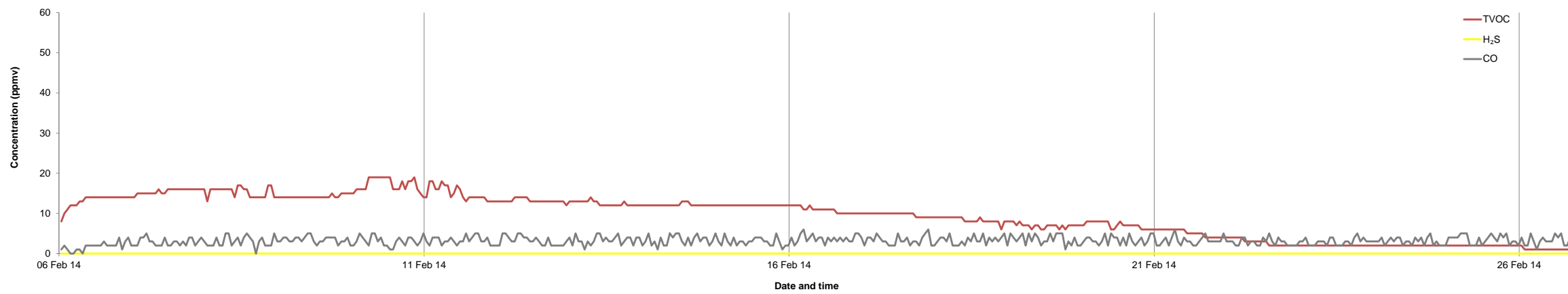
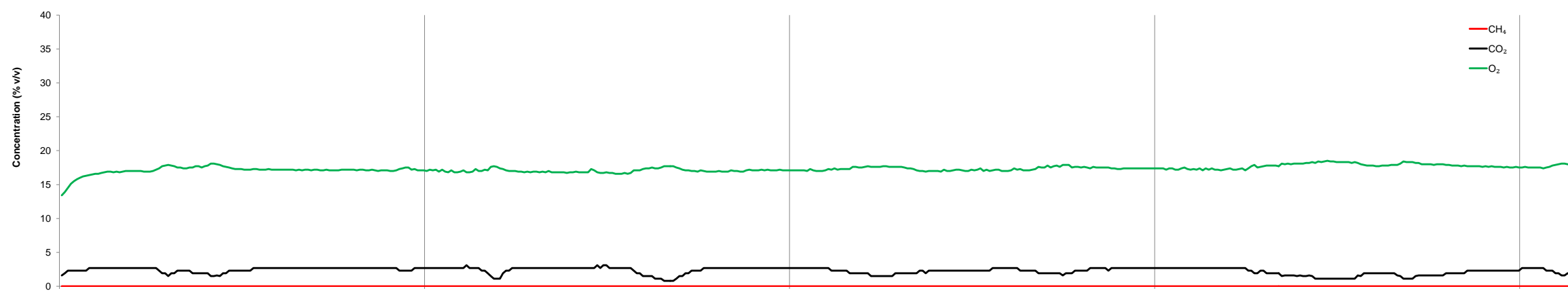
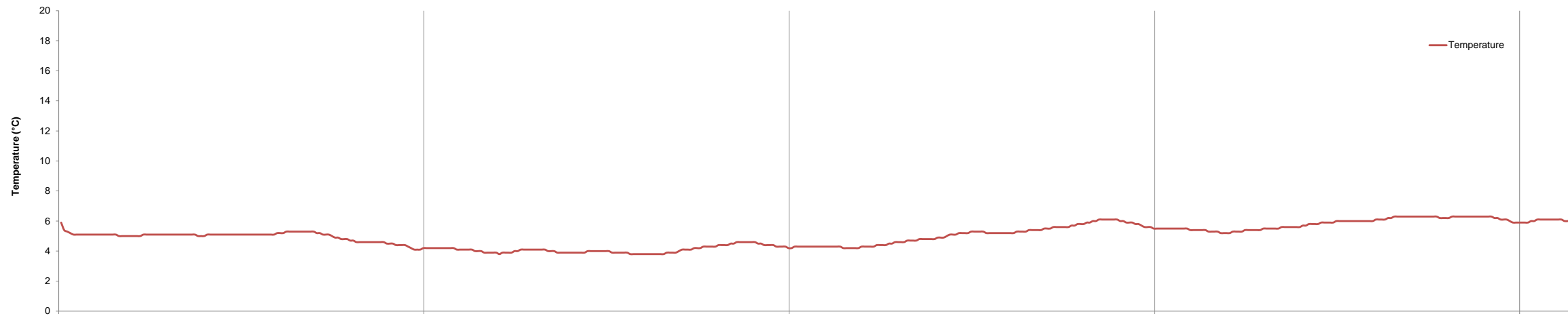
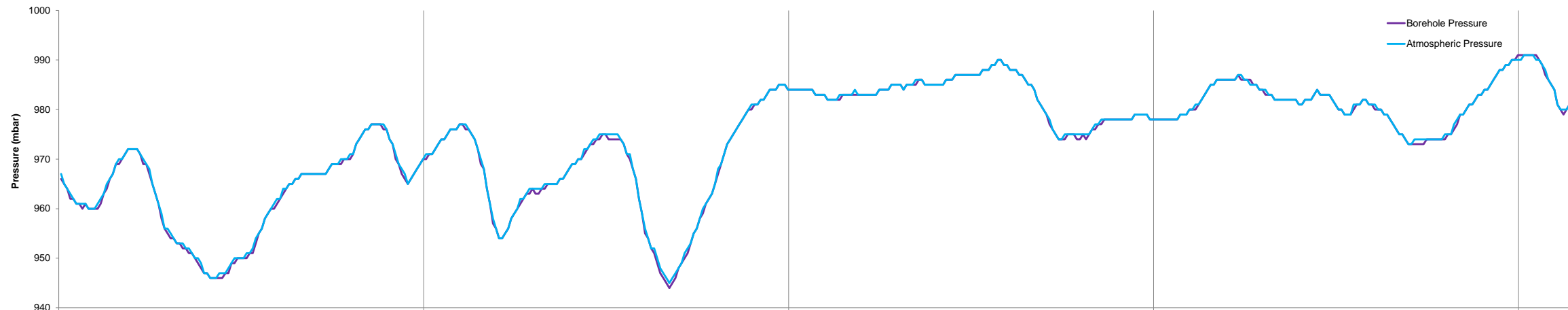
#### 3.1 Continuous monitoring results

GGG DataPack® analysis involves converting raw data files instruments into spread sheets. The data is then plotted as time series data graphs, showing ground-gas concentrations, atmospheric pressure, borehole pressure and temperature against time.

The time series data graph for CRH-WS4 shows significant differential pressures between atmospheric and borehole pressures on several occasions over the monitoring period. The reason for this is unknown however the GasClam® instrument deployed in CRH-WS4 was checked pre and post deployment. These checks show no errors with the device.

GGG produces concentration duration graphs showing the percentage of the monitoring period at which ground-gas concentrations are exceeded. This is a valuable tool in risk assessment as it can be used to show the percentage time for which high risk gas concentrations are present.

The continuous monitoring graphs are shown on the following pages; each graph also contains a minimum and maximum values table.



TITLE:  
Time Series Graphs, CRH - WS2, Hednesford Hill, Cannock Chase

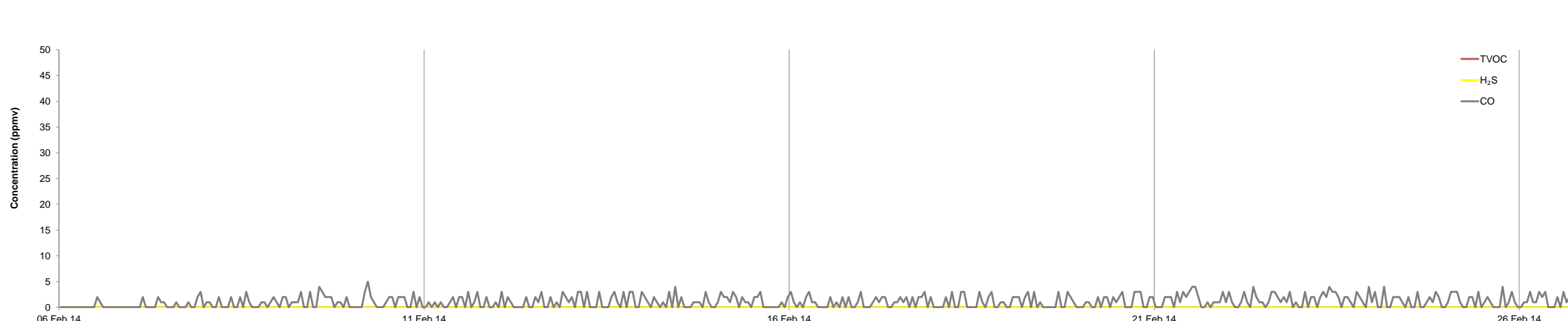
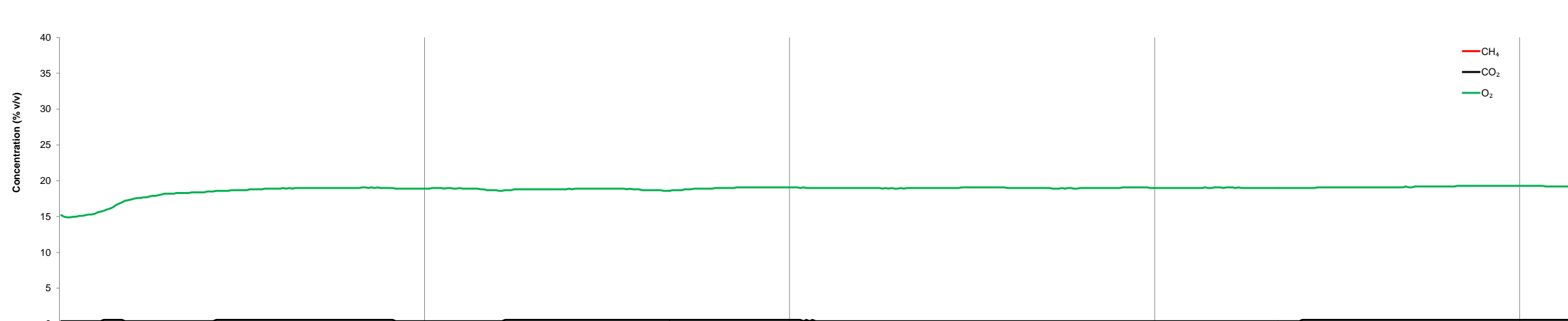
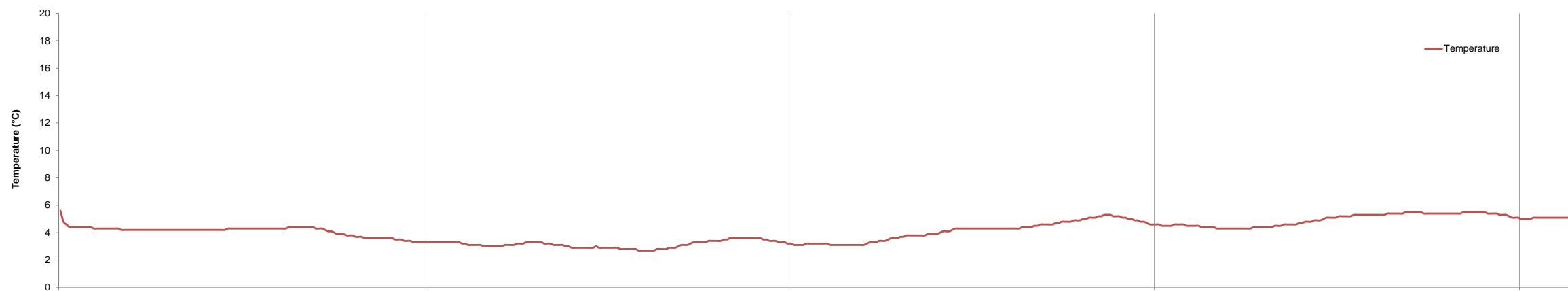
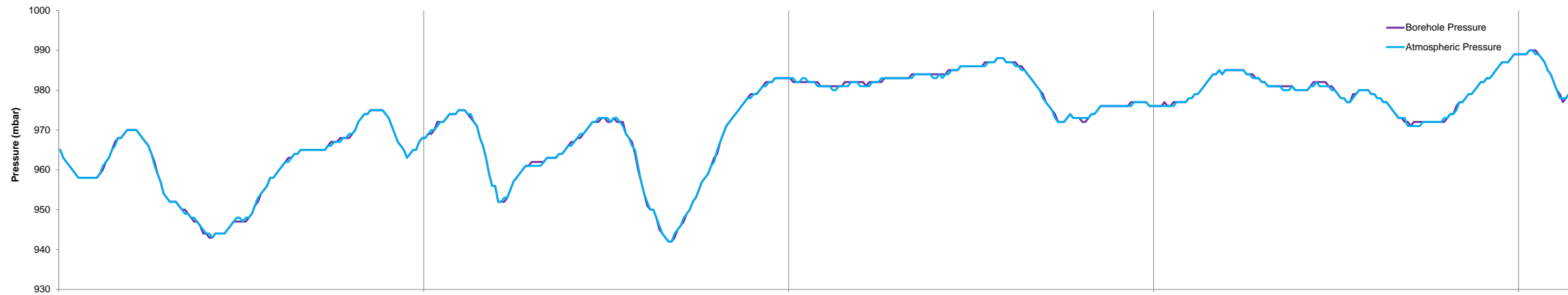
PROJECT:  
162 Hednesford Hill, Cannock Chase

CLIENT:  
CampbellReith

Min / Max Table		
	Min	Max
CH <sub>4</sub> (% v/v)	0.0	0.0
CO <sub>2</sub> (% v/v)	0.8	3.1
O <sub>2</sub> (% v/v)	13.4	18.5
TVOC (ppm)	1	19
H <sub>2</sub> S (ppm)	0	0
CO (ppm)	0	6
Borehole Pressure (mbar)	944	991
Atmospheric Pressure (mbar)	945	991
Differential Pressure (mbar)	-1	1
Temperature (°C)	3.8	6.3

These graphs form part of the GGS DataPack® which is a registered trademark. They should only be relied upon and used in the circumstances they were originally prepared by GGS for the client. Any other use or modification is not the responsibility of GGS.  
© Copyright Ground-Gas Solutions 2013.





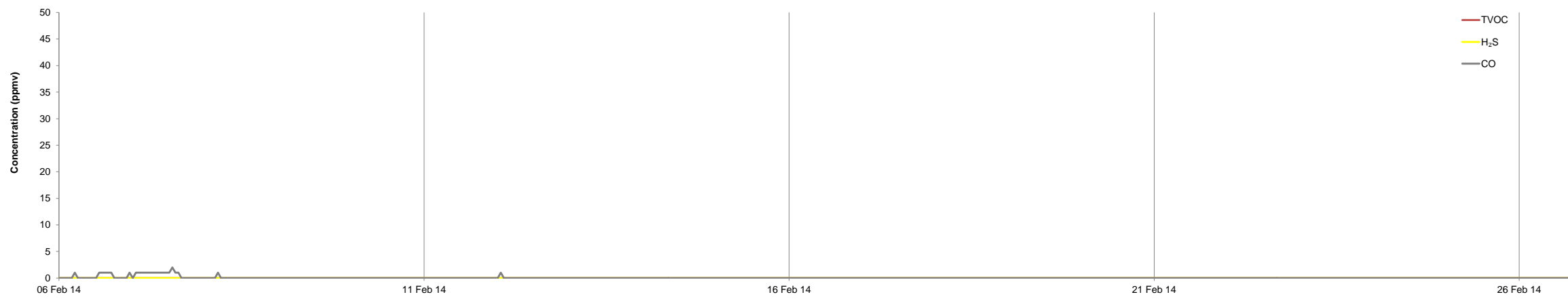
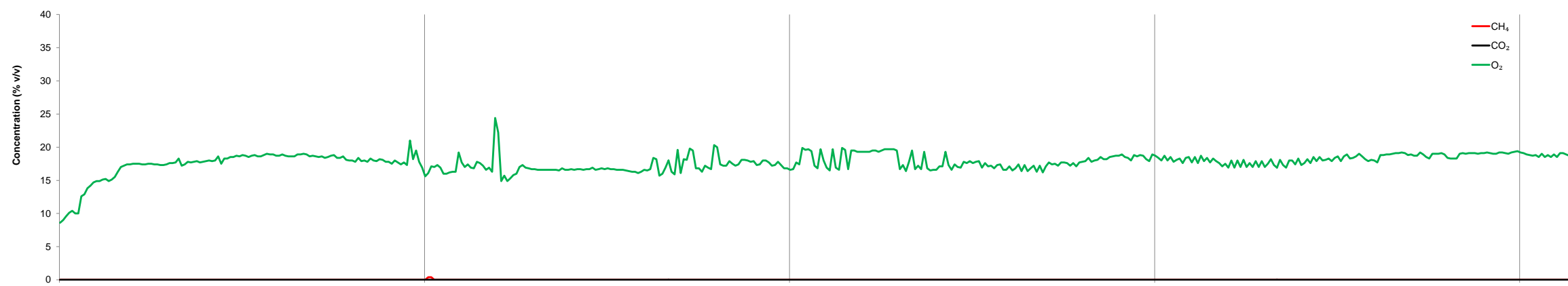
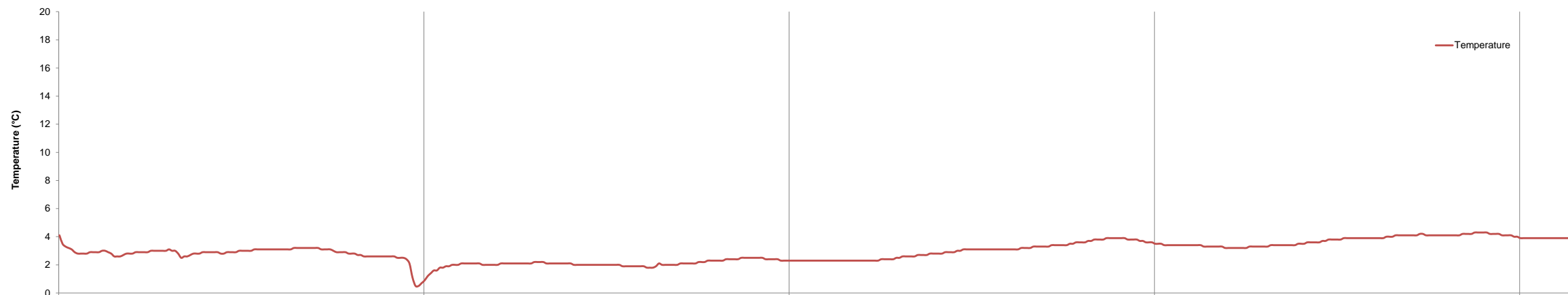
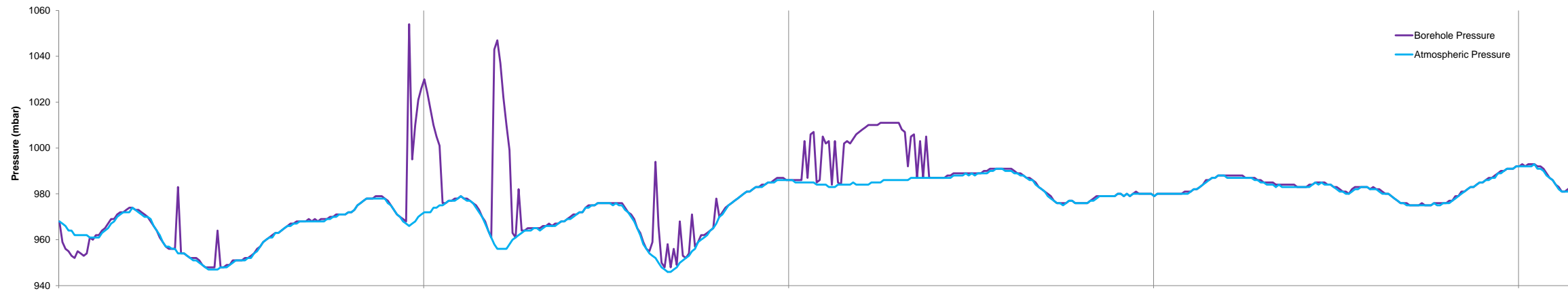
TITLE:  
Time Series Graphs, CRH - WS3, Hednesford Hill, Cannock Chase

PROJECT:  
162 Hednesford Hill, Cannock Chase

CLIENT:  
CampbellReith

Min / Max Table		
	Min	Max
CH <sub>4</sub> (% v/v)	0.0	0.0
CO <sub>2</sub> (% v/v)	0.4	0.6
O <sub>2</sub> (% v/v)	14.9	19.3
TVOC (ppm)	0	0
H <sub>2</sub> S (ppm)	0	0
CO (ppm)	0	5
Borehole Pressure (mbar)	942	990
Atmospheric Pressure (mbar)	942	990
Differential Pressure (mbar)	-1	1
Temperature (°C)	2.7	5.6

These graphs form part of the GGS DataPack® which is a registered trademark. They should only be relied upon and used in the circumstances they were originally prepared by GGS for the client. Any other use or modification is not the responsibility of GGS.  
© Copyright Ground-Gas Solutions 2013.



TITLE:  
Time Series Graphs, CRH - WS4, Hednesford Hill, Cannock Chase

PROJECT:  
162 Hednesford Hill, Cannock Chase

CLIENT:  
Campbell Reith

Min / Max Table		
	Min	Max
CH <sub>4</sub> (% v/v)	0.0	0.4
CO <sub>2</sub> (% v/v)	0.0	0.0
O <sub>2</sub> (% v/v)	8.6	24.4
TVOC (ppm)	0	0
H <sub>2</sub> S (ppm)	0	0
CO (ppm)	0	2
Borehole Pressure (mbar)	948	1054
Atmospheric Pressure (mbar)	946	993
Differential Pressure (mbar)	-11	91
Temperature (°C)	0.5	4.3

These graphs form part of the GGS DataPack® which is a registered trademark. They should only be relied upon and used in the circumstances they were originally prepared by GGS for the client. Any other use or modification is not the responsibility of GGS.  
© Copyright Ground-Gas Solutions 2013.

# GGs DataPack<sup>®</sup>

## Hednesford Hill, Cannock Chase

### 3.1.1 Key observations of the continuous monitoring results

Atmospheric pressure is often a dominant ground-gas driver and as such, monitoring should include sampling during falling pressure events. Table 3.1 below summarises the atmospheric pressure regime during the continuous monitoring period.

Range in atmospheric pressure (mbar)	942 to 990
Most significant atmospheric pressure fall	23 millibars over 11 hours
Number of samples taken under 1000mb	367

**Table 3.1:** Summary of atmospheric pressure regime

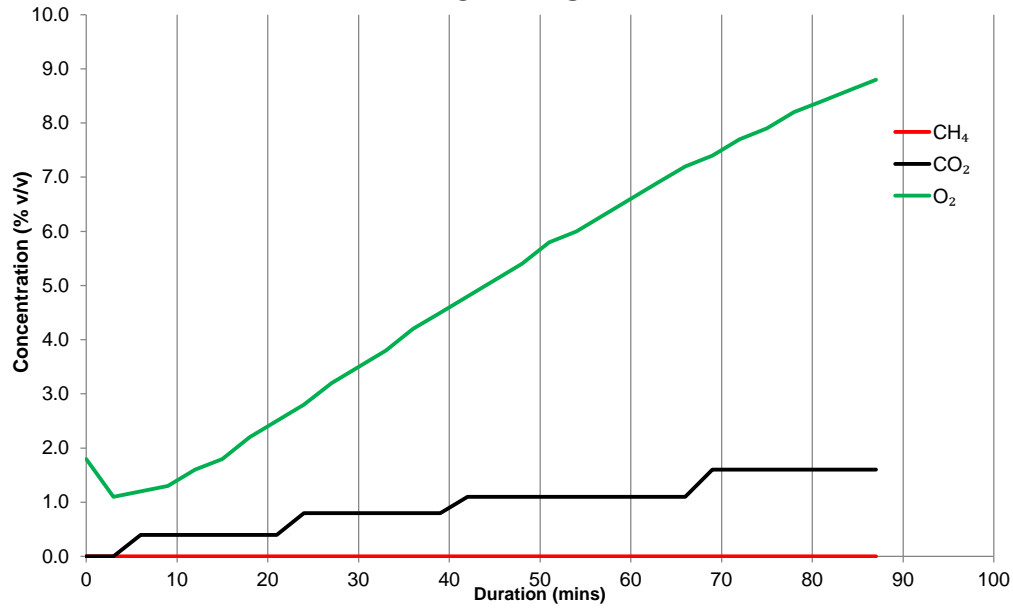
### 3.2 Purge and Recovery Test results

Ground-gas concentrations were monitored at three minute intervals following the borehole purge. A ground-gas recovery graph was then plotted to show the recovery rate of bulk gases (methane, carbon dioxide and oxygen) for each monitored borehole. The graphs are presented on the following pages.

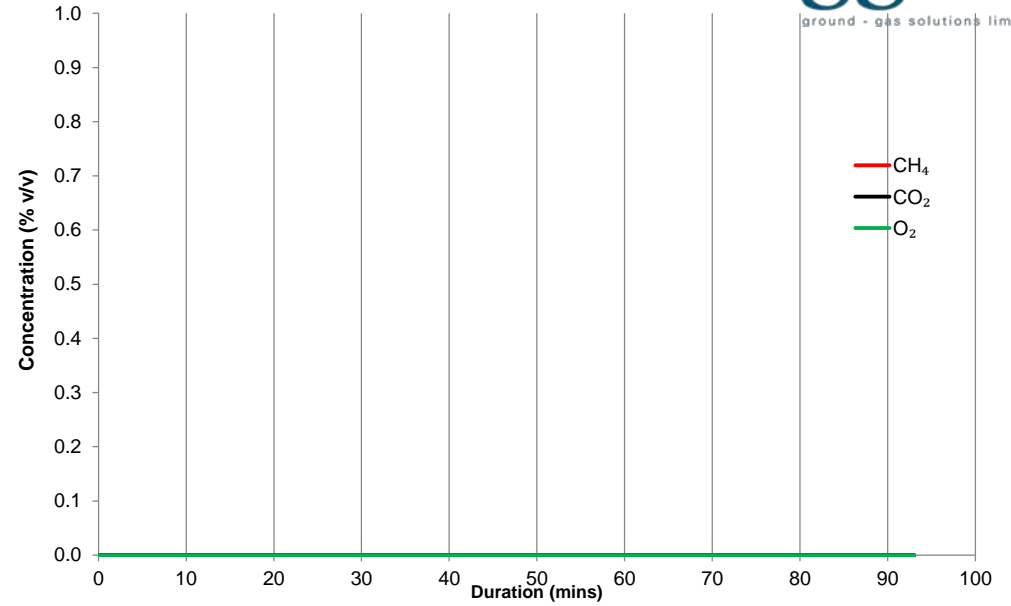
# PRT Graphs, Hednesford Hill



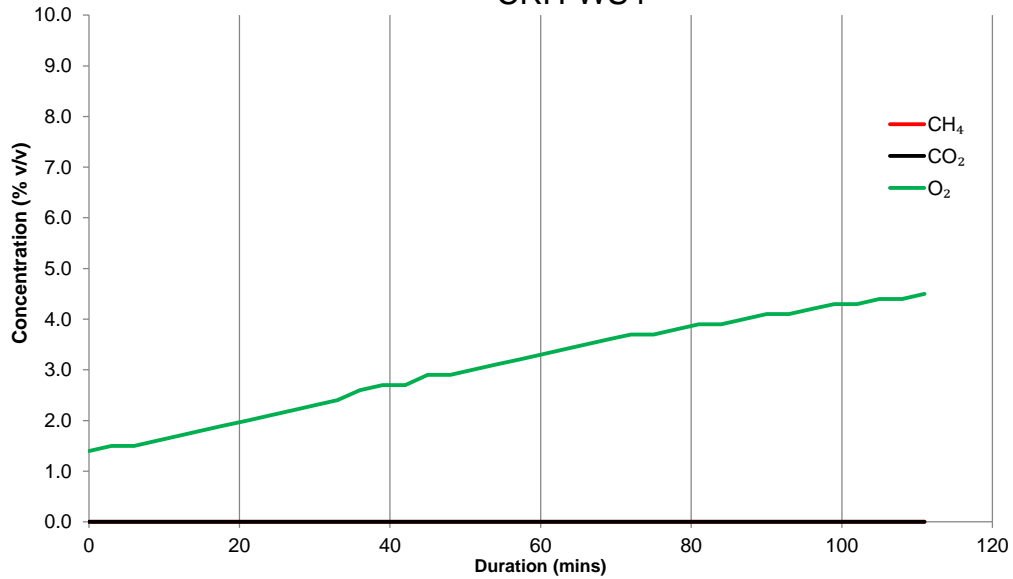
## CRH-WS2



## CRH-WS3



## CRH-WS4





### 3.3 Ground-gas flux calculations

Monitoring of the ground-gas recovery after purging the borehole gives an indication of the flux of ground-gas between the ground and the borehole. Ground-gas flux is an indication of the rate of gas entering the purged well void; typically a slow recovery indicates low generation or the presence of a low pressure 'reservoir'. Rapid recovery can either indicate high generation or the presence of a pressurised 'reservoir' of ground-gas held within the pore spacing and voids of the vadose zone which immediately refills the borehole space after purging. The permeability of the surrounding geology also has an effect on recovery rates; a highly permeable media such as gravel and sand surrounding the borehole will allow faster gas recovery than a less permeable media such as silt and clay.

Atmospheric pressure or water level changes can also affect the rate of gas recovery, as creation of a positive pressure differential (positive flow) can effectively push ground-gas back into the borehole standpipe more quickly than under stable pressure conditions. A site conceptual model as well as atmospheric pressure changes and water level changes should therefore be taken into account when interpreting purge and recovery data and flux calculations.

Table 3.2 below shows the maximum recovery rates for methane, carbon dioxide and oxygen encountered during the GGS PRT®.

BH ID	Methane flux (l/hr)	Carbon dioxide flux (l/hr)	Oxygen flux (l/hr)
CRH-WS2	0	0	0
CRH-WS3	0	0	0
CRH-WS4	0	0	0.062

l/hr = litres per hour.

**Table 3.2:** Methane, carbon dioxide and oxygen flux for each borehole

GGG DataPack®  
Hednesford Hill, Cannock Chase

### 3.4 Concentration duration graphs

Concentration duration analysis converts the total monitoring period for each borehole into percentage time and sorts all recorded ground-gas concentrations from highest to lowest. This produces a curve of gas concentration against percentage time, to enable observation of the proportion of the monitoring period spent at each gas concentration. Concentration duration graphs are presented on the following pages.

Table 3.3 below summarises the percentage time in which methane was at 1% v/v or above, 5% v/v or above and at 20% v/v or above. Table 3.4 below summarises the percentage time in which carbon dioxide was at 5% v/v or above, at 10% v/v or above and at 30% v/v or above.

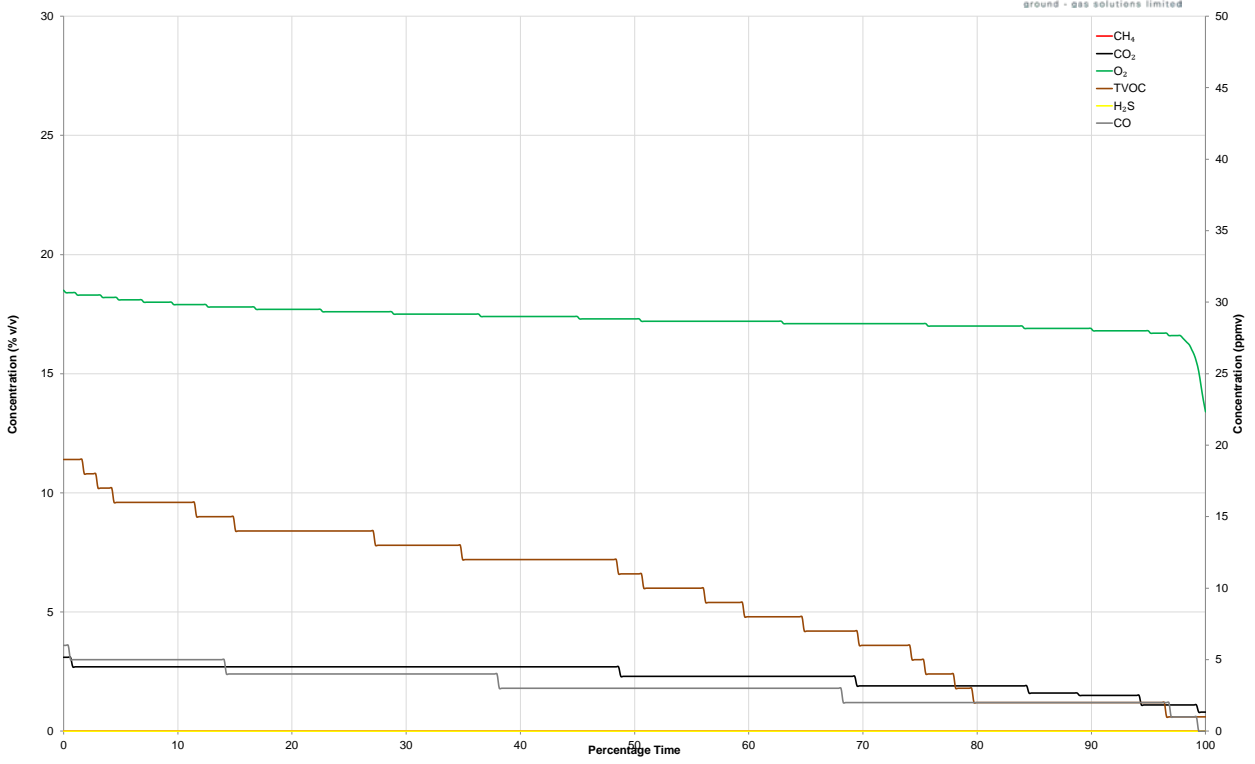
Borehole Ref	% Time at which CH <sub>4</sub> equalled or exceeded		
	1% v/v	5% v/v	20% v/v
CRH-WS2	0	0	0
CRH-WS3	0	0	0
CRH-WS4	0	0	0

**Table 3.3:** Percentage time of methane exceedance during the monitoring period

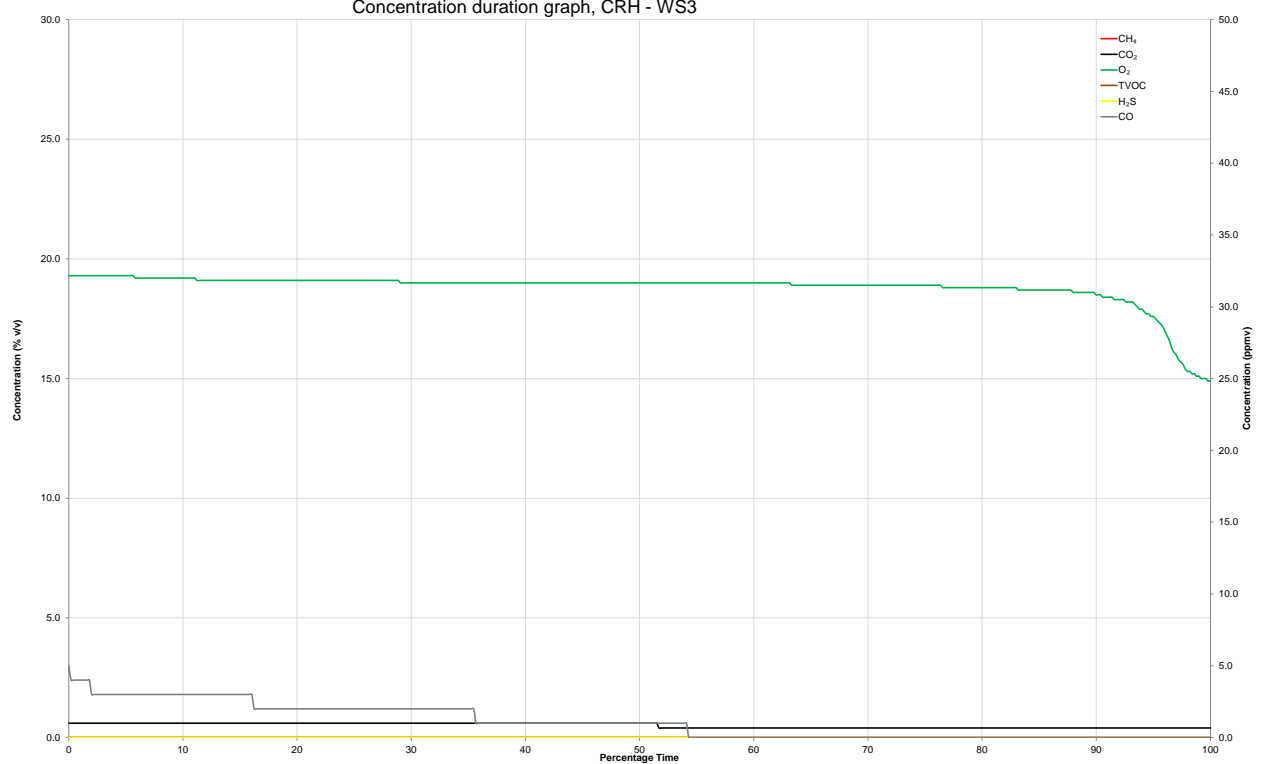
Borehole Ref	% Time at which CO <sub>2</sub> equalled or exceeded		
	5% v/v	10% v/v	30% v/v
CRH-WS2	0	0	0
CRH-WS3	0	0	0
CRH-WS4	0	0	0

**Table 3.4:** Percentage time of carbon dioxide exceedance during the monitoring period

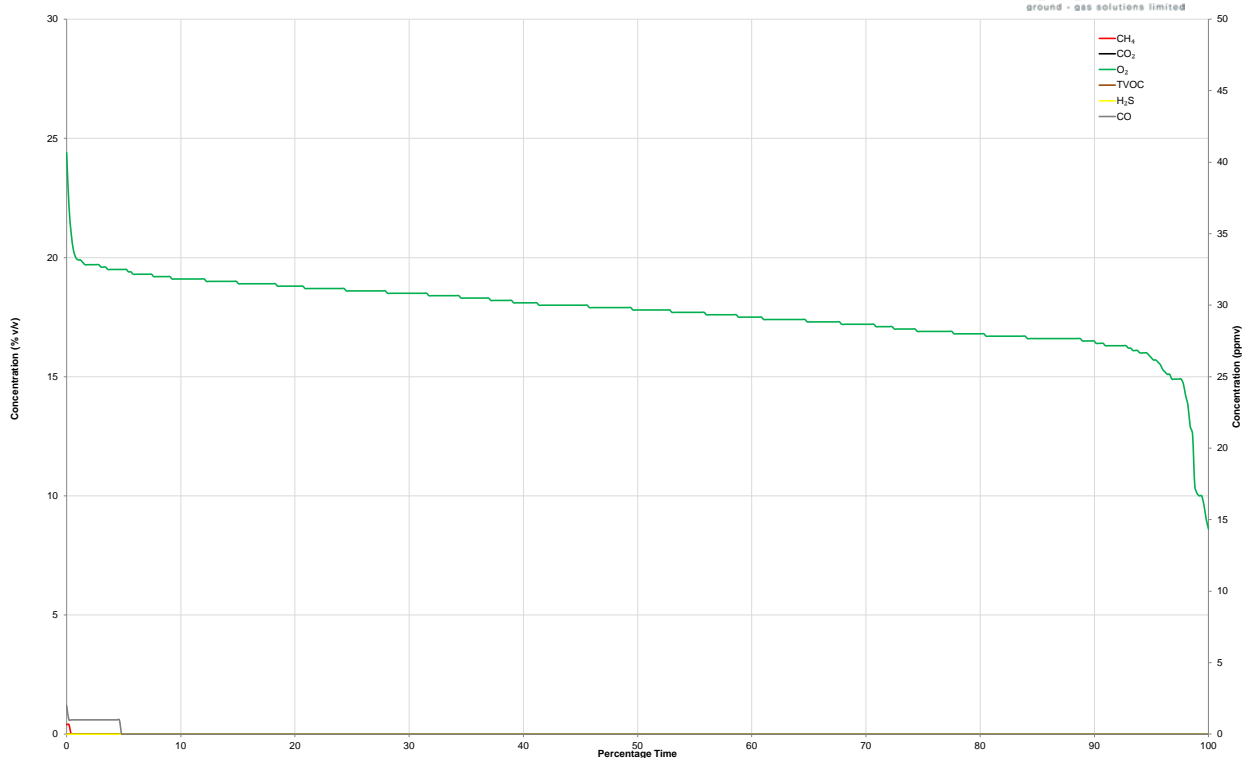
Concentration duration graph, CRH - WS2



Concentration duration graph, CRH - WS3



Concentration duration graph, CRH - WS4





# GGG DataPack®

## Hednesford Hill, Cannock Chase

### 3.5 Periodic 'spot' monitoring results

The minimum and maximum values recorded during periodic monitoring visits are presented in Table 3.5. These results have been obtained through the methodology outlined in section 2.1. For field notes and additional comments about specific results, refer to the spot monitoring record in Appendix A.

BH Ref	ATM (mbar)		Flow (l/hr)		TVOC (ppmv)		CH <sub>4</sub> (% v/v)		CO <sub>2</sub> (% v/v)		O <sub>2</sub> (% v/v)	CO (ppmv)		H <sub>2</sub> S (ppmv)		SWL (m bgl)		Base (m bgl)
	Min	Max	Max initial	Max steady	Min	Max	Min	Max	Min	Max	Min	Min	Max	Min	Max	Min	Max	
WS1	969	984	0.0	0.0	0.4	1.0	0.0	0.0	5.4	7.8	7.9	1	11	0	1	2.56	2.56	2.56
WS2	968	984	0.0	0.0	0.4	0.5	0.0	0.0	0.9	1.4	19.3	3	4	0	1	0.00	0.00	2.20
WS3	968	983	0.0	0.0	0.1	0.3	0.0	0.0	0.2	1.7	19.3	1	3	0	0	0.00	0.00	5.60
WS4	969	984	-0.3	0.0	0.3	0.4	0.0	0.0	0.0	0.2	20.1	0	1	0	1	1.89	1.89	1.92
WS5	966	983	0.0	0.0	0.1	0.3	0.0	0.0	3.2	7.1	15.4	1	1	0	1	0.00	0.00	2.70
WS6	967	984	0.0	0.0	0.4	0.5	0.0	0.0	2.1	2.3	16.6	1	5	0	0	2.85	4.20	4.61
WS7	966	983	-0.3	-0.2	0.1	0.8	0.0	0.2	0.1	2.4	19.2	0	3	0	2	0.00	0.00	4.38
WS8	967	983	0.0	0.0	0.2	0.4	0.0	0.0	6.8	9.7	11.2	0	1	0	0	2.56	2.56	2.49
WS9	964	983	0.0	0.0	0.4	0.4	0.0	0.0	0.9	2.1	19.1	3	3	0	1	2.48	2.71	3.40
WS10	963	981	7.6	7.6	0.0	0.2	0.0	0.0	0.1	1.2	20.0	0	1	0	2	4.61	4.61	4.69

**Notes:**

0.0 = Below instrument limit of detection  
 l/hr = litres per hour. Steady flow rates recorded. Steady negative flows in brackets.  
 % v/v = percentage by volume  
 ppmv = parts per million by volume  
 m bgl = metres below ground level  
 mbar = millibar

Key (CH <sub>4</sub> & CO <sub>2</sub> )
> 1% v/v
> 5% v/v

**Table 3.5:** Minimum and maximum periodic 'spot' monitoring results

## 4 Instrumentation specifications

### 4.1 GasData GFM 430/435

The GasData GFM 430/435 gas analyser with flow meter measures borehole flow rates, bulk gas concentrations (methane, carbon dioxide and oxygen), barometric and differential pressure. The current calibration certificates for the equipment used on site are presented in Appendix D.

The specification range of the GFM 430/435 is as follows:

Feature	Method / Type	Range	Resolution
Methane	Infrared	0 - 100%v/v	0.1%
Lower Detection Limit (LEL)	Infrared	0 - 100%v/v	0.1%
Carbon Dioxide	Infrared	0 - 100%v/v	0.1%
Oxygen	Electrochemical	0 - 25%v/v	0.1%
Hydrogen Sulphide	Electrochemical	0 - 2000ppm	1ppm
Carbon Monoxide#	Electrochemical	0 - 2000ppm	1ppm
Atmospheric Pressure	Absolute Pressure Sensor	800 - 1200mb	1mb
Differential Pressure	Thermal Dissipation	±1250Pa	0.1Pa
Temperature	Bi-metal	-10°C to +100°C	1°C
Flow	Thermal Dissipation	-60 – 100 l/hr	0.1l/hr

# The GFM435 carbon monoxide range is 0 – 5000ppm

**Table 4.1:** GFM Specification

# GGG DataPack<sup>®</sup>

## Hednesford Hill, Cannock Chase

### 4.2 GGS GasClam<sup>®</sup>

All GGS GasClam<sup>®</sup> instrumentation is maintained in accordance with the manufacturer recommendations and is factory serviced and calibrated annually. Routine maintenance including the replacement of filters, operational checks and gas checks are carried out at regular intervals and prior to deployment at a site.

A copy of the calibration certificates for each GasClam<sup>®</sup> used on site is included in Appendix D. An outline of the GGS GasClam<sup>®</sup> Instrumentation Overview & Deployment Information is presented in Appendix E.

GasClam<sup>®</sup> sensor specifications are as follows:

Sensor	Method / Type	Range	Resolution
Methane (0-100%)	Infrared	0 - 100%v/v	1% of measuring range above 50%, 0.5% below 50%
#Methane (0-5%)	Infrared	0-5%v/v	0.05%
Carbon Dioxide (0-100%)	Infrared	0 - 100%v/v	1% of measuring range above 50%, 0.5% below 50%
#Carbon Dioxide (0-5%)	Infrared	0-5%v/v	0.05%
Oxygen	Electrochemical	0 - 25%v/v	0.1%
*Hydrogen Sulphide	Electrochemical	0 - 100ppmv	1ppmv
*Carbon Monoxide	Electrochemical	0 - 1000ppmv	1ppmv +/-6ppm
*Total Volatile Organic Compounds	PID	0 - 4000ppmv	1ppmv
Atmospheric Pressure	Piezoelectric	800 - 1200mb	1mBar
Borehole Pressure	Piezoelectric	800 - 1200mb	1mBar
Temperature	Internal chip	-5°C to +50°C	1°C

<sup>#</sup> Only installed on the 0-5% High Resolution GasClam<sup>®</sup> \* Only installed in VOC GasClam<sup>®</sup>

**Table 4.2:** GGS GasClam<sup>®</sup> Sensor Specification

Cross sensitivity to other gases and significant environmental changes should be taken into consideration when considering all site monitoring data.

GGG DataPack®  
Hednesford Hill, Cannock Chase

**4.3 PhoCheck Tiger PID**

The PhoCheck Tiger Photo Ionisation Detector (PID) detects a large range of Volatile Organic Compounds (VOCs) which are potentially dangerous from both a poisoning and / or an explosive perspective. GGS has recorded TVOC (total volatile organic compounds) using a standard 10.6 eV lamp for this contract.

The sensor specification is as follows:

Sensor	Method / Type	Range	Resolution
Total Volatile Organic Compounds	PID	1 ppb – 10,000ppm & ppb to 20,000ppm for Specific Gases	+/- 5% displayed reading +/- one digit

**Table 4.3:** Tiger PID Sensor Specification

Cross sensitivity to other gases and significant environmental changes should be taken into consideration when considering all site monitoring data.



## 5 Limitations

Ground-Gas Solutions Limited (GGG) has prepared this factual report for the use of the Client and those parties whom a warranty agreement has been executed, or with whom an assignment has been agreed.

GGG accepts no responsibility for the consequences of this document being used for any purpose or project other than for which it was commissioned or for the consequences arising from this document's use by any third party with whom an agreement has not been executed.

GGG accept no responsibility for the interpretation of this factual data. A reviewer of the data provided must take into account other available information and the context in which this data was collected. For example, site setting, conceptual site model, environmental conditions, gases present (that are not monitored as part of this contract, but may interfere with the sensors used), borehole construction and response zone information.

GGG accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this factual report.

GGs DataPack<sup>®</sup>  
Hednesford Hill, Cannock Chase

## Appendix A

### Periodic 'Spot' Monitoring Record

For: Campbell Reith  
Ref No.: GGS162DP01  
Date: 07/03/2014



**PROJECT:** GGS162  
**SITE:** Hednesford Hill, Cannock Chase  
**DATE:** 06.02.2014  
**SPECIALIST:** Stacey McKenna & Joao Dyer

QMS-SGMF  
v1.6

EQUIPMENT		WEATHER CONDITIONS				GROUND CONDITIONS / GENERAL COMMENTS			
Model	Serial Number	6°C, Very light wind. Approx 95% cloud cover with occasional sunny spells.				Ground wet due to recent rainfall. Monitoring wells WS1-9 situated in residential housing areas. WS10 situated off a muddy nature trail track.			
GasData GFM 435 Dip Meter PhoCheck Tiger	11028 n/a T-105553								
		Start Pressure (mb): 969		End Pressure (mb): 963					

ID	Time	Barometric Pressure (mb)	Line Test OK?	External Flow (ltr/hr)			TVOC (ppmv)	Steady CH4 (%v/v)	Peak CH4 (%v/v)	Steady CO2 (%v/v)	Peak CO2 (%v/v)	O2 (%v/v)	CO (ppmv)	H2S (ppmv)	SWL (mbgl)	Base Dip (mbgl)	Comments
				Initial	Duration	Steady											
Fresh Air	11:28	969	Yes	NM	N/A	NM	0.000	0.0	0.0	0.0	0.0	20.2	0	0	N/A	N/A	
WS1	11:51	969	Yes	NM	N/A	NM	0.950	0.0	0.0	5.4	5.4	7.9	11	0	Dry	2.56	
WS2	12:27	968	Yes	NM	N/A	NM	0.452	0.0	0.0	0.9	0.9	19.3	3	0	Dry	2.20	
WS3	12:04	968	Yes	NM	N/A	NM	0.093	0.0	0.0	1.0	1.0	19.3	3	0	Dry	5.60	
WS4	11:30	969	Yes	NM	N/A	NM	0.400	0.0	0.0	0.0	0.0	20.1	0	0	1.89	1.92	
WS5	12:57	966	Yes	NM	N/A	NM	0.144	0.0	0.0	3.2	3.2	17.6	1	0	Dry	2.70	Location of well is 50m east of that stated in the location plan.
WS6	13:14	967	Yes	NM	N/A	NM	0.394	0.0	0.0	2.3	2.3	16.6	5	0	2.85	4.61	
WS7	13:20	966	Yes	NM	N/A	NM	0.058	0.2	0.2	0.1	0.1	20.1	0	0	Dry	4.38	
WS8	13:02	967	Yes	NM	N/A	NM	0.233	0.0	0.0	6.8	6.8	11.2	1	0	Dry	2.49	
WS9	14:20	964	Yes	NM	N/A	NM	0.355	0.0	0.0	0.9	0.9	19.1	3	0	2.48	3.40	
WS10	14:30	963	Yes	NM	N/A	NM	0.029	0.0	0.0	0.1	0.1	20.0	0	0	Dry	4.69	
Fresh Air	14:35	963	Yes	NM	N/A	NM	0.000	0.0	0.0	0.0	0.0	20.2	0	0	N/A	N/A	

KEY: ND = No Detection, NM = Not Measured, NR = Not Recorded, N/A = Not Applicable, \* = see comments, %v/v = Percentage volume by volume, ppmv = parts per million by volume, mb = milibar, ltr/hr = litres per hour, mbgl = metres below ground level



**PROJECT:** GGS162  
**SITE:** Hednesford Hill, Cannock Chase  
**DATE:** 27.02.2014  
**SPECIALIST:** Stacey McKenna

QMS-SGMF  
 v1.6

EQUIPMENT		WEATHER CONDITIONS		GROUND CONDITIONS / GENERAL COMMENTS	
Model	Serial Number	11°C, Very light wind. Approx 20% cloud cover. Dry and sunny all day.		Ground slightly damp. Monitoring wells WS1-9 situated in residential housing areas. WS10 situated off a muddy nature trail track. Very shallow puddles along pathway to WS10.	
GasData GFM 430 Dip Meter PhoCheck Tiger	10356 n/a T-107622	Start Pressure (mb): 981                      End Pressure (mb): 985			

ID	Time	Barometric Pressure (mb)	Line Test OK?	External Flow (ltr/hr)			TVOC (ppmv)	Steady CH4 (%v/v)	Peak CH4 (%v/v)	Steady CO2 (%v/v)	Peak CO2 (%v/v)	O2 (%v/v)	CO (ppmv)	H2S (ppmv)	SWL (mbgl)	Base Dip (mbgl)	Comments
				Initial	Duration	Steady											
Fresh Air	10:30	981	Yes	NM	N/A	NM	0.009	0.0	0.0	0.1	0.1	21.5	1	0	N/A	N/A	
WS1	11:20	984	Yes	0	N/A	0	0.358	0.0	0.0	7.8	7.8	10.2	1	1	2.56	2.58	
WS2	11:42	984	Yes	0	N/A	0	0.425	0.0	0.0	1.4	1.4	20.6	4	1	Dry	2.60	
WS3	11:27	983	Yes	0	N/A	0	0.252	0.0	0.0	0.2	1.7	21.0	1	0	Dry	5.62	
WS4	11:52	984	Yes	-0.3	3	0	0.262	0.0	0.0	0.1	0.2	21.3	1	1	Dry	1.89	
WS5	10:49	983	Yes	0	N/A	0	0.301	0.0	0.0	7.1	7.1	15.4	1	1	Dry	2.80	
WS6	11:00	984	Yes	0	N/A	0	0.476	0.0	0.0	2.1	2.0	19.9	1	0	4.20	4.59	
WS7	11:07	983	Yes	-0.3	10	-0.2	0.813	0.0	0.0	2.4	2.4	19.2	3	2	Dry	4.40	
WS8	11:12	983	Yes	0	N/A	0	0.399	0.0	0.0	9.7	9.7	11.9	0	0	2.56	2.58	
WS9	10:42	983	Yes	0	N/A	0	0.392	0.0	0.0	2.1	2.1	20.0	3	1	2.71	3.20	
WS10	10:32	981	Yes	7.6	10	7.6	0.219	0.0	0.0	1.2	1.2	20.9	1	2	4.61	4.69	

KEY: ND = No Detection, NM = Not Measured, NR = Not Recorded, N/A = Not Applicable, \* = see comments, %v/v = Percentage volume by volume, ppmv = parts per million by volume, mb = milibar, Ltr/hr = litres per hour, mbgl = metres below ground level



## Appendix B

### Purge & Recovery Data



Ground-Gas Solutions PRT data

<b>Location:</b>	Hednesford Hill
<b>Borehole ref:</b>	CRH-WS2
<b>GasClam ID:</b>	000030/12/09
<b>Duration (mins)</b>	87
<b>Frequency (mins)</b>	3
<b>Total samples taken:</b>	30

<b>Location:</b>	Hednesford Hill
<b>Borehole ref:</b>	CRH-WS3
<b>GasClam ID:</b>	000033/12/09
<b>Duration (mins)</b>	93
<b>Frequency (mins)</b>	3
<b>Total samples taken:</b>	32

<b>Location:</b>	Hednesford Hill
<b>Borehole ref:</b>	CRH-WS4
<b>GasClam ID:</b>	000317/05/12
<b>Duration (mins)</b>	111
<b>Frequency (mins)</b>	3
<b>Total samples taken:</b>	38

Duration (mins)	CH <sub>4</sub> % v/v	CO <sub>2</sub> % v/v	O <sub>2</sub> % v/v
0	0.0	0.0	1.8
3	0.0	0.0	1.1
6	0.0	0.4	1.2
9	0.0	0.4	1.3
12	0.0	0.4	1.6
15	0.0	0.4	1.8
18	0.0	0.4	2.2
21	0.0	0.4	2.5
24	0.0	0.8	2.8
27	0.0	0.8	3.2
30	0.0	0.8	3.5
33	0.0	0.8	3.8
36	0.0	0.8	4.2
39	0.0	0.8	4.5
42	0.0	1.1	4.8
45	0.0	1.1	5.1
48	0.0	1.1	5.4
51	0.0	1.1	5.8
54	0.0	1.1	6.0
57	0.0	1.1	6.3
60	0.0	1.1	6.6
63	0.0	1.1	6.9
66	0.0	1.1	7.2
69	0.0	1.6	7.4
72	0.0	1.6	7.7
75	0.0	1.6	7.9
78	0.0	1.6	8.2
81	0.0	1.6	8.4
84	0.0	1.6	8.6
87	0.0	1.6	8.8

Duration (mins)	CH <sub>4</sub> % v/v	CO <sub>2</sub> % v/v	O <sub>2</sub> % v/v
0	0.0	0.0	0.0
3	0.0	0.0	0.0
6	0.0	0.0	0.0
9	0.0	0.0	0.0
12	0.0	0.0	0.0
15	0.0	0.0	0.0
18	0.0	0.0	0.0
21	0.0	0.0	0.0
24	0.0	0.0	0.0
27	0.0	0.0	0.0
30	0.0	0.0	0.0
33	0.0	0.0	0.0
36	0.0	0.0	0.0
39	0.0	0.0	0.0
42	0.0	0.0	0.0
45	0.0	0.0	0.0
48	0.0	0.0	0.0
51	0.0	0.0	0.0
54	0.0	0.0	0.0
57	0.0	0.0	0.0
60	0.0	0.0	0.0
63	0.0	0.0	0.0
66	0.0	0.0	0.0
69	0.0	0.0	0.0
72	0.0	0.0	0.0
75	0.0	0.0	0.0
78	0.0	0.0	0.0
81	0.0	0.0	0.0
84	0.0	0.0	0.0
87	0.0	0.0	0.0
90	0.0	0.0	0.0
93	0.0	0.0	0.0

Duration (mins)	CH <sub>4</sub> % v/v	CO <sub>2</sub> % v/v	O <sub>2</sub> % v/v
0	0.0	0.0	1.4
3	0.0	0.0	1.5
6	0.0	0.0	1.5
9	0.0	0.0	1.6
12	0.0	0.0	1.7
15	0.0	0.0	1.8
18	0.0	0.0	1.9
21	0.0	0.0	2.0
24	0.0	0.0	2.1
27	0.0	0.0	2.2
30	0.0	0.0	2.3
33	0.0	0.0	2.4
36	0.0	0.0	2.6
39	0.0	0.0	2.7
42	0.0	0.0	2.7
45	0.0	0.0	2.9
48	0.0	0.0	2.9
51	0.0	0.0	3.0
54	0.0	0.0	3.1
57	0.0	0.0	3.2
60	0.0	0.0	3.3
63	0.0	0.0	3.4
66	0.0	0.0	3.5
69	0.0	0.0	3.6
72	0.0	0.0	3.7
75	0.0	0.0	3.7
78	0.0	0.0	3.8
81	0.0	0.0	3.9
84	0.0	0.0	3.9
87	0.0	0.0	4.0
90	0.0	0.0	4.1
93	0.0	0.0	4.1
96	0.0	0.0	4.2
99	0.0	0.0	4.3
102	0.0	0.0	4.3
105	0.0	0.0	4.4
108	0.0	0.0	4.4
111	0.0	0.0	4.5

GGs DataPack<sup>®</sup>  
Hednesford Hill, Cannock Chase

## Appendix C

### Continuous Monitoring Data



Ground-Gas Solutions Time Series Data

Location:	Hednesford Hill, Cannock Chase
Borehole ref:	CRH - W52
Gasfiam ID:	0000201209
Start Date:	06/02/2014 15:11
End Date:	27/02/2014 09:11
Days of monitoring:	21
Monitoring Frequency (mins):	60
Total samples taken:	499

Minimum, Maximum and range table

	CH <sub>4</sub>	CO <sub>2</sub>	O <sub>2</sub>	TVOC	H <sub>2</sub> S	CO	Borehole Pressure	Atmospheric Pressure	Differential Pressure	Temperature
Min	0.0	0.8	13.4	1	0	0	944	945	-1	3.8
Max	0.0	3.1	18.5	19	0	6	991	991	1	6.3
Range	0.0	2.3	5.1	18	0	6	47	46		2.5

Date and Time	CH <sub>4</sub> % v/v	CO <sub>2</sub> % v/v	O <sub>2</sub> % v/v	TVOC ppmv	H <sub>2</sub> S ppmv	CO ppmv	Borehole Pressure millibars	Atmospheric Pressure millibars	Differential Pressure millibars	Temperature °C	Comments / Events
06/02/2014 15:11	0	1.6	13.4	8	0	2	966	965	-1	5.9	2.68
06/02/2014 16:11	0	1.9	13.9	10	0	2	965	965	0	5.4	2.65
06/02/2014 17:11	0	2.3	14.5	11	0	1	964	964	0	5.3	2.67
06/02/2014 18:11	0	2.3	15.1	12	0	0	962	963	-1	5.2	2.65
06/02/2014 19:11	0	2.3	15.5	12	0	0	962	962	0	5.1	2.65
06/02/2014 20:11	0	2.3	15.8	12	0	1	961	961	0	5.1	2.65
06/02/2014 21:11	0	2.3	16	13	0	1	961	961	0	5.1	2.65
06/02/2014 22:11	0	2.3	16.2	13	0	0	960	961	-1	5.1	2.63
06/02/2014 23:11	0	2.3	16.3	14	0	2	961	961	0	5.1	2.64
07/02/2014 00:11	0	2.7	16.4	14	0	2	960	960	0	5.1	2.63
07/02/2014 01:11	0	2.7	16.5	14	0	2	960	960	0	5.1	2.64
07/02/2014 02:11	0	2.7	16.6	14	0	2	960	960	0	5.1	2.63
07/02/2014 03:11	0	2.7	16.6	14	0	2	960	961	-1	5.1	2.61
07/02/2014 04:11	0	2.7	16.7	14	0	2	961	961	-1	5.1	2.62
07/02/2014 05:11	0	2.7	16.8	14	0	3	963	963	0	5.1	2.62
07/02/2014 06:11	0	2.7	16.9	14	0	2	964	965	-1	5.1	2.63
07/02/2014 07:11	0	2.7	16.9	14	0	2	966	966	0	5.1	2.61
07/02/2014 08:11	0	2.7	16.8	14	0	2	967	967	0	5.1	2.62
07/02/2014 09:11	0	2.7	16.9	14	0	2	969	969	0	5.1	2.61
07/02/2014 10:11	0	2.7	16.8	14	0	4	969	970	-1	5	2.61
07/02/2014 11:11	0	2.7	16.9	14	0	1	970	970	0	5	2.63
07/02/2014 12:11	0	2.7	17	14	0	3	971	971	0	5	2.61
07/02/2014 13:11	0	2.7	17	14	0	4	972	972	0	5	2.59
07/02/2014 14:11	0	2.7	17	14	0	2	972	972	0	5	2.62
07/02/2014 15:11	0	2.7	17	14	0	2	972	972	0	5	2.61
07/02/2014 16:11	0	2.7	17	15	0	2	972	972	0	5	2.63
07/02/2014 17:11	0	2.7	17	15	0	4	971	971	0	5	2.62
07/02/2014 18:11	0	2.7	16.9	15	0	4	969	970	-1	5.1	2.6
07/02/2014 19:11	0	2.7	16.9	15	0	5	969	969	0	5.1	2.6
07/02/2014 20:11	0	2.7	16.9	15	0	3	967	968	-1	5.1	2.61
07/02/2014 21:11	0	2.7	17	15	0	3	965	965	0	5.1	2.59
07/02/2014 22:11	0	2.7	17.2	15	0	2	963	963	0	5.1	2.6
07/02/2014 23:11	0	2.3	17.4	16	0	2	961	961	0	5.1	2.6
08/02/2014 00:11	0	1.9	17.7	15	0	2	958	959	-1	5.1	2.59
08/02/2014 01:11	0	1.9	17.8	15	0	4	956	956	0	5.1	2.59
08/02/2014 02:11	0	1.6	17.9	16	0	2	955	956	-1	5.1	2.58
08/02/2014 03:11	0	1.9	17.8	16	0	2	954	954	-1	5.1	2.58
08/02/2014 04:11	0	1.9	17.7	16	0	3	954	954	0	5.1	2.57
08/02/2014 05:11	0	2.3	17.5	16	0	3	953	953	0	5.1	2.58
08/02/2014 06:11	0	2.3	17.5	16	0	2	953	953	0	5.1	2.57
08/02/2014 07:11	0	2.3	17.4	16	0	3	952	953	-1	5.1	2.58
08/02/2014 08:11	0	2.3	17.4	16	0	2	952	952	0	5.1	2.57
08/02/2014 09:11	0	2.3	17.5	16	0	4	951	951	-1	5.1	2.59
08/02/2014 10:11	0	1.9	17.5	16	0	4	951	951	0	5.1	2.59
08/02/2014 11:11	0	1.9	17.7	16	0	2	950	950	0	5.1	2.57
08/02/2014 12:11	0	1.9	17.7	16	0	4	950	950	-1	5	2.58
08/02/2014 13:11	0	1.9	17.5	16	0	4	949	949	-1	5	2.58
08/02/2014 14:11	0	1.9	17.7	16	0	3	947	947	0	5	2.57
08/02/2014 15:11	0	1.9	17.8	16	0	2	947	947	0	5	2.57
08/02/2014 16:11	0	1.5	18.1	16	0	2	946	946	0	5.1	2.57
08/02/2014 17:11	0	1.5	18.1	16	0	2	946	946	0	5.1	2.58
08/02/2014 18:11	0	1.6	18	16	0	4	946	946	0	5.1	2.58
08/02/2014 19:11	0	1.5	17.9	16	0	4	946	947	-1	5.1	2.57
08/02/2014 20:11	0	1.9	17.7	16	0	2	946	947	-1	5.1	2.56
08/02/2014 21:11	0	1.9	17.6	16	0	5	947	947	0	5.1	2.56
08/02/2014 22:11	0	2.3	17.5	16	0	3	947	948	-1	5.1	2.56
08/02/2014 23:11	0	2.3	17.4	16	0	2	949	949	0	5.1	2.56
09/02/2014 00:11	0	2.3	17.3	17	0	3	949	950	-1	5.1	2.56
09/02/2014 01:11	0	2.3	17.3	17	0	4	950	950	0	5.1	2.56
09/02/2014 02:11	0	2.3	17.3	17	0	4	950	950	0	5.1	2.56
09/02/2014 03:11	0	2.3	17.2	16	0	4	950	950	0	5.1	2.56
09/02/2014 04:11	0	2.3	17.2	16	0	5	950	951	-1	5.1	2.56
09/02/2014 05:11	0	2.3	17.2	14	0	4	951	951	0	5.1	2.56
09/02/2014 06:11	0	2.7	17.3	14	0	3	952	952	-1	5.1	2.57
09/02/2014 07:11	0	2.7	17.3	14	0	3	954	954	0	5.1	2.56
09/02/2014 08:11	0	2.7	17.2	14	0	3	955	955	0	5.1	2.55
09/02/2014 09:11	0	2.7	17.2	14	0	4	956	956	0	5.1	2.54
09/02/2014 10:11	0	2.7	17.2	14	0	2	958	958	0	5.1	2.56
09/02/2014 11:11	0	2.7	17.3	17	0	2	959	959	0	5.1	2.57
09/02/2014 12:11	0	2.7	17.2	17	0	2	960	960	0	5.1	2.55
09/02/2014 13:11	0	2.7	17.2	14	0	5	960	961	-1	5.1	2.54
09/02/2014 14:11	0	2.7	17.2	14	0	3	961	962	-1	5.2	2.54
09/02/2014 15:11	0	2.7	17.2	14	0	3	962	962	0	5.2	2.56
09/02/2014 16:11	0	2.7	17.2	14	0	4	963	964	-1	5.2	2.55
09/02/2014 17:11	0	2.7	17.2	14	0	4	964	964	0	5.3	2.54
09/02/2014 18:11	0	2.7	17.2	14	0	3	965	965	0	5.3	2.55
09/02/2014 19:11	0	2.7	17.2	14	0	3	965	965	0	5.3	2.54
09/02/2014 20:11	0	2.7	17.1	14	0	4	966	966	0	5.3	2.55
09/02/2014 21:11	0	2.7	17.2	14	0	4	966	966	0	5.3	2.55
09/02/2014 22:11	0	2.7	17.1	14	0	3	967	967	0	5.3	2.53
09/02/2014 23:11	0	2.7	17.2	14	0	4	967	967	0	5.3	2.52
10/02/2014 00:11	0	2.7	17.2	14	0	5	967	967	0	5.3	2.53
10/02/2014 01:11	0	2.7	17.1	14	0	5	967	967	0	5.3	2.54
10/02/2014 02:11	0	2.7	17.2	14	0	3	967	967	0	5.3	2.54
10/02/2014 03:11	0	2.7	17.2	14	0	2	967	967	0	5.2	2.53
10/02/2014 04:11	0	2.7	17.1	14	0	3	967	967	0	5.2	2.52
10/02/2014 05:11	0	2.7	17.1	14	0	3	967	967	0	5.1	2.53
10/02/2014 06:11	0	2.7	17.2	14	0	4	967	967	0	5.1	2.54
10/02/2014 07:11	0	2.7	17.1	14	0	4	968	968	0	5.1	2.53
10/02/2014 08:11	0	2.7	17.1	15	0	4	969	969	0	5.1	2.53
10/02/2014 09:11	0	2.7	17.1	14	0	4	969	969	0	4.9	2.52
10/02/2014 10:11	0	2.7	17.1	14	0	2	969	969	0	4.9	2.51
10/02/2014 11:11	0	2.7	17.2	15	0	3	969	970	-1	4.8	2.54
10/02/2014 12:11	0	2.7	17.2	15	0	3	970	970	0	4.8	2.52
10/02/2014 13:11	0	2.7	17.2	15	0	4	970	970	0	4.8	2.53
10/02/2014 14:11	0	2.7	17.2	15	0	2	971	971	-1	4.7	2.53
10/02/2014 15:11	0	2.7	17.2	15	0	3	971	971	0	4.7	2.53
10/02/2014 16:11	0	2.7	17.1	16	0	3	973	973	0	4.6	2.53
10/02/2014 17:11	0	2.7	17.2	16	0	4	974	974	0	4.6	2.53
10/02/2014 18:11	0	2.7	17.2	16	0	4	975	975	0	4.6	2.52
10/02/2014 19:11	0	2.7	17.1	16	0	3	976	976	0	4.6	2.53
10/02/2014 20:11	0	2.7	17.1	19	0	2	976	976	0	4.6	2.53
10/02/2014 21:11	0	2.7	17.2	19	0	5	977	977	0	4.6	2.51
10/02/2014 22:11	0	2.7	17.1	19	0	5	977	977	0	4.6	2.51
10/02/2014 23:11	0	2.7	17.1	19	0	3	977	977	0	4.6	2.52
11/02/2014 00:11	0	2.7	17.1	19	0	3	977	977	0	4.6	2.51
11/02/2014 01:11	0										



Date and Time	CH <sub>4</sub> % v/v	CO <sub>2</sub> % v/v	O <sub>2</sub> % v/v	TVOC ppmv	H <sub>2</sub> S ppmv	CO ppmv	Borehole Pressure millibars	Atmospheric Pressure millibars	Differential Pressure millibars	Temperature °C	Comments / Events
13/02/2014 07:11	0	2.7	17.1	13	0	2	965	965	0	4	2.51
13/02/2014 08:11	0	2.7	16.8	13	0	2	965	965	0	4	2.49
13/02/2014 09:11	0	2.7	16.8	13	0	2	965	965	0	4	2.5
13/02/2014 10:11	0	2.7	16.8	13	0	2	965	965	0	3.9	2.49
13/02/2014 11:11	0	2.7	16.8	13	0	2	966	966	0	3.9	2.48
13/02/2014 12:11	0	2.7	16.8	13	0	2	966	966	0	3.9	2.51
13/02/2014 13:11	0	2.7	16.7	12	0	3	967	967	0	3.9	2.51
13/02/2014 14:11	0	2.7	16.8	13	0	4	968	968	0	3.9	2.5
13/02/2014 15:11	0	2.7	16.8	13	0	2	969	969	0	3.9	2.51
13/02/2014 16:11	0	2.7	16.9	13	0	5	969	969	0	3.9	2.52
13/02/2014 17:11	0	2.7	16.8	13	0	3	970	970	0	3.9	2.51
13/02/2014 18:11	0	2.7	16.8	13	0	3	970	970	0	3.9	2.5
13/02/2014 19:11	0	2.7	16.8	13	0	1	971	971	-1	3.9	2.5
13/02/2014 20:11	0	2.7	16.8	13	0	3	972	972	0	4	2.5
13/02/2014 21:11	0	2.7	17.3	14	0	2	973	973	0	4	2.49
13/02/2014 22:11	0	2.7	17.1	13	0	3	973	973	-1	4	2.52
13/02/2014 23:11	0	3.1	16.8	13	0	5	974	974	0	4	2.51
14/02/2014 00:11	0	2.7	16.7	12	0	5	974	975	-1	4	2.51
14/02/2014 01:11	0	3.1	16.7	12	0	3	975	975	0	4	2.5
14/02/2014 02:11	0	3.1	16.8	12	0	4	975	975	0	4	2.5
14/02/2014 03:11	0	2.7	16.7	12	0	3	974	975	-1	4	2.48
14/02/2014 04:11	0	2.7	16.7	12	0	4	974	975	-1	3.9	2.5
14/02/2014 05:11	0	2.7	16.6	12	0	4	974	975	-1	3.9	2.51
14/02/2014 06:11	0	2.7	16.6	12	0	5	974	975	-1	3.9	2.5
14/02/2014 07:11	0	2.7	16.6	12	0	2	974	974	0	3.9	2.5
14/02/2014 08:11	0	2.7	16.7	13	0	3	973	973	0	3.9	2.5
14/02/2014 09:11	0	2.7	16.6	12	0	4	971	971	-1	3.9	2.49
14/02/2014 10:11	0	2.7	16.7	12	0	4	970	971	-1	3.8	2.49
14/02/2014 11:11	0	2.3	17.1	12	0	2	968	968	0	3.8	2.5
14/02/2014 12:11	0	1.9	17.1	12	0	4	966	966	0	3.8	2.48
14/02/2014 13:11	0	1.9	17.1	12	0	4	962	962	0	3.8	2.52
14/02/2014 14:11	0	1.5	17.3	12	0	2	959	959	0	3.8	2.5
14/02/2014 15:11	0	1.5	17.4	12	0	3	955	956	-1	3.8	2.51
14/02/2014 16:11	0	1.5	17.4	12	0	5	954	954	0	3.8	2.49
14/02/2014 17:11	0	1.5	17.5	12	0	2	952	952	0	3.8	2.49
14/02/2014 18:11	0	1.1	17.4	12	0	3	951	952	-1	3.8	2.49
14/02/2014 19:11	0	1.1	17.4	12	0	1	949	950	-1	3.8	2.51
14/02/2014 20:11	0	1.1	17.5	12	0	2	947	947	-1	3.8	2.49
14/02/2014 21:11	0	0.8	17.7	12	0	2	946	947	-1	3.8	2.51
14/02/2014 22:11	0	0.8	17.7	12	0	2	945	946	-1	3.9	2.5
14/02/2014 23:11	0	0.8	17.7	12	0	1	944	945	-1	3.9	2.49
15/02/2014 00:11	0	0.8	17.7	12	0	4	945	946	-1	3.9	2.49
15/02/2014 01:11	0	1.1	17.5	12	0	5	946	947	-1	3.9	2.49
15/02/2014 02:11	0	1.5	17.4	12	0	5	948	948	0	4	2.5
15/02/2014 03:11	0	1.5	17.2	13	0	3	949	949	0	4.1	2.53
15/02/2014 04:11	0	1.9	17.1	13	0	2	950	951	-1	4.1	2.5
15/02/2014 05:11	0	1.9	17.1	13	0	4	951	952	-1	4.1	2.5
15/02/2014 06:11	0	2.3	17	12	0	2	953	953	0	4.1	2.5
15/02/2014 07:11	0	2.3	17	12	0	4	955	955	0	4.2	2.5
15/02/2014 08:11	0	2.3	16.9	12	0	5	956	956	0	4.2	2.51
15/02/2014 09:11	0	2.3	17.1	12	0	4	958	958	0	4.2	2.48
15/02/2014 10:11	0	2.7	17	12	0	4	959	960	-1	4.3	2.48
15/02/2014 11:11	0	2.7	16.9	12	0	4	961	961	0	4.3	2.49
15/02/2014 12:11	0	2.7	16.9	12	0	4	962	962	0	4.3	2.5
15/02/2014 13:11	0	2.7	16.9	12	0	3	963	963	0	4.3	2.5
15/02/2014 14:11	0	2.7	16.9	12	0	5	965	965	0	4.3	2.5
15/02/2014 15:11	0	2.7	17	12	0	3	967	967	0	4.3	2.49
15/02/2014 16:11	0	2.7	16.9	12	0	2	969	969	0	4.4	2.5
15/02/2014 17:11	0	2.7	16.9	12	0	5	971	971	0	4.4	2.49
15/02/2014 18:11	0	2.7	16.9	12	0	3	973	973	0	4.4	2.49
15/02/2014 19:11	0	2.7	17.1	12	0	2	974	974	0	4.5	2.5
15/02/2014 20:11	0	2.7	17	12	0	4	975	975	0	4.5	2.5
15/02/2014 21:11	0	2.7	17	12	0	2	976	976	0	4.6	2.51
15/02/2014 22:11	0	2.7	16.9	12	0	3	977	977	0	4.6	2.51
15/02/2014 23:11	0	2.7	16.9	12	0	3	978	978	0	4.6	2.49
16/02/2014 00:11	0	2.7	17.1	12	0	3	979	979	0	4.6	2.5
16/02/2014 01:11	0	2.7	17.2	12	0	3	980	980	0	4.6	2.5
16/02/2014 02:11	0	2.7	17.1	12	0	3	980	981	-1	4.6	2.49
16/02/2014 03:11	0	2.7	17.1	12	0	4	981	981	0	4.6	2.48
16/02/2014 04:11	0	2.7	17.1	12	0	4	981	981	0	4.5	2.5
16/02/2014 05:11	0	2.7	17.2	12	0	4	982	982	0	4.5	2.48
16/02/2014 06:11	0	2.7	17.1	12	0	3	982	983	0	4.4	2.49
16/02/2014 07:11	0	2.7	17.2	12	0	3	983	983	0	4.4	2.48
16/02/2014 08:11	0	2.7	17.1	12	0	2	984	984	0	4.4	2.51
16/02/2014 09:11	0	2.7	17.1	12	0	2	984	984	0	4.4	2.48
16/02/2014 10:11	0	2.7	17.1	12	0	5	984	984	0	4.3	2.48
16/02/2014 11:11	0	2.7	17.2	12	0	3	985	985	0	4.3	2.48
16/02/2014 12:11	0	2.7	17.1	12	0	2	985	985	0	4.3	2.49
16/02/2014 13:11	0	2.7	17.1	12	0	2	985	985	0	4.3	2.5
16/02/2014 14:11	0	2.7	17.1	12	0	2	984	984	0	4.2	2.48
16/02/2014 15:11	0	2.7	17.1	12	0	4	984	984	0	4.2	2.49
16/02/2014 16:11	0	2.7	17.1	12	0	3	984	984	0	4.3	2.5
16/02/2014 17:11	0	2.7	17.1	12	0	3	984	984	0	4.3	2.48
16/02/2014 18:11	0	2.7	17.1	11	0	5	984	984	0	4.3	2.49
16/02/2014 19:11	0	2.7	17.1	11	0	3	984	984	0	4.3	2.49
16/02/2014 20:11	0	2.7	17.3	12	0	4	984	984	0	4.3	2.48
16/02/2014 21:11	0	2.7	17.1	11	0	4	984	984	0	4.3	2.49
16/02/2014 22:11	0	2.7	17.1	11	0	5	983	983	0	4.3	2.48
17/02/2014 00:11	0	2.7	17	11	0	4	983	983	0	4.3	2.48
17/02/2014 01:11	0	2.7	17	11	0	4	983	983	0	4.3	2.49
17/02/2014 02:11	0	2.7	17.1	11	0	2	983	983	0	4.3	2.48
17/02/2014 03:11	0	2.7	17.3	11	0	4	982	982	0	4.3	2.5
17/02/2014 04:11	0	2.3	17.2	11	0	3	982	982	0	4.3	2.48
17/02/2014 05:11	0	2.3	17.4	11	0	4	982	982	0	4.3	2.5
17/02/2014 06:11	0	2.3	17.2	10	0	3	982	982	0	4.3	2.48
17/02/2014 07:11	0	2.3	17.3	10	0	4	982	983	-1	4.3	2.5
17/02/2014 08:11	0	2.3	17.3	10	0	3	983	983	0	4.2	2.48
17/02/2014 09:11	0	2.3	17.3	10	0	4	983	983	0	4.2	2.48
17/02/2014 10:11	0	1.9	17.3	10	0	3	983	983	0	4.2	2.49
17/02/2014 11:11	0	1.9	17.6	10	0	3	983	983	0	4.2	2.48
17/02/2014 12:11	0	1.9	17.6	10	0	5	983	984	-1	4.2	2.49
17/02/2014 13:11	0	1.9	17.5	10	0	5	983	983	0	4.2	2.5
17/02/2014 14:11	0	1.9	17.5	10	0	4	983	983	0	4.3	2.49
17/02/2014 15:11	0	1.9	17.6	10	0	2	983	983	0	4.3	2.49
17/02/2014 16:11	0	1.9	17.7	10	0	4	983	983	0	4.3	2.49
17/02/2014 17:11	0	1.5	17.6	10	0	4	983	983	0	4.3	2.49
17/02/2014 18:11	0	1.5	17.6	10	0	3	983	983	0	4.3	2.48
17/02/2014 19:11	0	1.5	17.6	10	0	5	983	983	0	4.4	2.49
17/02/2014 20:11	0	1.5	17.6	10	0	3	984	984	0	4.4	2.49
17/02/2014 21:11	0	1.5	17.7	10	0	3	984	984	0	4.4	2.48
17/02/2014 22:11	0	1.5	17.7	10	0	3	984	984	0	4.4	2.49
17/02/2014 23:11	0	1.5	17.6	10	0	2	984	984	0	4.5	2.49
18/02/2014 00:11	0	1.5	17.6	10	0	2	985	985	0	4.5	2.48
18/02/2014 01:11	0	1.9	17.6	10	0	2	985	985	0	4.6	2.48
18/02/2014 02:11	0	1.9	17.								

Date and Time	CH <sub>4</sub> % v/v	CO <sub>2</sub> % v/v	O <sub>2</sub> % v/v	TVOC ppmv	H <sub>2</sub> S ppmv	CO ppmv	Borehole Pressure millibars	Atmospheric Pressure millibars	Differential Pressure millibars	Temperature °C	Comments / Events
20/02/2014 16:11	0	2.3	17.5	8	0	4	974	975	-1	5.9	2.46
20/02/2014 17:11	0	2.7	17.4	8	0	4	975	975	0	5.9	2.47
20/02/2014 18:11	0	2.7	17.6	8	0	3	976	976	0	6	2.47
20/02/2014 19:11	0	2.7	17.5	8	0	3	976	976	-1	6	2.47
20/02/2014 20:11	0	2.7	17.5	8	0	2	977	977	0	6.1	2.48
20/02/2014 21:11	0	2.7	17.5	8	0	3	977	978	-1	6.1	2.49
20/02/2014 22:11	0	2.7	17.5	8	0	5	978	978	0	6.1	2.47
20/02/2014 23:11	0	2.3	17.5	8	0	2	978	978	0	6.1	2.47
21/02/2014 00:11	0	2.7	17.4	6	0	5	978	978	0	6.1	2.48
21/02/2014 01:11	0	2.7	17.4	6	0	4	978	978	0	6.1	2.47
21/02/2014 02:11	0	2.7	17.3	7	0	4	978	978	0	6.1	2.47
21/02/2014 03:11	0	2.7	17.3	8	0	2	978	978	0	6	2.47
21/02/2014 04:11	0	2.7	17.4	7	0	4	978	978	0	6	2.47
21/02/2014 05:11	0	2.7	17.4	7	0	2	978	978	0	5.9	2.5
21/02/2014 06:11	0	2.7	17.4	7	0	5	978	978	0	5.9	2.45
21/02/2014 07:11	0	2.7	17.4	7	0	3	978	978	0	5.9	2.47
21/02/2014 08:11	0	2.7	17.4	7	0	2	979	979	0	5.8	2.47
21/02/2014 09:11	0	2.7	17.4	7	0	3	979	979	0	5.8	2.47
21/02/2014 10:11	0	2.7	17.4	6	0	4	979	979	0	5.7	2.46
21/02/2014 11:11	0	2.7	17.4	6	0	2	979	979	0	5.6	2.47
21/02/2014 12:11	0	2.7	17.4	6	0	3	979	979	0	5.6	2.46
21/02/2014 13:11	0	2.7	17.4	6	0	5	978	978	0	5.6	2.47
21/02/2014 14:11	0	2.7	17.4	6	0	5	978	978	0	5.6	2.47
21/02/2014 15:11	0	2.7	17.4	6	0	3	978	978	0	5.5	2.47
21/02/2014 16:11	0	2.7	17.4	6	0	2	978	978	0	5.5	2.47
21/02/2014 17:11	0	2.7	17.4	6	0	3	978	978	0	5.5	2.48
21/02/2014 18:11	0	2.7	17.2	6	0	4	978	978	0	5.5	2.47
21/02/2014 19:11	0	2.7	17.4	6	0	2	978	978	0	5.5	2.47
21/02/2014 20:11	0	2.7	17.4	6	0	4	978	978	0	5.5	2.46
21/02/2014 21:11	0	2.7	17.2	6	0	6	978	978	0	5.5	2.47
21/02/2014 22:11	0	2.7	17.2	6	0	3	978	978	0	5.5	2.47
21/02/2014 23:11	0	2.7	17.4	6	0	4	979	979	0	5.5	2.46
22/02/2014 00:11	0	2.7	17.5	6	0	4	979	979	0	5.5	2.47
22/02/2014 01:11	0	2.7	17.3	5	0	3	979	979	0	5.5	2.45
22/02/2014 02:11	0	2.7	17.2	5	0	3	980	980	0	5.4	2.47
22/02/2014 03:11	0	2.7	17.3	5	0	2	980	980	0	5.4	2.48
22/02/2014 04:11	0	2.7	17.2	5	0	2	980	981	-1	5.4	2.46
22/02/2014 05:11	0	2.7	17.4	5	0	3	981	981	0	5.4	2.48
22/02/2014 06:11	0	2.7	17.1	5	0	4	982	982	0	5.4	2.45
22/02/2014 07:11	0	2.7	17.4	4	0	5	983	983	0	5.4	2.45
22/02/2014 08:11	0	2.7	17.2	4	0	3	984	984	0	5.3	2.45
22/02/2014 09:11	0	2.7	17.4	4	0	3	985	985	0	5.3	2.45
22/02/2014 10:11	0	2.7	17.2	4	0	3	985	985	0	5.3	2.46
22/02/2014 11:11	0	2.7	17.2	4	0	3	986	986	0	5.3	2.46
22/02/2014 12:11	0	2.7	17.1	4	0	3	986	986	0	5.2	2.46
22/02/2014 13:11	0	2.7	17.2	4	0	5	986	986	0	5.2	2.46
22/02/2014 14:11	0	2.7	17.3	4	0	3	986	986	0	5.2	2.47
22/02/2014 15:11	0	2.7	17.4	4	0	3	986	986	0	5.2	2.47
22/02/2014 16:11	0	2.7	17.2	4	0	3	986	986	0	5.3	2.46
22/02/2014 17:11	0	2.7	17.2	4	0	2	986	986	0	5.3	2.47
22/02/2014 18:11	0	2.7	17.3	4	0	3	987	987	0	5.3	2.47
22/02/2014 19:11	0	2.7	17.4	4	0	4	986	987	-1	5.3	2.47
22/02/2014 20:11	0	2.7	17.1	3	0	4	986	986	0	5.4	2.46
22/02/2014 21:11	0	2.3	17.4	3	0	4	986	986	0	5.4	2.47
22/02/2014 22:11	0	2.3	17.7	3	0	3	986	985	1	5.4	2.46
22/02/2014 23:11	0	1.9	17.9	3	0	3	985	985	0	5.4	2.47
23/02/2014 00:11	0	1.9	17.5	3	0	3	985	985	0	5.4	2.47
23/02/2014 01:11	0	2.3	17.6	3	0	2	984	984	0	5.4	2.46
23/02/2014 02:11	0	2.3	17.7	3	0	4	984	984	0	5.5	2.47
23/02/2014 03:11	0	1.9	17.8	3	0	3	983	984	0	5.5	2.47
23/02/2014 04:11	0	1.9	17.8	2	0	5	983	983	0	5.5	2.45
23/02/2014 05:11	0	1.9	17.8	2	0	3	983	983	0	5.5	2.45
23/02/2014 06:11	0	1.9	17.8	2	0	2	982	982	0	5.5	2.46
23/02/2014 07:11	0	1.9	17.7	2	0	4	982	982	0	5.5	2.47
23/02/2014 08:11	0	1.5	18.1	2	0	3	982	982	0	5.6	2.48
23/02/2014 09:11	0	1.6	18	2	0	3	982	982	0	5.6	2.47
23/02/2014 10:11	0	1.6	18.1	2	0	2	982	982	0	5.6	2.47
23/02/2014 11:11	0	1.6	18	2	0	2	982	982	0	5.6	2.47
23/02/2014 12:11	0	1.6	18.1	2	0	2	982	982	0	5.6	2.47
23/02/2014 13:11	0	1.5	18.1	2	0	2	982	982	0	5.6	2.46
23/02/2014 14:11	0	1.6	18.1	2	0	3	981	981	0	5.6	2.45
23/02/2014 15:11	0	1.5	18.1	2	0	3	981	981	0	5.7	2.46
23/02/2014 16:11	0	1.5	18.2	2	0	4	982	982	0	5.7	2.46
23/02/2014 17:11	0	1.6	18.2	2	0	2	982	982	0	5.8	2.47
23/02/2014 18:11	0	1.6	18.3	2	0	2	982	982	0	5.8	2.46
23/02/2014 19:11	0	1.1	18.2	2	0	2	983	983	0	5.8	2.46
23/02/2014 20:11	0	1.1	18.4	2	0	3	984	984	0	5.8	2.45
23/02/2014 21:11	0	1.1	18.3	2	0	3	983	983	0	5.9	2.46
23/02/2014 22:11	0	1.1	18.4	2	0	3	983	983	0	5.9	2.47
23/02/2014 23:11	0	1.1	18.5	2	0	2	983	983	0	5.9	2.47
24/02/2014 00:11	0	1.1	18.4	2	0	4	983	983	0	5.9	2.45
24/02/2014 01:11	0	1.1	18.4	2	0	4	982	982	0	5.9	2.46
24/02/2014 02:11	0	1.1	18.3	2	0	2	981	981	0	6	2.46
24/02/2014 03:11	0	1.1	18.3	2	0	2	980	980	0	6	2.46
24/02/2014 04:11	0	1.1	18.3	2	0	3	980	980	0	6	2.44
24/02/2014 05:11	0	1.1	18.3	2	0	3	979	979	0	6	2.45
24/02/2014 06:11	0	1.1	18.3	2	0	3	979	979	0	6	2.45
24/02/2014 07:11	0	1.1	18.2	2	0	2	979	979	0	6	2.45
24/02/2014 08:11	0	1.1	18.3	2	0	4	980	981	-1	6	2.44
24/02/2014 09:11	0	1.6	18.2	2	0	5	981	981	0	6	2.44
24/02/2014 10:11	0	1.5	18	2	0	3	981	981	0	6	2.45
24/02/2014 11:11	0	1.9	17.9	2	0	4	982	982	0	6	2.44
24/02/2014 12:11	0	1.9	17.8	2	0	3	982	982	0	6	2.44
24/02/2014 13:11	0	1.9	17.8	2	0	3	981	981	0	6	2.45
24/02/2014 14:11	0	1.9	17.8	2	0	3	981	981	0	6	2.46
24/02/2014 15:11	0	1.9	17.7	2	0	3	980	981	-1	6.1	2.46
24/02/2014 16:11	0	1.9	17.7	2	0	3	980	980	0	6.1	2.44
24/02/2014 17:11	0	1.9	17.8	2	0	4	980	980	0	6.1	2.46
24/02/2014 18:11	0	1.9	17.8	2	0	2	979	979	0	6.1	2.47
24/02/2014 19:11	0	1.9	17.8	2	0	3	979	979	0	6.2	2.45
24/02/2014 20:11	0	1.9	17.9	2	0	4	978	978	0	6.2	2.46
24/02/2014 21:11	0	1.9	17.9	2	0	3	977	977	0	6.3	2.44
24/02/2014 22:11	0	1.6	17.9	2	0	4	976	976	0	6.3	2.46
24/02/2014 23:11	0	1.5	18.1	2	0	4	975	975	0	6.3	2.44
25/02/2014 00:11	0	1.1	18.4	2	0	2	975	975	0	6.3	2.45
25/02/2014 01:11	0	1.1	18.3	2	0	3	974	974	0	6.3	2.46
25/02/2014 02:11	0	1.1	18.3	2	0	3	973	973	0	6.3	2.44
25/02/2014 03:11	0	1.1	18.3	2	0	3	973	973	0	6.3	2.44
25/02/2014 04:11	0	1.5	18.2	2	0	4	973	974	-1	6.3	2.44
25/02/2014 05:11	0	1.6	18	2	0	4	973	974	-1	6.3	2.43
25/02/2014 06:11	0	1.6	18	2	0	3	973	974	-1	6.3	2.43
25/02/2014 07:11	0	1.6	18	2	0	2	973	974	-1	6.3	2.43
25/02/2014 08:11	0	1.6	18	2	0	4	974	974	0	6.3	2.44
25/02/2014 09:11	0	1.6	18	2	0	5	974	974	0	6.3	2.44
25/02/2014 10:11	0	1.6	17.9	2	0	2	974	974	0	6.3	2.43
25/02/2014 11:11	0</										



Ground-Gas Solutions Time Series Data

Location:	Hednesford Hill, Cannock Chase
Borehole ref:	CRH - W33
GeoClam ID:	00002031209
Start Date:	06/02/2014 14:57
End Date:	27/02/2014 09:57
Days of monitoring:	21
Monitoring Frequency (mins):	60
Total samples taken:	500

Minimum, Maximum and range table

	CH <sub>4</sub>	CO <sub>2</sub>	O <sub>2</sub>	TVOC	H <sub>2</sub> S	CO	Borehole Pressure	Atmospheric Pressure	Differential Pressure	Temperature
Min	0.0	0.4	14.9	0	0	0	942	942	-1	2.7
Max	0.0	0.6	19.3	0	0	5	990	990	1	5.6
Range	0.0	0.2	4.4	0	0	5	48	48		2.9

Date and Time	CH <sub>4</sub> % v/v	CO <sub>2</sub> % v/v	O <sub>2</sub> % v/v	TVOC ppmv	H <sub>2</sub> S ppmv	CO ppmv	Borehole Pressure millibars	Atmospheric Pressure millibars	Differential Pressure millibars	Temperature °C	Comments / Events
06/02/2014 14:57	0	0.4	15.2	0	0	0	965	965	0	5.6	2.68
06/02/2014 15:57	0	0.4	15	0	0	0	963	963	0	4.8	2.68
06/02/2014 16:57	0	0.4	14.9	0	0	0	962	962	0	4.6	2.67
06/02/2014 17:57	0	0.4	14.9	0	0	0	961	961	0	4.4	2.67
06/02/2014 18:57	0	0.4	15	0	0	0	960	960	0	4.4	2.67
06/02/2014 19:57	0	0.4	15	0	0	0	959	959	0	4.4	2.66
06/02/2014 20:57	0	0.4	15.1	0	0	0	958	958	0	4.4	2.66
06/02/2014 21:57	0	0.4	15.1	0	0	0	958	958	0	4.4	2.66
06/02/2014 22:57	0	0.4	15.2	0	0	0	958	958	0	4.4	2.66
06/02/2014 23:57	0	0.4	15.3	0	0	0	958	958	0	4.4	2.66
07/02/2014 00:57	0	0.4	15.3	0	0	0	958	958	0	4.4	2.64
07/02/2014 01:57	0	0.4	15.4	0	0	0	958	958	0	4.3	2.65
07/02/2014 02:57	0	0.4	15.6	0	0	2	958	959	0	4.3	2.65
07/02/2014 03:57	0	0.4	15.7	0	0	1	959	959	0	4.3	2.63
07/02/2014 04:57	0	0.6	15.8	0	0	0	960	961	-1	4.3	2.64
07/02/2014 05:57	0	0.6	16	0	0	0	962	962	0	4.3	2.64
07/02/2014 06:57	0	0.6	16.1	0	0	0	963	963	0	4.3	2.64
07/02/2014 07:57	0	0.6	16.3	0	0	0	965	965	0	4.3	2.63
07/02/2014 08:57	0	0.6	16.6	0	0	0	967	966	1	4.3	2.63
07/02/2014 09:57	0	0.6	16.8	0	0	0	968	968	0	4.3	2.63
07/02/2014 10:57	0	0.6	17	0	0	0	968	968	0	4.2	2.62
07/02/2014 11:57	0	0.4	17.2	0	0	0	969	969	0	4.2	2.62
07/02/2014 12:57	0	0.4	17.3	0	0	0	970	970	0	4.2	2.62
07/02/2014 13:57	0	0.4	17.4	0	0	0	970	970	0	4.2	2.62
07/02/2014 14:57	0	0.4	17.5	0	0	0	970	970	0	4.2	2.61
07/02/2014 15:57	0	0.4	17.6	0	0	0	970	970	0	4.2	2.6
07/02/2014 16:57	0	0.4	17.6	0	0	0	969	969	0	4.2	2.62
07/02/2014 17:57	0	0.4	17.7	0	0	2	968	968	0	4.2	2.61
07/02/2014 18:57	0	0.4	17.7	0	0	0	967	967	0	4.2	2.61
07/02/2014 19:57	0	0.4	17.8	0	0	0	966	966	0	4.2	2.61
07/02/2014 20:57	0	0.4	17.9	0	0	0	964	964	0	4.2	2.6
07/02/2014 21:57	0	0.4	17.9	0	0	0	962	961	1	4.2	2.6
07/02/2014 22:57	0	0.4	18	0	0	2	959	959	0	4.2	2.61
07/02/2014 23:57	0	0.4	18.1	0	0	1	957	957	0	4.2	2.61
08/02/2014 00:57	0	0.4	18.2	0	0	1	954	954	0	4.2	2.6
08/02/2014 01:57	0	0.4	18.2	0	0	0	953	953	0	4.2	2.59
08/02/2014 02:57	0	0.4	18.2	0	0	0	952	952	0	4.2	2.59
08/02/2014 03:57	0	0.4	18.2	0	0	0	952	952	0	4.2	2.6
08/02/2014 04:57	0	0.4	18.3	0	0	1	952	952	0	4.2	2.59
08/02/2014 05:57	0	0.4	18.3	0	0	0	951	951	0	4.2	2.61
08/02/2014 06:57	0	0.4	18.3	0	0	0	950	950	0	4.2	2.59
08/02/2014 07:57	0	0.4	18.3	0	0	0	950	949	1	4.2	2.6
08/02/2014 08:57	0	0.4	18.3	0	0	1	948	948	0	4.2	2.6
08/02/2014 09:57	0	0.4	18.4	0	0	0	948	948	0	4.2	2.58
08/02/2014 10:57	0	0.4	18.4	0	0	0	947	948	-1	4.2	2.59
08/02/2014 11:57	0	0.4	18.4	0	0	2	947	947	0	4.2	2.58
08/02/2014 12:57	0	0.4	18.4	0	0	0	946	946	0	4.2	2.59
08/02/2014 13:57	0	0.4	18.4	0	0	0	944	945	-1	4.2	2.6
08/02/2014 14:57	0	0.4	18.5	0	0	1	944	944	0	4.2	2.59
08/02/2014 15:57	0	0.4	18.5	0	0	1	943	944	-1	4.2	2.58
08/02/2014 16:57	0	0.4	18.5	0	0	0	943	943	0	4.2	2.59
08/02/2014 17:57	0	0.6	18.6	0	0	0	944	944	0	4.2	2.58
08/02/2014 18:57	0	0.6	18.6	0	0	2	944	944	0	4.2	2.57
08/02/2014 19:57	0	0.6	18.6	0	0	0	944	944	0	4.2	2.59
08/02/2014 20:57	0	0.6	18.6	0	0	0	944	944	0	4.2	2.57
08/02/2014 21:57	0	0.6	18.7	0	0	2	946	946	0	4.3	2.57
08/02/2014 22:57	0	0.6	18.7	0	0	0	947	947	0	4.3	2.57
09/02/2014 00:57	0	0.6	18.7	0	0	0	947	948	-1	4.3	2.57
09/02/2014 01:57	0	0.6	18.7	0	0	2	947	948	-1	4.3	2.56
09/02/2014 02:57	0	0.6	18.7	0	0	0	947	947	0	4.3	2.57
09/02/2014 03:57	0	0.6	18.7	0	0	3	947	948	-1	4.3	2.58
09/02/2014 04:57	0	0.6	18.8	0	0	1	948	948	0	4.3	2.56
09/02/2014 05:57	0	0.6	18.8	0	0	0	949	949	0	4.3	2.57
09/02/2014 06:57	0	0.6	18.8	0	0	0	951	951	0	4.3	2.56
09/02/2014 07:57	0	0.6	18.8	0	0	0	952	953	-1	4.3	2.57
09/02/2014 08:57	0	0.6	18.8	0	0	1	954	954	0	4.3	2.56
09/02/2014 09:57	0	0.6	18.9	0	0	1	955	955	0	4.3	2.55
09/02/2014 10:57	0	0.6	18.9	0	0	0	956	956	0	4.3	2.57
09/02/2014 11:57	0	0.6	18.9	0	0	1	958	958	0	4.3	2.57
09/02/2014 12:57	0	0.6	18.9	0	0	2	958	958	0	4.3	2.56
09/02/2014 13:57	0	0.6	18.9	0	0	1	959	959	0	4.3	2.56
09/02/2014 14:57	0	0.6	18.9	0	0	0	960	960	0	4.3	2.57
09/02/2014 15:57	0	0.6	19	0	0	2	961	961	0	4.3	2.55
09/02/2014 16:57	0	0.6	18.9	0	0	0	962	962	0	4.3	2.57
09/02/2014 17:57	0	0.6	19	0	0	0	963	962	1	4.4	2.55
09/02/2014 18:57	0	0.6	19	0	0	1	963	963	0	4.4	2.57
09/02/2014 19:57	0	0.6	19	0	0	1	964	964	0	4.4	2.56
09/02/2014 20:57	0	0.6	19	0	0	1	964	964	0	4.4	2.56
09/02/2014 21:57	0	0.6	19	0	0	3	965	965	0	4.4	2.54
09/02/2014 22:57	0	0.6	19	0	0	0	965	965	0	4.4	2.54
09/02/2014 23:57	0	0.6	19	0	0	0	965	965	0	4.4	2.56
10/02/2014 00:57	0	0.6	19	0	0	3	965	965	0	4.4	2.55
10/02/2014 01:57	0	0.6	19	0	0	0	965	965	0	4.4	2.55
10/02/2014 02:57	0	0.6	19	0	0	0	965	965	0	4.3	2.53
10/02/2014 03:57	0	0.6	19	0	0	4	965	965	0	4.3	2.56
10/02/2014 04:57	0	0.6	19	0	0	3	965	965	0	4.3	2.53
10/02/2014 05:57	0	0.6	19	0	0	2	965	965	0	4.2	2.56
10/02/2014 06:57	0	0.6	19	0	0	2	966	966	0	4.1	2.55
10/02/2014 07:57	0	0.6	19	0	0	2	967	966	1	4.1	2.56
10/02/2014 08:57	0	0.6	19	0	0	0	967	967	0	4	2.55
10/02/2014 09:57	0	0.6	19	0	0	1	967	967	0	3.9	2.54
10/02/2014 10:57	0	0.6	19	0	0	1	968	967	1	3.9	2.54
10/02/2014 11:57	0	0.6	19	0	0	0	968	968	0	3.9	2.55
10/02/2014 12:57	0	0.6	19	0	0	2	968	968	0	3.8	2.55
10/02/2014 13:57	0	0.6	19	0	0	0	968	969	-1	3.8	2.52
10/02/2014 14:57	0	0.6	19	0	0	0	969	969	0	3.8	2.54
10/02/2014 15:57	0	0.6	19	0	0	0	970	970	0	3.7	2.54
10/02/2014 16:57	0	0.6	19	0	0	0	972	972	0	3.7	2.55
10/02/2014 17:57	0	0.6	19.1	0	0	0	973	973	0	3.7	2.54
10/02/2014 18:57	0	0.6	19.1	0	0	3	974	974	0	3.6	2.55
10/02/2014 19:57	0	0.6	19	0	0	5	974	974	0	3.6	2.53
10/02/2014 20:57	0	0.6	19.1	0	0	2	975	975	0	3.6	2.54
10/02/2014 21:57	0	0.6	19	0	0	1	975	975	0	3.6	2.53
10/02/2014 22:57	0	0.6	19.1	0	0	0	975	975	0	3.6	2.53
10/02/2014 23:57	0	0.6	19	0	0	0	975	975	0	3.6	2.49
11/02/2014 00:57	0	0.6	19	0	0	0	975	975	0	3.6	2.55
11/02/2014 01:57	0	0.6	19	0	0	1	974	974	0	3.6	2.51
11/02/2014 02:57	0	0.6	19	0	0	0	97				

Date and Time	CH <sub>4</sub> % v/v	CO <sub>2</sub> % v/v	O <sub>2</sub> % v/v	TVOC ppmv	H <sub>2</sub> S ppmv	CO ppmv	Borehole Pressure millibars	Atmospheric Pressure millibars	Differential Pressure millibars	Temperature °C	Comments / Events
13/02/2014 06:57	0	0.6	18.8	0	0	0	963	963	0	3.2	2.49
13/02/2014 07:57	0	0.6	18.8	0	0	2	963	963	0	3.2	2.51
13/02/2014 08:57	0	0.6	18.8	0	0	0	963	963	0	3.1	2.5
13/02/2014 09:57	0	0.6	18.8	0	0	3	963	963	0	3.1	2.52
13/02/2014 10:57	0	0.6	18.8	0	0	1	964	964	0	3.1	2.52
13/02/2014 11:57	0	0.6	18.8	0	0	3	964	964	0	3.1	2.52
13/02/2014 12:57	0	0.6	18.8	0	0	2	965	965	0	3	2.51
13/02/2014 13:57	0	0.6	18.9	0	0	1	966	966	0	3	2.53
13/02/2014 14:57	0	0.6	18.8	0	0	2	967	966	1	2.9	2.51
13/02/2014 15:57	0	0.6	18.9	0	0	0	967	967	0	2.9	2.51
13/02/2014 16:57	0	0.6	18.9	0	0	3	968	968	0	2.9	2.52
13/02/2014 17:57	0	0.6	18.9	0	0	3	968	969	-1	2.9	2.51
13/02/2014 18:57	0	0.6	18.9	0	0	0	969	969	0	2.9	2.51
13/02/2014 19:57	0	0.6	18.9	0	0	3	970	970	0	2.9	2.52
13/02/2014 20:57	0	0.6	18.9	0	0	0	971	971	0	2.9	2.5
13/02/2014 21:57	0	0.6	18.9	0	0	0	972	972	0	2.9	2.51
13/02/2014 22:57	0	0.6	18.9	0	0	0	972	972	0	3	2.51
13/02/2014 23:57	0	0.6	18.9	0	0	3	972	973	-1	2.9	2.51
14/02/2014 00:57	0	0.6	18.9	0	0	0	973	973	0	2.9	2.5
14/02/2014 01:57	0	0.6	18.9	0	0	0	973	973	0	2.9	2.52
14/02/2014 02:57	0	0.6	18.9	0	0	0	972	972	-1	2.9	2.5
14/02/2014 03:57	0	0.6	18.9	0	0	2	972	972	0	2.9	2.51
14/02/2014 04:57	0	0.6	18.9	0	0	0	973	973	0	2.9	2.52
14/02/2014 05:57	0	0.6	18.9	0	0	1	972	973	-1	2.9	2.51
14/02/2014 06:57	0	0.6	18.9	0	0	0	972	972	0	2.8	2.52
14/02/2014 07:57	0	0.6	18.9	0	0	0	971	971	1	2.8	2.51
14/02/2014 08:57	0	0.6	18.8	0	0	3	968	969	0	2.8	2.5
14/02/2014 09:57	0	0.6	18.8	0	0	0	967	966	0	2.8	2.51
14/02/2014 10:57	0	0.6	18.8	0	0	0	964	965	-1	2.8	2.51
14/02/2014 11:57	0	0.6	18.8	0	0	0	960	961	-1	2.7	2.51
14/02/2014 12:57	0	0.6	18.7	0	0	3	957	957	0	2.7	2.52
14/02/2014 13:57	0	0.6	18.7	0	0	2	954	954	0	2.7	2.51
14/02/2014 14:57	0	0.6	18.7	0	0	2	951	952	-1	2.7	2.52
14/02/2014 15:57	0	0.6	18.7	0	0	0	950	950	0	2.7	2.49
14/02/2014 16:57	0	0.6	18.7	0	0	2	948	948	0	2.7	2.51
14/02/2014 17:57	0	0.6	18.7	0	0	1	948	948	0	2.8	2.51
14/02/2014 18:57	0	0.6	18.7	0	0	1	945	946	-1	2.8	2.52
14/02/2014 19:57	0	0.6	18.6	0	0	1	944	944	0	2.8	2.54
14/02/2014 20:57	0	0.6	18.6	0	0	0	943	943	0	2.8	2.5
14/02/2014 21:57	0	0.6	18.6	0	0	3	942	942	0	2.9	2.51
14/02/2014 22:57	0	0.6	18.7	0	0	0	942	942	0	2.9	2.5
14/02/2014 23:57	0	0.6	18.7	0	0	4	943	944	-1	2.9	2.5
15/02/2014 00:57	0	0.6	18.7	0	0	0	945	945	0	2.9	2.49
15/02/2014 01:57	0	0.6	18.7	0	0	2	946	946	0	3.1	2.51
15/02/2014 02:57	0	0.6	18.8	0	0	0	947	948	-1	3.1	2.52
15/02/2014 03:57	0	0.6	18.8	0	0	0	949	949	0	3.1	2.52
15/02/2014 04:57	0	0.6	18.8	0	0	0	950	950	0	3.2	2.49
15/02/2014 05:57	0	0.6	18.9	0	0	1	952	952	0	3.3	2.5
15/02/2014 06:57	0	0.6	18.9	0	0	1	953	953	0	3.3	2.5
15/02/2014 07:57	0	0.6	18.9	0	0	0	955	955	0	3.3	2.52
15/02/2014 08:57	0	0.6	18.9	0	0	0	957	957	0	3.3	2.51
15/02/2014 09:57	0	0.6	18.9	0	0	3	958	958	0	3.3	2.5
15/02/2014 10:57	0	0.6	18.9	0	0	0	959	959	0	3.4	2.52
15/02/2014 11:57	0	0.6	18.9	0	0	0	961	961	0	3.4	2.51
15/02/2014 12:57	0	0.6	19	0	0	0	963	962	1	3.4	2.52
15/02/2014 13:57	0	0.6	19	0	0	0	964	964	-1	3.4	2.48
15/02/2014 14:57	0	0.6	19	0	0	3	967	967	0	3.4	2.51
15/02/2014 15:57	0	0.6	19	0	0	2	969	969	0	3.5	2.51
15/02/2014 16:57	0	0.6	19	0	0	2	971	971	0	3.5	2.5
15/02/2014 17:57	0	0.6	19	0	0	1	972	972	0	3.6	2.5
15/02/2014 18:57	0	0.6	19	0	0	3	973	973	0	3.6	2.51
15/02/2014 19:57	0	0.6	19.1	0	0	0	974	974	0	3.6	2.5
15/02/2014 20:57	0	0.6	19.1	0	0	0	975	975	0	3.6	2.5
15/02/2014 21:57	0	0.6	19.1	0	0	2	976	976	0	3.6	2.5
15/02/2014 22:57	0	0.6	19.1	0	0	1	977	977	0	3.6	2.5
15/02/2014 23:57	0	0.6	19.1	0	0	1	978	978	0	3.6	2.5
16/02/2014 00:57	0	0.6	19.1	0	0	0	979	979	1	3.6	2.5
16/02/2014 01:57	0	0.6	19.1	0	0	2	979	979	0	3.6	2.49
16/02/2014 02:57	0	0.6	19.1	0	0	2	979	979	0	3.6	2.5
16/02/2014 03:57	0	0.6	19.1	0	0	3	980	980	0	3.6	2.49
16/02/2014 04:57	0	0.6	19.1	0	0	0	981	981	0	3.5	2.5
16/02/2014 05:57	0	0.6	19.1	0	0	0	982	982	1	3.5	2.49
16/02/2014 06:57	0	0.6	19.1	0	0	0	982	982	0	3.4	2.49
16/02/2014 07:57	0	0.6	19.1	0	0	0	982	982	0	3.4	2.48
16/02/2014 08:57	0	0.6	19.1	0	0	0	982	982	0	3.4	2.49
16/02/2014 09:57	0	0.6	19.1	0	0	0	983	983	0	3.4	2.49
16/02/2014 10:57	0	0.6	19.1	0	0	0	983	983	0	3.3	2.5
16/02/2014 11:57	0	0.6	19.1	0	0	1	983	983	0	3.3	2.51
16/02/2014 12:57	0	0.6	19.1	0	0	0	983	983	0	3.3	2.48
16/02/2014 13:57	0	0.6	19.1	0	0	2	983	983	0	3.2	2.5
16/02/2014 14:57	0	0.6	19.1	0	0	3	983	983	0	3.2	2.49
16/02/2014 15:57	0	0.6	19.1	0	0	1	982	982	0	3.1	2.48
16/02/2014 16:57	0	0.6	19.1	0	0	0	982	982	0	3.1	2.5
16/02/2014 17:57	0	0.6	19.1	0	0	1	982	982	0	3.1	2.49
16/02/2014 18:57	0	0.6	19.1	0	0	2	982	982	-1	3.1	2.5
16/02/2014 19:57	0	0.6	19.1	0	0	3	982	982	0	3.1	2.5
16/02/2014 20:57	0	0.6	19.1	0	0	0	982	982	0	3.1	2.49
16/02/2014 21:57	0	0.6	19.1	0	0	0	982	982	0	3.1	2.49
16/02/2014 22:57	0	0.6	19.1	0	0	0	982	982	0	3.1	2.49
16/02/2014 23:57	0	0.6	19.1	0	0	0	982	982	0	3.1	2.49
17/02/2014 00:57	0	0.4	19	0	0	0	981	981	0	3.2	2.49
17/02/2014 01:57	0	0.4	19	0	0	0	981	981	0	3.2	2.49
17/02/2014 02:57	0	0.4	19	0	0	0	981	981	0	3.2	2.49
17/02/2014 03:57	0	0.4	19	0	0	2	981	981	0	3.1	2.49
17/02/2014 04:57	0	0.4	19	0	0	0	981	980	1	3.1	2.5
17/02/2014 05:57	0	0.4	19	0	0	1	981	980	1	3.1	2.51
17/02/2014 06:57	0	0.4	19	0	0	0	981	981	0	3.1	2.5
17/02/2014 07:57	0	0.4	19	0	0	2	981	981	0	3.1	2.5
17/02/2014 08:57	0	0.4	19	0	0	0	982	981	1	3.1	2.49
17/02/2014 09:57	0	0.4	19	0	0	2	982	981	1	3.1	2.49
17/02/2014 10:57	0	0.4	19	0	0	0	982	982	0	3.1	2.5
17/02/2014 11:57	0	0.4	19	0	0	1	982	982	0	3.1	2.5
17/02/2014 12:57	0	0.4	19	0	0	0	982	981	1	3.1	2.49
17/02/2014 13:57	0	0.4	19	0	0	0	982	981	1	3.1	2.49
17/02/2014 14:57	0	0.4	19	0	0	0	982	981	1	3.1	2.49
17/02/2014 15:57	0	0.4	19	0	0	0	982	981	0	3.1	2.49
17/02/2014 16:57	0	0.4	19	0	0	0	982	981	1	3.3	2.49
17/02/2014 17:57	0	0.4	19	0	0	1	982	982	0	3.3	2.48
17/02/2014 18:57	0	0.4	19	0	0	2	982	982	0	3.3	2.5
17/02/2014 19:57	0	0.4	19	0	0	0	982	982	0	3.4	2.5
17/02/2014 20:57	0	0.4	18.9	0	0	1	982	983	-1	3.4	2.48
17/02/2014 21:57	0	0.4	19	0	0	2	983	983	0	3.4	2.48
17/02/2014 22:57	0	0.4	18.9	0	0	0	983	983	0	3.6	2.49
17/02/2014 23:57	0	0.4	19	0	0	1	983	983	0	3.6	2.5
18/02/2014 00:57	0	0.4	18.9	0	0	0	983	983	0	3.6	2.49
18/02/2014 01:57	0	0.4	18.9	0	0	2	983				



Date and Time	CH <sub>4</sub> % v/v	CO <sub>2</sub> % v/v	O <sub>2</sub> % v/v	TVOC ppmv	H <sub>2</sub> S ppmv	CO ppmv	Borehole Pressure millibars	Atmospheric Pressure millibars	Differential Pressure millibars	Temperature °C	Comments / Events
20/02/2014 15:57	0	0.4	19	0	0	1	972	973	-1	5	2.48
20/02/2014 16:57	0	0.4	19	0	0	1	973	973	0	5.1	2.47
20/02/2014 17:57	0	0.4	19	0	0	0	974	974	0	5.1	2.46
20/02/2014 18:57	0	0.4	19	0	0	0	974	974	0	5.1	2.47
20/02/2014 19:57	0	0.4	19	0	0	2	975	975	0	5.2	2.48
20/02/2014 20:57	0	0.4	19	0	0	0	976	976	0	5.2	2.47
20/02/2014 21:57	0	0.4	19	0	0	2	976	976	0	5.3	2.47
20/02/2014 22:57	0	0.4	19	0	0	2	976	976	0	5.3	2.47
20/02/2014 23:57	0	0.4	19	0	0	0	976	976	0	5.3	2.46
21/02/2014 00:57	0	0.4	19	0	0	2	976	976	0	5.2	2.47
21/02/2014 01:57	0	0.4	19	0	0	1	976	976	0	5.2	2.47
21/02/2014 02:57	0	0.4	19	0	0	2	976	976	0	5.2	2.47
21/02/2014 03:57	0	0.4	19.1	0	0	3	976	976	0	5.1	2.46
21/02/2014 04:57	0	0.4	19.1	0	0	0	976	976	0	5.1	2.46
21/02/2014 05:57	0	0.4	19.1	0	0	0	976	976	0	5	2.45
21/02/2014 06:57	0	0.4	19.1	0	0	0	977	976	1	5	2.47
21/02/2014 07:57	0	0.4	19.1	0	0	3	977	977	0	4.9	2.46
21/02/2014 08:57	0	0.4	19.1	0	0	3	977	977	0	4.9	2.47
21/02/2014 09:57	0	0.4	19.1	0	0	3	977	977	0	4.8	2.46
21/02/2014 10:57	0	0.4	19.1	0	0	0	977	977	0	4.8	2.46
21/02/2014 11:57	0	0.4	19.1	0	0	0	977	977	0	4.7	2.45
21/02/2014 12:57	0	0.4	19	0	0	2	976	976	0	4.6	2.46
21/02/2014 13:57	0	0.4	19	0	0	0	976	976	0	4.6	2.45
21/02/2014 14:57	0	0.4	19	0	0	0	976	976	0	4.6	2.46
21/02/2014 15:57	0	0.4	19	0	0	0	976	976	0	4.5	2.46
21/02/2014 16:57	0	0.4	19	0	0	0	976	976	0	4.5	2.46
21/02/2014 17:57	0	0.4	19	0	0	2	977	976	1	4.5	2.46
21/02/2014 18:57	0	0.4	19	0	0	2	976	976	0	4.5	2.47
21/02/2014 19:57	0	0.4	19	0	0	2	976	976	0	4.5	2.45
21/02/2014 20:57	0	0.4	19	0	0	0	977	976	1	4.6	2.46
21/02/2014 21:57	0	0.4	19	0	0	3	977	977	0	4.6	2.46
21/02/2014 22:57	0	0.4	19	0	0	1	977	977	0	4.6	2.47
21/02/2014 23:57	0	0.4	19	0	0	3	977	977	0	4.6	2.45
22/02/2014 00:57	0	0.4	19	0	0	2	977	977	0	4.5	2.45
22/02/2014 01:57	0	0.4	19	0	0	3	978	978	0	4.5	2.39
22/02/2014 02:57	0	0.4	19	0	0	4	978	978	0	4.5	2.45
22/02/2014 03:57	0	0.4	19	0	0	4	979	979	0	4.5	2.45
22/02/2014 04:57	0	0.4	19	0	0	2	979	979	0	4.5	2.46
22/02/2014 05:57	0	0.4	19	0	0	0	980	980	0	4.4	2.45
22/02/2014 06:57	0	0.4	19.1	0	0	0	981	981	0	4.4	2.45
22/02/2014 07:57	0	0.4	19	0	0	1	982	982	0	4.4	2.45
22/02/2014 08:57	0	0.4	19	0	0	0	983	983	0	4.4	2.44
22/02/2014 09:57	0	0.4	19.1	0	0	1	984	984	0	4.4	2.44
22/02/2014 10:57	0	0.4	19.1	0	0	1	984	984	0	4.3	2.46
22/02/2014 11:57	0	0.4	19.1	0	0	1	985	985	0	4.3	2.44
22/02/2014 12:57	0	0.4	19	0	0	3	984	984	0	4.3	2.46
22/02/2014 13:57	0	0.4	19.1	0	0	1	985	985	0	4.3	2.46
22/02/2014 14:57	0	0.4	19.1	0	0	3	985	985	0	4.3	2.44
22/02/2014 15:57	0	0.4	19.1	0	0	1	985	985	0	4.3	2.43
22/02/2014 16:57	0	0.4	19	0	0	0	985	985	0	4.3	2.46
22/02/2014 17:57	0	0.4	19.1	0	0	0	985	985	0	4.3	2.44
22/02/2014 18:57	0	0.4	19	0	0	1	985	985	0	4.3	2.45
22/02/2014 19:57	0	0.4	19	0	0	3	985	985	0	4.3	2.45
22/02/2014 20:57	0	0.4	19	0	0	3	985	984	0	4.3	2.45
22/02/2014 21:57	0	0.4	19	0	0	0	984	984	0	4.3	2.46
22/02/2014 22:57	0	0.4	19	0	0	4	984	983	1	4.4	2.44
22/02/2014 23:57	0	0.4	19	0	0	2	983	983	0	4.4	2.44
23/02/2014 00:57	0	0.4	19	0	0	1	983	983	0	4.4	2.44
23/02/2014 01:57	0	0.4	19	0	0	1	982	982	0	4.4	2.45
23/02/2014 02:57	0	0.4	19	0	0	0	982	982	0	4.4	2.45
23/02/2014 03:57	0	0.4	19	0	0	1	981	981	0	4.4	2.43
23/02/2014 04:57	0	0.4	19	0	0	3	981	981	0	4.4	2.46
23/02/2014 05:57	0	0.4	19	0	0	3	981	981	0	4.5	2.44
23/02/2014 06:57	0	0.4	19	0	0	2	981	981	0	4.5	2.45
23/02/2014 07:57	0	0.4	19	0	0	1	981	981	0	4.5	2.46
23/02/2014 08:57	0	0.4	19	0	0	0	981	980	1	4.5	2.45
23/02/2014 09:57	0	0.4	19	0	0	1	981	980	1	4.6	2.45
23/02/2014 10:57	0	0.4	19	0	0	3	981	980	1	4.6	2.44
23/02/2014 11:57	0	0.4	19	0	0	0	981	981	0	4.6	2.44
23/02/2014 12:57	0	0.4	19	0	0	1	980	980	0	4.6	2.43
23/02/2014 13:57	0	0.4	19	0	0	0	980	980	0	4.7	2.44
23/02/2014 14:57	0	0.6	19	0	0	0	980	980	0	4.7	2.44
23/02/2014 15:57	0	0.6	19	0	0	3	980	980	0	4.8	2.43
23/02/2014 16:57	0	0.6	19	0	0	0	980	980	0	4.8	2.45
23/02/2014 17:57	0	0.6	19	0	0	2	981	981	0	4.8	2.45
23/02/2014 18:57	0	0.6	19	0	0	2	982	981	1	4.9	2.44
23/02/2014 19:57	0	0.6	19.1	0	0	0	982	982	0	4.9	2.44
23/02/2014 20:57	0	0.6	19.1	0	0	2	982	981	1	4.9	2.44
23/02/2014 21:57	0	0.6	19.1	0	0	3	982	981	1	5	2.44
23/02/2014 22:57	0	0.6	19.1	0	0	2	982	981	1	5.1	2.43
23/02/2014 23:57	0	0.6	19.1	0	0	4	981	981	0	5.1	2.45
24/02/2014 00:57	0	0.6	19.1	0	0	3	980	980	0	5.1	2.43
24/02/2014 01:57	0	0.6	19.1	0	0	2	979	979	0	5.2	2.43
24/02/2014 02:57	0	0.6	19.1	0	0	2	978	978	0	5.2	2.44
24/02/2014 03:57	0	0.6	19.1	0	0	2	978	978	0	5.2	2.44
24/02/2014 04:57	0	0.6	19.1	0	0	2	977	977	0	5.2	2.43
24/02/2014 05:57	0	0.6	19.1	0	0	1	977	977	0	5.2	2.43
24/02/2014 06:57	0	0.6	19.1	0	0	0	979	978	1	5.3	2.42
24/02/2014 07:57	0	0.6	19.1	0	0	3	979	979	0	5.3	2.44
24/02/2014 08:57	0	0.6	19.1	0	0	2	980	980	0	5.3	2.44
24/02/2014 09:57	0	0.6	19.1	0	0	1	980	980	0	5.3	2.42
24/02/2014 10:57	0	0.6	19.1	0	0	0	980	980	0	5.3	2.42
24/02/2014 11:57	0	0.6	19.1	0	0	4	980	980	0	5.3	2.42
24/02/2014 12:57	0	0.6	19.1	0	0	3	979	979	0	5.3	2.43
24/02/2014 13:57	0	0.6	19.1	0	0	0	979	978	0	5.3	2.44
24/02/2014 14:57	0	0.6	19.1	0	0	0	978	978	0	5.3	2.43
24/02/2014 15:57	0	0.6	19.1	0	0	0	978	978	0	5.3	2.42
24/02/2014 16:57	0	0.6	19.1	0	0	4	977	977	0	5.3	2.42
24/02/2014 17:57	0	0.6	19.1	0	0	0	977	977	0	5.4	2.44
24/02/2014 18:57	0	0.6	19.1	0	0	0	976	976	0	5.4	2.42
24/02/2014 19:57	0	0.6	19.1	0	0	2	975	975	0	5.4	2.43
24/02/2014 20:57	0	0.6	19.1	0	0	2	974	974	0	5.4	2.43
24/02/2014 21:57	0	0.6	19.1	0	0	2	973	973	0	5.4	2.43
24/02/2014 22:57	0	0.6	19.1	0	0	0	973	973	0	5.4	2.43
24/02/2014 23:57	0	0.6	19.1	0	0	1	973	973	0	5.4	2.43
25/02/2014 00:57	0	0.6	19.2	0	0	0	972	972	0	5.4	2.37
25/02/2014 01:57	0	0.6	19.1	0	0	2	972	971	1	5.5	2.42
25/02/2014 02:57	0	0.6	19.1	0	0	0	971	971	0	5.5	2.42
25/02/2014 03:57	0	0.6	19.2	0	0	0	972	971	1	5.5	2.43
25/02/2014 04:57	0	0.6	19.2	0	0	3	972	971	1	5.5	2.41
25/02/2014 05:57	0	0.6	19.2	0	0	0	972	972	0	5.4	2.42
25/02/2014 06:57	0	0.6	19.2	0	0	0	972	972	0	5.4	2.4
25/02/2014 07:57	0	0.6	19.2	0	0	2	972	972	0	5.4	2.38
25/02/2014 08:57	0	0.6	19.2	0	0	1	972	972	0	5.4	2.41
25/02/2014 09:57	0	0.6	19.2	0	0	2	972	972	0	5.4	2.43
25/02/2014 10:57	0	0.6	19.2	0	0	2	972	972	0	5.4	2.42



Ground-Gas Solutions Time Series Data

Location: Hednesford Hill, Cannock Chase	Days of monitoring: 21
Borehole ref: CRH - WS4	Total samples taken: 499
GeoTeam ID: 0002170612	
Start Date: 06/02/2014 14:38	
End Date: 27/02/2014 08:38	

Minimum, Maximum and range table

	CH <sub>4</sub>	CO <sub>2</sub>	O <sub>2</sub>	TVOC	H <sub>2</sub> S	CO	Borehole Pressure	Atmospheric Pressure	Differential Pressure	Temperature
Min	0.0	0.0	8.6	0	0	0	948	946	-11	0.5
Max	0.4	0.0	24.4	0	0	2	1054	993	91	4.3
Range	0.4	0.0	15.8	0	0	2	106		47	3.8

Date and Time	CH <sub>4</sub> % v/v	CO <sub>2</sub> % v/v	O <sub>2</sub> % v/v	TVOC ppmv	H <sub>2</sub> S ppmv	CO ppmv	Borehole Pressure millibars	Atmospheric Pressure millibars	Differential Pressure millibars	Temperature °C	Comments / Events
06/02/2014 14:38	0	0	8.6	0	0	0	968	968	0	4.1	2.67
06/02/2014 15:38	0	0	9	0	0	0	959	967	-8	3.5	2.68
06/02/2014 16:38	0	0	8.6	0	0	0	956	966	-10	3.3	2.67
06/02/2014 17:38	0	0	10.1	0	0	0	955	964	-9	3.2	2.67
06/02/2014 18:38	0	0	10.4	0	0	0	953	964	-11	3.1	2.66
06/02/2014 19:38	0	0	10	0	0	1	952	962	-10	2.9	2.67
06/02/2014 20:38	0	0	10.9	0	0	0	955	962	-7	2.8	2.67
06/02/2014 21:38	0	0	12.6	0	0	0	954	962	-8	2.8	2.66
06/02/2014 22:38	0	0	12	0	0	0	953	962	-9	2.8	2.67
06/02/2014 23:38	0	0	13.8	0	0	0	954	962	-8	2.8	2.66
07/02/2014 00:38	0	0	14.2	0	0	0	961	961	0	2.9	2.63
07/02/2014 01:38	0	0	14.7	0	0	0	960	961	-1	2.9	2.65
07/02/2014 02:38	0	0	14.9	0	0	0	962	961	1	2.9	2.64
07/02/2014 03:38	0	0	14.9	0	0	1	962	961	1	2.9	2.65
07/02/2014 04:38	0	0	15.1	0	0	1	964	963	1	3	2.64
07/02/2014 05:38	0	0	15.2	0	0	0	965	964	1	3	2.64
07/02/2014 06:38	0	0	14.9	0	0	1	967	965	2	2.9	2.65
07/02/2014 07:38	0	0	15.1	0	0	1	969	967	2	2.8	2.63
07/02/2014 08:38	0	0	15.5	0	0	0	969	969	0	2.6	2.62
07/02/2014 09:38	0	0	16.3	0	0	0	970	970	0	2.6	2.62
07/02/2014 10:38	0	0	17	0	0	0	972	971	1	2.6	2.62
07/02/2014 11:38	0	0	17.2	0	0	0	972	972	0	2.7	2.63
07/02/2014 12:38	0	0	17.4	0	0	0	973	972	1	2.8	2.63
07/02/2014 13:38	0	0	17.4	0	0	1	974	972	2	2.8	2.63
07/02/2014 14:38	0	0	17.5	0	0	0	974	974	0	2.8	2.62
07/02/2014 15:38	0	0	17.5	0	0	1	973	973	0	2.9	2.61
07/02/2014 16:38	0	0	17.5	0	0	1	973	972	1	2.9	2.62
07/02/2014 17:38	0	0	17.4	0	0	1	972	971	1	2.9	2.61
07/02/2014 18:38	0	0	17.4	0	0	1	971	970	1	2.9	2.63
07/02/2014 19:38	0	0	17.5	0	0	1	970	970	0	2.9	2.62
07/02/2014 20:38	0	0	17.5	0	0	1	968	969	-1	3	2.6
07/02/2014 21:38	0	0	17.4	0	0	1	966	966	0	3	2.62
07/02/2014 22:38	0	0	17.4	0	0	1	964	964	0	3	2.6
07/02/2014 23:38	0	0	17.3	0	0	1	961	962	-1	3	2.61
08/02/2014 00:38	0	0	17.3	0	0	1	959	959	0	3	2.6
08/02/2014 01:38	0	0	17.4	0	0	1	957	957	0	3	2.6
08/02/2014 02:38	0	0	17.6	0	0	1	956	957	-1	3.1	2.6
08/02/2014 03:38	0	0	17.6	0	0	2	956	956	0	3	2.6
08/02/2014 04:38	0	0	17.7	0	0	1	956	956	0	3	2.6
08/02/2014 05:38	0	0	18.3	0	0	1	983	954	29	2.8	2.6
08/02/2014 06:38	0	0	17.2	0	0	0	954	954	0	2.5	2.59
08/02/2014 07:38	0	0	17.4	0	0	0	954	954	0	2.6	2.59
08/02/2014 08:38	0	0	17.8	0	0	0	953	953	0	2.6	2.59
08/02/2014 09:38	0	0	17.7	0	0	0	952	952	0	2.7	2.59
08/02/2014 10:38	0	0	17.8	0	0	0	952	951	1	2.8	2.58
08/02/2014 11:38	0	0	17.9	0	0	0	952	951	1	2.8	2.59
08/02/2014 12:38	0	0	17.7	0	0	0	951	951	0	2.9	2.59
08/02/2014 13:38	0	0	17.8	0	0	0	949	949	0	2.9	2.59
08/02/2014 14:38	0	0	17.9	0	0	0	948	948	0	2.9	2.59
08/02/2014 15:38	0	0	18	0	0	0	948	947	1	2.9	2.58
08/02/2014 16:38	0	0	17.9	0	0	0	948	947	1	2.9	2.58
08/02/2014 17:38	0	0	18	0	0	0	948	947	1	2.9	2.59
08/02/2014 18:38	0	0	18.6	0	0	1	964	947	17	2.9	2.58
08/02/2014 19:38	0	0	17.5	0	0	0	948	948	0	2.8	2.57
08/02/2014 20:38	0	0	18.3	0	0	0	948	948	0	2.8	2.57
08/02/2014 21:38	0	0	18.3	0	0	0	949	948	1	2.9	2.57
08/02/2014 22:38	0	0	18.5	0	0	0	949	949	0	2.9	2.57
08/02/2014 23:38	0	0	18.5	0	0	0	951	951	0	2.9	2.57
09/02/2014 00:38	0	0	18.7	0	0	0	951	951	0	2.9	2.57
09/02/2014 01:38	0	0	18.6	0	0	0	951	951	0	3	2.56
09/02/2014 02:38	0	0	18.6	0	0	0	951	951	0	3	2.56
09/02/2014 03:38	0	0	18.7	0	0	0	952	951	1	3	2.56
09/02/2014 04:38	0	0	18.5	0	0	0	952	952	0	3	2.56
09/02/2014 05:38	0	0	18.7	0	0	0	953	952	1	3	2.56
09/02/2014 06:38	0	0	18.8	0	0	0	954	954	0	3.1	2.56
09/02/2014 07:38	0	0	18.6	0	0	0	956	955	1	3.1	2.56
09/02/2014 08:38	0	0	18.6	0	0	0	957	957	0	3.1	2.56
09/02/2014 09:38	0	0	18.8	0	0	0	959	959	0	3.1	2.55
09/02/2014 10:38	0	0	19	0	0	0	960	960	0	3.1	2.56
09/02/2014 11:38	0	0	18.9	0	0	0	961	961	0	3.1	2.56
09/02/2014 12:38	0	0	18.9	0	0	0	962	961	1	3.1	2.54
09/02/2014 13:38	0	0	18.7	0	0	0	963	963	0	3.1	2.54
09/02/2014 14:38	0	0	18.7	0	0	0	963	963	0	3.1	2.54
09/02/2014 15:38	0	0	18.8	0	0	0	964	964	0	3.1	2.55
09/02/2014 16:38	0	0	18.7	0	0	0	965	965	0	3.1	2.55
09/02/2014 17:38	0	0	18.6	0	0	0	966	966	0	3.1	2.55
09/02/2014 18:38	0	0	18.6	0	0	0	967	966	1	3.1	2.55
09/02/2014 19:38	0	0	18.6	0	0	0	967	967	0	3.2	2.56
09/02/2014 20:38	0	0	18.9	0	0	0	968	967	1	3.2	2.55
09/02/2014 21:38	0	0	18.9	0	0	0	968	968	0	3.2	2.55
09/02/2014 22:38	0	0	19	0	0	0	968	968	0	3.2	2.54
09/02/2014 23:38	0	0	18.9	0	0	0	968	968	0	3.2	2.55
10/02/2014 00:38	0	0	18.6	0	0	0	969	969	0	3.2	2.53
10/02/2014 01:38	0	0	18.7	0	0	0	968	968	0	3.2	2.55
10/02/2014 02:38	0	0	18.6	0	0	0	969	968	1	3.2	2.53
10/02/2014 03:38	0	0	18.5	0	0	0	968	968	0	3.2	2.54
10/02/2014 04:38	0	0	18.6	0	0	0	969	968	1	3.1	2.53
10/02/2014 05:38	0	0	18.4	0	0	0	969	969	0	3.1	2.52
10/02/2014 06:38	0	0	18.5	0	0	0	969	969	0	3.1	2.53
10/02/2014 07:38	0	0	18.7	0	0	0	970	969	1	3.1	2.53
10/02/2014 08:38	0	0	18.8	0	0	0	970	970	0	3	2.53
10/02/2014 09:38	0	0	18.4	0	0	0	971	970	1	2.9	2.53
10/02/2014 10:38	0	0	18.4	0	0	0	971	971	0	2.9	2.53
10/02/2014 11:38	0	0	18.6	0	0	0	971	971	0	2.9	2.53
10/02/2014 12:38	0	0	18.1	0	0	0	971	971	0	2.9	2.52
10/02/2014 13:38	0	0	18	0	0	0	972	972	0	2.8	2.52
10/02/2014 14:38	0	0	18	0	0	0	972	972	0	2.8	2.52
10/02/2014 15:38	0	0	17.8	0	0	0	973	973	0	2.8	2.54
10/02/2014 16:38	0	0	18.4	0	0	0	975	975	0	2.7	2.53
10/02/2014 17:38	0	0	17.9	0	0	0	976	976	0	2.7	2.54
10/02/2014 18:38	0	0	18	0	0	0	977	977	0	2.6	2.52
10/02/2014 19:38	0	0	17.8	0	0	0	978	978	0	2.6	2.52
10/02/2014 20:38	0	0	18.3	0	0	0	978	978	0	2.6	2.53
10/02/2014 21:38	0	0	18	0	0	0	978	978	0	2.6	2.53
10/02/2014 22:38	0	0	17.9	0	0	0	979	979	0	2.6	2.53
10/02/2014 23:38	0	0	18.2	0	0	0	979	979	0	2.6	2.52
11/02/2014 00:38	0	0	18.1	0	0	0	979	978	1	2.6	2.51
11/02/2014 01:38	0	0	17.8	0	0	0	979	978	1	2.6	2.53
11/02/2014 02:38	0	0	17.8	0	0	0	977	976	1	2.6	2.52
11/02/2014 03:38	0	0	17.5	0	0	0	975	975	0	2.6	2.52

Date and Time	CH <sub>4</sub> % v/v	CO <sub>2</sub> % v/v	O <sub>2</sub> % v/v	TVOC ppmv	H <sub>2</sub> S ppmv	CO ppmv	Borehole Pressure millibars	Atmospheric Pressure millibars	Differential Pressure millibars	Temperature °C	Comments / Events
13/02/2014 16:38	0	16.7	0	0	0	971	971	971	0	2	2.5
13/02/2014 17:38	0	16.7	0	0	0	972	972	972	0	2	2.49
13/02/2014 18:38	0	16.7	0	0	0	972	972	972	0	2	2.5
13/02/2014 19:38	0	16.7	0	0	0	974	974	974	0	2	2.5
13/02/2014 20:38	0	16.7	0	0	0	975	974	974	1	2	2.51
13/02/2014 21:38	0	16.7	0	0	0	975	975	975	0	2	2.5
13/02/2014 22:38	0	16.7	0	0	0	975	975	975	0	2	2.5
13/02/2014 00:38	0	16.7	0	0	0	976	976	976	0	2	2.49
14/02/2014 00:38	0	16.8	0	0	0	976	976	976	0	2	2.49
14/02/2014 01:38	0	16.7	0	0	0	976	976	976	0	2	2.5
14/02/2014 02:38	0	16.8	0	0	0	976	976	976	0	2	2.5
14/02/2014 03:38	0	16.7	0	0	0	976	976	976	0	2	2.49
14/02/2014 04:38	0	16.7	0	0	0	976	975	975	1	2	2.49
14/02/2014 05:38	0	16.8	0	0	0	976	976	976	0	2	2.49
14/02/2014 06:38	0	16.8	0	0	0	976	975	975	1	2	2.49
14/02/2014 07:38	0	16.6	0	0	0	976	975	975	1	1.9	2.48
14/02/2014 08:38	0	16.5	0	0	0	974	973	973	1	1.9	2.49
14/02/2014 09:38	0	16.4	0	0	0	972	972	972	0	1.9	2.51
14/02/2014 10:38	0	16.3	0	0	0	971	970	970	1	1.9	2.5
14/02/2014 11:38	0	16.3	0	0	0	969	968	968	1	1.9	2.5
14/02/2014 12:38	0	16.1	0	0	0	965	965	965	0	1.9	2.48
14/02/2014 13:38	0	16.3	0	0	0	963	962	962	1	1.9	2.49
14/02/2014 14:38	0	16.6	0	0	0	959	958	958	1	1.9	2.49
14/02/2014 15:38	0	16.5	0	0	0	956	956	956	0	1.8	2.48
14/02/2014 16:38	0	16.7	0	0	0	955	954	954	1	1.8	2.49
14/02/2014 17:38	0	18.4	0	0	0	959	953	953	6	1.8	2.52
14/02/2014 18:38	0	18.2	0	0	0	954	952	952	42	1.9	2.49
14/02/2014 19:38	0	15.7	0	0	0	966	950	950	16	2.1	2.5
14/02/2014 20:38	0	16	0	0	0	950	948	948	2	2	2.5
14/02/2014 21:38	0	16.9	0	0	0	948	947	947	1	2	2.5
14/02/2014 22:38	0	18	0	0	0	948	946	946	12	2	2.49
14/02/2014 23:38	0	16.3	0	0	0	948	946	946	2	2	2.5
15/02/2014 00:38	0	15.9	0	0	0	956	947	947	9	2	2.48
15/02/2014 01:38	0	19.6	0	0	0	949	948	948	1	2	2.49
15/02/2014 02:38	0	18.1	0	0	0	968	950	950	18	2.1	2.5
15/02/2014 03:38	0	18.2	0	0	0	953	951	951	2	2.1	2.49
15/02/2014 04:38	0	18.1	0	0	0	952	952	952	0	2.1	2.49
15/02/2014 05:38	0	19.8	0	0	0	954	953	953	1	2.1	2.48
15/02/2014 06:38	0	19.5	0	0	0	971	965	965	16	2.1	2.48
15/02/2014 07:38	0	16.8	0	0	0	957	956	956	1	2.1	2.49
15/02/2014 08:38	0	16.8	0	0	0	959	959	959	0	2.2	2.48
15/02/2014 09:38	0	16.3	0	0	0	962	960	960	2	2.2	2.48
15/02/2014 10:38	0	17.2	0	0	0	962	961	961	1	2.2	2.48
15/02/2014 11:38	0	16.9	0	0	0	963	962	962	1	2.3	2.5
15/02/2014 12:38	0	16.7	0	0	0	964	964	964	0	2.3	2.49
15/02/2014 13:38	0	20.3	0	0	0	965	965	965	0	2.3	2.49
15/02/2014 14:38	0	20	0	0	0	978	967	967	11	2.3	2.49
15/02/2014 15:38	0	17.4	0	0	0	970	970	970	0	2.3	2.48
15/02/2014 16:38	0	17.2	0	0	0	971	971	971	1	2.3	2.49
15/02/2014 17:38	0	17.2	0	0	0	974	974	974	0	2.4	2.48
15/02/2014 18:38	0	17.9	0	0	0	975	975	975	0	2.4	2.48
15/02/2014 19:38	0	17.5	0	0	0	976	976	976	0	2.4	2.49
15/02/2014 20:38	0	17.2	0	0	0	977	977	977	0	2.4	2.5
15/02/2014 21:38	0	17.4	0	0	0	978	978	978	0	2.4	2.51
15/02/2014 22:38	0	18.1	0	0	0	979	979	979	0	2.5	2.49
15/02/2014 23:38	0	18.1	0	0	0	980	980	980	0	2.5	2.49
16/02/2014 00:38	0	18	0	0	0	981	981	981	0	2.5	2.48
16/02/2014 01:38	0	17.8	0	0	0	981	981	981	0	2.5	2.49
16/02/2014 02:38	0	17.9	0	0	0	982	982	982	0	2.5	2.49
16/02/2014 03:38	0	17.3	0	0	0	983	983	983	0	2.5	2.49
16/02/2014 04:38	0	17.4	0	0	0	983	983	983	0	2.5	2.49
16/02/2014 05:38	0	18	0	0	0	984	984	984	1	2.5	2.47
16/02/2014 06:38	0	18	0	0	0	984	984	984	0	2.4	2.48
16/02/2014 07:38	0	17.7	0	0	0	985	985	985	0	2.4	2.49
16/02/2014 08:38	0	17.2	0	0	0	985	985	985	0	2.4	2.43
16/02/2014 09:38	0	17.3	0	0	0	986	985	985	1	2.4	2.48
16/02/2014 10:38	0	17.8	0	0	0	987	986	986	1	2.4	2.48
16/02/2014 11:38	0	17.3	0	0	0	987	986	986	1	2.3	2.48
16/02/2014 12:38	0	16.8	0	0	0	987	986	986	1	2.3	2.49
16/02/2014 13:38	0	16.8	0	0	0	986	986	986	0	2.3	2.48
16/02/2014 14:38	0	16.6	0	0	0	986	986	986	0	2.3	2.48
16/02/2014 15:38	0	16.7	0	0	0	986	986	986	0	2.3	2.48
16/02/2014 16:38	0	17.7	0	0	0	986	985	985	1	2.3	2.49
16/02/2014 17:38	0	17.4	0	0	0	986	985	985	1	2.3	2.49
16/02/2014 18:38	0	19.3	0	0	0	986	985	985	1	2.3	2.49
16/02/2014 19:38	0	19.6	0	0	0	1003	985	985	18	2.3	2.48
16/02/2014 20:38	0	19.7	0	0	0	987	985	985	2	2.3	2.49
16/02/2014 21:38	0	19.4	0	0	0	1006	985	985	21	2.3	2.47
16/02/2014 22:38	0	17.2	0	0	0	1007	985	985	22	2.3	2.48
16/02/2014 23:38	0	16.6	0	0	0	985	984	984	1	2.3	2.48
17/02/2014 00:38	0	19.7	0	0	0	986	984	984	2	2.3	2.48
17/02/2014 01:38	0	18	0	0	0	1005	984	984	21	2.3	2.48
17/02/2014 02:38	0	16.9	0	0	0	1002	984	984	18	2.3	2.48
17/02/2014 03:38	0	16.5	0	0	0	1003	983	983	20	2.3	2.48
17/02/2014 04:38	0	19.7	0	0	0	984	983	983	1	2.3	2.48
17/02/2014 05:38	0	16.3	0	0	0	1003	983	983	20	2.3	2.5
17/02/2014 06:38	0	16.6	0	0	0	985	984	984	1	2.3	2.48
17/02/2014 07:38	0	19.9	0	0	0	984	984	984	0	2.3	2.48
17/02/2014 08:38	0	19.6	0	0	0	1002	984	984	18	2.3	2.48
17/02/2014 09:38	0	16.7	0	0	0	1003	984	984	19	2.3	2.48
17/02/2014 10:38	0	19.5	0	0	0	1002	984	984	18	2.3	2.48
17/02/2014 11:38	0	19.3	0	0	0	1004	985	985	19	2.3	2.47
17/02/2014 12:38	0	19.3	0	0	0	1006	984	984	22	2.3	2.47
17/02/2014 13:38	0	19.3	0	0	0	1007	984	984	23	2.3	2.47
17/02/2014 14:38	0	19.3	0	0	0	1008	984	984	24	2.3	2.47
17/02/2014 15:38	0	19.3	0	0	0	1009	984	984	25	2.3	2.47
17/02/2014 16:38	0	19.3	0	0	0	1010	984	984	26	2.3	2.47
17/02/2014 17:38	0	19.5	0	0	0	1010	985	985	25	2.3	2.47
17/02/2014 18:38	0	19.5	0	0	0	1010	985	985	25	2.3	2.5
17/02/2014 19:38	0	19.3	0	0	0	1010	985	985	25	2.3	2.47
17/02/2014 20:38	0	19.5	0	0	0	1011	985	985	26	2.4	2.47
17/02/2014 21:38	0	19.7	0	0	0	1011	986	986	25	2.4	2.48
17/02/2014 22:38	0	19.7	0	0	0	1011	986	986	25	2.4	2.47
18/02/2014 00:38	0	19.7	0	0	0	1011	986	986	25	2.4	2.48
18/02/2014 01:38	0	19.5	0	0	0	1011	986	986	25	2.5	2.47
18/02/2014 02:38	0	16.7	0	0	0	1011	986	986	25	2.5	2.48
18/02/2014 03:38	0	17.3	0	0	0	1008	986	986	22	2.6	2.5
18/02/2014 04:38	0	16.4	0	0	0	1007	986	986	21	2.6	2.47
18/02/2014 05:38	0	17.8	0	0	0	992	986	986	6	2.6	2.48
18/02/2014 06:38	0	19.5	0	0	0	1005	987	987	18	2.6	2.48
18/02/2014 07:38	0	16.7	0	0	0	1006	987	987	19	2.6	2.48
18/02/2014 08:38	0	17.2	0	0	0	987	987	987	0	2.7	2.48
18/02/2014 09:38	0	16.7	0	0	0	1003	987	987	16	2.7	2.48
18/02/2014 10:38	0	19.3	0	0	0	987	987	987	0	2.7	2.48
18/02/2014 11:38	0	16.8	0	0	0	1005	987	987	18	2	