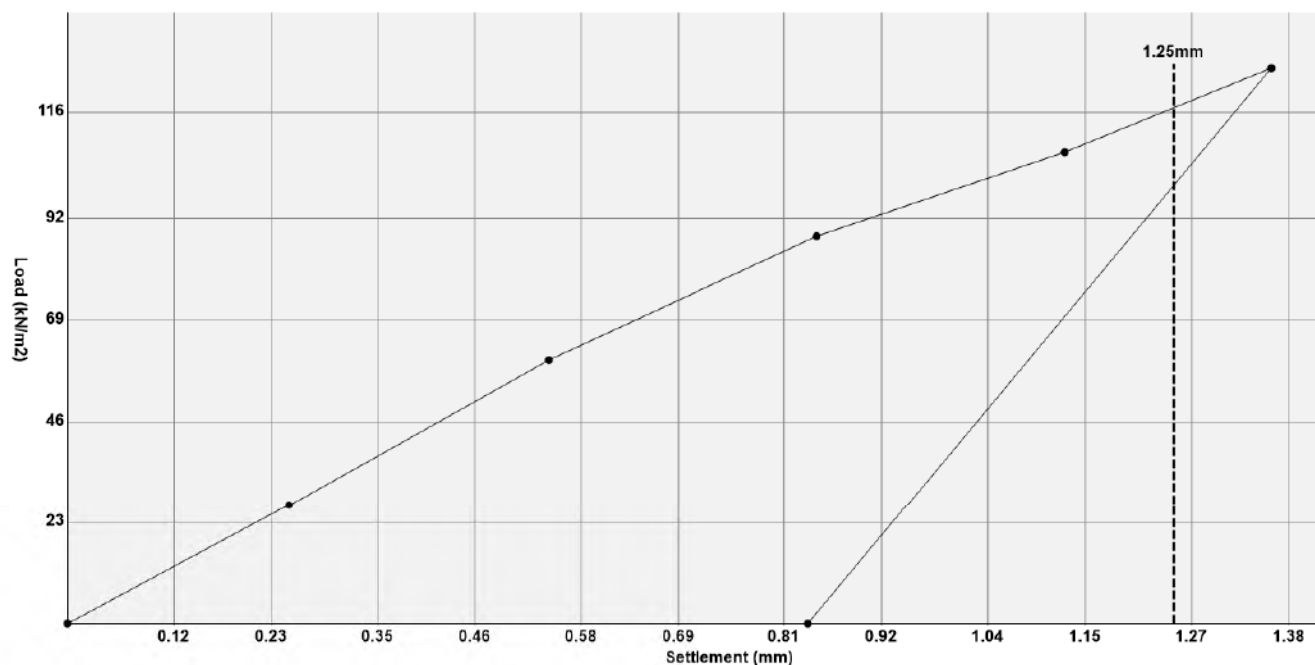


300mm Diameter Plate Test

Client:	Geotechnical Engineering Ltd	Material Type:	Reddish yellow/light brown silty sandy gravelly CLAY
Site:	Vantage Data Centres Celtic Way, Marshfield Newport	Test No:	CBR Test 2
Lab Ref.:	231024-04 Rev. 1	^ Test Location:	TP 04 @ 0.80m
Kentledge:	14 Tonne Digger	Layer:	Formation
Conditions:	Dry	^ Road No:	^ Chainage:
		Date of Test:	23/10/2024

Pressure (kN/m ²)	Settlement (mm)
0	0.00
27	0.25
60	0.54
88	0.85
107	1.13
126	1.36
0	0.84



Test Method: Interim Advice Note (IAN) 73/06 Revision 1 (2009)

Result: Modulus of Sub grade Reaction k_{762} = 41287 kN/m²/m
 Equivalent CBR = 6.1 %

Comments: Information marked by ^ supplied by the client can affect the validity of the results, these apply only to the locations provided.



TP01-DCP

Ground Level 13.05 mOD

[illegible]

CBR correlation based on the relationship $\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 * \text{Log}_{10}(\text{mm/blow})$ developed by
TRL taken from Highways England CS229: Data for Pavement Assessment (2020).

CT



SITE VANTAGE DATA CENTERS, 150 MVA SUBSTATION

TP04-DCP

Ground Level 12.85 mOD

Initial Scale Reading (mm) 79 Datum bgl (mm) 0

The graph illustrates the relationship between CBR (%) and Depth (m) for a road construction project. The x-axis represents CBR (%) from 0 to 200, and the y-axis represents Depth (m) from 0.0 to 1.4. The data points are connected by a line, showing a sharp increase in CBR with depth, reaching a plateau around 1.2m depth.

Depth (m)	CBR (%)
0.05	5
0.10	10
0.15	15
0.20	20
0.25	25
0.30	30
0.35	35
0.40	40
0.45	45
0.50	50
0.55	55
0.60	60
0.65	65
0.70	70
0.75	75
0.80	80
0.85	85
0.90	90
0.95	95
1.00	100
1.05	105
1.10	110
1.15	115
1.20	120
1.25	125
1.30	130
1.35	135
1.40	140

CBR correlation based on the relationship $\text{Log}_{10}(\text{CBR}) = 2.48 - 1.057 * \text{Log}_{10}(\text{mm/blow})$ developed by
TRL taken from Highways England CS229: Data for Pavement Assessment (2020).

CHECKED

CT



CLIENT

VANTAGE DATA CENTERS

SITE

VANTAGE DATA CENTERS, 150 MVA SUBSTATION

DATE

22/10/2024

TRIAL PIT

TP03

TEST 1

LENGTH2.00 m

BREADTH0.80 m

DEPTH1.00 m

WATER LEVELDry

FILL LEVEL0.37 m

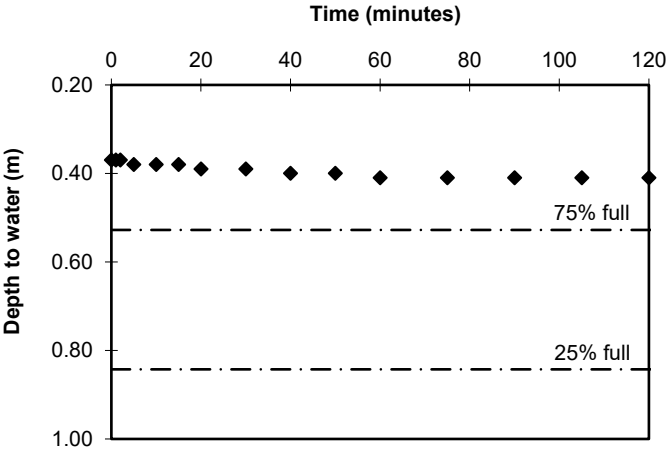
V_{p75-25}m³

a_{p50}m²

t_{p75-25}min

soil infiltration rate, *f*ms⁻¹

Too little water take to calculate infiltration rate.



LENGTHm

BREADTHm

DEPTHm

WATER LEVELm

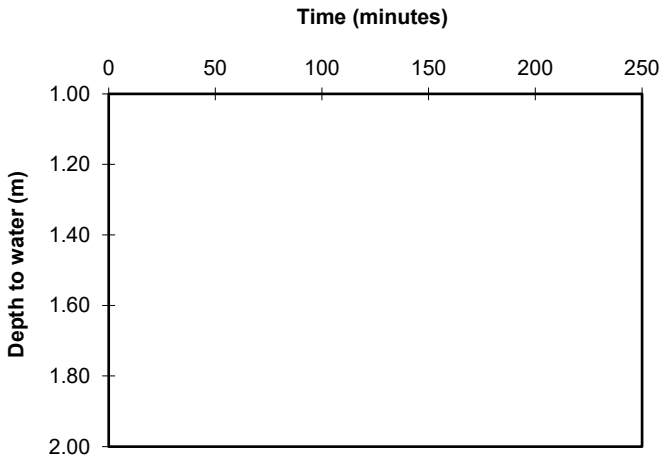
FILL LEVELm

V_{p75-25}m³

a_{p50}m²

t_{p75-25}min

soil infiltration rate, *f*ms⁻¹



LENGTHm

BREADTHm

DEPTHm

WATER LEVELm

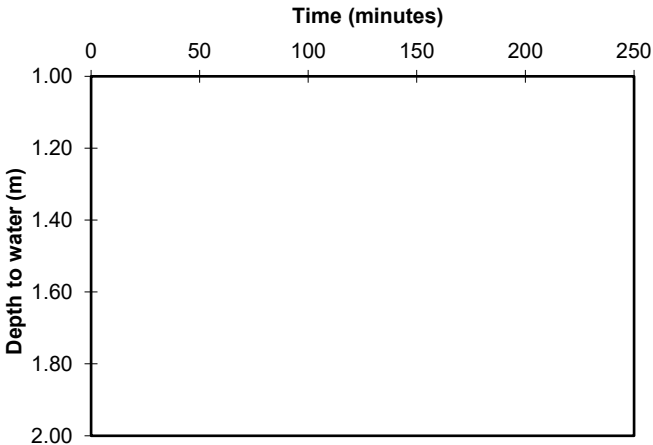
FILL LEVELm

V_{p75-25}m³

a_{p50}m²

t_{p75-25}min

soil infiltration rate, *f*ms⁻¹



Remarks Test carried out in accordance with BRE DG 365 (2016).
Repeat tests not undertaken.

CONTRACT

37989

CHECKED

EC



CLIENT

VANTAGE DATA CENTERS

SITE

VANTAGE DATA CENTERS, 150 MVA SUBSTATION

DATE

22/10/2024 and 23/10/2024

TRIAL PIT

TP05

TEST 1

LENGTH

2.00 m

BREADTH

0.80 m

DEPTH

1.00 m

WATER LEVEL

Dry

FILL LEVEL

0.63 m

V_{p75-25}

m^3

a_{p50}

m^2

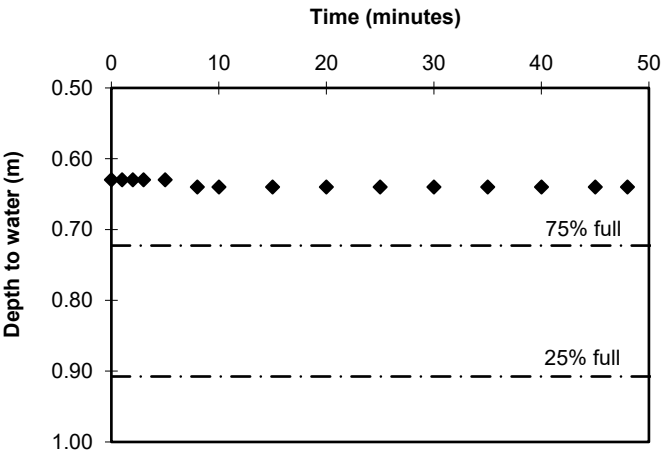
t_{p75-25}

min

soil infiltration rate, f

ms^{-1}

Too little water take to calculate infiltration rate.



TEST 2

LENGTH

2.00 m

BREADTH

0.80 m

DEPTH

1.00 m

WATER LEVEL

Dry

FILL LEVEL

0.84 m

V_{p75-25}

m^3

a_{p50}

m^2

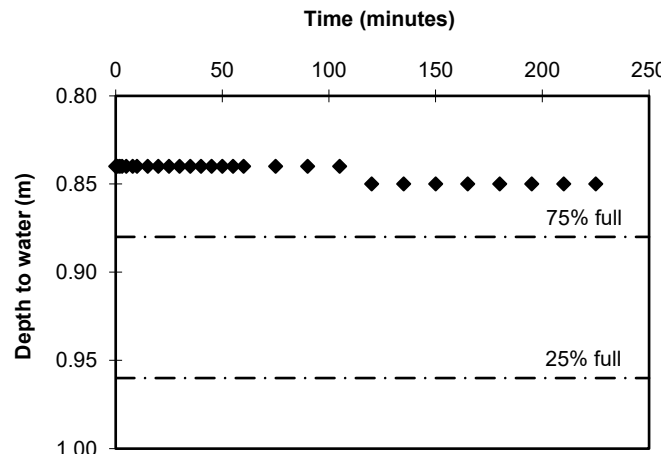
t_{p75-25}

min

soil infiltration rate, f

ms^{-1}

Too little water take to calculate infiltration rate.



TEST 3

LENGTH

m

BREADTH

m

DEPTH

m

WATER LEVEL

m

FILL LEVEL

m

V_{p75-25}

m^3

a_{p50}

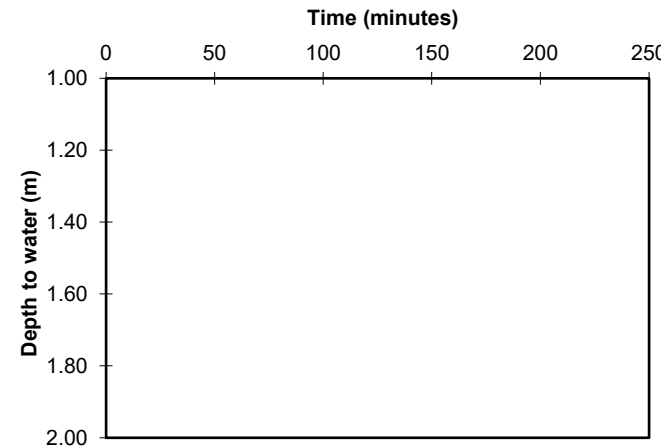
m^2

t_{p75-25}

min

soil infiltration rate, f

ms^{-1}



Remarks

Test carried out in accordance with BRE DG 365 (2016).

CONTRACT

37989

CHECKED

EC

SFH / JB

Geotechnical Engineering Limited

INSPECTION PIT LOG



IP01

CLIENT VANTAGE DATA CENTERS

SITE VANTAGE DATA CENTERS, 150 MVA SUBSTATION

Start Date 24 October 2024 Easting 328377 Sheet 1 of 1

End Date 24 October 2024 Northing 184103 Ground Level 13.35mOD Scale 1:25

Depth 0.30 m

sample no & type	sample depth (m) from to	test type & value	water record (m)	description	depth (m)	reduced level (m)	legend
				Vegetation over Made Ground (Driller's description). Excavation terminated due to signal detected by Cable Avoidance Tool. (MADE GROUND)	0.30	13.05	
				Trial pit Completed at 0.30m			

Equipment:

Pit excavated by hand tools

Pit width x length:

0.30m x 0.30m

Sidewall stability:

Stable and vertical

Groundwater:

Groundwater not encountered

Backfill:

Arisings 0.00 - 0.30m.

Remarks:

Excavated between identified services. Signal identified by Cable Avoidance Tool at 0.30m, inspection pit terminated.

CONTRACT

CHECKED

37989

CT

Geotechnical Engineering Limited

INSPECTION PIT LOG



IP02

CLIENT VANTAGE DATA CENTERS

SITE VANTAGE DATA CENTERS, 150 MVA SUBSTATION

Start Date 22 October 2024 Easting 328378 Sheet 1 of 1

End Date 22 October 2024 Northing 184123 Ground Level 12.80mOD Scale 1:25

Depth 0.97 m

sample no & type	sample depth (m) from to	test type & value	water record (m)	description	depth (m)	reduced level (m)	legend
1B 1ES 2D	0.20 - 0.40 0.20 - 0.40 0.20 - 0.40	Vo 0.0		Grass over yellowish brown slightly silty gravelly fine to coarse SAND. Gravel is subangular to rounded fine to coarse siltstone, sandstone and quartz. (POSSIBLE MADE GROUND)			
2ES 3B 4D	0.65 - 0.85 0.65 - 0.85 0.65 - 0.85	Vo 0.0		Dark brown slightly silty gravelly fine to coarse SAND. Gravel is subangular to rounded fine to coarse sandstone, siltstone and quartz.	0.65	12.15	
				Trial pit Completed at 0.97m	0.97	11.83	

Equipment:

Pit excavated by hand tools

Pit width x length:

0.30m x 0.30m

Sidewall stability:

Stable

Groundwater:

Groundwater not encountered

Backfill:

Arisings 0.00 - 0.97m.

AGS

CONTRACT

37989

CHECKED

CT

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

Geotechnical Engineering Limited

INSPECTION PIT LOG



IP03

CLIENT VANTAGE DATA CENTERS

SITE VANTAGE DATA CENTERS, 150 MVA SUBSTATION

Start Date 22 October 2024 Easting 328406 Sheet 1 of 1

End Date 22 October 2024 Northing 184176 Ground Level 13.35mOD Scale 1:25

Depth 0.90 m

sample no & type	sample depth (m) from to	test type & value	water record (m)	description	depth (m)	reduced level (m)	legend
1B 1ES 2D	0.20 - 0.40 0.20 - 0.40 0.20 - 0.40	Vo 0.0		Grass over soft dark brown slightly sandy gravelly CLAY. Gravel is subangular and subrounded fine to coarse siltstone and sandstone. (POSSIBLE MADE GROUND)			
2ES 3B 4D	0.55 - 0.75 0.55 - 0.75 0.55 - 0.75	Vo 0.0		Soft brown slightly sandy gravelly CLAY. Gravel is subangular and subrounded fine to coarse sandstone and siltstone.	0.50	12.85	
				Trial pit Completed at 0.90m	0.90	12.45	

Equipment: Pit excavated by hand tools

Pit width x length: 0.30m x 0.30m

Sidewall stability: Stable

Groundwater: Groundwater not encountered

Backfill: Arisings 0.00 - 0.90m.

Geotechnical Engineering Limited

INSPECTION PIT LOG



IP04

CLIENT VANTAGE DATA CENTERS

SITE VANTAGE DATA CENTERS, 150 MVA SUBSTATION

Start Date 23 October 2024 Easting 328501 Sheet 1 of 1

End Date 23 October 2024 Northing 184167 Ground Level 12.55mOD Scale 1:25

Depth 1.20 m

sample no & type	sample depth (m) from to	test type & value	water record (m)	description	depth (m)	reduced level (m)	legend
1B 1ES 2D	0.10 - 0.30 0.10 - 0.30 0.10 - 0.30	Vo 0.0		Grass over soft dark brown slightly sandy slightly gravelly CLAY with frequent rootlets and rare roots (up to 4mm diam). Gravel is subangular and subrounded fine and medium sandstone and siltstone. (POSSIBLE MADE GROUND)			
2ES 3B 4D	0.60 - 0.80 0.60 - 0.80 0.60 - 0.80	Vo 0.0		Soft dark brown slightly sandy slightly gravelly CLAY with rare rootlets. Gravel is subangular and subrounded fine to coarse sandstone and siltstone.	0.50	12.05	
3ES 5B 6D	1.00 - 1.20 1.00 - 1.20 1.00 - 1.20	Vo 0.0		Dark brown slightly sandy slightly clayey subangular to rounded fine to coarse sandstone and siltstone GRAVEL. (RIVER TERRACE DEPOSITS)	0.80	11.75	
				Trial pit Completed at 1.20m	1.20	11.35	

Equipment: Pit excavated by hand tools

Pit width x length: 0.30m x 0.30m

Sidewall stability: Stable

Groundwater: Groundwater not encountered

Backfill: Arisings 0.00 - 1.20m.

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS



CONTRACT
37989

CHECKED
CT

Geotechnical Engineering Limited

INSPECTION PIT LOG



IP05

CLIENT VANTAGE DATA CENTERS

SITE VANTAGE DATA CENTERS, 150 MVA SUBSTATION

Start Date 23 October 2024 Easting 328484 Sheet 1 of 1

End Date 23 October 2024 Northing 184181 Ground Level 12.60mOD Scale 1:25

Depth 0.87 m

sample no & type	sample depth (m) from to	test type & value	water record (m)	description	depth (m)	reduced level (m)	legend
1B 1ES 2D	0.10 - 0.30 0.10 - 0.30 0.10 - 0.30	Vo 0.0		Grass over soft dark brown slightly sandy gravelly CLAY with a low rounded sandstone cobble content and frequent rootlets. Gravel is subangular and subrounded fine to coarse sandstone and siltstone. (POSSIBLE MADE GROUND)			
2ES 3B 4D	0.60 - 0.80 0.60 - 0.80 0.60 - 0.80	Vo 0.0		Soft dark brown slightly sandy gravelly CLAY. Gravel is subangular to rounded fine to coarse sandstone and siltstone.	0.55	12.05	
				Trial pit Completed at 0.87m	0.87	11.73	

Equipment:

Pit excavated by hand tools

Pit width x length:

0.30m x 0.30m

Sidewall stability:

Stable

Groundwater:

Groundwater not encountered

Backfill:

Arisings 0.00 - 0.87m.

Remarks:

Terminated at 0.87m due to hard strata.

AGS

CONTRACT

37989

CHECKED

CT

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS

Geotechnical Engineering Limited

INSPECTION PIT LOG



IP06

CLIENT VANTAGE DATA CENTERS

SITE VANTAGE DATA CENTERS, 150 MVA SUBSTATION

Start Date 22 October 2024 Easting 328427 Sheet 1 of 1

End Date 22 October 2024 Northing 184106 Ground Level 12.80mOD Scale 1:25

Depth 1.10 m

sample no & type	sample depth (m) from to	test type & value	water record (m)	description	depth (m)	reduced level (m)	legend
1B	0.10 - 0.30	Vo 0.0		Grass over very soft dark brown slightly sandy slightly gravelly silty CLAY with abundant roots (up to 3mm diam) and rootlets. Gravel is subangular to rounded fine to coarse sandstone, siltstone and limestone. (POSSIBLE MADE GROUND)	0.30	12.50	
1ES	0.20 - 0.30			Soft light brown slightly sandy slightly gravelly silty CLAY with rare rootlets. Gravel is subangular to subrounded fine to coarse sandstone, siltstone and rare limestone.			
2B	0.50 - 0.60	Vo 0.1					
2ES	0.50 - 0.70						
3B	1.00 - 1.10	Vo 0.0		Brown slightly sandy gravelly SILT with frequent pockets (up to 30x30x30mm) of soft light brown clay and frequent rootlets. Gravel is subrounded to rounded fine to coarse sandstone and siltstone.	0.90	11.90	
3ES	1.00 - 1.10						
				Trial pit Completed at 1.10m	1.10	11.70	

Equipment:

Pit excavated by hand tools

Pit width x length:

0.30m x 0.30m

Sidewall stability:

Stable

Groundwater:

Groundwater not encountered

Backfill:

Arisings 0.00 - 1.10m.

Remarks:

Terminated at 1.10m due to hard strata.

CONTRACT

CHECKED

37989

CT

EXPLORATORY HOLE LOGS SHOULD BE READ IN CONJUNCTION WITH KEY SHEETS



APPENDIX B

MONITORING DATA

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH01**

INSTALLED PIPE DEPTH (m) **1.50**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (litr/hr)	water level (m - bgl)	remarks
11/11/2024 12:06	1030 / 0.00	12								0.0		
11/11/2024 12:07	1030 / 0.00									0.0		
11/11/2024 12:08	1030 / 0.00									0.0		
11/11/2024 12:09	1030 / 0.00									0.0		
11/11/2024 12:10	1030 / 0.00									0.0		
11/11/2024 12:11	1030 / 0.00									0.0		
11/11/2024 12:13			0.7	0.0	17.8	0.0	0.0	0.0	0.0			
11/11/2024 12:14			0.5	0.0	18.1	0.0	0.0	0.0	0.0			
11/11/2024 12:15			0.1	0.0	19.3	0.0	0.0	0.0	0.0			
11/11/2024 12:16			0.0	0.0	20.2	0.0	0.0	0.0	0.0			
11/11/2024 12:17			0.0	0.0	20.2	0.0	0.0	0.0	0.0			
11/11/2024 12:18			0.0	0.0	20.2	0.0	0.0	0.0	0.0			
11/11/2024 12:36												Dry
21/11/2024 10:37	997	3	8.3	0.0	4.0	0.0	0.0	10.0	9.4			
21/11/2024 10:38			8.7	0.0	3.0	0.0	0.0	10.0	10.3			
21/11/2024 10:39			9.1	0.0	2.1	0.0	0.0	10.0	20.5			
21/11/2024 10:40			9.5	0.0	1.8	0.0	0.0	10.0	28.5			
remarks											CONTRACT	
# denotes results exceeding capacity of gas monitoring equipment											37989	
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene											CT	

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH01**

INSTALLED PIPE DEPTH (m) **1.50**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks
21/11/2024 10:41			9.5	0.0	2.3	0.0	0.0	10.0	23.4			
21/11/2024 10:42			9.4	0.0	3.1	0.0	0.0	10.0	23.4			
21/11/2024 10:43			9.4	0.0	3.9	0.0	0.0	10.0	23.4			
21/11/2024 10:44			9.4	0.0	3.9	0.0	0.0	10.0	22.0			
21/11/2024 10:45			9.4	0.0	4.1	0.0	0.0	10.0	21.6			
21/11/2024 10:46			9.3	0.0	4.1	0.0	0.0	10.0	21.4			
21/11/2024 10:47												Dry
06/12/2024 10:33	1016 / 0.00	11								0.0		
06/12/2024 10:34	1017 / 0.00									0.0		
06/12/2024 10:35	1016 / 0.00									0.0		
06/12/2024 10:36	1016 / 0.00									0.0		
06/12/2024 10:37	1016 / 0.00									0.0		
06/12/2024 10:38	1016 / 0.00									0.0		
06/12/2024 10:40			0.1	0.0	19.8	0.0	0.0	0.0	0.1			
06/12/2024 10:41			7.3	0.0	1.6	0.0	0.0	0.0	1.5			
06/12/2024 10:42			7.3	0.0	1.4	0.0	0.0	0.0	1.5			
06/12/2024 10:43			7.2	0.0	1.4	0.0	0.0	0.0	1.4			
remarks											CONTRACT	
# denotes results exceeding capacity of gas monitoring equipment											37989	
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene											CT	

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH01**

INSTALLED PIPE DEPTH (m) **1.50**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks
06/12/2024 10:44			7.2	0.0	1.4	0.0	0.0	0.0	1.4			
06/12/2024 10:45			7.1	0.0	1.5	0.0	0.0	0.0	1.3			
06/12/2024 10:46			7.1	0.0	1.6	0.0	0.0	0.0	1.3			
06/12/2024 10:47			7.0	0.0	1.8	0.0	0.0	0.0	1.2			
06/12/2024 10:48			7.0	0.0	2.0	0.0	0.0	0.0	1.1			
06/12/2024 10:49			7.0	0.0	2.4	0.0	0.0	0.0	1.0			
06/12/2024 10:50			6.9	0.0	2.8	0.0	0.0	0.0	0.9			
06/12/2024 10:51			6.9	0.0	3.3	0.0	0.0	0.0	0.8			
06/12/2024 10:52			6.8	0.0	3.8	0.0	0.0	0.0	0.8			
06/12/2024 10:53			6.8	0.0	4.0	0.0	0.0	0.0	0.7			
06/12/2024 10:54			6.8	0.0	4.5	0.0	0.0	0.0	0.6			
06/12/2024 10:55			6.9	0.0	4.9	0.0	0.0	0.0	0.6			
06/12/2024 10:56												Dry
13/12/2024 10:46	1023 / -0.01	6								-0.1		
13/12/2024 10:47	1023 / -0.01									-0.1		
13/12/2024 10:48	1023 / -0.01									-0.1		
13/12/2024 10:49	1023 / 0.00									-0.1		
remarks											CONTRACT	
# denotes results exceeding capacity of gas monitoring equipment											37989	
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene											CT	

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH01**

INSTALLED PIPE DEPTH (m) **1.50**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks	
13/12/2024 10:50	1023 / -0.01									-0.1		Dry	
13/12/2024 10:51	1022 / 0.00									-0.1			
13/12/2024 10:58			0.0	0.0	20.3	0.0	0.0	0.0	0.0				
13/12/2024 10:59			0.0	0.0	20.4	0.0	0.0	0.0	0.0				
13/12/2024 11:00			0.0	0.0	20.5	0.0	0.0	0.0	0.0				
13/12/2024 11:01			0.0	0.0	20.5	0.0	0.0	0.0	0.0				
13/12/2024 11:02			0.0	0.0	20.5	0.0	0.0	0.0	0.0				
13/12/2024 11:03			0.0	0.0	20.4	0.0	0.0	0.0	0.0				
13/12/2024 11:04													
19/12/2024 10:02	1010 / 0.00		4										
19/12/2024 10:03	1009 / 0.00									0.0			
19/12/2024 10:04	1009 / 0.00									0.0			
19/12/2024 10:05	1009 / 0.00									0.0			
19/12/2024 10:06	1009 / 0.00									0.0			
19/12/2024 10:07	1009 / 0.00									0.0			
19/12/2024 10:09			3.5	0.0	10.1	0.0	0.0	0.0	0.0				
19/12/2024 10:10			8.0	0.0	5.9	0.0	0.0	0.0	0.0				
remarks												CONTRACT	CHECKED
# denotes results exceeding capacity of gas monitoring equipment												37989	CT
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene													

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH01**

INSTALLED PIPE DEPTH (m) **1.50**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks
19/12/2024 10:11			8.4	0.0	5.3	0.0	0.0	0.0	0.0			
19/12/2024 10:12			8.5	0.0	5.1	0.0	0.0	0.0	0.0			
19/12/2024 10:13			8.6	0.0	5.1	0.0	0.0	0.0	0.0			
19/12/2024 10:14			8.7	0.0	5.3	0.0	0.0	0.0	0.0			
19/12/2024 10:15			8.8	0.0	5.6	0.0	0.0	0.0	0.0			
19/12/2024 10:16			8.8	0.0	5.8	0.0	0.0	0.0	0.0			
19/12/2024 10:17			8.8	0.0	5.9	0.0	0.0	0.0	0.0			
19/12/2024 10:18			8.8	0.0	6.1	0.0	0.0	0.0	0.0			
19/12/2024 10:19			8.8	0.0	6.4	0.0	0.0	0.0	0.0			
19/12/2024 10:20			8.7	0.0	6.5	0.0	0.0	0.0	0.0			
19/12/2024 10:21			8.7	0.0	6.6	0.0	0.0	0.0	0.0			
19/12/2024 10:24												Dry
07/01/2025 09:51	998 / -0.05	1								-0.9		
07/01/2025 09:52	998 / -0.05									-0.9		
07/01/2025 09:53	998 / -0.05									-0.9		
07/01/2025 09:54	998 / -0.05									-0.9		
07/01/2025 09:55	998 / -0.05									-0.9		
remarks											CONTRACT	
# denotes results exceeding capacity of gas monitoring equipment											37989	
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene											CHECKED	
											CT	

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH01**

INSTALLED PIPE DEPTH (m) **1.50**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks	
07/01/2025 09:56			4.5	0.0	12.2	0.0	0.0	0.0	0.0			Dry.	
07/01/2025 09:57			7.6	0.0	8.5	0.0	0.0	0.0	0.0				
07/01/2025 09:58			7.6	0.0	8.5	0.0	0.0	0.0	0.0				
07/01/2025 09:59			7.6	0.0	8.5	0.0	0.0	0.0	0.0				
07/01/2025 10:00			7.6	0.0	8.5	0.0	0.0	0.0	0.0				
07/01/2025 10:01													
remarks												CONTRACT	CHECKED
# denotes results exceeding capacity of gas monitoring equipment												37989	CT
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene													

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH01**

INSTALLED PIPE DEPTH (m) **8.00**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks	
11/11/2024 12:19	1030 / 0.00	12								0.0			
11/11/2024 12:20	1030 / 0.00									0.0			
11/11/2024 12:21	1030 / 0.00									0.0			
11/11/2024 12:22	1030 / 0.00									0.0			
11/11/2024 12:23	1030 / 0.00									0.0			
11/11/2024 12:24	1030 / 0.00									0.0			
11/11/2024 12:26			0.0	0.0	20.3	0.0	0.0	0.0	0.7				
11/11/2024 12:27			0.1	0.0	20.1	0.0	0.0	0.0	0.2				
11/11/2024 12:28			0.0	0.0	20.4	0.0	0.0	0.0	0.0				
11/11/2024 12:29			0.0	0.0	20.4	0.0	0.0	0.0	0.0				
11/11/2024 12:30			0.0	0.0	20.4	0.0	0.0	0.0	0.0				
11/11/2024 12:31			0.0	0.0	20.4	0.0	0.0	0.0	0.0				
11/11/2024 12:35											3.68		
14/11/2024 14:31											3.68		
14/11/2024 14:32											3.68		
14/11/2024 14:33											3.68		
14/11/2024 14:34											3.68		
remarks													CONTRACT
# denotes results exceeding capacity of gas monitoring equipment												37989	CT
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene													

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH01**

INSTALLED PIPE DEPTH (m) **8.00**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks	
14/11/2024 14:35	997	3									3.68		
14/11/2024 14:36											3.68		
14/11/2024 14:37											3.68		
14/11/2024 14:38											3.68		
14/11/2024 14:39											3.68		
14/11/2024 14:40											3.68		
14/11/2024 14:41											3.68		
21/11/2024 11:25			5.1	0.0	8.8	0.0	0.0	10.0	3.1				
21/11/2024 11:26			5.2	0.0	8.5	0.0	0.0	10.0	3.3				
21/11/2024 11:27			5.5	0.0	8.4	0.0	0.0	10.0	3.4				
21/11/2024 11:28			5.5	0.0	8.4	0.0	0.0	10.0	3.4				
21/11/2024 11:29			5.5	0.0	8.3	0.0	0.0	10.0	3.3				
21/11/2024 11:30			5.4	0.0	8.3	0.0	0.0	10.0	3.3				
21/11/2024 11:31			5.4	0.0	8.4	0.0	0.0	10.0	3.2				
21/11/2024 11:32			5.4	0.0	8.4	0.0	0.0	10.0	3.3				
21/11/2024 11:33			5.5	0.0	8.4	0.0	0.0	10.0	3.3				
21/11/2024 11:34			5.5	0.0	8.4	0.0	0.0	10.0	3.3				
remarks													
# denotes results exceeding capacity of gas monitoring equipment												37989	CT
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene													

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH01**

INSTALLED PIPE DEPTH (m) **8.00**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks	
21/11/2024 11:35											3.40		
06/12/2024 11:00	1015 / 0.00	11								0.0			
06/12/2024 11:01	1015 / 0.00									0.0			
06/12/2024 11:02	1015 / 0.00									0.0			
06/12/2024 11:03	1015 / 0.00									0.0			
06/12/2024 11:04	1015 / 0.00									0.0			
06/12/2024 11:05	1015 / 0.00									0.0			
06/12/2024 11:07			4.0	0.0	10.0	0.0	0.0	0.0	0.2				
06/12/2024 11:08			4.4	0.0	10.3	0.0	0.0	0.0	0.8				
06/12/2024 11:09			4.1	0.0	11.0	0.0	0.0	0.0	0.7				
06/12/2024 11:10			4.1	0.0	11.2	0.0	0.0	0.0	0.7				
06/12/2024 11:11			4.0	0.0	11.3	0.0	0.0	0.0	0.6				
06/12/2024 11:12			4.0	0.0	11.3	0.0	0.0	0.0	0.6				
06/12/2024 11:13			4.0	0.0	11.3	0.0	0.0	0.0	0.6				
06/12/2024 11:14			4.0	0.0	11.4	0.0	0.0	0.0	0.6				
06/12/2024 11:17											2.95		
13/12/2024 11:10	1022 / -0.01	6								-0.3			
remarks												CONTRACT	CHECKED
# denotes results exceeding capacity of gas monitoring equipment												37989	CT
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene													

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH01**

INSTALLED PIPE DEPTH (m) **8.00**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks	
13/12/2024 11:11	1022 / -0.01									-0.3	2.74		
13/12/2024 11:12	1022 / -0.01									-0.3			
13/12/2024 11:13	1022 / -0.01									-0.1			
13/12/2024 11:14	1022 / -0.01									-0.3			
13/12/2024 11:15	1022 / -0.01									-0.1			
13/12/2024 11:16			0.5	0.0	19.4	0.0	0.0	0.0	0.0				
13/12/2024 11:17			0.0	0.0	20.4	0.0	0.0	0.0	0.0				
13/12/2024 11:18			0.0	0.0	20.3	0.0	0.0	0.0	0.0				
13/12/2024 11:19			0.0	0.0	20.2	0.0	0.0	0.0	0.0				
13/12/2024 11:20			0.0	0.0	20.2	0.0	0.0	0.0	0.0				
13/12/2024 11:21			0.0	0.0	20.2	0.0	0.0	0.0	0.0				
13/12/2024 11:22													
19/12/2024 10:26	1009 / 0.00	4								0.0			
19/12/2024 10:27	1009 / 0.00									0.0			
19/12/2024 10:28	1009 / 0.00									0.0			
19/12/2024 10:29	1009 / 0.00									0.0			
19/12/2024 10:30	1009 / 0.00									0.0			
remarks												CONTRACT	CHECKED
# denotes results exceeding capacity of gas monitoring equipment												37989	CT
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene													

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH01**

INSTALLED PIPE DEPTH (m) **8.00**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks
19/12/2024 10:31	1009 / 0.00											
19/12/2024 10:32			4.0	0.0	14.3	0.0	0.0	0.0	0.0			
19/12/2024 10:33			4.9	0.0	11.0	0.0	0.0	0.0	0.0			
19/12/2024 10:34			4.9	0.0	10.9	0.0	0.0	0.0	0.0			
19/12/2024 10:35			4.9	0.0	10.9	0.0	0.0	0.0	0.0			
19/12/2024 10:36			5.0	0.0	10.9	0.0	0.0	0.0	0.0			
19/12/2024 10:37			5.0	0.0	10.9	0.0	0.0	0.0	0.0			
19/12/2024 10:38			5.0	0.0	10.9	0.0	0.0	0.0	0.0			
19/12/2024 10:39											2.72	
07/01/2025 09:40	998 / -0.06	1								-1.0		
07/01/2025 09:41	998 / -0.06									-1.0		
07/01/2025 09:42	998 / -0.06									-1.0		
07/01/2025 09:43	998 / -0.06									-1.0		
07/01/2025 09:44	998 / -0.06									-1.0		
07/01/2025 09:45			4.4	0.0	8.6	0.0	0.0	0.0	0.0			
07/01/2025 09:46			4.6	0.0	11.1	0.0	0.0	0.0	0.0			
07/01/2025 09:47			4.6	0.0	11.8	0.0	0.0	0.0	0.0			
remarks											CONTRACT	
# denotes results exceeding capacity of gas monitoring equipment											37989	
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene											CT	

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH01**

INSTALLED PIPE DEPTH (m) **8.00**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks	
07/01/2025 09:48			4.7	0.0	11.9	0.0	0.0	0.0	0.0			Following water sampling.	
07/01/2025 09:49			4.7	0.0	11.9	0.0	0.0	0.0	0.0				
07/01/2025 09:50											2.70		
07/01/2025 10:37											2.76		
remarks												CONTRACT	CHECKED
# denotes results exceeding capacity of gas monitoring equipment												37989	CT
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene													

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH02**

INSTALLED PIPE DEPTH (m) **1.50**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks
11/11/2024 11:45	1030 / 0.00	12								-0.1		
11/11/2024 11:46	1030 / 0.00									0.0		
11/11/2024 11:47	1030 / 0.00									0.0		
11/11/2024 11:48	1030 / 0.00									0.0		
11/11/2024 11:49	1030 / 0.00									0.0		
11/11/2024 11:50	1030 / 0.00									0.0		
11/11/2024 11:53			2.2	0.0	16.8	0.0	0.0	0.0	0.7			
11/11/2024 11:54			1.1	0.0	16.3	0.0	0.0	0.0	0.2			
11/11/2024 11:55			0.7	0.0	18.1	0.0	0.0	0.0	0.0			
11/11/2024 11:56			0.7	0.0	18.1	0.0	0.0	0.0	0.0			
11/11/2024 11:57			0.7	0.0	18.1	0.0	0.0	0.0	0.0			
11/11/2024 11:58			0.7	0.0	18.1	0.0	0.0	0.0	0.0			
11/11/2024 12:01											1.42	
21/11/2024 12:13	997	3	6.6	0.0	0.1	0.0	0.0	10.0	36.8			
21/11/2024 12:14			6.6	0.0	0.0	0.0	0.0	10.0	44.0			
21/11/2024 12:15			6.5	0.0	0.3	0.0	0.0	10.0	48.2			
21/11/2024 12:16			6.4	0.0	0.3	0.0	0.0	10.0	48.9			
remarks # denotes results exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene											CONTRACT 37989	CHECKED CT

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH02**

INSTALLED PIPE DEPTH (m) **1.50**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks
21/11/2024 12:17			6.4	0.0	0.4	0.0	0.0	10.0	52.4			
21/11/2024 12:18			6.4	0.0	0.4	0.0	0.0	10.0	53.1			
21/11/2024 12:19			6.4	0.0	0.4	0.0	0.0	10.0	52.8			
21/11/2024 12:20			6.3	0.0	0.5	0.0	0.0	10.0	52.3			
21/11/2024 12:21			6.3	0.0	0.5	0.0	0.0	10.0	51.7			
21/11/2024 12:22			6.3	0.0	0.5	0.0	0.0	10.0	51.3			
21/11/2024 12:23												Dry
06/12/2024 13:08	1014 / 0.00	11								0.0		
06/12/2024 13:09	1014 / 0.00									0.0		
06/12/2024 13:10	1014 / 0.00									0.0		
06/12/2024 13:11	1014 / 0.00									0.0		
06/12/2024 13:12	1014 / 0.00									0.0		
06/12/2024 13:13	1014 / 0.00									0.0		
06/12/2024 13:14			4.7	0.0	7.4	0.0	0.0	0.0	0.5			
06/12/2024 13:15			5.2	0.0	4.6	0.0	0.0	0.0	2.1			
06/12/2024 13:16			5.2	0.0	4.3	0.0	0.0	0.0	2.0			
06/12/2024 13:17			5.2	0.0	4.2	0.0	0.0	0.0	2.0			
remarks											CONTRACT	
# denotes results exceeding capacity of gas monitoring equipment											37989	
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene											CT	

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH02**

INSTALLED PIPE DEPTH (m) **1.50**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks
06/12/2024 13:18			5.3	0.0	4.1	0.0	0.0	0.0	2.0			
06/12/2024 13:19			5.4	0.0	4.0	0.0	0.0	0.0	1.9			
06/12/2024 13:20			5.4	0.0	4.0	0.0	0.0	0.0	1.9			
06/12/2024 13:21			5.4	0.0	4.0	0.0	0.0	0.0	1.9			
06/12/2024 13:22												Dry
13/12/2024 11:51	1022 / -0.02	6								-0.4		
13/12/2024 11:52	1022 / -0.02									-0.4		
13/12/2024 11:53	1022 / -0.02									-0.4		
13/12/2024 11:54	1022 / -0.02									-0.4		
13/12/2024 11:55	1022 / -0.02									-0.4		
13/12/2024 11:56	1022 / -0.02									-0.4		
13/12/2024 11:57			0.6	0.0	18.8	0.0	0.0	0.0	0.0			
13/12/2024 11:58			0.8	0.0	17.5	0.0	0.0	0.0	0.0			
13/12/2024 11:59			0.9	0.0	17.4	0.0	0.0	0.0	0.0			
13/12/2024 12:00			0.9	0.0	17.3	0.0	0.0	0.0	0.0			
13/12/2024 12:01			0.9	0.0	17.3	0.0	0.0	0.0	0.0			
13/12/2024 12:02			0.9	0.0	17.3	0.0	0.0	0.0	0.0			
remarks											CONTRACT	
# denotes results exceeding capacity of gas monitoring equipment											37989	
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene											CT	

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH02**

INSTALLED PIPE DEPTH (m) **1.50**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks	
13/12/2024 12:05												Dry	
19/12/2024 11:10	1009 / 0.00	4								0.0			
19/12/2024 11:11	1009 / 0.00									0.0			
19/12/2024 11:12	1009 / 0.00									0.0			
19/12/2024 11:13	1009 / 0.00									0.0			
19/12/2024 11:14	1009 / 0.00									0.0			
19/12/2024 11:15	1009 / 0.00									0.0			
19/12/2024 11:16			5.2	0.0	11.0	0.0	0.0	0.0	0.0				
19/12/2024 11:17			6.6	0.0	2.5	0.0	0.0	0.0	0.0				
19/12/2024 11:18			6.7	0.0	2.2	0.0	0.0	0.0	0.0				
19/12/2024 11:19			6.5	0.0	1.8	0.0	0.0	0.0	0.0				
19/12/2024 11:20			6.8	0.0	1.9	0.0	0.0	0.0	0.0				
19/12/2024 11:21			6.8	0.0	2.0	0.0	0.0	0.0	0.0				
19/12/2024 11:22			6.8	0.0	2.1	0.0	0.0	0.0	0.0				
19/12/2024 11:23			6.8	0.0	2.3	0.0	0.0	0.0	0.0				
19/12/2024 11:24			6.7	0.0	2.9	0.0	0.0	0.0	0.0				
19/12/2024 11:25			6.9	0.0	3.0	0.0	0.0	0.0	0.0				
remarks													
# denotes results exceeding capacity of gas monitoring equipment												37989	CT
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene													

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH02**

INSTALLED PIPE DEPTH (m) **1.50**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks
19/12/2024 11:26			6.6	0.0	3.5	0.0	0.0	0.0	0.0			
19/12/2024 11:27			6.6	0.0	3.5	0.0	0.0	0.0	0.0			
19/12/2024 11:28			6.6	0.0	3.5	0.0	0.0	0.0	0.0			
19/12/2024 11:29												Dry
07/01/2025 09:26	998 / -0.05	1								-0.9		
07/01/2025 09:27	998 / -0.05									-0.9		
07/01/2025 09:28	998 / -0.05									-0.9		
07/01/2025 09:29	998 / -0.05									-0.9		
07/01/2025 09:30	998 / -0.05									-0.9		
07/01/2025 09:31			4.4	0.0	11.5	0.0	0.0	0.0	0.0			
07/01/2025 09:32			5.5	0.0	6.2	0.0	0.0	0.0	0.0			
07/01/2025 09:33			5.5	0.0	5.6	0.0	0.0	0.0	0.0			
07/01/2025 09:34			5.5	0.0	5.6	0.0	0.0	0.0	0.0			
07/01/2025 09:35			5.5	0.0	5.6	0.0	0.0	0.0	0.0			
07/01/2025 09:36												Dry
remarks											CONTRACT	
# denotes results exceeding capacity of gas monitoring equipment											37989	
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene											CHECKED	
											CT	

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH02**

INSTALLED PIPE DEPTH (m) **8.00**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks
11/11/2024 11:32	1030 / 0.00	12								-0.1		
11/11/2024 11:33	1030 / 0.00									0.0		
11/11/2024 11:34	1030 / 0.00									0.0		
11/11/2024 11:35	1030 / 0.00									0.0		
11/11/2024 11:36	1030 / 0.00									0.0		
11/11/2024 11:37	1030 / 0.00									0.0		
11/11/2024 11:38			0.2	0.0	19.6	0.0	0.0	0.0	0.0			
11/11/2024 11:39			0.7	0.0	20.1	0.0	0.0	0.0	0.4			
11/11/2024 11:40			1.8	0.0	16.7	0.0	0.0	0.0	0.6			
11/11/2024 11:41			4.2	0.0	10.4	0.0	0.0	0.0	0.5			
11/11/2024 11:42			4.2	0.0	10.4	0.0	0.0	0.0	0.5			
11/11/2024 11:43			4.2	0.0	10.4	0.0	0.0	0.0	0.5			
11/11/2024 12:00											4.76	
14/11/2024 14:11											4.76	
14/11/2024 14:12											4.76	
14/11/2024 14:13											4.76	
14/11/2024 14:14											4.76	
remarks											CONTRACT	
# denotes results exceeding capacity of gas monitoring equipment											37989	
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene											CT	

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH02**

INSTALLED PIPE DEPTH (m) **8.00**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks				
14/11/2024 14:15	998	3									4.76					
14/11/2024 14:16											4.76					
14/11/2024 14:17											4.76					
14/11/2024 14:18											4.76					
14/11/2024 14:19											4.76					
14/11/2024 14:20											4.76					
14/11/2024 14:21											4.76					
21/11/2024 11:50			5.5	0.0	8.1	0.0	0.0	0.0	6.4							
21/11/2024 11:51			5.5	0.0	8.1	0.0	0.0	0.0	6.8							
21/11/2024 11:52			5.5	0.0	8.0	0.0	0.0	0.0	7.7							
21/11/2024 11:53			5.6	0.0	7.9	0.0	0.0	0.0	11.4							
21/11/2024 11:54			5.6	0.0	8.0	0.0	0.0	0.0	11.4							
21/11/2024 11:55			5.6	0.0	8.0	0.0	0.0	0.0	11.7							
21/11/2024 11:56			5.6	0.0	7.9	0.0	0.0	0.0	11.6							
21/11/2024 11:57			5.6	0.0	7.9	0.0	0.0	0.0	11.6							
21/11/2024 11:58			5.6	0.0	8.0	0.0	0.0	0.0	11.4							
21/11/2024 11:59			5.6	0.0	8.0	0.0	0.0	0.0	11.4							
remarks													CONTRACT	CHECKED		
# denotes results exceeding capacity of gas monitoring equipment													37989	CT		
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene																

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH02**

INSTALLED PIPE DEPTH (m) **8.00**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks	
21/11/2024 12:00											4.50		
06/12/2024 11:26	1015 / 0.15	11								16.0			
06/12/2024 11:27	1016 / 0.09								82.0				
06/12/2024 11:28	1016 / 0.08								70.0				
06/12/2024 11:29	1016 / 0.07								67.0				
06/12/2024 11:30	1015 / 0.07								64.0				
06/12/2024 11:31	1015 / 0.07								60.0				
06/12/2024 11:32	1015 / 0.06								55.0				
06/12/2024 11:33	1015 / 0.06								51.0				
06/12/2024 11:34	1015 / 0.05								46.0				
06/12/2024 11:35	1015 / 0.05								42.0				
06/12/2024 11:36	1015 / 0.05								39.0				
06/12/2024 11:37	1015 / 0.04								35.0				
06/12/2024 11:38	1015 / 0.04								32.0				
06/12/2024 11:39	1015 / 0.04								30.0				
06/12/2024 11:40	1015 / 0.04								28.0				
06/12/2024 11:41	1015 / 0.03								24.0				
remarks													
# denotes results exceeding capacity of gas monitoring equipment												37989	CT
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene													

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH02**

INSTALLED PIPE DEPTH (m) **8.00**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks
06/12/2024 11:43			4.9	0.0	12.4	0.0	0.0	0.0	0.1			
06/12/2024 11:44			5.0	0.0	9.7	0.0	0.0	0.0	0.3			
06/12/2024 11:45			4.9	0.0	9.9	0.0	0.0	0.0	0.3			
06/12/2024 11:46			4.8	0.0	10.1	0.0	0.0	0.0	0.2			
06/12/2024 11:47			4.7	0.0	10.2	0.0	0.0	0.0	0.2			
06/12/2024 11:48			4.6	0.0	10.5	0.0	0.0	0.0	0.2			
06/12/2024 11:49			4.6	0.0	10.6	0.0	0.0	0.0	0.1			
06/12/2024 11:50			4.6	0.0	10.7	0.0	0.0	0.0	0.1			
06/12/2024 11:51			4.5	0.0	10.8	0.0	0.0	0.0	0.1			
06/12/2024 11:52			4.5	0.0	10.9	0.0	0.0	0.0	0.1			
06/12/2024 11:53			4.5	0.0	10.9	0.0	0.0	0.0	0.1			
06/12/2024 11:54			4.4	0.0	11.0	0.0	0.0	0.0	0.1			
06/12/2024 11:55			4.4	0.0	11.0	0.0	0.0	0.0	0.1			
06/12/2024 11:56			4.4	0.0	11.0	0.0	0.0	0.0	0.1			
06/12/2024 11:57			4.3	0.0	11.1	0.0	0.0	0.0	0.1			
06/12/2024 12:01											2.95	
13/12/2024 11:35	1023 / -0.02	6								-0.3		
remarks # denotes results exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene											CONTRACT 37989	CHECKED CT

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH02**

INSTALLED PIPE DEPTH (m) **8.00**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks						
13/12/2024 11:36	1023 / -0.01									-0.3								
13/12/2024 11:37	1023 / -0.01									-0.3								
13/12/2024 11:38	1023 / -0.01									-0.1								
13/12/2024 11:39	1023 / -0.02									-0.3								
13/12/2024 11:40	1023 / -0.01									-0.1								
13/12/2024 11:41										0.0			0.0	18.9	0.0	0.0	0.0	0.0
13/12/2024 11:42										0.0			0.0	20.2	0.0	0.0	0.0	0.0
13/12/2024 11:43										0.0			0.0	20.3	0.0	0.0	0.0	0.0
13/12/2024 11:44										0.0			0.0	20.3	0.0	0.0	0.0	0.0
13/12/2024 11:45										0.0			0.0	20.3	0.0	0.0	0.0	0.0
13/12/2024 11:46										0.0			0.0	20.3	0.0	0.0	0.0	0.0
13/12/2024 11:49		4								3.21								
19/12/2024 10:52	1009 / 0.00											0.0						
19/12/2024 10:53	1009 / 0.00											0.0						
19/12/2024 10:54	1009 / 0.00											0.0						
19/12/2024 10:55	1009 / 0.00											0.0						
19/12/2024 10:56	1009 / 0.00											0.0						
remarks												CONTRACT	CHECKED					
# denotes results exceeding capacity of gas monitoring equipment												37989	CT					
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene																		

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH02**

INSTALLED PIPE DEPTH (m) **8.00**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks
19/12/2024 10:57	1009 / 0.00									0.0		
19/12/2024 10:59			4.7	0.0	11.3	0.0	0.0	0.0	0.0			
19/12/2024 11:00			5.0	0.0	10.0	0.0	0.0	0.0	0.0			
19/12/2024 11:01			5.0	0.0	9.9	0.0	0.0	0.0	0.0			
19/12/2024 11:02			5.1	0.0	9.9	0.0	0.0	0.0	0.0			
19/12/2024 11:03			5.1	0.0	9.9	0.0	0.0	0.0	0.0			
19/12/2024 11:04			5.1	0.0	9.8	0.0	0.0	0.0	0.0			
19/12/2024 11:05			5.1	0.0	9.8	0.0	0.0	0.0	0.0			
19/12/2024 11:06			5.1	0.0	9.8	0.0	0.0	0.0	0.0			
19/12/2024 11:08											3.48	
07/01/2025 09:15	997 / -0.06	1								-1.0		
07/01/2025 09:16	997 / -0.06									-1.0		
07/01/2025 09:17	997 / -0.06									-1.0		
07/01/2025 09:18	997 / -0.06									-1.0		
07/01/2025 09:19	997 / -0.06									-1.0		
07/01/2025 09:20			7.1	0.0	10.0	0.0	0.0	0.0	0.0			
07/01/2025 09:21			4.9	0.0	9.9	0.0	0.0	0.0	0.0			
remarks											CONTRACT	
# denotes results exceeding capacity of gas monitoring equipment											37989	
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene											CT	

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS
SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH02**
INSTALLED PIPE DEPTH (m) **8.00**
PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks	
07/01/2025 09:22			4.5	0.0	10.3	0.0	0.0	0.0	0.0			Following water sampling.	
07/01/2025 09:23			4.4	0.0	10.5	0.0	0.0	0.0	0.0				
07/01/2025 09:24			4.4	0.0	10.5	0.0	0.0	0.0	0.0				
07/01/2025 09:25											2.72		
07/01/2025 09:25											3.07		
remarks												CONTRACT	CHECKED
# denotes results exceeding capacity of gas monitoring equipment												37989	CT
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene													

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH03**

INSTALLED PIPE DEPTH (m) **1.50**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks	
11/11/2024 11:12	1031 / -0.01	12								-0.3		Dry	
11/11/2024 11:13	1031 / -0.01									-0.3			
11/11/2024 11:14	1031 / -0.01									-0.3			
11/11/2024 11:15	1031 / -0.01									-0.3			
11/11/2024 11:16	1031 / -0.01									-0.3			
11/11/2024 11:17	1031 / -0.01									-0.3			
11/11/2024 11:18			1.0	0.0	18.6	0.0	0.0	0.0	0.3				
11/11/2024 11:19			0.9	0.0	18.8	0.0	0.0	0.0	0.1				
11/11/2024 11:20			0.7	0.0	19.6	0.0	0.0	0.0	0.0				
11/11/2024 11:21			0.3	0.0	19.6	0.0	0.0	0.0	0.0				
11/11/2024 11:22			0.3	0.0	19.6	0.0	0.0	0.0	0.0				
11/11/2024 11:23			0.3	0.0	19.6	0.0	0.0	0.0	0.0				
11/11/2024 11:26													
21/11/2024 12:57	998	4	9.4	0.0	2.8	0.0	0.0	10.0	0.9				
21/11/2024 12:58			9.5	0.0	2.3	0.0	0.0	10.0	0.8				
21/11/2024 12:59			9.5	0.0	2.3	0.0	0.0	10.0	0.8				
21/11/2024 13:00			9.5	0.0	2.4	0.0	0.0	10.0	0.8				
remarks												CONTRACT	CHECKED
# denotes results exceeding capacity of gas monitoring equipment												37989	CT
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene													

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH03**

INSTALLED PIPE DEPTH (m) **1.50**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks
21/11/2024 13:01			9.5	0.0	2.4	0.0	0.0	10.0	0.9			
21/11/2024 13:02			9.5	0.0	2.4	0.0	0.0	10.0	0.8			
21/11/2024 13:03			9.5	0.0	2.5	0.0	0.0	10.0	0.8			
21/11/2024 13:04			9.4	0.0	2.4	0.0	0.0	10.0	0.8			
21/11/2024 13:05												Dry
06/12/2024 12:06	1015 / 0.00	11								0.0		
06/12/2024 12:07	1015 / 0.00									0.0		
06/12/2024 12:08	1015 / 0.00									0.0		
06/12/2024 12:09	1015 / 0.00									0.0		
06/12/2024 12:10	1015 / 0.00									0.0		
06/12/2024 12:11	1015 / 0.00									0.0		
06/12/2024 12:12			7.5	0.0	6.6	0.0	0.0	0.0	0.2			
06/12/2024 12:13			7.5	0.0	6.7	0.0	0.0	0.0	0.3			
06/12/2024 12:14			8.7	0.0	5.2	0.0	0.0	0.0	0.3			
06/12/2024 12:15			9.1	0.0	4.4	0.0	0.0	0.0	0.3			
06/12/2024 12:16			9.2	0.0	4.1	0.0	0.0	0.0	0.4			
06/12/2024 12:17			9.3	0.0	4.1	0.0	0.0	0.0	0.4			
remarks											CONTRACT	
# denotes results exceeding capacity of gas monitoring equipment											37989	
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene											CT	

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH03**

INSTALLED PIPE DEPTH (m) **1.50**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks
06/12/2024 12:18			9.3	0.0	4.2	0.0	0.0	0.0	0.4			
06/12/2024 12:19			9.3	0.0	4.4	0.0	0.0	0.0	0.4			
06/12/2024 12:20			9.3	0.0	4.6	0.0	0.0	0.0	0.4			
06/12/2024 12:21												Dry
13/12/2024 12:38	1022 / -0.03	7								-0.5		
13/12/2024 12:39	1022 / -0.03									-0.5		
13/12/2024 12:40	1022 / -0.02									-0.4		
13/12/2024 12:41	1022 / -0.02									-0.4		
13/12/2024 12:42	1022 / -0.02									-0.4		
13/12/2024 12:43	1022 / -0.02									-0.4		
13/12/2024 12:44			1.3	0.0	17.0	0.0	0.0	0.0	0.0			
13/12/2024 12:45			0.6	0.0	19.1	0.0	0.0	0.0	0.0			
13/12/2024 12:46			0.6	0.0	19.3	0.0	0.0	0.0	0.0			
13/12/2024 12:47			0.5	0.0	19.3	0.0	0.0	0.0	0.0			
13/12/2024 12:48			0.5	0.0	19.3	0.0	0.0	0.0	0.0			
13/12/2024 12:49			0.5	0.0	19.3	0.0	0.0	0.0	0.0			
13/12/2024 12:51												Dry
remarks											CONTRACT	
# denotes results exceeding capacity of gas monitoring equipment											37989	
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene											CHECKED	
											CT	

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH03**

INSTALLED PIPE DEPTH (m) **1.50**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks
19/12/2024 12:02	1009 / 0.00	4								0.0		
19/12/2024 12:03	1009 / 0.00									0.0		
19/12/2024 12:04	1009 / 0.00									0.0		
19/12/2024 12:05	1009 / 0.00									0.0		
19/12/2024 12:06	1009 / 0.00									0.0		
19/12/2024 12:07	1009 / 0.00									0.0		
19/12/2024 12:09			9.5	0.0	7.8	0.0	0.0	0.0	0.0			
19/12/2024 12:10			10.4	0.0	3.6	0.0	0.0	0.0	0.0			
19/12/2024 12:11			10.6	0.0	3.2	0.0	0.0	0.0	0.0			
19/12/2024 12:12			10.7	0.0	3.1	0.0	0.0	0.0	0.0			
19/12/2024 12:13			10.8	0.0	3.0	0.0	0.0	0.0	0.0			
19/12/2024 12:14			10.8	0.0	3.0	0.0	0.0	0.0	0.0			
19/12/2024 12:15			10.9	0.0	2.9	0.0	0.0	0.0	0.0			
19/12/2024 12:16			10.9	0.0	2.9	0.0	0.0	0.0	0.0			
19/12/2024 12:17			10.9	0.0	2.9	0.0	0.0	0.0	0.0			
19/12/2024 12:21												Dry
07/01/2025 08:47	997 / -0.05	1								-0.9		
remarks											CONTRACT	
# denotes results exceeding capacity of gas monitoring equipment											37989	
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene											CT	

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH03**

INSTALLED PIPE DEPTH (m) **1.50**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks	
07/01/2025 08:48	997 / -0.05									-0.8		Dry	
07/01/2025 08:49	997 / -0.05									-0.8			
07/01/2025 08:50	997 / -0.05									-0.8			
07/01/2025 08:51	997 / -0.05									-0.8			
07/01/2025 08:52			0.4	0.0	18.6	0.0	0.0	0.0	0.0				
07/01/2025 08:53			9.0	0.0	6.6	0.0	0.0	0.0	0.0				
07/01/2025 08:54			9.1	0.0	6.0	0.0	0.0	0.0	0.0				
07/01/2025 08:55			9.1	0.0	5.8	0.0	0.0	0.0	0.0				
07/01/2025 08:56			0.0	0.0	5.8	0.0	0.0	0.0	0.0				
07/01/2025 08:57													
remarks												CONTRACT	CHECKED
# denotes results exceeding capacity of gas monitoring equipment												37989	CT
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene													

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH03**

INSTALLED PIPE DEPTH (m) **7.00**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks	
11/11/2024 11:00	1031 / -0.01	12								-0.3			
11/11/2024 11:01	1031 / -0.01									-0.3			
11/11/2024 11:02	1031 / -0.01									-0.3			
11/11/2024 11:03	1031 / -0.01									-0.3			
11/11/2024 11:04	1031 / -0.01									-0.3			
11/11/2024 11:05	1031 / -0.01									-0.3			
11/11/2024 11:06			0.2	0.0	19.4	0.0	0.0	0.0	0.1				
11/11/2024 11:07			0.2	0.0	19.4	0.0	0.0	0.0	0.0				
11/11/2024 11:08			0.0	0.0	19.9	0.0	0.0	0.0	0.0				
11/11/2024 11:09			0.0	0.0	19.9	0.0	0.0	0.0	0.0				
11/11/2024 11:10			0.0	0.0	19.9	0.0	0.0	0.0	0.0				
11/11/2024 11:11			0.0	0.0	19.9	0.0	0.0	0.0	0.0				
11/11/2024 11:25											3.60		
14/11/2024 13:54											3.92		
14/11/2024 13:55											3.92		
14/11/2024 13:56											3.92		
14/11/2024 13:57											3.92		
remarks												CONTRACT	CHECKED
# denotes results exceeding capacity of gas monitoring equipment												37989	CT
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene													

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH03**

INSTALLED PIPE DEPTH (m) **7.00**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks	
14/11/2024 13:58	998	3									3.92		
14/11/2024 13:59											3.92		
14/11/2024 14:00											3.92		
14/11/2024 14:01											3.92		
14/11/2024 14:02											3.92		
14/11/2024 14:03											3.92		
14/11/2024 14:04											3.92		
14/11/2024 14:05											3.92		
21/11/2024 12:45	1015 / 0.00	11	9.8	0.0	4.5	0.0	0.0	10.0	7.1	0.0	3.40		
21/11/2024 12:46			9.8	0.0	4.4	0.0	0.0	10.0	6.2				
21/11/2024 12:47			9.8	0.0	4.4	0.0	0.0	10.0	6.0				
21/11/2024 12:48			9.8	0.0	4.4	0.0	0.0	10.0	5.8				
21/11/2024 12:49			9.9	0.0	4.4	0.0	0.0	10.0	5.6				
21/11/2024 12:50	1015 / 0.00	11								0.0			
06/12/2024 12:23													
06/12/2024 12:24													
06/12/2024 12:25	1015 / 0.00									0.0			
remarks												CONTRACT	CHECKED
# denotes results exceeding capacity of gas monitoring equipment												37989	CT
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene													

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH03**

INSTALLED PIPE DEPTH (m) **7.00**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks
06/12/2024 12:26	1015 / 0.00									0.0		
06/12/2024 12:27	1015 / 0.00									0.0		
06/12/2024 12:28	1015 / 0.00									0.0		
06/12/2024 12:30			0.1	0.0	17.3	0.0	0.0	0.0	0.3			
06/12/2024 12:31			9.5	0.0	6.5	0.0	0.0	0.0	1.3			
06/12/2024 12:32			9.7	0.0	4.9	0.0	0.0	0.0	1.3			
06/12/2024 12:33			9.8	0.0	4.8	0.0	0.0	0.0	1.2			
06/12/2024 12:34			9.8	0.0	4.7	0.0	0.0	0.0	1.2			
06/12/2024 12:35			9.8	0.0	4.7	0.0	0.0	0.0	1.2			
06/12/2024 12:36			9.8	0.0	4.7	0.0	0.0	0.0	1.1			
06/12/2024 12:37			9.8	0.0	4.6	0.0	0.0	0.0	1.1			
06/12/2024 12:38			9.8	0.0	4.6	0.0	0.0	0.0	1.1			
06/12/2024 12:39			9.8	0.0	4.6	0.0	0.0	0.0	1.0			
06/12/2024 12:40			9.8	0.0	4.6	0.0	0.0	0.0	1.0			
06/12/2024 12:41			9.8	0.0	4.7	0.0	0.0	0.0	0.9			
06/12/2024 12:42			9.7	0.0	4.8	0.0	0.0	0.0	0.8			
06/12/2024 12:43			9.7	0.0	4.9	0.0	0.0	0.0	0.7			
remarks # denotes results exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene											CONTRACT 37989	CHECKED CT

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH03**

INSTALLED PIPE DEPTH (m) **7.00**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks
06/12/2024 12:44			9.7	0.0	5.1	0.0	0.0	0.0	0.6			
06/12/2024 12:45			9.6	0.0	5.3	0.0	0.0	0.0	0.6			
06/12/2024 12:47											3.10	
13/12/2024 12:16	1023 / -0.05	7								-0.8		
13/12/2024 12:17	1023 / -0.04									-0.7		
13/12/2024 12:18	1023 / -0.04									-0.6		
13/12/2024 12:19	1023 / -0.04									-0.7		
13/12/2024 12:20	1023 / -0.03									-0.6		
13/12/2024 12:21	1023 / -0.04									-0.6		
13/12/2024 12:24			0.9	0.0	19.1	0.0	0.0	0.0	0.0			
13/12/2024 12:25			3.0	0.0	15.3	0.0	0.0	0.0	0.0			
13/12/2024 12:26			3.1	0.0	15.0	0.0	0.0	0.0	0.0			
13/12/2024 12:27			3.2	0.0	15.1	0.0	0.0	0.0	0.0			
13/12/2024 12:28			2.3	0.0	16.0	0.0	0.0	0.0	0.0			
13/12/2024 12:29			2.3	0.0	16.2	0.0	0.0	0.0	0.0			
13/12/2024 12:30			2.3	0.0	16.1	0.0	0.0	0.0	0.0			
13/12/2024 12:31			2.3	0.0	16.2	0.0	0.0	0.0	0.0			
remarks											CONTRACT	
# denotes results exceeding capacity of gas monitoring equipment											37989	
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene											CT	

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH03**

INSTALLED PIPE DEPTH (m) **7.00**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks
13/12/2024 12:32			2.3	0.0	16.3	0.0	0.0	0.0	0.0			
13/12/2024 12:36											2.75	
19/12/2024 11:40	1009 / 0.00	4								0.0		
19/12/2024 11:41	1009 / -0.02									-0.5		
19/12/2024 11:42	1009 / 0.00									0.0		
19/12/2024 11:43	1009 / 0.00									0.0		
19/12/2024 11:44	1009 / -0.01									-0.3		
19/12/2024 11:45	1009 / 0.00									0.0		
19/12/2024 11:46	1009 / 0.00									0.0		
19/12/2024 11:47			5.8	0.0	11.4	0.0	0.0	0.0	0.0			
19/12/2024 11:48			9.5	0.0	5.4	0.0	0.0	0.0	0.0			
19/12/2024 11:49			10.1	0.0	4.5	0.0	0.0	0.0	0.0			
19/12/2024 11:50			10.4	0.0	4.2	0.0	0.0	0.0	0.0			
19/12/2024 11:51			10.5	0.0	4.1	0.0	0.0	0.0	0.0			
19/12/2024 11:52			10.5	0.0	4.0	0.0	0.0	0.0	0.0			
19/12/2024 11:53			10.5	0.0	3.9	0.0	0.0	0.0	0.0			
19/12/2024 11:54			10.6	0.0	3.9	0.0	0.0	0.0	0.0			
remarks # denotes results exceeding capacity of gas monitoring equipment VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene											CONTRACT 37989	CHECKED CT

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID **BH03**

INSTALLED PIPE DEPTH (m) **7.00**

PIPE DIAMETER (mm) **50**

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks					
19/12/2024 11:55	997 / -0.05	1	10.8	0.0	3.9	0.0	0.0	0.0	0.0	-0.8	2.91						
19/12/2024 11:56			10.7	0.0	4.0	0.0	0.0	0.0	0.0								
19/12/2024 11:57			10.8	0.0	4.2	0.0	0.0	0.0	0.0								
19/12/2024 11:58			10.7	0.0	4.3	0.0	0.0	0.0	0.0								
19/12/2024 11:59			10.7	0.0	4.7	0.0	0.0	0.0	0.0								
19/12/2024 12:00			10.7	0.0	4.7	0.0	0.0	0.0	0.0								
19/12/2024 12:01																	
07/01/2025 08:58																	
07/01/2025 08:59																	
07/01/2025 09:00																	
07/01/2025 09:01																	
07/01/2025 09:02																	
07/01/2025 09:03			7.4	0.0	8.7	0.0	0.0	0.0	0.0								
07/01/2025 09:04			8.3	0.0	7.4	0.0	0.0	0.0	0.0								
07/01/2025 09:05			8.3	0.0	7.4	0.0	0.0	0.0	0.0								
07/01/2025 09:06			8.3	0.0	7.4	0.0	0.0	0.0	0.0								
07/01/2025 09:07			8.3	0.0	7.4	0.0	0.0	0.0	0.0								
remarks													CONTRACT	CHECKED			
# denotes results exceeding capacity of gas monitoring equipment													37989	CT			
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene																	

Geotechnical Engineering Limited

GAS AND GROUNDWATER LEVELS



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

LOCATION ID

BH03

INSTALLED PIPE DEPTH (m)

7.00

PIPE DIAMETER (mm)

50

date and time	barometric pressure / differentiation (mb)	temperature (°C)	carbon dioxide (%)	methane (%)	oxygen (%)	LEL (%)	hydrogen sulphide (ppm)	carbon monoxide (ppm)	VOC (ppm)	gas flow (ltr/hr)	water level (m - bgl)	remarks	
07/01/2025 09:08											2.92	Following water sampling.	
07/01/2025 10:57											2.90		
remarks												CONTRACT	CHECKED
# denotes results exceeding capacity of gas monitoring equipment												37989	CT
VOC - Photoionisation Detector Mini RAE Lite measures VOC vapours with 10.6eV lamp calibrated against isobutylene													

GROUNDWATER TESTING DATA

CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

INSTALLED PIPE DEPTH (m)

8.00

PIPE DIAMETER (mm)

50

borehole /trial pit no.	date and time	water depth (m)	water temperature (°C)	dissolved oxygen concentration (mg/l)	pH	resistivity (ohmcm)	conductivity (uS/cm)	total dissolved solids (ppm)	salinity (PSU)	redox (mV)	remarks	
BH01	14/11/2024 14:31	3.68	12.59	6.91	6.66	4713.32	212.16	0.16	0.13	131.91		
BH01	14/11/2024 14:32	3.68	12.09	3.44	6.72	3646.59	274.23	0.21	0.17	76.39		
BH01	14/11/2024 14:33	3.68	12.20	4.07	6.67	4045.14	247.21	0.19	0.16	86.92		
BH01	14/11/2024 14:34	3.68	12.43	4.39	6.65	4167.01	239.98	0.18	0.15	92.49		
BH01	14/11/2024 14:35	3.68	12.55	4.64	6.62	4224.45	236.72	0.18	0.15	96.15		
BH01	14/11/2024 14:36	3.68	12.61	4.96	6.61	4240.85	235.80	0.18	0.15	98.67		
BH01	14/11/2024 14:39	3.68	12.64	4.72	6.63	4116.13	242.95	0.18	0.15	99.27		
BH01	14/11/2024 14:40	3.68	12.62	4.78	6.64	4105.80	243.56	0.18	0.15	97.07		
BH01	14/11/2024 14:41	3.68	12.61	4.80	6.64	4109.78	243.32	0.18	0.15	96.65		
BH01	07/01/2025 10:28	2.70	8.47	8.29	7.44	3936.56	254.03	0.21	0.18	283.19		
BH01	07/01/2025 10:29	2.70	9.08	6.97	6.94	3814.29	262.17	0.22	0.18	282.54		
BH01	07/01/2025 10:29	2.70	9.36	6.47	6.82	3773.64	265.00	0.22	0.18	282.22		
BH01	07/01/2025 10:30	2.70	9.53	6.26	6.79	3755.38	266.28	0.22	0.18	280.19		
BH01	07/01/2025 10:30	2.70	9.59	6.20	6.79	3777.50	264.73	0.21	0.18	278.16		
BH01	07/01/2025 10:31	2.70	9.65	6.18	6.77	3781.77	264.43	0.21	0.18	276.70		
BH01	07/01/2025 10:31	2.70	9.68	6.15	6.76	3768.83	265.33	0.21	0.18	274.51		
BH01	07/01/2025 10:32	2.70	9.68	6.14	6.79	3783.86	264.28	0.21	0.18	272.78		
remarks # denotes result exceeding capacity of equipment												

GROUNDWATER TESTING DATA



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

INSTALLED PIPE DEPTH (m) 8.00
PIPE DIAMETER (mm) 50

borehole /trial pit no.	date and time	water depth (m)	water temperature (°C)	dissolved oxygen concentration (mg/l)	pH	resistivity (ohmcm)	conductivity (uS/cm)	total dissolved solids (ppm)	salinity (PSU)	redox (mV)	remarks	
BH01	07/01/2025 10:32	2.70	9.71	6.13	6.76	3803.36	262.93	0.21	0.18	270.88		
BH01	07/01/2025 10:33	2.70	9.71	6.14	6.76	3881.32	257.64	0.21	0.17	269.07		
BH01	07/01/2025 10:33	2.70	9.74	6.16	6.76	3907.03	255.95	0.21	0.17	267.55		
BH01	07/01/2025 10:34	2.70	9.75	6.15	6.75	3927.18	254.64	0.21	0.17	266.11		
BH01	07/01/2025 10:34	2.70	9.70	6.14	6.77	3878.83	257.81	0.21	0.17	264.74		
BH01	07/01/2025 10:35	2.70	9.73	6.14	6.76	3882.60	257.56	0.21	0.17	263.20		
remarks # denotes result exceeding capacity of equipment											CONTRACT 37989	CHECKED CT

GROUNDWATER TESTING DATA

CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

INSTALLED PIPE DEPTH (m)

8.00

PIPE DIAMETER (mm)

50

borehole /trial pit no.	date and time	water depth (m)	water temperature (°C)	dissolved oxygen concentration (mg/l)	pH	resistivity (ohmcm)	conductivity (uS/cm)	total dissolved solids (ppm)	salinity (PSU)	redox (mV)	remarks
BH02	14/11/2024 14:11	4.76	12.64	6.35	6.88	4729.45	211.44	0.16	0.13	99.66	
BH02	14/11/2024 14:12	4.76	12.48	5.99	6.71	5237.34	190.94	0.14	0.12	110.41	
BH02	14/11/2024 14:13	4.76	12.46	6.05	6.66	5239.86	190.84	0.14	0.12	115.49	
BH02	14/11/2024 14:14	4.76	12.45	6.01	6.63	5206.07	192.08	0.15	0.12	120.03	
BH02	14/11/2024 14:15	4.76	12.44	5.75	6.61	5124.87	195.13	0.15	0.12	123.37	
BH02	14/11/2024 14:16	4.76	12.44	5.77	6.59	5053.14	197.90	0.15	0.12	126.39	
BH02	14/11/2024 14:19	4.76	12.42	5.81	6.57	4942.92	202.31	0.15	0.13	131.35	
BH02	14/11/2024 14:20	4.76	12.41	5.80	6.57	4909.58	203.68	0.15	0.13	131.56	
BH02	14/11/2024 14:21	4.76	12.42	5.77	6.57	4874.58	205.15	0.16	0.13	132.40	
BH02	07/01/2025 11:03	2.72	8.50	7.81	6.72	6553.24	152.60	0.13	0.11	231.37	
BH02	07/01/2025 11:04	2.72	9.29	6.48	6.38	7211.96	138.66	0.11	0.09	233.29	
BH02	07/01/2025 11:04	2.72	9.53	5.87	6.33	7308.95	136.82	0.11	0.09	234.30	
BH02	07/01/2025 11:05	2.72	9.66	5.44	6.33	7362.52	135.82	0.11	0.09	234.05	
BH02	07/01/2025 11:05	2.72	9.69	5.22	6.30	7416.23	134.84	0.11	0.09	233.66	
BH02	07/01/2025 11:06	2.72	9.70	5.11	6.28	7431.31	134.57	0.11	0.09	233.51	
BH02	07/01/2025 11:06	2.72	9.72	5.08	6.29	7436.31	134.48	0.11	0.09	232.88	
BH02	07/01/2025 11:07	2.72	9.75	5.07	6.26	7427.86	134.63	0.11	0.09	232.92	
remarks # denotes result exceeding capacity of equipment										CONTRACT	CHECKED
										37989	CT

GROUNDWATER TESTING DATA



CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

INSTALLED PIPE DEPTH (m) 8.00
PIPE DIAMETER (mm) 50

borehole /trial pit no.	date and time	water depth (m)	water temperature (°C)	dissolved oxygen concentration (mg/l)	pH	resistivity (ohmcm)	conductivity (uS/cm)	total dissolved solids (ppm)	salinity (PSU)	redox (mV)	remarks	
BH02	07/01/2025 11:07	2.72	9.78	5.08	6.24	7420.66	134.76	0.11	0.09	232.43		
BH02	07/01/2025 11:08	2.72	9.81	5.09	6.25	7415.70	134.85	0.11	0.09	233.51		
BH02	07/01/2025 11:08	2.72	9.80	5.10	6.26	7397.61	135.18	0.11	0.09	232.89		
BH02	07/01/2025 11:09	2.72	9.83	5.11	6.25	7400.61	135.12	0.11	0.09	233.44		
BH02	07/01/2025 11:09	2.72	9.84	5.15	6.24	7400.58	135.12	0.11	0.09	233.68		
BH02	07/01/2025 11:10	2.72	9.83	5.19	6.24	7400.26	135.13	0.11	0.09	234.18		
remarks # denotes result exceeding capacity of equipment											CONTRACT 37989	CHECKED CT

GROUNDWATER TESTING DATA

CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

INSTALLED PIPE DEPTH (m)

7.00

PIPE DIAMETER (mm)

50

borehole /trial pit no.	date and time	water depth (m)	water temperature (°C)	dissolved oxygen concentration (mg/l)	pH	resistivity (ohmcm)	conductivity (uS/cm)	total dissolved solids (ppm)	salinity (PSU)	redox (mV)	remarks
BH03	14/11/2024 13:54	3.92	13.79	7.66	7.81	2220.80	450.29	0.33	0.28	137.15	
BH03	14/11/2024 13:55	3.92	12.58	4.74	7.18	2568.95	389.26	0.29	0.25	128.43	
BH03	14/11/2024 13:56	3.92	12.48	4.77	7.05	2769.20	361.11	0.27	0.23	124.20	
BH03	14/11/2024 13:57	3.92	12.47	4.70	6.99	2760.28	362.28	0.28	0.23	120.74	
BH03	14/11/2024 13:58	3.92	12.45	4.67	6.95	2779.50	359.78	0.27	0.23	117.86	
BH03	14/11/2024 13:59	3.92	12.45	4.63	6.95	2761.39	362.14	0.28	0.23	118.15	
BH03	14/11/2024 14:02	3.92	12.39	4.86	6.84	2873.13	348.05	0.26	0.22	102.63	
BH03	14/11/2024 14:03	3.92	12.37	4.89	6.83	2887.77	346.29	0.26	0.22	100.75	
BH03	14/11/2024 14:04	3.92	12.35	4.91	6.82	2888.35	346.22	0.26	0.22	98.74	
BH03	14/11/2024 14:05	3.92	12.35	4.92	6.80	2893.08	345.65	0.26	0.22	97.25	
BH03	07/01/2025 10:45	2.92	7.22	9.35	6.92	3351.16	298.40	0.26	0.22	259.50	
BH03	07/01/2025 10:46	2.92	9.16	7.13	6.79	3024.76	330.61	0.27	0.23	261.30	
BH03	07/01/2025 10:46	2.92	9.58	6.37	6.77	2961.10	337.71	0.27	0.23	260.92	
BH03	07/01/2025 10:47	2.92	10.04	6.02	6.78	2946.13	339.43	0.27	0.23	260.19	
BH03	07/01/2025 10:47	2.92	10.15	5.91	6.78	2936.72	340.52	0.27	0.23	259.57	
BH03	07/01/2025 10:48	2.92	10.24	5.89	6.78	2942.94	339.80	0.27	0.23	259.42	
BH03	07/01/2025 10:48	2.92	10.29	5.86	6.77	2937.07	340.48	0.27	0.23	259.22	
remarks # denotes result exceeding capacity of equipment										CONTRACT	CHECKED
										37989	CT

GROUNDWATER TESTING DATA

CLIENT: VANTAGE DATA CENTERS

SITE: VANTAGE DATA CENTERS, 150 MVA SUBSTATION

INSTALLED PIPE DEPTH (m)

7.00

PIPE DIAMETER (mm)

50

borehole /trial pit no.	date and time	water depth (m)	water temperature (°C)	dissolved oxygen concentration (mg/l)	pH	resistivity (ohmcm)	conductivity (uS/cm)	total dissolved solids (ppm)	salinity (PSU)	redox (mV)	remarks	
BH03	07/01/2025 10:49	2.92	10.34	5.86	6.77	2940.83	340.04	0.27	0.23	257.84		
BH03	07/01/2025 10:49	2.92	10.39	5.87	6.77	2947.73	339.24	0.27	0.23	256.17		
BH03	07/01/2025 10:50	2.92	10.42	5.92	6.76	2951.53	338.81	0.27	0.23	254.95		
BH03	07/01/2025 10:50	2.92	10.45	5.91	6.76	2950.95	338.87	0.27	0.23	252.39		
BH03	07/01/2025 10:51	2.92	10.47	5.96	6.76	2966.38	337.11	0.27	0.22	250.50		
BH03	07/01/2025 10:51	2.92	10.49	6.00	6.75	2975.94	336.03	0.27	0.22	247.16		
BH03	07/01/2025 10:53	2.92	10.46	6.05	6.75	2989.17	334.54	0.27	0.22	234.23		
BH03	07/01/2025 10:53	2.92	10.45	6.04	6.75	2977.60	335.84	0.27	0.22	228.47		
BH03	07/01/2025 10:54	2.92	10.45	6.04	6.75	2984.29	335.09	0.27	0.22	223.44		
BH03	07/01/2025 10:54	2.92	10.49	6.07	6.75	2995.17	333.87	0.27	0.22	217.44		
remarks # denotes result exceeding capacity of equipment											CONTRACT 37989	CHECKED CT



APPENDIX C

LABORATORY TESTING



GEOTECHNICAL ENGINEERING LIMITED

Version No. 1
Reason for update N/A
Page No. 1 of 22
Date of Issue 08/01/2025

For the attention of Leyla Ipek/Ed Crimp

TEST REPORT

PROJECT/SITE	VANTAGE DATA CENTERS, 150 MVA SUBSTATION	Samples received	29/10/2024
GEL REPORT NUMBER	37989	Schedule received	18/11/2024
Your ref/PO:		Testing commenced	21/11/2024
Test report refers to	Schedule 1	Status	Final

SUMMARY OF RESULTS ATTACHED

TEST METHOD & DESCRIPTION (S) denotes testing was subcontracted	QUANTITY	ACCREDITED TEST
BS EN ISO 17892-1: 2014:5, Water Content	12	YES
BS EN ISO 17892-12:2018, Liquid & Plastic Limits	10	YES
BS EN ISO 17892-4: 2016: 5.2, Particle Size Distribution - Wet Sieve	10	YES
BS EN ISO 17892-4: 2016: 5.4, Particle Size Distribution - Pipette	6	YES
BS EN ISO 17892-10:2018, Shear Strength by Direct Shear (Small Shear Box)	1	YES
ISRM: Suggested Methods: 2007: Point Load Strength Test	8	YES
BRE SD1 Suite (S)	6	YES/NO

General Remarks

This report may not be partially reproduced without written permission from this laboratory.
The results reported relate to samples received in the laboratory and the items tested.

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Approved Signatories:

W Jones (Laboratory Manager) J Hanson (Director)
T Best (Deputy Laboratory Manager) N Parry (Director)

LIQUID AND PLASTIC LIMITS

BS EN ISO 17892-12:2018



CLIENT VANTAGE DATA CENTERS

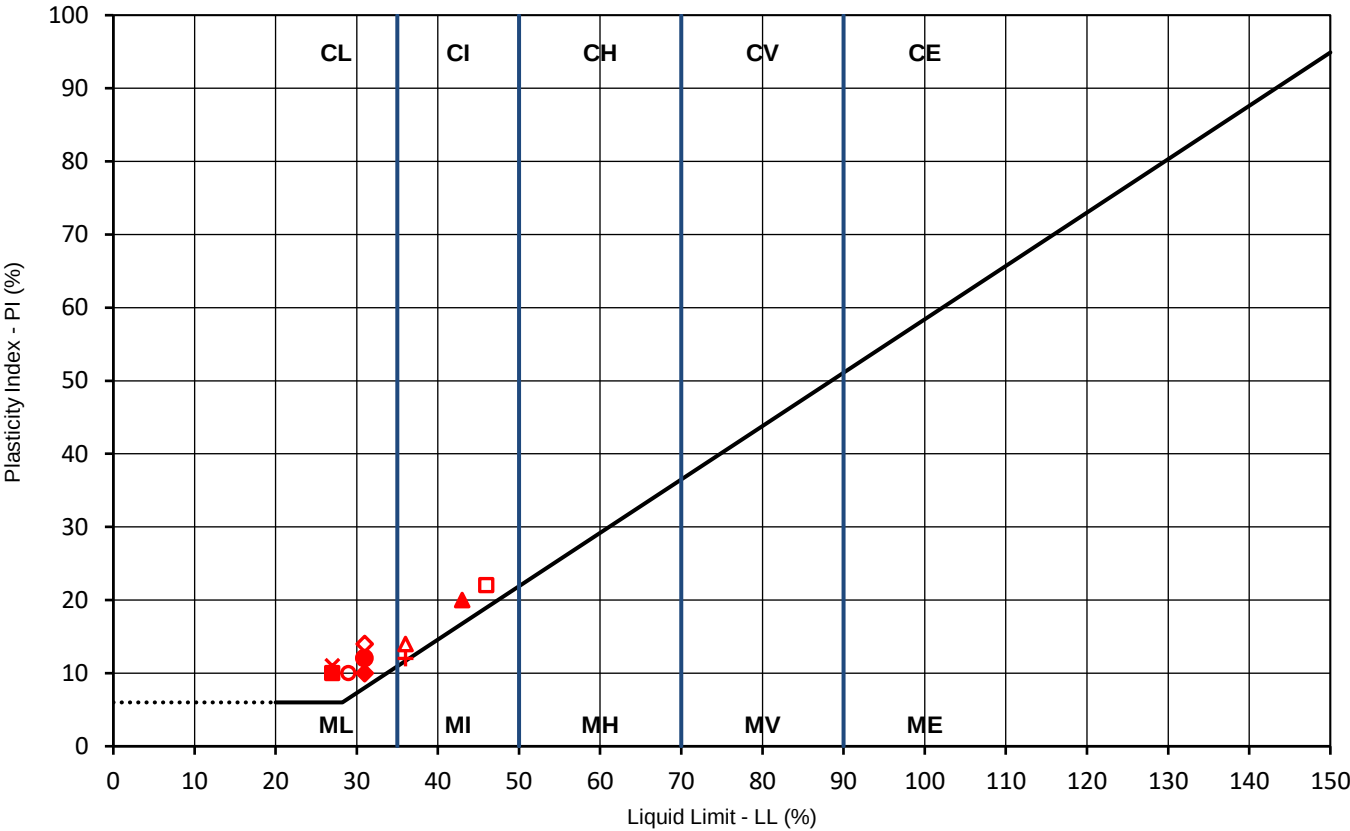
SITE VANTAGE DATA CENTERS, 150 MVA SUBSTATION

borehole /trial pit no.	sample		specimen depth (m)	natural water content (%)	specimen preparation and test method	fraction >0.425 mm (%)	liquid limit (%)	plastic limit (%)	plasticity index (%)	description and remarks	
	no./type	depth (m)									
BH01	13C	5.00	5.30	25.9	BXE	8	46	24	22	Orangish brown slightly sandy slightly gravelly silty CLAY	
BH02	7D	1.00	1.00	13.5	BXE	22	31	17	14	Orangish brown slightly sandy slightly gravelly CLAY	
BH02	16D	8.00	8.00	18.7	BXE	12	36	22	14	Orangish brown slightly sandy silty CLAY	
BH03	10D	1.50	1.50	8.3	BYE	83	27	16	11	Brown sandy clayey GRAVEL	
BH03	17D	7.00	7.00	20.9	BXE	5	36	24	12	Orangish brown slightly sandy silty CLAY	
TP01	4D	0.50	0.50	23.5	BXE	8	29	19	10	Brown slightly gravelly slightly sandy CLAY	
TP02	3B	0.50	0.50	15.9	E					Brown very silty very sandy GRAVEL	
TP02	7D	1.50	1.50	9.8	BXE	73	27	17	10	Brown very sandy very clayey GRAVEL	
TP03	4D	0.50	0.50	21.2	BXE	23	31	21	10	Brown slightly sandy slightly gravelly silty CLAY	
TP05	1B	0.00	0.00	26.9	BXE	39	43	23	20	Brown slightly sandy slightly gravelly silty CLAY with rare rootlets	
TP05	6B	1.00	1.00	18.3	BXE	31	31	19	12	Brown slightly sandy slightly gravelly CLAY	
TP05	9D	2.80	2.80	5.7	E					Brown silty sandy GRAVEL	
general remarks natural water content determined in accordance with BS EN ISO 17892 - 1 : 2014 (unless specified) NP denotes non plastic # denotes sample tested is smaller than that which is recommended in accordance with BS EN ISO 17892 or BS1377											
specimen preparation A - as received B - washed on 0.425mm sieve C - air dried							test method X - cone penetrometer (4 point) Y - cone penetrometer (1 point) Z - casagrande apparatus			CONTRACT 37989	CHECKED TB



CLIENT VANTAGE DATA CENTERS

SITE VANTAGE DATA CENTERS, 150 MVA SUBSTATION



BH/TP No.		depth (m)	LL	PL	PI	remarks
□	BH01	5.00	46	24	22	
◇	BH02	1.00	31	17	14	
△	BH02	8.00	36	22	14	
×	BH03	1.50	27	16	11	
+	BH03	7.00	36	24	12	
○	TP01	0.50	29	19	10	
■	TP02	1.50	27	17	10	
◆	TP03	0.50	31	21	10	
▲	TP05	0.00	43	23	20	
●	TP05	1.00	31	19	12	

CONTRACT	CHECKED
37989	TB

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892 - 4 : 2016 : 5



CLIENT VANTAGE DATA CENTERS

BH/TP No.

BH01

SITE VANTAGE DATA CENTERS, 150 MVA SUBSTATION

SAMPLE No./TYPE

11C

DESCRIPTION Brown slightly clayey sandy GRAVEL

SAMPLE DEPTH (m)

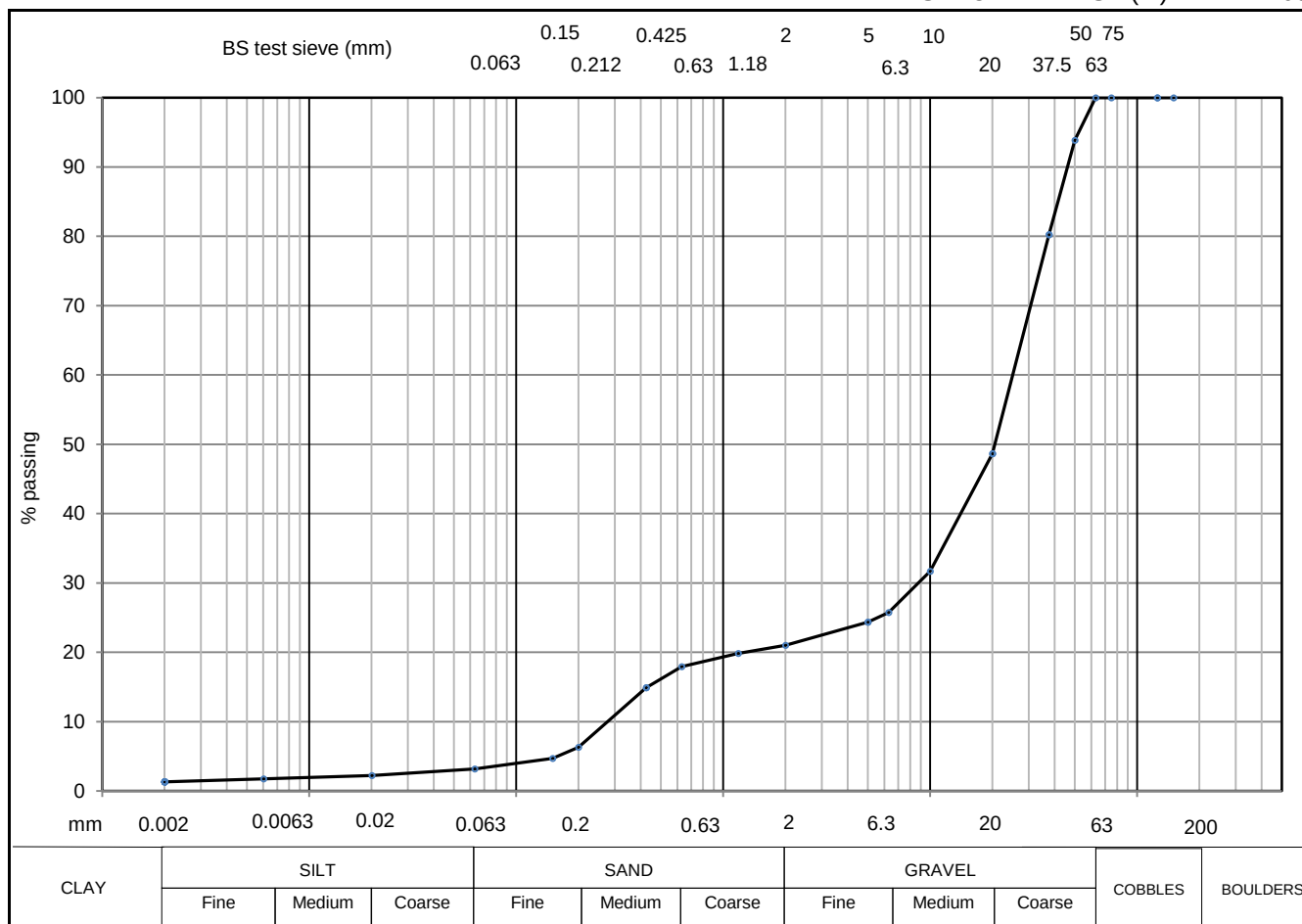
3.00

SPECIMEN TOP (m)

3.00

SPECIMEN BASE (m)

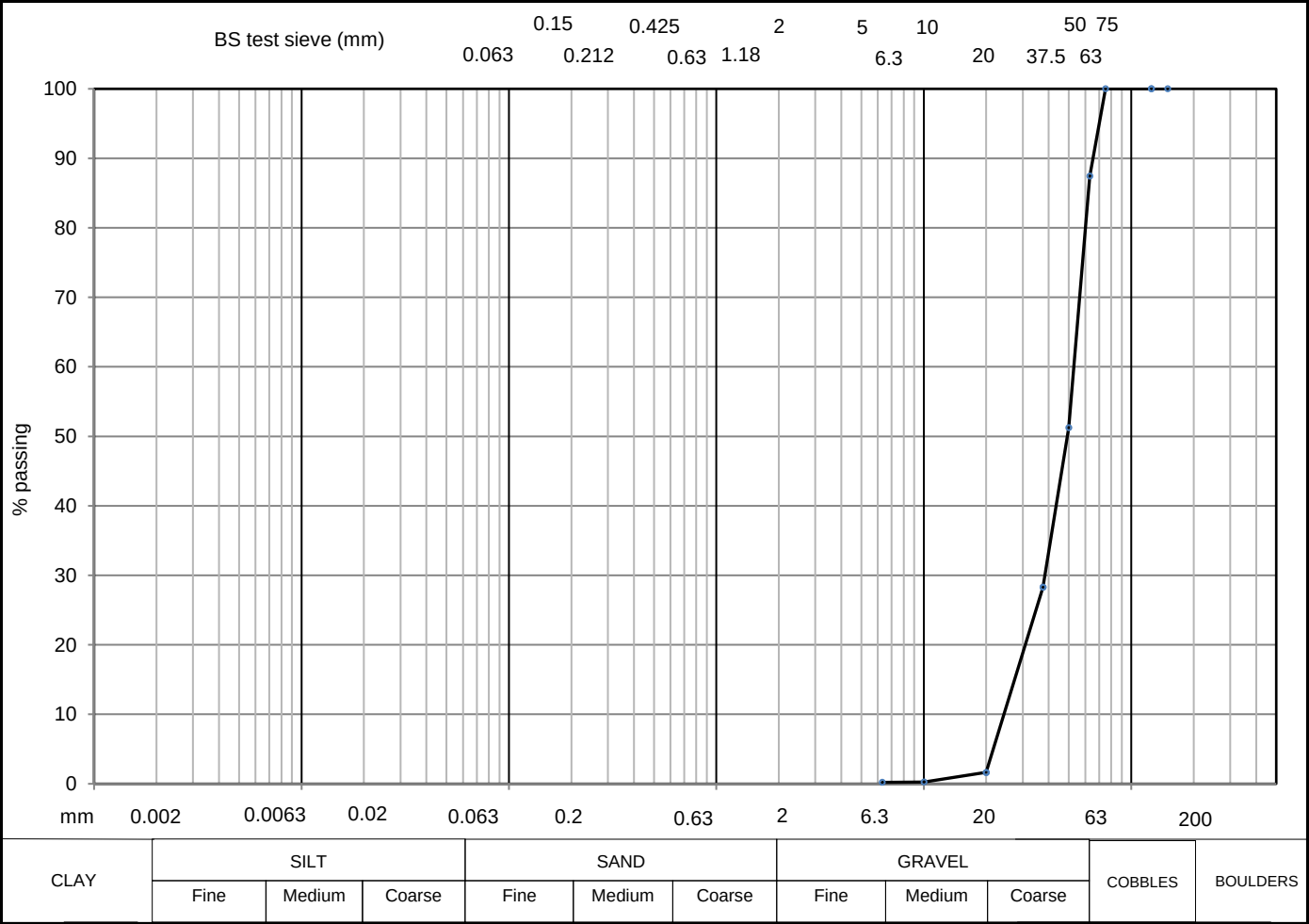
4.00



soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	BS test sieve (μm)	% finer
CLAY	1						
SILT	2	150		5	24	20	2
SILT & CLAY	3						
SAND	18	75		2	21	6	2
GRAVEL	79						
COBBLE & BOULDER	0	63	100	1.18	20	2	1
test method(s)	5.2# & 5.4	50	94	0.63	18		
test method		37.5	80	0.425	15		
5.2 - sieving		20	49	0.2	6		
5.3 - sedimentation by hydrometer		10	32	0.15	5		
5.4 - sedimentation by pipette		6.3	26	0.063	3		
remarks						CONTRACT	CHECKED
# denotes sample tested is smaller than that which is recommended in accordance with BS EN 17892						37989	TB
Particle density assigned an assumed value of 2.70 Mg/m ³							



CLIENT	VANTAGE DATA CENTERS	BH/TP No.	BH02
SITE	VANTAGE DATA CENTERS, 150 MVA SUBSTATION	SAMPLE No./TYPE	11C
DESCRIPTION	Brown GRAVEL with medium cobble content	SAMPLE DEPTH (m)	2.00
		SPECIMEN TOP (m)	2.00
		SPECIMEN BASE (m)	3.00



soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	BS test sieve (µm)	% finer
CLAY		150		5	0	20	
SILT							
SILT & CLAY	0						
SAND	0	75	100	2	0	6	
GRAVEL	87						
COBBLE & BOULDER	13	63	87	1.18	0	2	
test method(s)	5.2#	50	51	0.63	0		
test method		37.5	28	0.425	0		
5.2 - sieving		20	2	0.2	0		
5.3 - sedimentation by hydrometer		10	0	0.15	0		
5.4 - sedimentation by pipette		6.3	0	0.063	0		
remarks	# denotes sample tested is smaller than that which is recommended in accordance with BS EN 17892 Particle density assigned an assumed value of 2.70 Mg/m ³					CONTRACT	CHECKED
						37989	WNJ



CLIENT

VANTAGE DATA CENTERS

BH/TP No.

BH03

SITE

VANTAGE DATA CENTERS, 150 MVA SUBSTATION

SAMPLE No./TYPE

14C

DESCRIPTION

Brown GRAVEL with high cobble content

SAMPLE DEPTH (m)

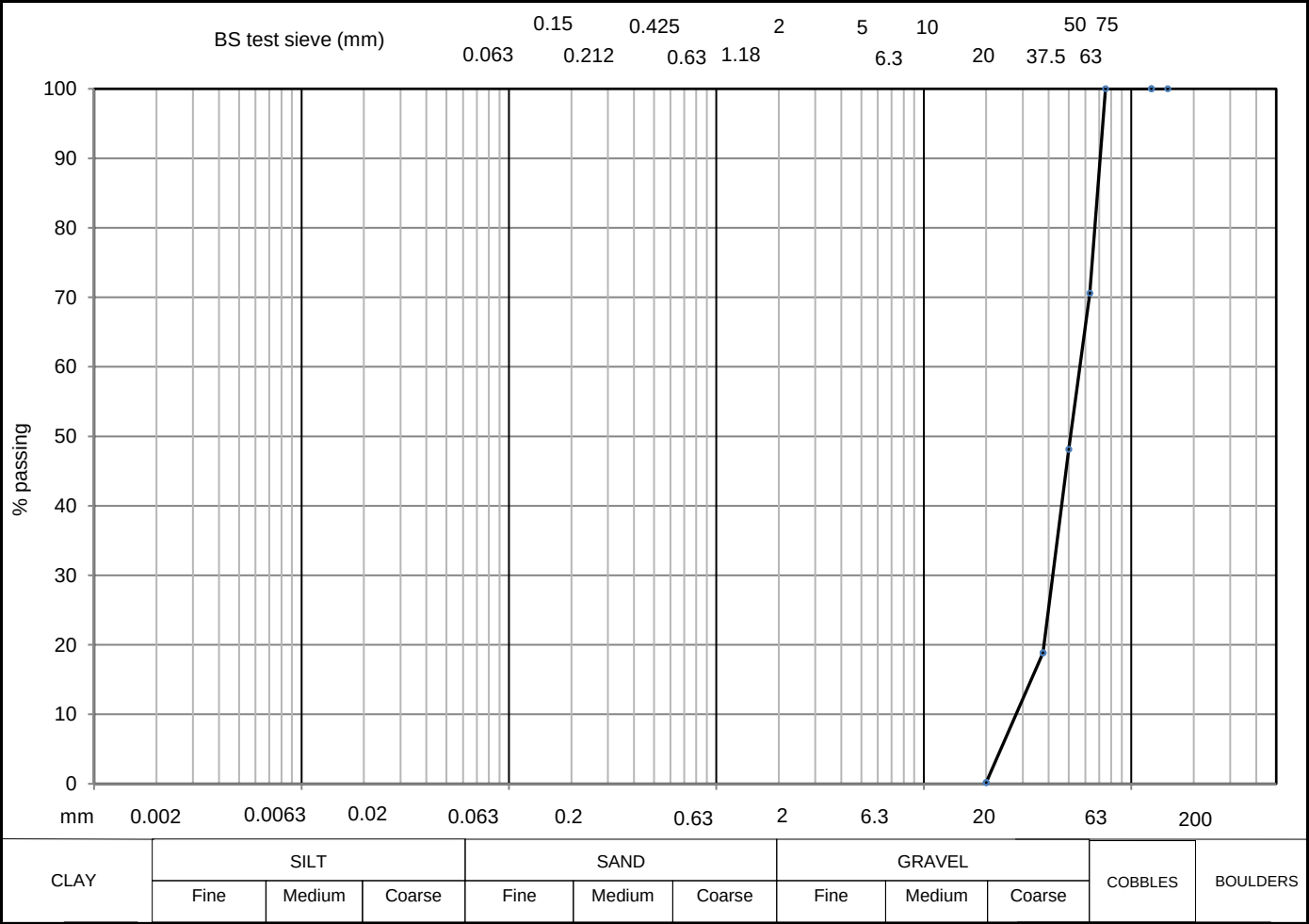
3.00

SPECIMEN TOP (m)

3.00

SPECIMEN BASE (m)

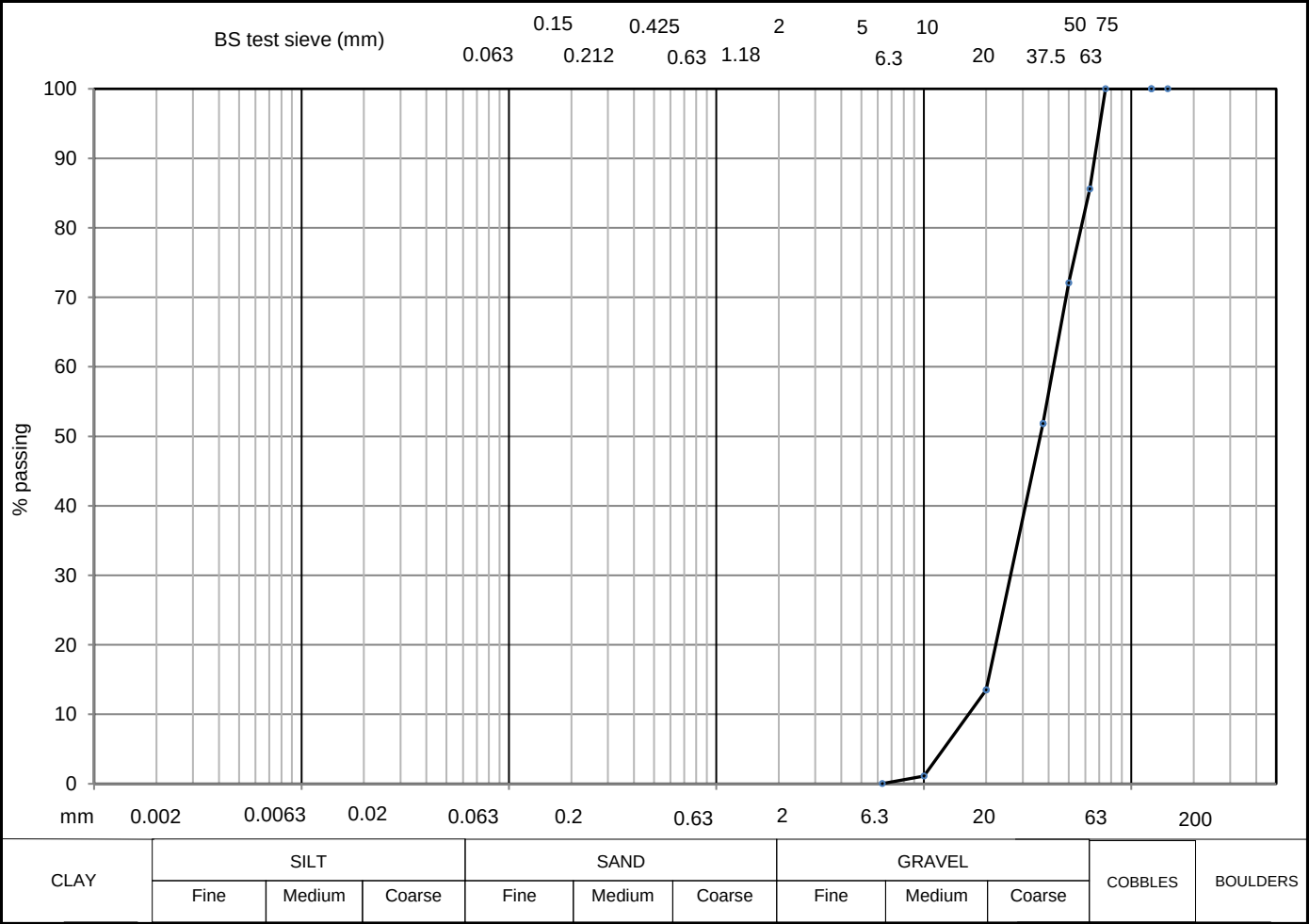
4.00



soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	BS test sieve (µm)	% finer
CLAY		150		5	0	20	
SILT							
SILT & CLAY	0						
SAND	0	75	100	2	0	6	
GRAVEL	71						
COBBLE & BOULDER	29	63	71	1.18	0	2	
test method(s)	5.2#	50	48	0.63	0		
test method		37.5	19	0.425	0		
5.2 - sieving		20	0	0.2	0		
5.3 - sedimentation by hydrometer		10	0	0.15	0		
5.4 - sedimentation by pipette		6.3	0	0.063	0		
remarks					CONTRACT		CHECKED
# denotes sample tested is smaller than that which is recommended in accordance with BS EN 17892					37989		WNJ
Particle density assigned an assumed value of 2.70 Mg/m³							



CLIENT	VANTAGE DATA CENTERS	BH/TP No.	BH03
SITE	VANTAGE DATA CENTERS, 150 MVA SUBSTATION	SAMPLE No./TYPE	15C
DESCRIPTION	Brown GRAVEL with medium cobble content	SAMPLE DEPTH (m)	4.00
		SPECIMEN TOP (m)	4.00
		SPECIMEN BASE (m)	5.00



soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	BS test sieve (µm)	% finer
CLAY		150		5	0	20	
SILT							
SILT & CLAY	0						
SAND	0	75	100	2	0	6	
GRAVEL	86						
COBBLE & BOULDER	14	63	86	1.18	0	2	
test method(s)	5.2#	50	72	0.63	0		
test method		37.5	52	0.425	0		
5.2 - sieving		20	13	0.2	0		
5.3 - sedimentation by hydrometer		10	0	0.15	0		
5.4 - sedimentation by pipette		6.3	0	0.063	0		
remarks						CONTRACT	CHECKED
# denotes sample tested is smaller than that which is recommended in accordance with BS EN 17892						37989	WNJ
Particle density assigned an assumed value of 2.70 Mg/m ³							



CLIENT VANTAGE DATA CENTERS

BH/TP No.

TP01

SITE VANTAGE DATA CENTERS, 150 MVA SUBSTATION

SAMPLE No./TYPE

7B

DESCRIPTION Brown clayey very sandy GRAVEL

SAMPLE DEPTH (m)

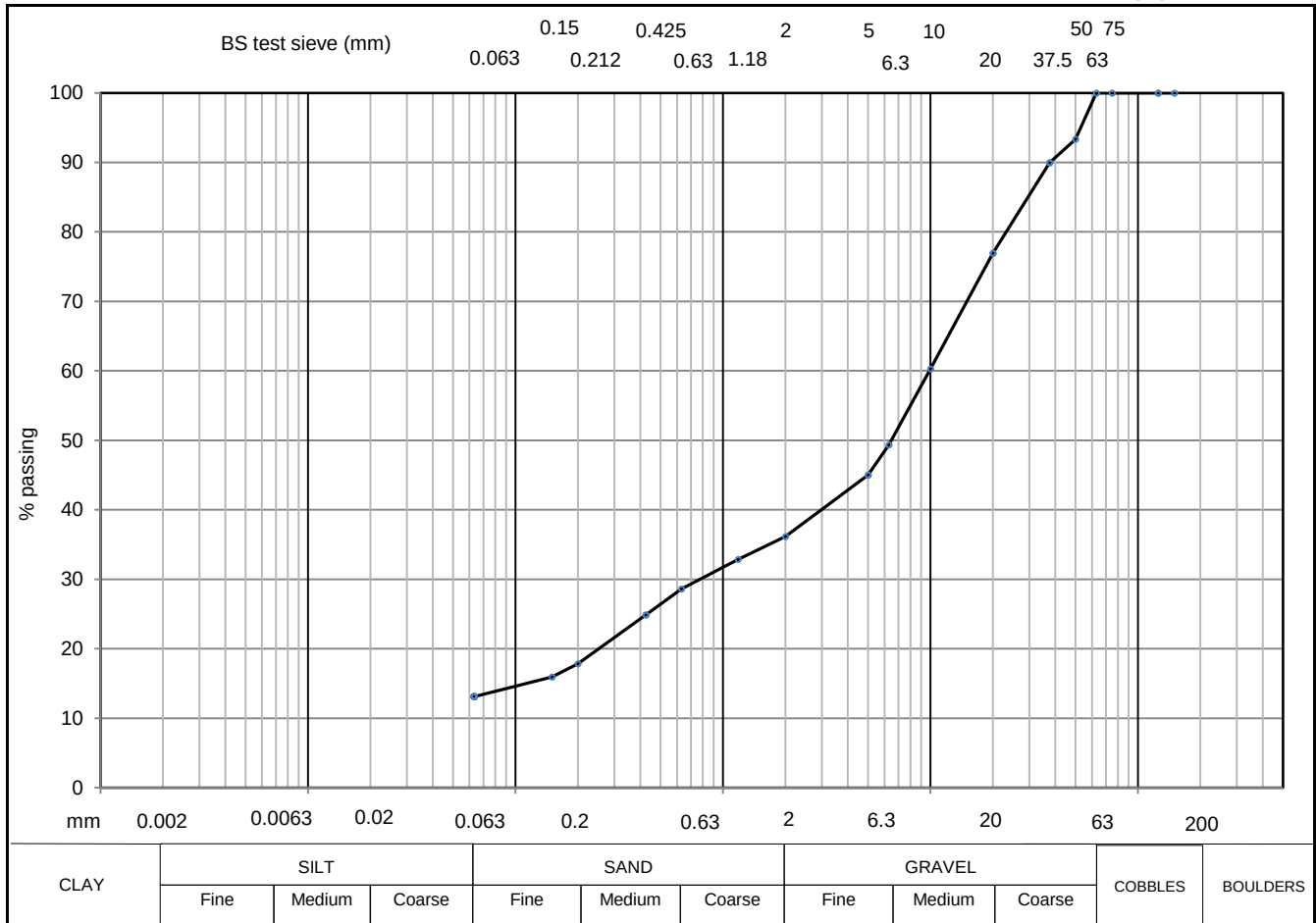
2.50

SPECIMEN TOP (m)

2.50

SPECIMEN BASE (m)

3.00



soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	BS test sieve (µm)	% finer
CLAY		150		5	45	20	
SILT							
SILT & CLAY	13						
SAND	23	75		2	36	6	
GRAVEL	64						
COBBLE & BOULDER	0	63	100	1.18	33	2	
test method(s)	5.2	50	93	0.63	29		
test method		37.5	90	0.425	25		
5.2 - sieving		20	77	0.2	18		
5.3 - sedimentation by hydrometer		10	60	0.15	16		
5.4 - sedimentation by pipette		6.3	49	0.063	13		
remarks						CONTRACT	CHECKED
# denotes sample tested is smaller than that which is recommended in accordance with BS EN 17892						37989	TB
Particle density assigned an assumed value of 2.70 Mg/m ³							



CLIENT VANTAGE DATA CENTERS

BH/TP No.

TP02

SITE VANTAGE DATA CENTERS, 150 MVA SUBSTATION

SAMPLE No./TYPE

3B

DESCRIPTION	Brown slightly sandy gravelly clayey SILT
-------------	---

SAMPLE DEPTH (m)

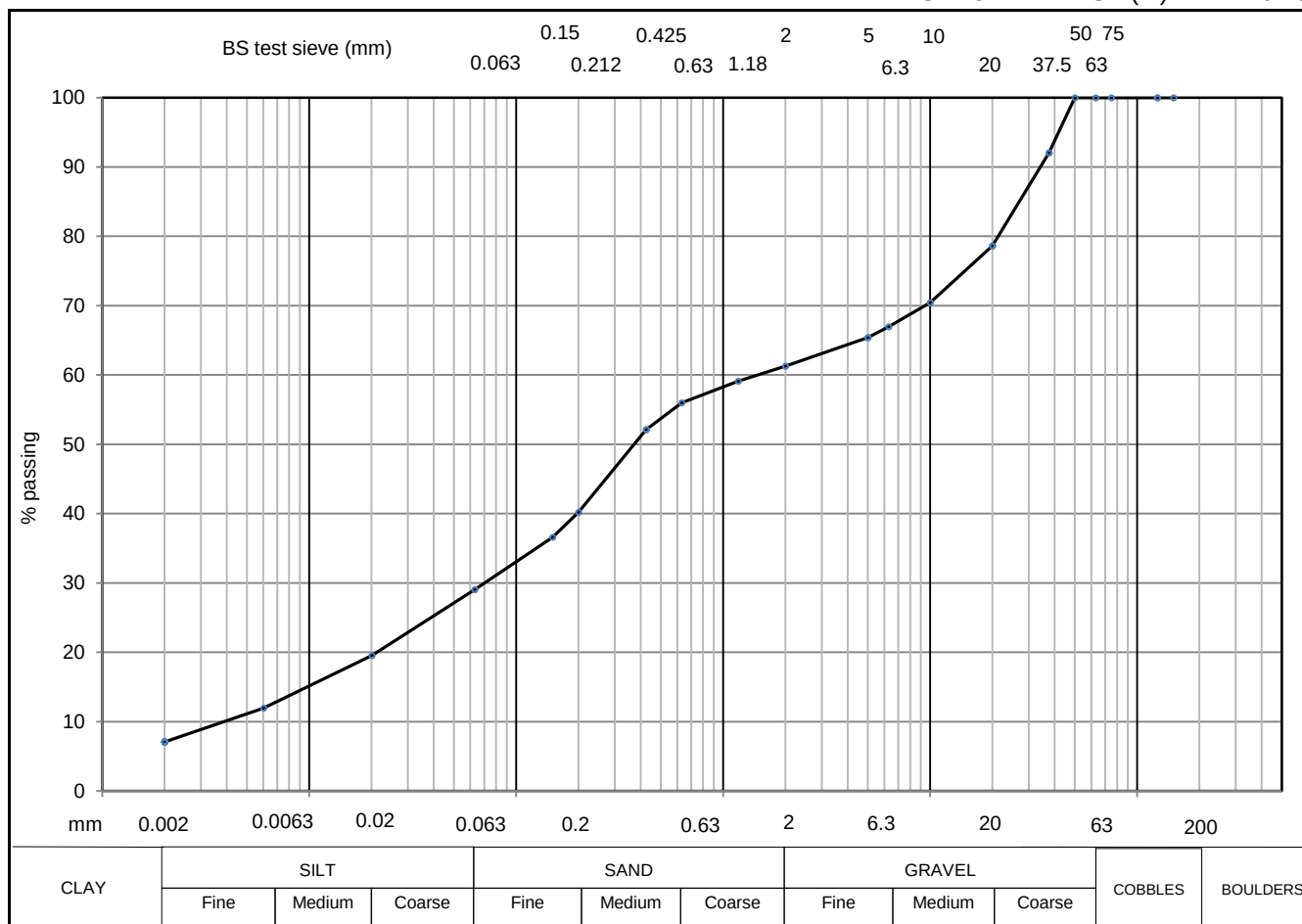
0.50

SPECIMEN TOP (m)

0.50

SPECIMEN BASE (m)

0.70



soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	BS test sieve (µm)	% finer
CLAY	7	150		5	65	20	20
SILT	22						
SILT & CLAY	29						
SAND	32						
GRAVEL	39						
COBBLE & BOULDER	0	63		1.18	59	2	7
test method(s)	5.2 & 5.4						
test method							
5.2 - sieving							
5.3 - sedimentation by hydrometer							
5.4 - sedimentation by pipette							
remarks # denotes sample tested is smaller than that which is recommended in accordance with BS EN 17892 Particle density assigned an assumed value of 2.70 Mg/m3						CONTRACT 37989	CHECKED TB



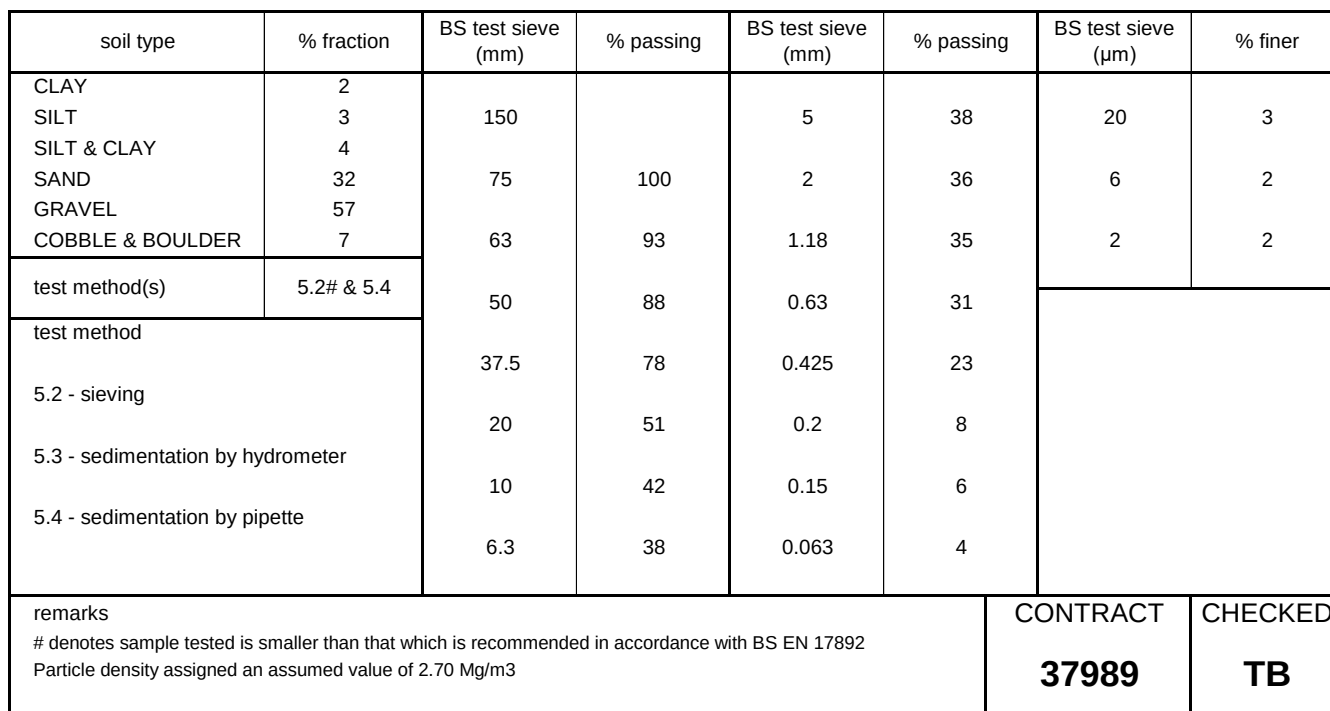
TP03

8B

2.00

2.00

2.50





CLIENT VANTAGE DATA CENTERS

BH/TP No.

TP04

SITE VANTAGE DATA CENTERS, 150 MVA SUBSTATION

SAMPLE No./TYPE

4B

DESCRIPTION Brown very clayey very sandy GRAVEL with high cobble content

SAMPLE DEPTH (m)

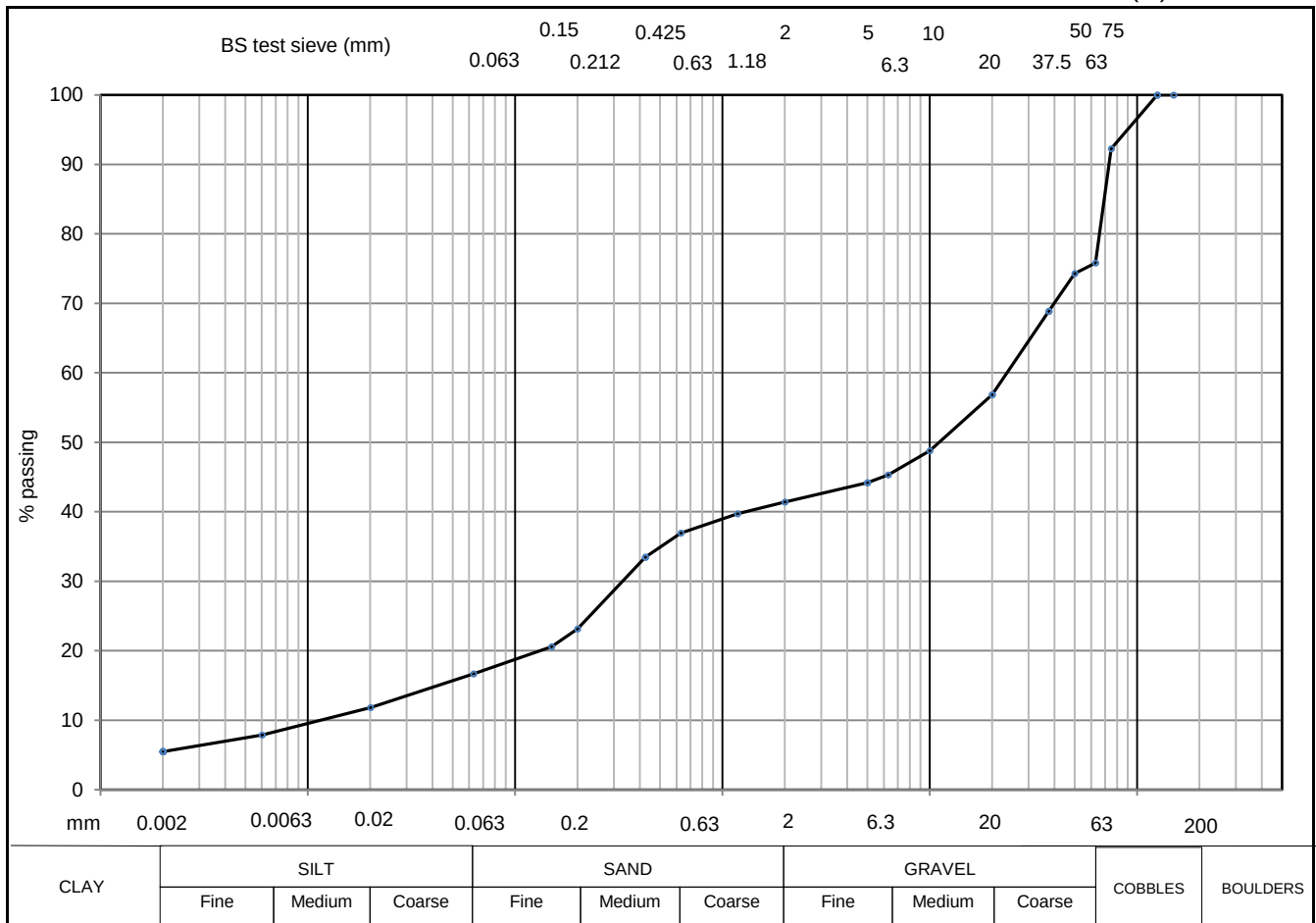
0.50

SPECIMEN TOP (m)

0.50

SPECIMEN BASE (m)

0.80



soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	BS test sieve (µm)	% finer					
CLAY	6	150	100	5	44	20	12					
SILT	11											
SILT & CLAY	17											
SAND	25											
GRAVEL	34											
COBBLE & BOULDER	24	63	76	1.18	40	2	5					
test method(s)	5.2# & 5.4											
test method								37.5	69	0.425	33	
5.2 - sieving												
5.3 - sedimentation by hydrometer												
5.4 - sedimentation by pipette												
remarks						CONTRACT	CHECKED					
# denotes sample tested is smaller than that which is recommended in accordance with BS EN 17892						37989	TB					
Particle density assigned an assumed value of 2.70 Mg/m3												

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892 - 4 : 2016 : 5



CLIENT VANTAGE DATA CENTERS

BH/TP No.

TP05

SITE VANTAGE DATA CENTERS, 150 MVA SUBSTATION

SAMPLE No./TYPE

6B

DESCRIPTION Brown slightly gravelly slightly sandy clayey SILT with medium cobble content

SAMPLE DEPTH (m)

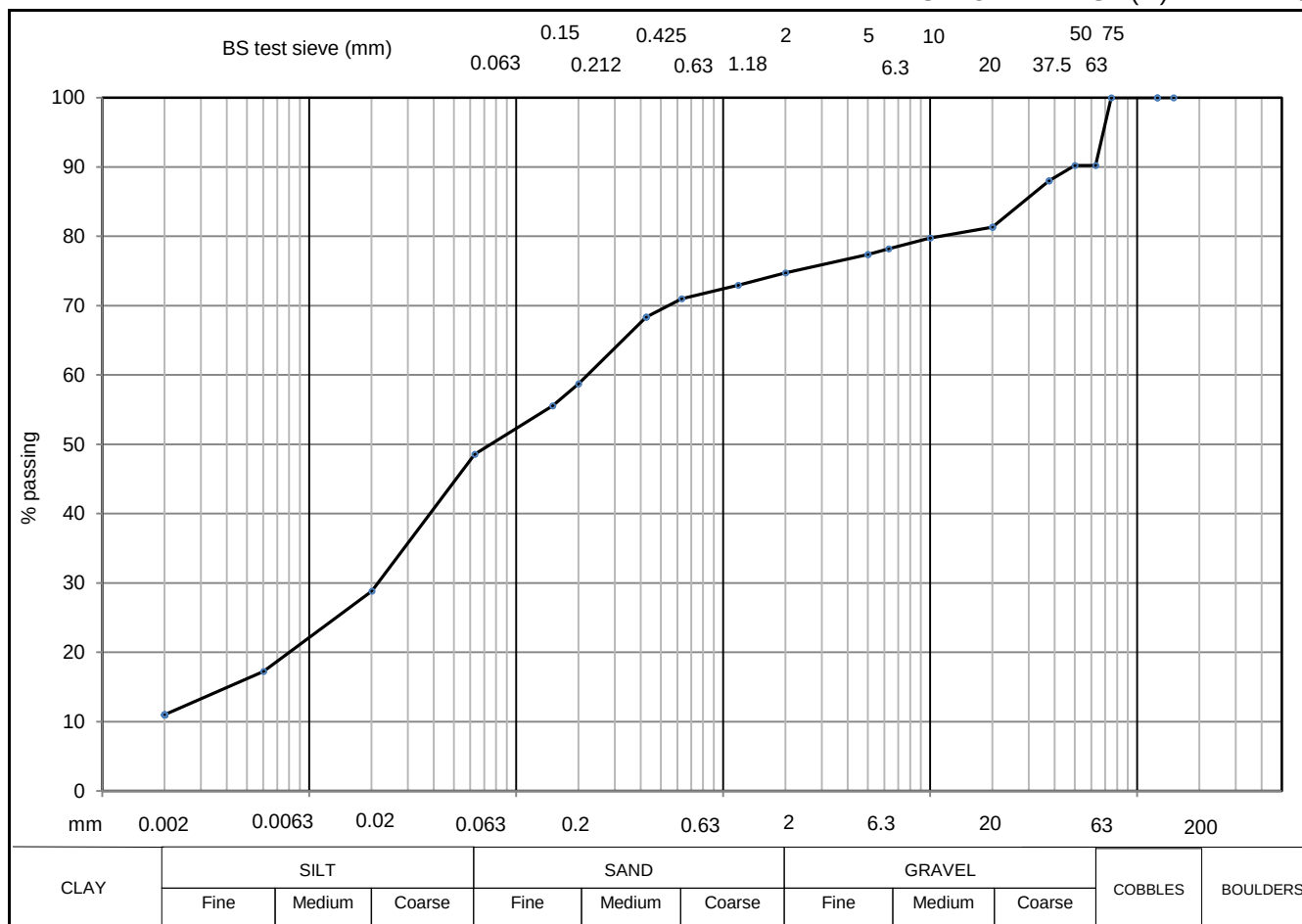
1.00

SPECIMEN TOP (m)

1.00

SPECIMEN BASE (m)

1.20



soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	BS test sieve (µm)	% finer
CLAY	11						
SILT	38	150		5	77	20	29
SILT & CLAY	49						
SAND	26	75	100	2	75	6	17
GRAVEL	16						
COBBLE & BOULDER	10	63	90	1.18	73	2	11
test method(s)	5.2 & 5.4	50	90	0.63	71		
test method		37.5	88	0.425	68		
5.2 - sieving		20	81	0.2	59		
5.3 - sedimentation by hydrometer		10	80	0.15	56		
5.4 - sedimentation by pipette		6.3	78	0.063	49		
remarks					CONTRACT		CHECKED
# denotes sample tested is smaller than that which is recommended in accordance with BS EN 17892					37989		TB
Particle density assigned an assumed value of 2.70 Mg/m ³							



CLIENT VANTAGE DATA CENTERS

BH/TP No.

TP05

SITE VANTAGE DATA CENTERS, 150 MVA SUBSTATION

SAMPLE No./TYPE

9D

DESCRIPTION Brown silty sandy GRAVEL

SAMPLE DEPTH (m)

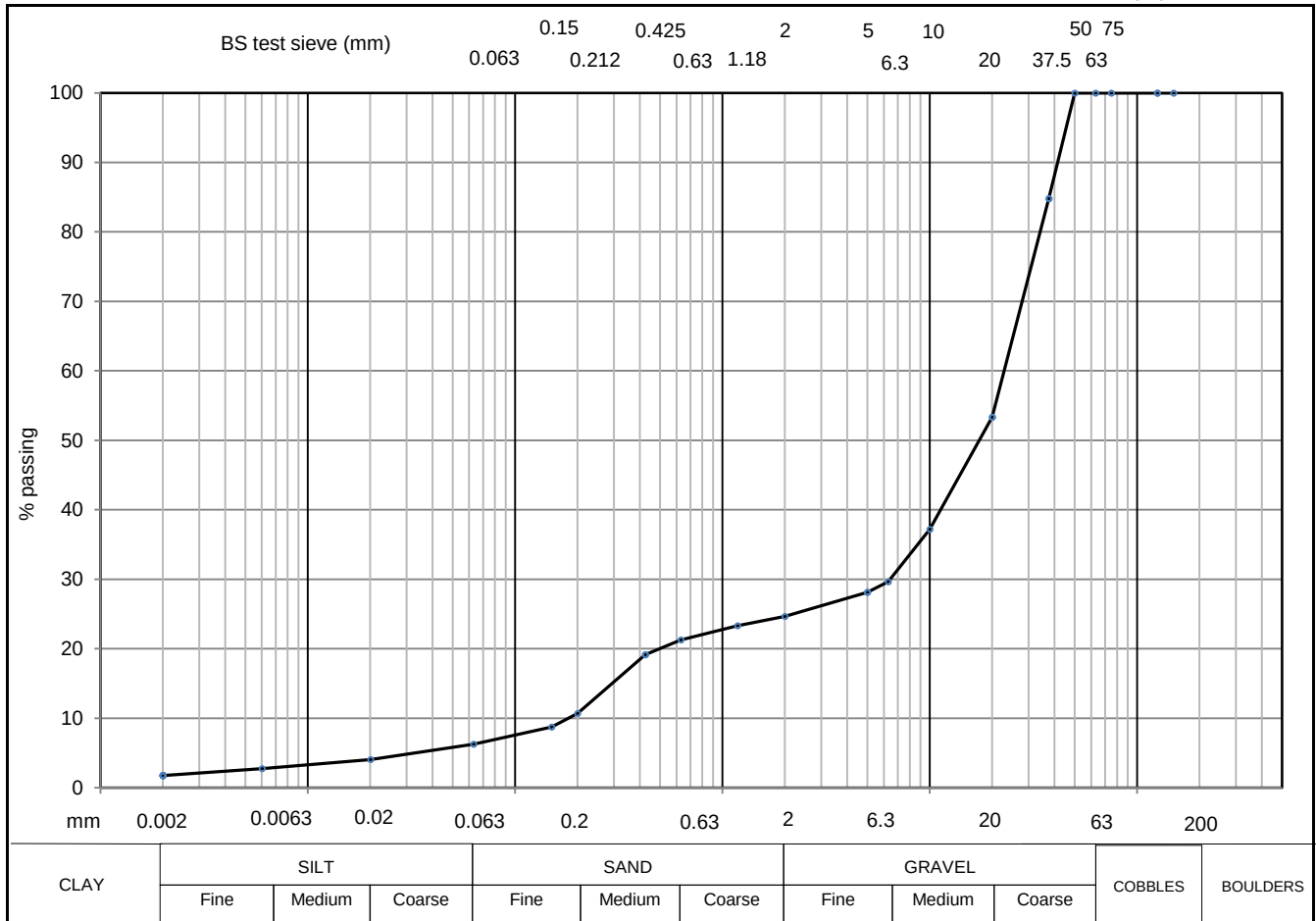
2.80

SPECIMEN TOP (m)

2.80

SPECIMEN BASE (m)

3.00



soil type	% fraction	BS test sieve (mm)	% passing	BS test sieve (mm)	% passing	BS test sieve (µm)	% finer
CLAY	2	150		5	28	20	4
SILT	5						
SILT & CLAY	6						
SAND	18						
GRAVEL	75						
COBBLE & BOULDER	0	63	100	1.18	23	2	
test method(s)	5.2 & 5.4						
test method							
5.2 - sieving							
5.3 - sedimentation by hydrometer							
5.4 - sedimentation by pipette		37.5	85	0.425	19		
		20	53	0.2	11		
		10	37	0.15	9		
		6.3	30	0.063	6		
remarks # denotes sample tested is smaller than that which is recommended in accordance with BS EN 17892 Particle density assigned an assumed value of 2.70 Mg/m3						CONTRACT 37989	CHECKED TB

SHEAR STRENGTH BY DIRECT SHEAR**BS EN ISO 17892-10:2018 (Small Shear Box)**

CLIENT VANTAGE DATA CENTERS

SITE VANTAGE DATA CENTERS, 150 MVA SUBSTATION

DESCRIPTION Brown clayey very gravelly SAND

BH/TP No.

TP04

SAMPLE No./TYPE

6D

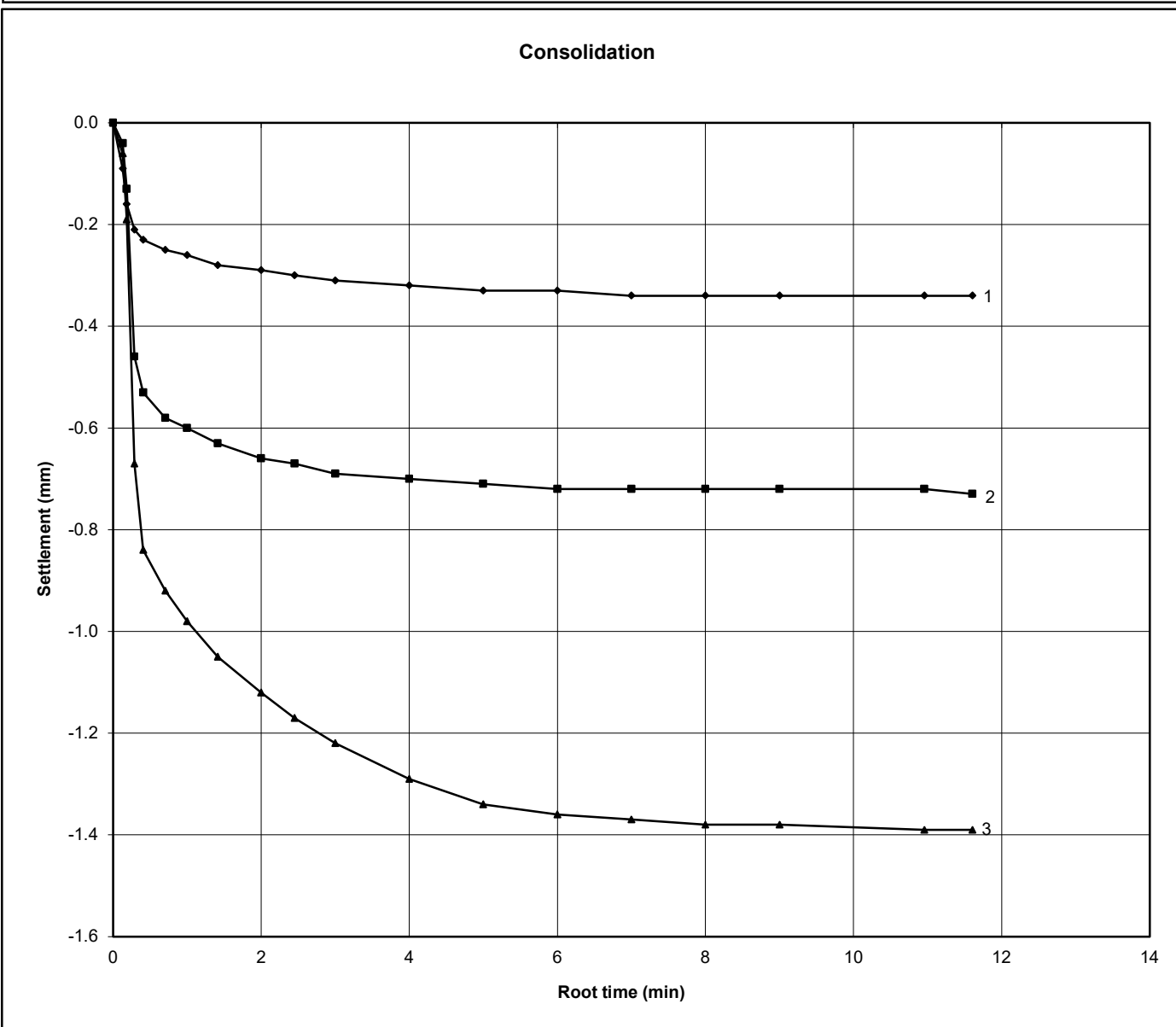
SAMPLE DEPTH (m)

1.70-2.00

SPECIMEN DEPTH (m)

1.70-2.00

PREPARATION DETAILS		Remoulded using a tamping rod - 26.9% removed (retained on 2mm sieve).		
CONSOLIDATION STAGE RESULTS				
Specimen	1	2	3	
t100 (min)	7.20	9.20	12.10	
tf (min)	91.44	116.84	153.67	
Machine speed (mm/min)	0.0330	0.0330	0.0330	
Normal Stress (kPa)	40	80	120	
Initial height (mm)	19.72	19.72	19.72	
Final height (mm)	19.38	18.99	18.33	
Duration (days)	0.25	0.25	0.25	



Geotechnical Engineering Ltd, Centurion House, Olympus Park, Gloucester, GL2 4NF. Tel. 01452 527743

remarks: Specimens are submerged throughout the test.	CONTRACT	CHECKED
	37989	NP

SHEAR STRENGTH BY DIRECT SHEAR**BS EN ISO 17892-10:2018 (Small Shear Box)**

CLIENT VANTAGE DATA CENTERS

SITE VANTAGE DATA CENTERS, 150 MVA SUBSTATION

DESCRIPTION Brown clayey very gravelly SAND

BH/TP No.

SAMPLE No./TYPE

SAMPLE DEPTH (m)

SPECIMEN DEPTH (m)

TP04

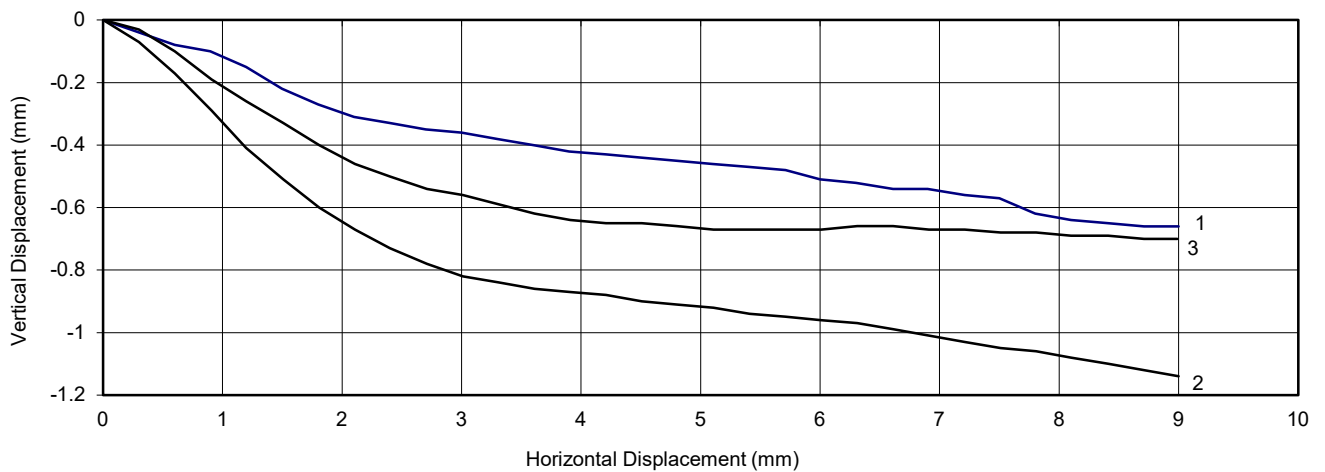
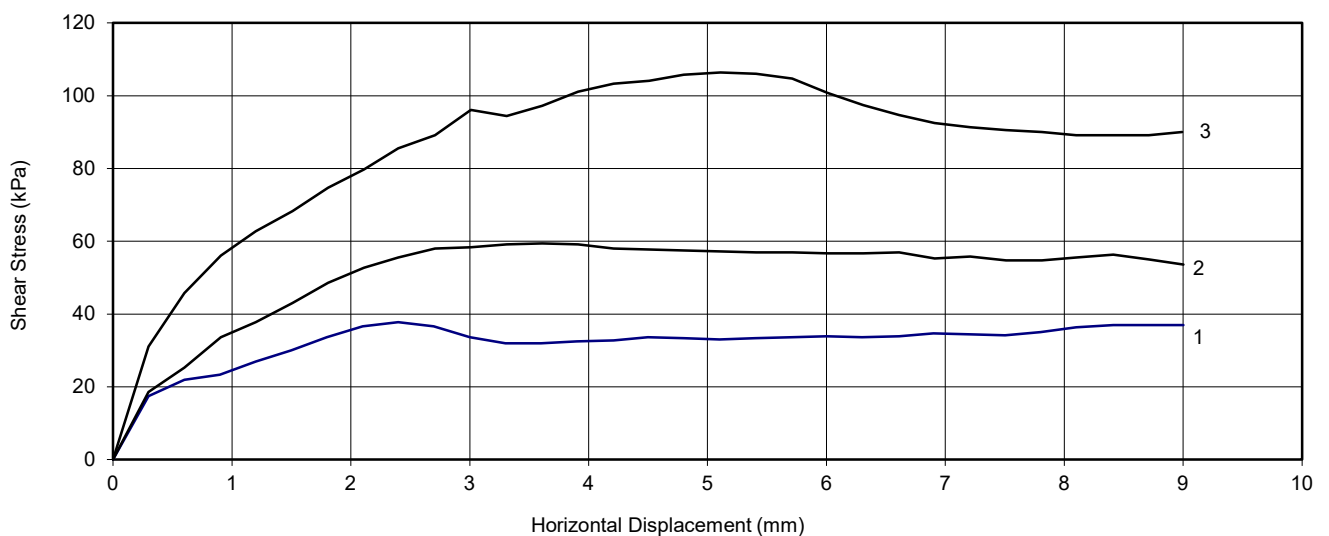
6D

1.70-2.00

1.70-2.00

SHEAR STAGE RESULTS

Specimen	1	2	3
Peak Shear Strength (kPa)	37.8	59.4	106.4
Residual Shear Strength (kPa)	0.0	0.0	0.0
Cum. Vertical Displ. (mm)	-0.660	-1.140	-0.700
Cum. Forward Displ. (mm)	9.000	9.000	8.990
Normal Stress (kPa)	40	80	120
Duration (days)	0.25	0.25	0.25

Vertical Displacement**Shear Stress**

remarks:

slow machine reversal

CONTRACT

37989

CHECKED

NP



SHEAR STRENGTH BY DIRECT SHEAR

BS EN ISO 17892-10:2018 (Small Shear Box)

CLIENT VANTAGE DATA CENTERS

SITE VANTAGE DATA CENTERS, 150 MVA SUBSTATION

DESCRIPTION Brown clayey very gravelly SAND

BH/TP No.

SAMPLE No./TYPE

SAMPLE DEPTH (m)

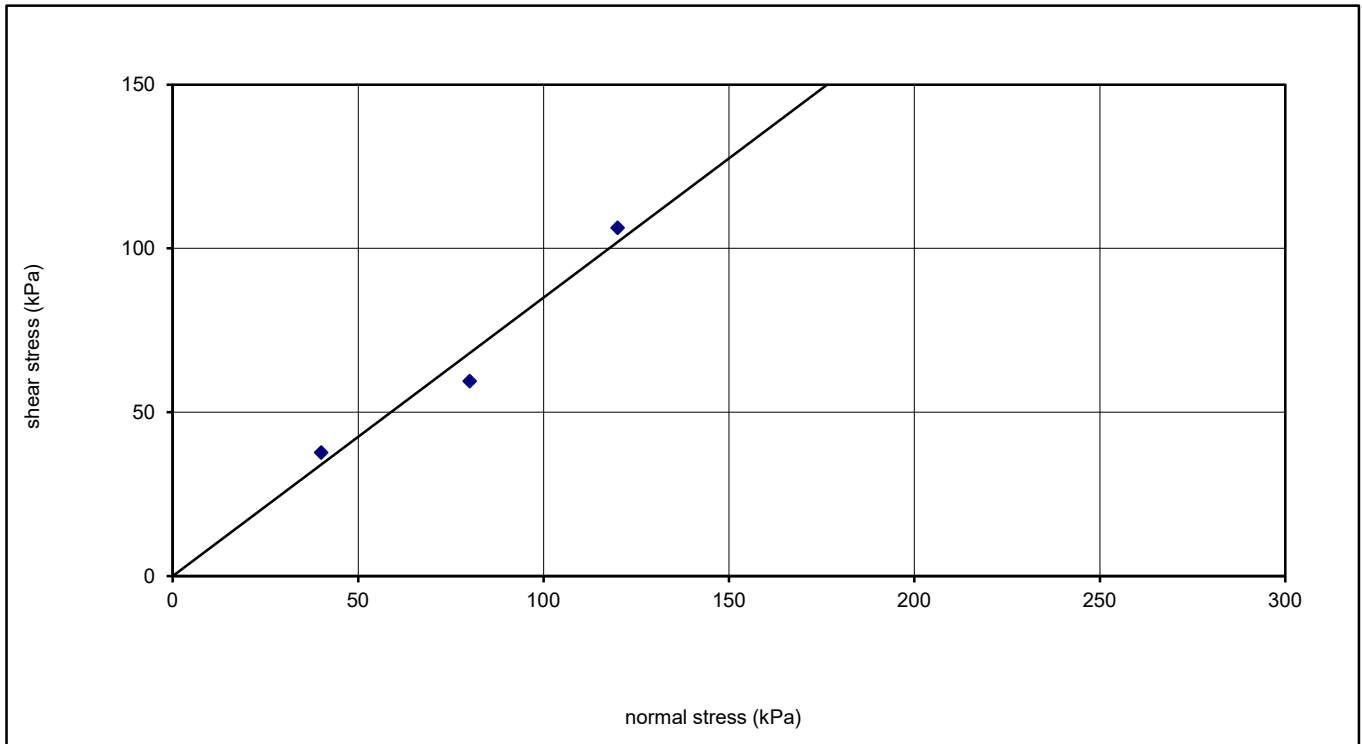
SPECIMEN DEPTH (m)

TP04

6D

1.70-2.00

1.70-2.00



INITIAL CONDITIONS

			specimen 1	specimen 2	specimen 3
specimen size (mm)	59.98 Square	water content (%)	19.2	17.1	16.6
specimen height (mm)	19.72	bulk density Mg/m ³	2.12	2.12	2.12
particle density (Mg/m ³)	2.67 #	dry density Mg/m ³	1.78	1.81	1.82
		voids ratio	0.502	0.475	0.468
		degree of saturation (%)	102	96	95
		strain rate (mm/min)	0.033	0.033	0.033

SHEARING STAGES

specimen	normal stress (kPa)	peak shear stress (kPa)	horizontal displacement (mm)	residual shear stress (kPa)	traverses (No.)	total forward displacement (mm)
1	40	37.8	2.400		1	9.000
2	80	59.4	3.610		1	9.000
3	120	106.4	5.110		1	8.990

SHEAR STRENGTH PARAMETERS

peak angle of shearing resistance ϕ'	40.5	residual angle of shearing resistance ϕ'_r	
peak effective cohesion intercept, c' (kPa)	0	residual effective cohesion intercept, c'_r (kPa)	

remarks: # denotes particle density has been assigned an assumed value.

CONTRACT

CHECKED

37989

NP

◆ peak ■ residual

POINT LOAD STRENGTH TEST

I.S.R.M. Suggested Methods : 2007 Edition



CLIENT VANTAGE DATA CENTERS

SITE VANTAGE DATA CENTERS, 150 MVA SUBSTATION

borehole /trial pit no.	sample depth (m)	test type	test orien- tation	moisture condition	width W (mm)	length L (mm)	platen sep. D (mm)	failure load P (kN)	equiv. diam. De (mm)	Is (MPa)	size factor	Is(50) (MPa)	description and remarks
BH01	10.60	I	Y	P	70	30	50	0.29	66.76	0.07	1.14	0.07	Reddish brown MUDSTONE
BH01	9.50	I	U	P	40	25	55	0.19	52.93	0.07	1.03	0.07	Reddish brown MUDSTONE
BH03	8.89	A	X	N	120		120	0.05	135.41	0.00	1.57	0.00	Orangish brown MUDSTONE
BH03	9.25	D	Y	N		70	120	0.10	120.00	0.01	1.48	0.01	Orangish brown MUDSTONE
BH03	10.60	D	Y	N		70	120	0.00	120.00	0.00	1.48	0.00	Orangish brown MUDSTONE
BH03	10.90	A	X	N	120		100	0.11	123.61	0.01	1.50	0.01	Orangish brown MUDSTONE
BH03	11.90	D	Y	N		100	120	0.04	120.00	0.00	1.48	0.00	Orangish brown MUDSTONE
BH03	12.50	D	Y	N		60	120	0.02	120.00	0.00	1.48	0.00	Orangish brown MUDSTONE
general remarks tests carried out in accordance with I.S.R.M.(2007): Suggested Methods for Determining Point Load Strength test machine PLM02													
test type		test orientation relative to discontinuities			moisture condition			CONTRACT		CHECKED			
A - axial		X - perpendicular			N - natural moisture content			37989		TB			
D - diametral		Y - parallel			P - partially air dried								
I - irregular lump		Z - oblique			S - soaked								



Final Report

Report No.: 24-40167-1

Initial Date of Issue: 11-Dec-2024

Re-Issue Details:

Client Geotechnical Engineering Ltd

Client Address: Centurion House, Olympus Park
Quedgeley
Gloucester
Gloucestershire
GL2 4NF

Contact(s): GEL
Tom Best

Project 37989 Vintage Data Centres

Quotation No.: **Date Received:** 06-Dec-2024

Order No.: 10157 **Date Instructed:** 06-Dec-2024

No. of Samples: 6

Turnaround (Wkdays): 5 **Results Due:** 12-Dec-2024

Date Approved: 11-Dec-2024

Approved By:

Details: David Smith, Technical Director

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: 37989 Vintage Data Centres

Client: Geotechnical Engineering Ltd		Chemtest Job No.:				24-40167	24-40167	24-40167	24-40167	24-40167	24-40167
Quotation No.:		Chemtest Sample ID.:				1906447	1906448	1906449	1906450	1906451	1906452
Order No.: 10157		Client Sample Ref.:				8	10	10	6	7	6
		Sample Location:				BH01	BH02	BH03	TP01	TP02	TP04
		Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):				1.20	1.50	1.50	1.90	1.50	1.70
		Bottom Depth (m):				1.65	2.00	1.60	2.20	1.70	2.00
		Date Sampled:				02-Dec-2024	02-Dec-2024	02-Dec-2024	02-Dec-2024	02-Dec-2024	02-Dec-2024
		Time Sampled:				14:30	14:30	14:30	14:30	14:30	14:30
Determinand	HWOL Code	Accred.	SOP	Units	LOD						
Moisture		N	2030	%	0.020	6.1	12	7.9	9.2	8.8	16
Soil Colour		N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown
Other Material		N	2040		N/A	Stones	Stones	Stones	Stones	Stones	Stones and Roots
Soil Texture		N	2040		N/A	Sand	Sand	Sand	Sand	Loam	Clay
pH at 20C		M	2010		4.0	7.9	7.9	8.0	8.1	8.1	7.6
Magnesium (Water Soluble)		N	2120	g/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Sulphur		U	2175	%	0.010	0.010	0.010	< 0.010	< 0.010	0.010	0.010
Chloride (Water Soluble)		M	2220	g/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Nitrate (Water Soluble)		N	2220	g/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Sulphate (Acid Soluble)		U	2430	%	0.010	0.015	0.018	0.017	0.014	0.018	0.026

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2010	pH Value of Soils	pH at 20°C	pH Meter	
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <30°C.	
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES	
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2220	Water soluble Chloride in Soils	Chloride	Aqueous extraction and measurement by 'Aquakem 600' Discrete Analyser using ferric nitrate / mercuric thiocyanate.	
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.	

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

This report shall not be reproduced except in full, and only with the prior approval of the laboratory.

Any comments or interpretations are outside the scope of UKAS accreditation.

The Laboratory is not accredited for any sampling activities and reported results relate to the samples 'as received' at the laboratory.

Uncertainty of measurement for the determinands tested are available upon request .

None of the results in this report have been recovery corrected.

All results are expressed on a dry weight basis.

The following tests were analysed on samples 'as received' and the results subsequently corrected to a dry weight basis EPH, VPH, TPH, BTEX, VOCs, SVOCs, PCBs, Phenols.

For all other tests the samples were dried at $\leq 30^{\circ}\text{C}$ prior to analysis.

All Asbestos testing is performed at the indicated laboratory .

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1.

Sample Deviation Codes

- A - Date of sampling not supplied
- B - Sample age exceeds stability time (sampling to extraction)
- C - Sample not received in appropriate containers
- D - Broken Container
- E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt.

All water samples will be retained for 14 days from the date of receipt.

Charges may apply to extended sample storage.

Water Sample Category Key for Accreditation

- DW - Drinking Water
- GW - Ground Water
- LE - Land Leachate
- NA - Not Applicable

Report Information

PL - Prepared Leachate
PW - Processed Water
RE - Recreational Water
SA - Saline Water
SW - Surface Water
TE - Treated Effluent
TS - Treated Sewage
UL - Unspecified Liquid

Clean Up Codes

NC - No Clean Up
MC - Mathematical Clean Up
FC - Florisil Clean Up

HWOL Acronym System

HS - Headspace analysis
EH - Extractable hydrocarbons – i.e. everything extracted by the solvent
CU - Clean-up – e.g. by Florisil, silica gel
1D - GC – Single coil gas chromatography
Total - Aliphatics & Aromatics
AL - Aliphatics only
AR - Aromatic only
2D - GC-GC – Double coil gas chromatography
#1 - EH_2D_Total but with humics mathematically subtracted
#2 - EH_2D_Total but with fatty acids mathematically subtracted
+ - Operator to indicate cumulative e.g. EH+EH_Total or EH_CU+HS_Total

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com



APPENDIX D

CHEMICAL ANALYSES



Geotechnical Engineering Ltd
Centurion House
Olympus Park
Quedgeley
Gloucester
GL2 4NF

t: 01452 527 743

e: edward.crimp@geoeng.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 : 24-049489

Project / Site name: Vantage Data Centers, 150 MVA Substation

Your job number: 37989

Your order number: 38219 JP

Report Issue Number: 1

Samples Analysed: 2 soil samples - 2 leachate samples

Samples received on: 24/10/2024

**Samples instructed on/
Analysis started on:** 24/10/2024

Analysis completed by: 30/10/2024

Report issued on: 30/10/2024

Signed: _____

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

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.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 24-049489

Project / Site name: Vantage Data Centers, 150 MVA Substation

Your Order No: 38219 JP

Lab Sample Number				356890	356891
Sample Reference				TP03	TP05
Sample Number				2	2
Depth (m)				0.50-0.70	0.50-0.70
Date Sampled				22/10/2024	22/10/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection
				Test Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	14
Total mass of sample received	kg	0.1	NONE	2	2

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	DSO	DSO

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	7.4	7.2
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	350	450
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	32	200
Water Soluble SO ₄ 16hr extraction (2:1)	mg/l	1.25	MCERTS	16.2	99.6
Sulphide	mg/kg	1	MCERTS	< 1.0	< 1.0
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	2.2	4
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	< 0.5
Ammoniacal Nitrogen as NH ₃	mg/kg	0.5	MCERTS	< 0.5	< 0.5
Ammonium - Exchangeable as NH ₄ ⁺	mg/kg	0.5	NONE	< 0.5	< 0.5
Total Nitrogen (Kjeldahl)	mg/kg	5	NONE	740	1600
Organic Matter (automated)	%	0.1	MCERTS	1.5	1.5
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0
Nitrite as N (Water Soluble) (2:1)	µg/kg	0.02	NONE	22.6	4.22

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05

Total PAH

Total WAC-17 PAHs	mg/kg	0.85	NONE	< 0.85	< 0.85
-------------------	-------	------	------	--------	--------

Analytical Report Number: 24-049489

Project / Site name: Vantage Data Centers, 150 MVA Substation

Your Order No: 38219 JP

Lab Sample Number				356890	356891
Sample Reference				TP03	TP05
Sample Number				2	2
Depth (m)				0.50-0.70	0.50-0.70
Date Sampled				22/10/2024	22/10/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	8.3	8.6
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6	0.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	28	22
Copper (aqua regia extractable)	mg/kg	1	MCERTS	12	14
Lead (aqua regia extractable)	mg/kg	1	MCERTS	21	22
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18	19
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	55	63

Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	2400	2500
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Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0
TPHCWG - Aliphatic >EC35 - EC44 _{EH_CU_1D_AL}	mg/kg	8.4	NONE	< 8.4	< 8.4
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10
TPHCWG - Aliphatic >EC5 - EC44 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.02	MCERTS	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	< 10
TPHCWG - Aromatic >EC35 - EC44 _{EH_CU_1D_AR}	mg/kg	8.4	NONE	< 8.4	< 8.4
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10	< 10
TPHCWG - Aromatic >EC5 - EC44 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10	< 10

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 24-049489

Project / Site name: Vantage Data Centers, 150 MVA Substation

Your Order No: 38219 JP

Lab Sample Number				356890	356891
Sample Reference				TP03	TP05
Sample Number				2	2
Depth (m)				0.50-0.70	0.50-0.70
Date Sampled				22/10/2024	22/10/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status		

General Inorganics

pH (automated)	pH Units	N/A	ISO 17025	7.5	7.3
Total Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1.0	< 1.0
Complex Cyanide (Low Level)	µg/l	1	NONE	< 1.0	< 1.0
Free Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1	< 1
Sulphate as SO ₄	mg/l	0.045	ISO 17025	2.03	6.05
Sulphide	µg/l	5	NONE	5.3	< 5.0
Chloride	mg/l	0.15	ISO 17025	1.2	1.5
Ammoniacal Nitrogen as N	µg/l	15	NONE	41	95
Ammoniacal Nitrogen as NH ₃	µg/l	15	NONE	49	120
Ammonium - Exchangeable as NH ₄ ⁺	µg/l	15	NONE	52	120
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	0.8	0.2
Nitrate as N	mg/l	0.01	NONE	< 0.01	0.51
Nitrite as N	µg/l	1	ISO 17025	4.7	< 1.0

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10
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Speciated PAHs

Naphthalene	µg/l	0.01	NONE	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	NONE	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	NONE	< 0.01	< 0.01
Fluorene	µg/l	0.01	NONE	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	NONE	< 0.01	< 0.01
Anthracene	µg/l	0.01	NONE	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01
Pyrene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01
Chrysene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01

Speciated PAHs Low level

Coronene (low level)	µg/l	0.01	NONE	< 0.01	< 0.01
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Total PAH

Total WAC-17 PAHs	µg/l	0.17	NONE	< 0.17	< 0.17
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Analytical Report Number: 24-049489

Project / Site name: Vantage Data Centers, 150 MVA Substation

Your Order No: 38219 JP

Lab Sample Number				356890	356891
Sample Reference				TP03	TP05
Sample Number				2	2
Depth (m)				0.50-0.70	0.50-0.70
Date Sampled				22/10/2024	22/10/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1	ISO 17025	< 1.0	1.3
Boron (dissolved)	µg/l	10	ISO 17025	26	22
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.1	1.2
Copper (dissolved)	µg/l	0.7	ISO 17025	17	24
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0
Mercury - CV-AFS	µg/l	0.007	ISO 17025	< 0.0070	0.0081
Nickel (dissolved)	µg/l	0.3	ISO 17025	1	1.7
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	4.5	8.2

Calcium (dissolved)	mg/l	0.012	ISO 17025	1.9	7.5
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Petroleum Hydrocarbons

TPH - Aliphatic >EC5 - EC6 _{HS_ID_AL}	µg/l	1	NONE	< 1.0	< 1.0
TPH - Aliphatic >EC6 - EC8 _{HS_ID_AL}	µg/l	1	NONE	< 1.0	< 1.0
TPH - Aliphatic >EC8 - EC10 _{HS_ID_AL}	µg/l	1	NONE	< 1.0	< 1.0
TPH - Aliphatic >EC10 - EC12 _{EH_ID_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC12 - EC16 _{EH_ID_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC16 - EC21 _{EH_ID_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC21 - EC35 _{EH_ID_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC35 - EC40 _{EH_ID_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC35 - EC44 _{EH_ID_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC40 - EC44 _{EH_ID_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC5 - EC35 _{HS+EH_ID_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC5 - EC44 _{HS+EH_ID_AL_MS}	µg/l	10	NONE	< 10	< 10

TPH - Aromatic >EC5 - EC7 _{HS_ID_AR}	µg/l	1	NONE	< 1.0	< 1.0
TPH - Aromatic >EC7 - EC8 _{HS_ID_AR}	µg/l	1	NONE	< 1.0	< 1.0
TPH - Aromatic >EC8 - EC10 _{EH_ID_AR_MS}	µg/l	1	NONE	< 1.0	< 1.0
TPH - Aromatic >EC10 - EC12 _{EH_ID_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC12 - EC16 _{EH_ID_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC16 - EC21 _{EH_ID_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC21 - EC35 _{EH_ID_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC35 - EC40 _{EH_ID_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC35 - EC44 _{EH_ID_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC40 - EC44 _{EH_ID_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC5 - EC44 _{HS+EH_ID_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC6 - EC35 _{HS+EH_ID_AR_MS}	µg/l	10	NONE	< 10	< 10

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	NONE	< 3.0	< 3.0
Benzene	µg/l	3	NONE	< 3.0	< 3.0
Toluene	µg/l	3	NONE	< 3.0	< 3.0
Ethylbenzene	µg/l	3	NONE	< 3.0	< 3.0
p & m-xylene	µg/l	3	NONE	< 3.0	< 3.0
o-xylene	µg/l	3	NONE	< 3.0	< 3.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-049489

Project / Site name: Vantage Data Centers, 150 MVA Substation

* 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 loam (MCERTS) 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 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
356890	TP03	2	0.50-0.70	Brown clay with vegetation
356891	TP05	2	0.50-0.70	Brown clay with vegetation

Analytical Report Number : 24-049489

Project / Site name: Vantage Data Centers, 150 MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

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 dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode	In-house method	L010-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode	In-house method	L029-PL	W	NONE
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	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Cations in soil by ICP-OES	Determination of cations 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	L038B	D	ISO 17025
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by 4-aminobenzene sulphonamide reagent addition in the presence of orthophosphoric acid	In-house method based on ISO:EN 26777:1993 nitrite	L082B	W	NONE
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-MS/GC-MS HS in leachate	Determination of total petroleum hydrocarbons in leachate by GC-MS/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L070B/L088-PL	W	NONE

Analytical Report Number : 24-049489

Project / Site name: Vantage Data Centers, 150 MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BTEX and/or Volatile organic compounds in leachate	Determination of volatile organic compounds in leachate by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	NONE
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088-PL	D/W	MCERTS
Nitrate as N in leachate	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L078-PL	W	NONE
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L078-PL	W	NONE
Complex cyanide (Low level) in leachate	Determination of complex cyanide by calculation	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
Complex Cyanide in soil	Determination of complex cyanide by calculation	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	MCERTS
Free cyanide (low level) in leachate	Determination of free cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
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	L080-PL	W	MCERTS
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
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	L080-PL	W	MCERTS
Total cyanide (low level) in leachate	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	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	L080-PL	W	MCERTS

Analytical Report Number : 24-049489

Project / Site name: Vantage Data Centers, 150 MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Chloride in leachate	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser	In-house method	L082B	D	MCERTS
Ammonia as NH ₃ in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE
Ammonia as NH ₃ in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	MCERTS
Exchangeable Ammonium as NH ₄ in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE
Exchangeable Ammonium as NH ₄ in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	MCERTS
Nitrite as N in leachate	Determination of nitrite in leachate by addition of sulphanilamide and NED followed by discrete analyser (colorimetry)	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L082B	W	ISO 17025
Mercury Low Level in leachate	Mercury in leachate by CV-AFS	In-house method based on USEPA method 1631	L085B	W	ISO 17025
Kjeldahl nitrogen in leachate	Determination of total nitrogen using the Kjeldahl-digestion method and ion selective electrode	In-house method based on BS 7755-3.7:1995	L087B	W	NONE
Kjeldahl nitrogen in soil	Determination of total nitrogen using the Kjeldahl-digestion method and ion selective electrode	In-house method based on BS 7755-3.7:1995	L087B	D	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS
pH at 20°C in leachate (automated)	Determination of pH in leachate by electrometric measurement	In-house method	L099-PL	W	ISO 17025
Speciated PAHs and/or Semi-volatile organic compounds in leachate	SVOCs and PAHs in leachate	In-house method	L102B		NONE
Organic 2:1 Leachate		In house method based on BS EN 12457-1	L020B	W	NONE

Analytical Report Number : 24-049489

Project / Site name: Vantage Data Centers, 150 MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL' or 'B' 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 30°C.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution



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Analytical Report Number : 24-049739

Project / Site name:	Vantage Data Centers 150MVA Substation	Samples received on:	24/10/2024
Your job number:	37989	Samples instructed on/ Analysis started on:	24/10/2024
Your order number:	38219-JP	Analysis completed by:	01/11/2024
Report Issue Number:	1	Report issued on:	01/11/2024
Samples Analysed:	3 10:1 WAC samples		

Signed:

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

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

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 24-049739

Project / Site name: Vantage Data Centers 150MVA Substation

Your Order No: 38219-JP

Lab Sample Number				358294	358295	358296
Sample Reference				IP02	IP03	IP06
Sample Number				1	2	2
Depth (m)				0.20-0.40	0.55-0.75	0.50-0.60
Date Sampled				22/10/2024	22/10/2024	22/10/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection	Test Accreditation Status

Stone Content	%	0.1	NONE	56.5	58	< 0.1
Moisture Content	%	0.01	NONE	8.2	9.1	13
Total mass of sample received	kg	0.1	NONE	0.8	1.4	1.4

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SCA	SCA	SCA

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	7.4	7.1	7
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	120	80	150
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	22	8.8	23
Water Soluble SO ₄ 16hr extraction (2:1)	mg/l	1.25	MCERTS	10.7	4.39	11.2
Sulphide	mg/kg	1	MCERTS	< 1.0	1.4	< 1.0
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	3.3	2.5	4.8
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	< 0.5	< 0.5
Ammoniacal Nitrogen as NH ₃	mg/kg	0.5	MCERTS	< 0.5	< 0.5	< 0.5
Ammonium - Exchangeable as NH ₄ ⁺	mg/kg	0.5	NONE	< 0.5	< 0.5	< 0.5
Total Nitrogen (Kjeldahl)	mg/kg	5	NONE	2800	200	420
Organic Matter (automated)	%	0.1	MCERTS	0.7	0.4	0.9
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0	< 2.0
Nitrite as N (Water Soluble) (2:1)	µg/kg	0.02	NONE	32	27.4	412

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05

Total PAH

Total WAC-17 PAHs	mg/kg	0.85	NONE	< 0.85	< 0.85	< 0.85
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Analytical Report Number: 24-049739

Project / Site name: Vantage Data Centers 150MVA Substation

Your Order No: 38219-JP

Lab Sample Number				358294	358295	358296
Sample Reference				IP02	IP03	IP06
Sample Number				1	2	
Depth (m)				0.20-0.40	0.55-0.75	0.50-0.60
Date Sampled				22/10/2024	22/10/2024	22/10/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status			

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	5.8	4.9	8.5
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5	0.4	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	16	15	23
Copper (aqua regia extractable)	mg/kg	1	MCERTS	9	8.6	15
Lead (aqua regia extractable)	mg/kg	1	MCERTS	8.9	7.9	13
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20	20	24
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	49	46	58

Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	1300	1100	1500
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Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC35 - EC44 _{EH_CU_1D_AL}	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10	< 10
TPHCWG - Aliphatic >EC5 - EC44 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10	< 10

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	6.1	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	6.6	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	12	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	76	< 10	< 10
TPHCWG - Aromatic >EC35 - EC44 _{EH_CU_1D_AR}	mg/kg	8.4	NONE	< 8.4	< 8.4	< 8.4
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	100	< 10	< 10
TPHCWG - Aromatic >EC5 - EC44 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	100	< 10	< 10

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 24-049739

Project / Site name: Vantage Data Centers 150MVA Substation

Your Order No: 38219-JP

Lab Sample Number				358294	358295	358296
Sample Reference				IP02	IP03	IP06
Sample Number				1	2	2
Depth (m)				0.20-0.40	0.55-0.75	0.50-0.60
Date Sampled				22/10/2024	22/10/2024	22/10/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status			

General Inorganics

pH (automated)	pH Units	N/A	ISO 17025	7.3	7.1	6.9
Total Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
Complex Cyanide (Low Level)	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
Free Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1	< 1	< 1
Sulphate as SO ₄	mg/l	0.045	ISO 17025	1.31	1.28	1.14
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	1.9	1.4	1.4
Ammoniacal Nitrogen as N	µg/l	15	NONE	44	58	18
Ammoniacal Nitrogen as NH ₃	µg/l	15	NONE	53	71	21
Ammonium - Exchangeable as NH ₄ ⁺	µg/l	15	NONE	56	75	23
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	0.7	0.5	4.3
Nitrate as N	mg/l	0.01	NONE	0.15	0.16	0.18
Nitrite as N	µg/l	1	ISO 17025	7	1.3	7.2

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10
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Speciated PAHs

Naphthalene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01

Speciated PAHs Low level

Coronene (low level)	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
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Total PAH

Total WAC-17 PAHs	µg/l	0.17	NONE	< 0.17	< 0.17	< 0.17
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Analytical Report Number: 24-049739

Project / Site name: Vantage Data Centers 150MVA Substation

Your Order No: 38219-JP

Lab Sample Number				358294	358295	358296
Sample Reference				IP02	IP03	IP06
Sample Number				1	2	2
Depth (m)				0.20-0.40	0.55-0.75	0.50-0.60
Date Sampled				22/10/2024	22/10/2024	22/10/2024
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)				Units	Test Limit of detection	Test Accreditation Status

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
Boron (dissolved)	µg/l	10	ISO 17025	18	23	18
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	7.7	3.4	6.6
Copper (dissolved)	µg/l	0.7	ISO 17025	11	22	15
Lead (dissolved)	µg/l	1	ISO 17025	2.6	< 1.0	< 1.0
Mercury - CV-AFS	µg/l	0.007	ISO 17025	< 0.0070	< 0.0070	< 0.0070
Nickel (dissolved)	µg/l	0.3	ISO 17025	1.4	1.4	0.9
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	6.6	8.9	4.5

Calcium (dissolved)	mg/l	0.012	ISO 17025	1.9	1.5	1.2
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Petroleum Hydrocarbons

TPH - Aliphatic >EC5 - EC6 _{HS_ID_AL}	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC6 - EC8 _{HS_ID_AL}	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC8 - EC10 _{HS_ID_AL}	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC10 - EC12 _{EH_ID_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC12 - EC16 _{EH_ID_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC16 - EC21 _{EH_ID_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC21 - EC35 _{EH_ID_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC35 - EC40 _{EH_ID_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC35 - EC44 _{EH_ID_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC40 - EC44 _{EH_ID_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC5 - EC35 _{HS+EH_ID_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC5 - EC44 _{HS+EH_ID_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10

TPH - Aromatic >EC5 - EC7 _{HS_ID_AR}	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC7 - EC8 _{HS_ID_AR}	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC8 - EC10 _{EH_ID_AR_MS}	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC10 - EC12 _{EH_ID_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC12 - EC16 _{EH_ID_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC16 - EC21 _{EH_ID_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC21 - EC35 _{EH_ID_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC35 - EC40 _{EH_ID_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC35 - EC44 _{EH_ID_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC40 - EC44 _{EH_ID_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC5 - EC44 _{HS+EH_ID_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC6 - EC35 _{HS+EH_ID_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Benzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	NONE	< 3.0	< 3.0	< 3.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-049739

Project / Site name: Vantage Data Centers 150MVA Substation

* 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 loam (MCERTS) 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 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
358294	IP02	1	0.20-0.40	Brown clay and sand with gravel and stones
358295	IP03	2	0.55-0.75	Brown clay and sand with gravel and stones
358296	IP06	2	0.50-0.60	Brown loam and clay with gravel and vegetation

Analytical Report Number : 24-049739

Project / Site name: Vantage Data Centers 150MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

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 dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode	In-house method	L010-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode	In-house method	L029-PL	W	NONE
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	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Cations in soil by ICP-OES	Determination of cations 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	L038B	D	ISO 17025
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by 4-aminobenzene sulphonamide reagent addition in the presence of orthophosphoric acid	In-house method based on ISO:EN 26777:1993 nitrite	L082B	W	NONE
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-MS/GC-MS HS in leachate	Determination of total petroleum hydrocarbons in leachate by GC-MS/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L070B/L088-PL	W	NONE

Analytical Report Number : 24-049739

Project / Site name: Vantage Data Centers 150MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BTEX and/or Volatile organic compounds in leachate	Determination of volatile organic compounds in leachate by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	NONE
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088-PL	D/W	MCERTS
Nitrate as N in leachate	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L078-PL	W	NONE
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L078-PL	W	NONE
Complex cyanide (Low level) in leachate	Determination of complex cyanide by calculation	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
Complex Cyanide in soil	Determination of complex cyanide by calculation	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	MCERTS
Free cyanide (low level) in leachate	Determination of free cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
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	L080-PL	W	MCERTS
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
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	L080-PL	W	MCERTS
Total cyanide (low level) in leachate	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	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	L080-PL	W	MCERTS

Analytical Report Number : 24-049739

Project / Site name: Vantage Data Centers 150MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Chloride in leachate	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser	In-house method	L082B	D	MCERTS
Ammonia as NH ₃ in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE
Ammonia as NH ₃ in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	MCERTS
Exchangeable Ammonium as NH ₄ in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE
Exchangeable Ammonium as NH ₄ in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	MCERTS
Nitrite as N in leachate	Determination of nitrite in leachate by addition of sulphanilamide and NED followed by discrete analyser (colorimetry)	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L082B	W	ISO 17025
Mercury Low Level in leachate	Mercury in leachate by CV-AFS	In-house method based on USEPA method 1631	L085B	W	ISO 17025
Kjeldahl nitrogen in leachate	Determination of total nitrogen using the Kjeldahl-digestion method and ion selective electrode	In-house method based on BS 7755-3.7:1995	L087B	W	NONE
Kjeldahl nitrogen in soil	Determination of total nitrogen using the Kjeldahl-digestion method and ion selective electrode	In-house method based on BS 7755-3.7:1995	L087B	D	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS
pH at 20°C in leachate (automated)	Determination of pH in leachate by electrometric measurement	In-house method	L099-PL	W	ISO 17025
Speciated PAHs and/or Semi-volatile organic compounds in leachate	SVOCs and PAHs in leachate	In-house method	L102B		NONE
Organic 2:1 Leachate		In house method based on BS EN 12457-1	L020B	W	NONE

Analytical Report Number : 24-049739

Project / Site name: Vantage Data Centers 150MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL' or 'B' 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 30°C.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution



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Analytical Report Number : 24-049741

Project / Site name:	Vantage Data Centers 150MVA Substation	Samples received on:	25/10/2024
Your job number:	37989	Samples instructed on/ Analysis started on:	25/10/2024
Your order number:	38219-JP	Analysis completed by:	30/10/2024
Report Issue Number:	1	Report issued on:	31/10/2024
Samples Analysed:	2 soil samples - 1 leachate sample		

Signed: _____

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

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

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 24-049741

Project / Site name: Vantage Data Centers 150MVA Substation

Your Order No: 38219-JP

Lab Sample Number				358297	358298
Sample Reference				TP04	TP04
Sample Number				1	2
Depth (m)				0.10-0.35	0.50-0.80
Date Sampled				23/10/2024	23/10/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection
				Test Accreditation Status	

Stone Content	%	0.1	NONE	59.7	30.2
Moisture Content	%	0.01	NONE	9	11
Total mass of sample received	kg	0.1	NONE	1.4	1.1

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SCA	SCA

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	7.8	6.8
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	170	120
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	12	23
Water Soluble SO ₄ 16hr extraction (2:1)	mg/l	1.25	MCERTS	6.06	11.6
Sulphide	mg/kg	1	MCERTS	1.5	< 1.0
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	2.9	2.8
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	< 0.5
Ammoniacal Nitrogen as NH ₃	mg/kg	0.5	MCERTS	< 0.5	< 0.5
Ammonium - Exchangeable as NH ₄ ⁺	mg/kg	0.5	NONE	< 0.5	< 0.5
Total Nitrogen (Kjeldahl)	mg/kg	5	NONE	290	380
Organic Matter (automated)	%	0.1	MCERTS	0.6	0.9
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0
Nitrite as N (Water Soluble) (2:1)	µg/kg	0.02	NONE	28.7	37.4

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05

Total PAH

Total WAC-17 PAHs	mg/kg	0.85	NONE	< 0.85	< 0.85
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Analytical Report Number: 24-049741

Project / Site name: Vantage Data Centers 150MVA Substation

Your Order No: 38219-JP

Lab Sample Number				358297	358298
Sample Reference				TP04	TP04
Sample Number				1	2
Depth (m)				0.10-0.35	0.50-0.80
Date Sampled				23/10/2024	23/10/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	5.4	6.1
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	0.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	19	18
Copper (aqua regia extractable)	mg/kg	1	MCERTS	9.5	10
Lead (aqua regia extractable)	mg/kg	1	MCERTS	10	11
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	24	20
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	56	52

Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	1200	1400
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Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0
TPHCWG - Aliphatic >EC35 - EC44 _{EH_CU_1D_AL}	mg/kg	8.4	NONE	< 8.4	< 8.4
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10
TPHCWG - Aliphatic >EC5 - EC44 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.02	MCERTS	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	< 10
TPHCWG - Aromatic >EC35 - EC44 _{EH_CU_1D_AR}	mg/kg	8.4	NONE	< 8.4	< 8.4
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10	< 10
TPHCWG - Aromatic >EC5 - EC44 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10	< 10

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 24-049741

Project / Site name: Vantage Data Centers 150MVA Substation

Your Order No: 38219-JP

Lab Sample Number				358298
Sample Reference				TP04
Sample Number				2
Depth (m)				0.50-0.80
Date Sampled				23/10/2024
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status	

General Inorganics

pH (automated)	pH Units	N/A	ISO 17025	6.8
Total Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1.0
Complex Cyanide (Low Level)	µg/l	1	NONE	< 1.0
Free Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1
Sulphate as SO ₄	mg/l	0.045	ISO 17025	1.71
Sulphide	µg/l	5	NONE	< 5.0
Chloride	mg/l	0.15	ISO 17025	1.5
Ammoniacal Nitrogen as N	µg/l	15	NONE	25
Ammoniacal Nitrogen as NH ₃	µg/l	15	NONE	30
Ammonium - Exchangeable as NH ₄ ⁺	µg/l	15	NONE	32
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	0.5
Nitrate as N	mg/l	0.01	NONE	0.18
Nitrite as N	µg/l	1	ISO 17025	< 1.0

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10
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Speciated PAHs

Naphthalene	µg/l	0.01	NONE	< 0.01
Acenaphthylene	µg/l	0.01	NONE	< 0.01
Acenaphthene	µg/l	0.01	NONE	< 0.01
Fluorene	µg/l	0.01	NONE	< 0.01
Phenanthrene	µg/l	0.01	NONE	< 0.01
Anthracene	µg/l	0.01	NONE	< 0.01
Fluoranthene	µg/l	0.01	NONE	< 0.01
Pyrene	µg/l	0.01	NONE	< 0.01
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01
Chrysene	µg/l	0.01	NONE	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01

Speciated PAHs Low level

Coronene (low level)	µg/l	0.01	NONE	< 0.01
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Total PAH

Total WAC-17 PAHs	µg/l	0.17	NONE	< 0.17
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Analytical Report Number: 24-049741

Project / Site name: Vantage Data Centers 150MVA Substation

Your Order No: 38219-JP

Lab Sample Number				358298
Sample Reference				TP04
Sample Number				2
Depth (m)				0.50-0.80
Date Sampled				23/10/2024
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status	

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1	ISO 17025	< 1.0
Boron (dissolved)	µg/l	10	ISO 17025	18
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	2.5
Copper (dissolved)	µg/l	0.7	ISO 17025	14
Lead (dissolved)	µg/l	1	ISO 17025	3.6
Mercury - CV-AFS	µg/l	0.007	ISO 17025	< 0.0070
Nickel (dissolved)	µg/l	0.3	ISO 17025	1.9
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	13

Calcium (dissolved)	mg/l	0.012	ISO 17025	1.4
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Petroleum Hydrocarbons

TPH - Aliphatic >EC5 - EC6 _{HS_ID_AL}	µg/l	1	NONE	< 1.0
TPH - Aliphatic >EC6 - EC8 _{HS_ID_AL}	µg/l	1	NONE	< 1.0
TPH - Aliphatic >EC8 - EC10 _{HS_ID_AL}	µg/l	1	NONE	< 1.0
TPH - Aliphatic >EC10 - EC12 _{EH_ID_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC12 - EC16 _{EH_ID_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC16 - EC21 _{EH_ID_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC21 - EC35 _{EH_ID_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC35 - EC40 _{EH_ID_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC35 - EC44 _{EH_ID_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC40 - EC44 _{EH_ID_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC5 - EC35 _{HS+EH_ID_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC5 - EC44 _{HS+EH_ID_AL_MS}	µg/l	10	NONE	< 10

TPH - Aromatic >EC5 - EC7 _{HS_ID_AR}	µg/l	1	NONE	< 1.0
TPH - Aromatic >EC7 - EC8 _{HS_ID_AR}	µg/l	1	NONE	< 1.0
TPH - Aromatic >EC8 - EC10 _{EH_ID_AR_MS}	µg/l	1	NONE	< 1.0
TPH - Aromatic >EC10 - EC12 _{EH_ID_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC12 - EC16 _{EH_ID_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC16 - EC21 _{EH_ID_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC21 - EC35 _{EH_ID_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC35 - EC40 _{EH_ID_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC35 - EC44 _{EH_ID_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC40 - EC44 _{EH_ID_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC5 - EC44 _{HS+EH_ID_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC6 - EC35 _{HS+EH_ID_AR_MS}	µg/l	10	NONE	< 10

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	NONE	< 3.0
Benzene	µg/l	3	NONE	< 3.0
Toluene	µg/l	3	NONE	< 3.0
Ethylbenzene	µg/l	3	NONE	< 3.0
p & m-xylene	µg/l	3	NONE	< 3.0
o-xylene	µg/l	3	NONE	< 3.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-049741

Project / Site name: Vantage Data Centers 150MVA Substation

* 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 loam (MCERTS) 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 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
358297	TP04	1	0.10-0.35	Brown loam and clay with vegetation and stones
358298	TP04	2	0.50-0.80	Brown loam and clay with vegetation and stones

Analytical Report Number : 24-049741

Project / Site name: Vantage Data Centers 150MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

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 dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode	In-house method	L010-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode	In-house method	L029-PL	W	NONE
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	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Cations in soil by ICP-OES	Determination of cations 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	L038B	D	ISO 17025
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by 4-aminobenzene sulphonamide reagent addition in the presence of orthophosphoric acid	In-house method based on ISO:EN 26777:1993 nitrite	L082B	W	NONE
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-MS/GC-MS HS in leachate	Determination of total petroleum hydrocarbons in leachate by GC-MS/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L070B/L088-PL	W	NONE

Analytical Report Number : 24-049741

Project / Site name: Vantage Data Centers 150MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BTEX and/or Volatile organic compounds in leachate	Determination of volatile organic compounds in leachate by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	NONE
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088-PL	D/W	MCERTS
Nitrate as N in leachate	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L078-PL	W	NONE
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L078-PL	W	NONE
Complex cyanide (Low level) in leachate	Determination of complex cyanide by calculation	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
Complex Cyanide in soil	Determination of complex cyanide by calculation	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	MCERTS
Free cyanide (low level) in leachate	Determination of free cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
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	L080-PL	W	MCERTS
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
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	L080-PL	W	MCERTS
Total cyanide (low level) in leachate	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	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	L080-PL	W	MCERTS

Analytical Report Number : 24-049741

Project / Site name: Vantage Data Centers 150MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Chloride in leachate	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser	In-house method	L082B	D	MCERTS
Ammonia as NH3 in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE
Ammonia as NH3 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	MCERTS
Exchangeable Ammonium as NH4 in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE
Exchangeable Ammonium as NH4 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	MCERTS
Nitrite as N in leachate	Determination of nitrite in leachate by addition of sulphanilamide and NED followed by discrete analyser (colorimetry)	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L082B	W	ISO 17025
Mercury Low Level in leachate	Mercury in leachate by CV-AFS	In-house method based on USEPA method 1631	L085B	W	ISO 17025
Kjeldahl nitrogen in leachate	Determination of total nitrogen using the Kjeldahl-digestion method and ion selective electrode	In-house method based on BS 7755-3.7:1995	L087B	W	NONE
Kjeldahl nitrogen in soil	Determination of total nitrogen using the Kjeldahl-digestion method and ion selective electrode	In-house method based on BS 7755-3.7:1995	L087B	D	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS
pH at 20°C in leachate (automated)	Determination of pH in leachate by electrometric measurement	In-house method	L099-PL	W	ISO 17025
Speciated PAHs and/or Semi-volatile organic compounds in leachate	SVOCs and PAHs in leachate	In-house method	L102B		NONE
Organic 2:1 Leachate		In house method based on BS EN 12457-1	L020B	W	NONE

Analytical Report Number : 24-049741

Project / Site name: Vantage Data Centers 150MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL' or 'B' 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 30°C.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution

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Analytical Report Number : 24-050166

Project / Site name: Vantage Date Centers, 150 MVA Substation

Your job number: 37989

Your order number: 38219-JP

Report Issue Number: 1

Samples Analysed: 3 soil samples - 2 leachate samples

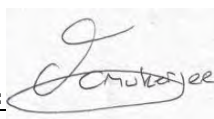
Samples received on: 24/10/2024

**Samples instructed on/
Analysis started on:** 24/10/2024

Analysis completed by: 31/10/2024

Report issued on: 31/10/2024

Signed:



Tuhina Mukerjee
Senior Customer Service Advisor
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

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

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 24-050166

Project / Site name: Vantage Date Centers, 150 MVA Substation

Your Order No: 38219-JP

Lab Sample Number	360474	360475	360476
Sample Reference	TP02	TP02	BH01
Sample Number	ES	ES	ES
Depth (m)	0.20-0.30	1.00-1.20	0.50-0.70
Date Sampled	21/10/2024	21/10/2024	21/10/2024
Time Taken	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status

Stone Content	%	0.1	NONE	< 0.1	56.8	< 0.1
Moisture Content	%	0.01	NONE	19	8.8	15
Total mass of sample received	kg	0.1	NONE	2	2	2

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	EWS	EWS	EWS

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8	8.4	6.9
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	910	87	230
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	43	17	38
Water Soluble SO ₄ 16hr extraction (2:1)	mg/l	1.25	MCERTS	21.3	8.31	19
Sulphide	mg/kg	1	MCERTS	55	< 1.0	< 1.0
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	18	2.2	2.6
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	< 0.5	< 0.5
Ammoniacal Nitrogen as NH ₃	mg/kg	0.5	MCERTS	0.5	< 0.5	< 0.5
Ammonium - Exchangeable as NH ₄ ⁺	mg/kg	0.5	NONE	0.5	< 0.5	< 0.5
Total Nitrogen (Kjeldahl)	mg/kg	5	NONE	1800	200	570
Organic Matter (automated)	%	0.1	MCERTS	4.7	0.6	1.1
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0	< 2.0
Nitrite as N (Water Soluble) (2:1)	µg/kg	0.02	NONE	12.9	8.99	51.5

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.16	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.45	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	0.38	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.35	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.35	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.54	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.2	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.42	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.22	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.28	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05

Total PAH

Total WAC-17 PAHs	mg/kg	0.85	NONE	3.35	< 0.85	< 0.85
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Analytical Report Number: 24-050166
Project / Site name: Vantage Date Centers, 150 MVA Substation
Your Order No: 38219-JP

Lab Sample Number	360474	360475	360476
Sample Reference	TP02	TP02	BH01
Sample Number	ES	ES	ES
Depth (m)	0.20-0.30	1.00-1.20	0.50-0.70
Date Sampled	21/10/2024	21/10/2024	21/10/2024
Time Taken	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.1	7	7.2
Boron (water soluble)	mg/kg	0.2	MCERTS	1.3	0.6	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	17	14	21
Copper (aqua regia extractable)	mg/kg	1	MCERTS	14	9.3	13
Lead (aqua regia extractable)	mg/kg	1	MCERTS	48	8.7	13
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	11	19	19
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	120	55	54

Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	69000	1600	1700
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Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC35 - EC44 EH_CU_1D_AL	mg/kg	8.4	NONE	12	< 8.4	< 8.4
TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	< 10	< 10
TPHCWG - Aliphatic >EC5 - EC44 EH_CU+HS_1D_AL	mg/kg	10	NONE	12	< 10	< 10

TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	34	< 10	< 10
TPHCWG - Aromatic >EC35 - EC44 EH_CU_1D_AR	mg/kg	8.4	NONE	61	< 8.4	< 8.4
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	34	< 10	< 10
TPHCWG - Aromatic >EC5 - EC44 EH_CU+HS_1D_AR	mg/kg	10	NONE	95	< 10	< 10

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 24-050166

Project / Site name: Vantage Date Centers, 150 MVA Substation

Your Order No: 38219-JP

Lab Sample Number				360475	360476
Sample Reference				TP02	BH01
Sample Number				ES	ES
Depth (m)				1.00-1.20	0.50-0.70
Date Sampled				21/10/2024	21/10/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status		

General Inorganics

pH (automated)	pH Units	N/A	ISO 17025	7.2	6.6
Total Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1.0	< 1.0
Complex Cyanide (Low Level)	µg/l	1	NONE	< 1.0	< 1.0
Free Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1	< 1
Sulphate as SO ₄	mg/l	0.045	ISO 17025	2.23	1.54
Sulphide	µg/l	5	NONE	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	1.6	1.2
Ammoniacal Nitrogen as N	µg/l	15	NONE	38	22
Ammoniacal Nitrogen as NH ₃	µg/l	15	NONE	46	27
Ammonium - Exchangeable as NH ₄ ⁺	µg/l	15	NONE	49	29
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	0.2	0.3
Nitrate as N	mg/l	0.01	NONE	0.31	0.44
Nitrite as N	µg/l	1	ISO 17025	17	11

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10
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Speciated PAHs

Naphthalene	µg/l	0.01	NONE	0.35	0.24
Acenaphthylene	µg/l	0.01	NONE	0.04	< 0.01
Acenaphthene	µg/l	0.01	NONE	0.04	0.05
Fluorene	µg/l	0.01	NONE	0.06	0.05
Phenanthrene	µg/l	0.01	NONE	< 0.01	< 0.01
Anthracene	µg/l	0.01	NONE	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	NONE	0.04	< 0.01
Pyrene	µg/l	0.01	NONE	0.03	< 0.01
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01
Chrysene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01

Speciated PAHs Low level

Coronene (low level)	µg/l	0.01	NONE	< 0.01	< 0.01
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Total PAH

Total WAC-17 PAHs	µg/l	0.17	NONE	0.56	0.34
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Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1	ISO 17025	< 1.0	2.5
Boron (dissolved)	µg/l	10	ISO 17025	23	18
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.5	4.7
Copper (dissolved)	µg/l	0.7	ISO 17025	11	15
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0

Analytical Report Number: 24-050166
Project / Site name: Vantage Date Centers, 150 MVA Substation

Your Order No: 38219-JP

Lab Sample Number				360475	360476
Sample Reference				TP02	BH01
Sample Number				ES	ES
Depth (m)				1.00-1.20	0.50-0.70
Date Sampled				21/10/2024	21/10/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status		
Mercury - CV-AFS	µg/l	0.007	ISO 17025	< 0.0070	0.0141
Nickel (dissolved)	µg/l	0.3	ISO 17025	1.6	3.6
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	4.1	10
Calcium (dissolved)	mg/l	0.012	ISO 17025	5.7	1.5

Analytical Report Number: 24-050166
Project / Site name: Vantage Date Centers, 150 MVA Substation

Your Order No: 38219-JP

Lab Sample Number				360475	360476
Sample Reference				TP02	BH01
Sample Number				ES	ES
Depth (m)				1.00-1.20	0.50-0.70
Date Sampled				21/10/2024	21/10/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Petroleum Hydrocarbons

TPH - Aliphatic >EC5 - EC6 _{HS_1D_AL}	µg/l	1	NONE	< 1.0	< 1.0
TPH - Aliphatic >EC6 - EC8 _{HS_1D_AL}	µg/l	1	NONE	< 1.0	< 1.0
TPH - Aliphatic >EC8 - EC10 _{HS_1D_AL}	µg/l	1	NONE	< 1.0	< 1.0
TPH - Aliphatic >EC10 - EC12 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC12 - EC16 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC16 - EC21 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC21 - EC35 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC35 - EC40 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC35 - EC44 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC40 - EC44 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC5 - EC35 _{HS+EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC5 - EC44 _{HS+EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10

TPH - Aromatic >EC5 - EC7 _{HS_1D_AR}	µg/l	1	NONE	< 1.0	< 1.0
TPH - Aromatic >EC7 - EC8 _{HS_1D_AR}	µg/l	1	NONE	< 1.0	< 1.0
TPH - Aromatic >EC8 - EC10 _{EH_1D_AR_MS}	µg/l	1	NONE	< 1.0	< 1.0
TPH - Aromatic >EC10 - EC12 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC12 - EC16 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC16 - EC21 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC21 - EC35 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC35 - EC40 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC35 - EC44 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC40 - EC44 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC5 - EC44 _{HS+EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC6 - EC35 _{HS+EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	NONE	< 3.0	< 3.0
Benzene	µg/l	3	NONE	< 3.0	< 3.0
Toluene	µg/l	3	NONE	< 3.0	< 3.0
Ethylbenzene	µg/l	3	NONE	< 3.0	< 3.0
p & m-xylene	µg/l	3	NONE	< 3.0	< 3.0
o-xylene	µg/l	3	NONE	< 3.0	< 3.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-050166

Project / Site name: Vantage Date Centers, 150 MVA Substation

* 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 loam (MCERTS) 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 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
360474	TP02	ES	0.20-0.30	Brown loam and sand with gravel and vegetation
360475	TP02	ES	1.00-1.20	Brown sand with gravel and stones
360476	BH01	ES	0.50-0.70	Brown clay and sand with gravel

Analytical Report Number : 24-050166

Project / Site name: Vantage Date Centers, 150 MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

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 dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode	In-house method	L010-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode	In-house method	L029-PL	W	NONE
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	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Cations in soil by ICP-OES	Determination of cations 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	L038B	D	ISO 17025
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by 4-aminobenzene sulphonamide reagent addition in the presence of orthophosphoric acid	In-house method based on ISO:EN 26777:1993 nitrite	L082B	W	NONE
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-MS/GC-MS HS in leachate	Determination of total petroleum hydrocarbons in leachate by GC-MS/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L070B/L088-PL	W	NONE

Analytical Report Number : 24-050166

Project / Site name: Vantage Date Centers, 150 MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BTEX and/or Volatile organic compounds in leachate	Determination of volatile organic compounds in leachate by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	NONE
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088-PL	D/W	MCERTS
Nitrate as N in leachate	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L078-PL	W	NONE
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L078-PL	W	NONE
Complex cyanide (Low level) in leachate	Determination of complex cyanide by calculation	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
Complex Cyanide in soil	Determination of complex cyanide by calculation	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	MCERTS
Free cyanide (low level) in leachate	Determination of free cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
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	L080-PL	W	MCERTS
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
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	L080-PL	W	MCERTS
Total cyanide (low level) in leachate	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	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	L080-PL	W	MCERTS

Analytical Report Number : 24-050166

Project / Site name: Vantage Date Centers, 150 MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Chloride in leachate	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser	In-house method	L082B	D	MCERTS
Ammonia as NH3 in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE
Ammonia as NH3 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	MCERTS
Exchangeable Ammonium as NH4 in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE
Exchangeable Ammonium as NH4 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	MCERTS
Nitrite as N in leachate	Determination of nitrite in leachate by addition of sulphanilamide and NED followed by discrete analyser (colorimetry)	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L082B	W	ISO 17025
Mercury Low Level in leachate	Mercury in leachate by CV-AFS	In-house method based on USEPA method 1631	L085B	W	ISO 17025
Kjeldahl nitrogen in leachate	Determination of total nitrogen using the Kjeldahl-digestion method and ion selective electrode	In-house method based on BS 7755-3.7:1995	L087B	W	NONE
Kjeldahl nitrogen in soil	Determination of total nitrogen using the Kjeldahl-digestion method and ion selective electrode	In-house method based on BS 7755-3.7:1995	L087B	D	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS
pH at 20°C in leachate (automated)	Determination of pH in leachate by electrometric measurement	In-house method	L099-PL	W	ISO 17025
Speciated PAHs and/or Semi-volatile organic compounds in leachate	SVOCs and PAHs in leachate	In-house method	L102B		NONE
Organic 2:1 Leachate		In house method based on BS EN 12457-1	L020B	W	NONE

Analytical Report Number : 24-050166

Project / Site name: Vantage Date Centers, 150 MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL' or 'B' 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 30°C.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution

Analytical Report Number : 24-050166

Project / Site name: Vantage Date Centers, 150 MVA Substation

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis. Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP02	ES	S	360474	b	BTEX and/or Volatile organic compounds in soil	L073B	b
TP02	ES	S	360474	b	Monohydric phenols in soil	L080-PL	b
TP02	ES	S	360474	b	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	b
TP02	ES	S	360474	b	Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	L076B/L088-PL	b
TP02	ES	S	360475	b	BTEX and/or Volatile organic compounds in soil	L073B	b
TP02	ES	S	360475	b	Monohydric phenols in soil	L080-PL	b
TP02	ES	S	360475	b	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	b
TP02	ES	S	360475	b	Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	L076B/L088-PL	b



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Analytical Report Number : 24-050308

Project / Site name: Vantage Data Centers, 150MVA Substation

Your job number: 37989

Your order number: 38219-JP

Report Issue Number: 1

Samples Analysed: 2 soil samples - 1 leachate sample

Samples received on: 28/10/2024

**Samples instructed on/
Analysis started on:** 28/10/2024

Analysis completed by: 04/11/2024

Report issued on: 04/11/2024

Signed:

Joanna Wawrzeczko
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

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

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.



Analytical Report Number: 24-050308
Project / Site name: Vantage Data Centers, 150MVA Substation
Your Order No: 38219-JP

Lab Sample Number				361372	361373
Sample Reference				TP01	TP03
Sample Number				None Supplied	None Supplied
Depth (m)				0.50-0.70	1.00-1.20
Date Sampled				23/10/2024	24/10/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection
				Test Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1	65.8
Moisture Content	%	0.01	NONE	17	6.2
Total mass of sample received	kg	0.1	NONE	1.4	1.1

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MBI	MBI

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	6.8	6.7
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	220	66
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	14	6.7
Water Soluble SO ₄ 16hr extraction (2:1)	mg/l	1.25	MCERTS	6.9	3.34
Sulphide	mg/kg	1	MCERTS	< 1.0	< 1.0
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	2	1.9
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	< 0.5
Ammoniacal Nitrogen as NH ₃	mg/kg	0.5	MCERTS	< 0.5	< 0.5
Ammonium - Exchangeable as NH ₄ ⁺	mg/kg	0.5	NONE	< 0.5	< 0.5
Total Nitrogen (Kjeldahl)	mg/kg	5	NONE	980	430
Organic Matter (automated)	%	0.1	MCERTS	1.6	0.6
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0
Nitrite as N (Water Soluble) (2:1)	µg/kg	0.02	NONE	< 0.02	13.4

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05

Total PAH

Total WAC-17 PAHs	mg/kg	0.85	NONE	< 0.85	< 0.85
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Analytical Report Number: 24-050308
Project / Site name: Vantage Data Centers, 150MVA Substation
Your Order No: 38219-JP

Lab Sample Number	361372			361373	
Sample Reference	TP01			TP03	
Sample Number	None Supplied			None Supplied	
Depth (m)	0.50-0.70			1.00-1.20	
Date Sampled	23/10/2024			24/10/2024	
Time Taken	None Supplied			None Supplied	
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	8.1	7.4
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5	0.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	24	15
Copper (aqua regia extractable)	mg/kg	1	MCERTS	12	9.6
Lead (aqua regia extractable)	mg/kg	1	MCERTS	15	10
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20	23
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	54	57

Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	1600	880
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Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0
TPHCWG - Aliphatic >EC35 - EC44 _{EH_CU_1D_AL}	mg/kg	8.4	NONE	< 8.4	< 8.4
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10
TPHCWG - Aliphatic >EC5 - EC44 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.02	MCERTS	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	< 10
TPHCWG - Aromatic >EC35 - EC44 _{EH_CU_1D_AR}	mg/kg	8.4	NONE	< 8.4	< 8.4
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10	< 10
TPHCWG - Aromatic >EC5 - EC44 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10	< 10

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number: 24-050308
Project / Site name: Vantage Data Centers, 150MVA Substation

Your Order No: 38219-JP

Lab Sample Number				361372
Sample Reference				TP01
Sample Number				None Supplied
Depth (m)				0.50-0.70
Date Sampled				23/10/2024
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status	

General Inorganics

pH (automated)	pH Units	N/A	ISO 17025	6.7
Total Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1.0
Complex Cyanide (Low Level)	µg/l	1	NONE	< 1.0
Free Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1
Sulphate as SO ₄	mg/l	0.045	ISO 17025	2.91
Sulphide	µg/l	5	NONE	< 5.0
Chloride	mg/l	0.15	ISO 17025	2
Ammoniacal Nitrogen as N	µg/l	15	NONE	32
Ammoniacal Nitrogen as NH ₃	µg/l	15	NONE	39
Ammonium - Exchangeable as NH ₄ ⁺	µg/l	15	NONE	41
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	0.3
Nitrate as N	mg/l	0.01	NONE	0.27
Nitrite as N	µg/l	1	ISO 17025	8.9

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10
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Speciated PAHs

Naphthalene	µg/l	0.01	NONE	< 0.01
Acenaphthylene	µg/l	0.01	NONE	< 0.01
Acenaphthene	µg/l	0.01	NONE	< 0.01
Fluorene	µg/l	0.01	NONE	< 0.01
Phenanthrene	µg/l	0.01	NONE	< 0.01
Anthracene	µg/l	0.01	NONE	< 0.01
Fluoranthene	µg/l	0.01	NONE	< 0.01
Pyrene	µg/l	0.01	NONE	< 0.01
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01
Chrysene	µg/l	0.01	NONE	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01

Speciated PAHs Low level

Coronene (low level)	µg/l	0.01	NONE	< 0.01
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Total PAH

Total WAC-17 PAHs	µg/l	0.17	NONE	< 0.17
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Analytical Report Number: 24-050308
Project / Site name: Vantage Data Centers, 150MVA Substation

Your Order No: 38219-JP

Lab Sample Number				361372
Sample Reference				TP01
Sample Number				None Supplied
Depth (m)				0.50-0.70
Date Sampled				23/10/2024
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status	

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1	ISO 17025	2.2
Boron (dissolved)	µg/l	10	ISO 17025	18
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.2
Copper (dissolved)	µg/l	0.7	ISO 17025	24
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0
Mercury - CV-AFS	µg/l	0.007	ISO 17025	< 0.0070
Nickel (dissolved)	µg/l	0.3	ISO 17025	1.3
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	9.6

Calcium (dissolved)	mg/l	0.012	ISO 17025	2.7
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Petroleum Hydrocarbons

TPH - Aliphatic >EC5 - EC6 _{HS_1D_AL}	µg/l	1	NONE	< 1.0
TPH - Aliphatic >EC6 - EC8 _{HS_1D_AL}	µg/l	1	NONE	< 1.0
TPH - Aliphatic >EC8 - EC10 _{HS_1D_AL}	µg/l	1	NONE	< 1.0
TPH - Aliphatic >EC10 - EC12 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC12 - EC16 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC16 - EC21 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC21 - EC35 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC35 - EC40 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC35 - EC44 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC40 - EC44 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC5 - EC35 _{HS+EH_1D_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC5 - EC44 _{HS+EH_1D_AL_MS}	µg/l	10	NONE	< 10

TPH - Aromatic >EC5 - EC7 _{HS_1D_AR}	µg/l	1	NONE	< 1.0
TPH - Aromatic >EC7 - EC8 _{HS_1D_AR}	µg/l	1	NONE	< 1.0
TPH - Aromatic >EC8 - EC10 _{EH_1D_AR_MS}	µg/l	1	NONE	< 1.0
TPH - Aromatic >EC10 - EC12 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC12 - EC16 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC16 - EC21 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC21 - EC35 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC35 - EC40 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC35 - EC44 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC40 - EC44 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC5 - EC44 _{HS+EH_1D_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC6 - EC35 _{HS+EH_1D_AR_MS}	µg/l	10	NONE	< 10

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	NONE	< 3.0
Benzene	µg/l	3	NONE	< 3.0
Toluene	µg/l	3	NONE	< 3.0
Ethylbenzene	µg/l	3	NONE	< 3.0
p & m-xylene	µg/l	3	NONE	< 3.0
o-xylene	µg/l	3	NONE	< 3.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number : 24-050308
Project / Site name: Vantage Data Centers, 150MVA Substation

* 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 loam (MCERTS) 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 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
361372	TP01	None Supplied	0.50-0.70	Brown clay and sand
361373	TP03	None Supplied	1.00-1.20	Brown sand with gravel and stones

Analytical Report Number : 24-050308

Project / Site name: Vantage Data Centers, 150MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

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 dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode	In-house method	L010-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode	In-house method	L029-PL	W	NONE
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	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Cations in soil by ICP-OES	Determination of cations 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	L038B	D	ISO 17025
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by 4-aminobenzene sulphonamide reagent addition in the presence of orthophosphoric acid	In-house method based on ISO:EN 26777:1993 nitrite	L082B	W	NONE
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-MS/GC-MS HS in leachate	Determination of total petroleum hydrocarbons in leachate by GC-MS/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L070B/L088-PL	W	NONE
BTEX and/or Volatile organic compounds in leachate	Determination of volatile organic compounds in leachate by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	NONE
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS

Analytical Report Number : 24-050308
Project / Site name: Vantage Data Centers, 150MVA Substation

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088-PL	D/W	MCERTS
Nitrate as N in leachate	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08	L078-PL	W	NONE
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction	L078-PL	W	NONE
Complex cyanide (Low level) in leachate	Determination of complex cyanide by calculation	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
Complex Cyanide in soil	Determination of complex cyanide by calculation	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	MCERTS
Free cyanide (low level) in leachate	Determination of free cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
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	L080-PL	W	MCERTS
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
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	L080-PL	W	MCERTS
Total cyanide (low level) in leachate	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	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	L080-PL	W	MCERTS
Chloride in leachate	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser	In-house method	L082B	D	MCERTS
Ammonia as NH3 in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE
Ammonia as NH3 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	MCERTS

Analytical Report Number : 24-050308
Project / Site name: Vantage Data Centers, 150MVA Substation

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Exchangeable Ammonium as NH4 in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE
Exchangeable Ammonium as NH4 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method,10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	MCERTS
Nitrite as N in leachate	Determination of nitrite in leachate by addition of sulphanilamide and NED followed by discrete analyser (colorimetry)	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L082B	W	ISO 17025
Mercury Low Level in leachate	Mercury in leachate by CV-AFS	In-house method based on USEPA method 1631	L085B	W	ISO 17025
Kjeldahl nitrogen in leachate	Determination of total nitrogen using the Kjeldahl-digestion method and ion selective electrode	In-house method based on BS 7755-3.7:1995	L087B	W	NONE
Kjeldahl nitrogen in soil	Determination of total nitrogen using the Kjeldahl-digestion method and ion selective electrode	In-house method based on BS 7755-3.7:1995	L087B	D	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS
pH at 20°C in leachate (automated)	Determination of pH in leachate by electrometric measurement	In-house method	L099-PL	W	ISO 17025
Speciated PAHs and/or Semi-volatile organic compounds in leachate	SVOCs and PAHs in leachate	In-house method	L102B		NONE
Organic 2:1 Leachate		In house method based on BS EN 12457-1	L020B	W	NONE
Ammoniacal Nitrogen as N in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' 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.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector



Analytical Report Number : 24-050308
Project / Site name: Vantage Data Centers, 150MVA Substation

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
GC	Gas Chromatography				
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))				
CU	Clean-up - e.g. by Florisil®, silica gel				
1D	GC - Single coil/column gas chromatography				
2D	GC-GC - Double coil/column gas chromatography				
Total	Aliphatics & Aromatics				
AL	Aliphatics				
AR	Aromatics				
#1	EH_2D_Total but with humics mathematically subtracted				
#2	EH_2D_Total but with fatty acids mathematically subtracted				
-	Operator - underscore to separate acronyms (exception for +)				
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total				

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

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Analytical Report Number : 24-050309

Project / Site name: Vantage Data Centres, 150MVA
Substation

Your job number: 37989

Your order number: 38219-JP

Report Issue Number: 1

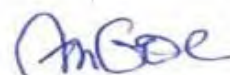
Samples Analysed: 2 soil samples - 2 leachate samples

Samples received on: 28/10/2024

**Samples instructed on/
Analysis started on:** 28/10/2024

Analysis completed by: 05/11/2024

Report issued on: 05/11/2024



Signed:

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

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.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 24-050309

Project / Site name: Vantage Data Centres, 150MVA Substation

Your Order No: 38219-JP

Lab Sample Number	361376	361377
Sample Reference	BH02	BH03
Sample Number	2	2
Depth (m)	0.50-0.70	0.50-0.70
Date Sampled	23/10/2024	25/10/2024
Time Taken	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection
		Test Accreditation Status

Stone Content	%	0.1	NONE	16	< 0.1
Moisture Content	%	0.01	NONE	12	16
Total mass of sample received	kg	0.1	NONE	1.3	1.1

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MBI	MBI

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8	7.7
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	110	430
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	8.7	18
Water Soluble SO ₄ 16hr extraction (2:1)	mg/l	1.25	MCERTS	4.35	9.17
Sulphide	mg/kg	1	MCERTS	< 1.0	< 1.0
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	4	1.6
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	< 0.5
Ammoniacal Nitrogen as NH ₃	mg/kg	0.5	MCERTS	< 0.5	< 0.5
Ammonium - Exchangeable as NH ₄ ⁺	mg/kg	0.5	NONE	< 0.5	< 0.5
Total Nitrogen (Kjeldahl)	mg/kg	5	NONE	570	1700
Organic Matter (automated)	%	0.1	MCERTS	0.6	2.5
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	2.5
Nitrite as N (Water Soluble) (2:1)	µg/kg	0.02	NONE	63.7	18.8

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.09
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	0.1
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.07
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05

Total PAH

Total WAC-17 PAHs	mg/kg	0.85	NONE	< 0.85	< 0.85
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Analytical Report Number: 24-050309

Project / Site name: Vantage Data Centres, 150MVA Substation

Your Order No: 38219-JP

Lab Sample Number	361376	361377
Sample Reference	BH02	BH03
Sample Number	2	2
Depth (m)	0.50-0.70	0.50-0.70
Date Sampled	23/10/2024	25/10/2024
Time Taken	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection
		Test Accreditation Status

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.9	10
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4	0.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.4
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	24	23
Copper (aqua regia extractable)	mg/kg	1	MCERTS	12	14
Lead (aqua regia extractable)	mg/kg	1	MCERTS	12	33
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	24	14
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	49	68

Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	1600	5000
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Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0
TPHCWG - Aliphatic >EC35 - EC44 _{EH_CU_1D_AL}	mg/kg	8.4	NONE	< 8.4	< 8.4
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10
TPHCWG - Aliphatic >EC5 - EC44 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.02	MCERTS	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	< 10
TPHCWG - Aromatic >EC35 - EC44 _{EH_CU_1D_AR}	mg/kg	8.4	NONE	< 8.4	< 8.4
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10	< 10
TPHCWG - Aromatic >EC5 - EC44 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10	< 10

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 24-050309

Project / Site name: Vantage Data Centres, 150MVA Substation

Your Order No: 38219-JP

Lab Sample Number	361376	361377
Sample Reference	BH02	BH03
Sample Number	2	2
Depth (m)	0.50-0.70	0.50-0.70
Date Sampled	23/10/2024	25/10/2024
Time Taken	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection
		Test Accreditation Status

General Inorganics

pH (automated)	pH Units	N/A	ISO 17025	6.8	7.5
Total Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1.0	< 1.0
Complex Cyanide (Low Level)	µg/l	1	NONE	< 1.0	< 1.0
Free Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1	< 1
Sulphate as SO ₄	mg/l	0.045	ISO 17025	1.49	3.29
Sulphide	µg/l	5	NONE	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	1.3	0.79
Ammoniacal Nitrogen as N	µg/l	15	NONE	35	58
Ammoniacal Nitrogen as NH ₃	µg/l	15	NONE	42	70
Ammonium - Exchangeable as NH ₄ ⁺	µg/l	15	NONE	45	74
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	0.2	0.1
Nitrate as N	mg/l	0.01	NONE	0.12	1.03
Nitrite as N	µg/l	1	ISO 17025	36	< 1.0

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10
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Speciated PAHs

Naphthalene	µg/l	0.01	NONE	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	NONE	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	NONE	< 0.01	< 0.01
Fluorene	µg/l	0.01	NONE	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	NONE	< 0.01	< 0.01
Anthracene	µg/l	0.01	NONE	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01
Pyrene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01
Chrysene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01

Speciated PAHs Low level

Coronene (low level)	µg/l	0.01	NONE	< 0.01	< 0.01
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Total PAH

Total WAC-17 PAHs	µg/l	0.17	NONE	< 0.17	< 0.17
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Analytical Report Number: 24-050309

Project / Site name: Vantage Data Centres, 150MVA Substation

Your Order No: 38219-JP

Lab Sample Number	361376	361377
Sample Reference	BH02	BH03
Sample Number	2	2
Depth (m)	0.50-0.70	0.50-0.70
Date Sampled	23/10/2024	25/10/2024
Time Taken	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection
		Test Accreditation Status

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1	ISO 17025	< 1.0	1.8
Boron (dissolved)	µg/l	10	ISO 17025	13	23
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	1.5	4.4
Copper (dissolved)	µg/l	0.7	ISO 17025	20	24
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	1.9
Mercury - CV-AFS	µg/l	0.007	ISO 17025	< 0.0070	< 0.0070
Nickel (dissolved)	µg/l	0.3	ISO 17025	1.6	3.7
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	11	23

Calcium (dissolved)	mg/l	0.012	ISO 17025	1.6	11
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Petroleum Hydrocarbons

TPH - Aliphatic >EC5 - EC6 _{HS_1D_AL}	µg/l	1	NONE	< 1.0	< 1.0
TPH - Aliphatic >EC6 - EC8 _{HS_1D_AL}	µg/l	1	NONE	< 1.0	< 1.0
TPH - Aliphatic >EC8 - EC10 _{HS_1D_AL}	µg/l	1	NONE	< 1.0	< 1.0
TPH - Aliphatic >EC10 - EC12 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC12 - EC16 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC16 - EC21 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC21 - EC35 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC35 - EC40 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC35 - EC44 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC40 - EC44 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC5 - EC35 _{HS+EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC5 - EC44 _{HS+EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10

TPH - Aromatic >EC5 - EC7 _{HS_1D_AR}	µg/l	1	NONE	< 1.0	< 1.0
TPH - Aromatic >EC7 - EC8 _{HS_1D_AR}	µg/l	1	NONE	< 1.0	< 1.0
TPH - Aromatic >EC8 - EC10 _{EH_1D_AR_MS}	µg/l	1	NONE	< 1.0	< 1.0
TPH - Aromatic >EC10 - EC12 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC12 - EC16 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC16 - EC21 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC21 - EC35 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC35 - EC40 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC35 - EC44 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC40 - EC44 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC5 - EC44 _{HS+EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC6 - EC35 _{HS+EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	NONE	< 3.0	< 3.0
Benzene	µg/l	3	NONE	< 3.0	< 3.0
Toluene	µg/l	3	NONE	< 3.0	< 3.0
Ethylbenzene	µg/l	3	NONE	< 3.0	< 3.0
p & m-xylene	µg/l	3	NONE	< 3.0	< 3.0
o-xylene	µg/l	3	NONE	< 3.0	< 3.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-050309

Project / Site name: Vantage Data Centres, 150MVA Substation

* 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 loam (MCERTS) 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 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
361376	BH02	2	0.50-0.70	Brown clay and sand with gravel and stones
361377	BH03	2	0.50-0.70	Brown loam and clay with gravel

Analytical Report Number : 24-050309

Project / Site name: Vantage Data Centres, 150MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

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 dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode	In-house method	L010-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode	In-house method	L029-PL	W	NONE
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	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Cations in soil by ICP-OES	Determination of cations 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	L038B	D	ISO 17025
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by 4-aminobenzene sulphonamide reagent addition in the presence of orthophosphoric acid	In-house method based on ISO:EN 26777:1993 nitrite	L082B	W	NONE
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-MS/GC-MS HS in leachate	Determination of total petroleum hydrocarbons in leachate by GC-MS/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L070B/L088-PL	W	NONE
BTEX and/or Volatile organic compounds in leachate	Determination of volatile organic compounds in leachate by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	NONE

Analytical Report Number : 24-050309

Project / Site name: Vantage Data Centres, 150MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088-PL	D/W	MCERTS
Nitrate as N in leachate	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08	L078-PL	W	NONE
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction	L078-PL	W	NONE
Complex cyanide (Low level) in leachate	Determination of complex cyanide by calculation	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
Complex Cyanide in soil	Determination of complex cyanide by calculation	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	MCERTS
Free cyanide (low level) in leachate	Determination of free cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
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	L080-PL	W	MCERTS
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
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	L080-PL	W	MCERTS
Total cyanide (low level) in leachate	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	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	L080-PL	W	MCERTS
Chloride in leachate	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser	In-house method	L082B	D	MCERTS

Analytical Report Number : 24-050309

Project / Site name: Vantage Data Centres, 150MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammonia as NH ₃ in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE
Ammonia as NH ₃ in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	MCERTS
Exchangeable Ammonium as NH ₄ in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE
Exchangeable Ammonium as NH ₄ in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	MCERTS
Nitrite as N in leachate	Determination of nitrite in leachate by addition of sulphanilamide and NED followed by discrete analyser (colorimetry)	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L082B	W	ISO 17025
Mercury Low Level in leachate	Mercury in leachate by CV-AFS	In-house method based on USEPA method 1631	L085B	W	ISO 17025
Kjeldahl nitrogen in leachate	Determination of total nitrogen using the Kjeldahl-digestion method and ion selective electrode	In-house method based on BS 7755-3.7:1995	L087B	W	NONE
Kjeldahl nitrogen in soil	Determination of total nitrogen using the Kjeldahl-digestion method and ion selective electrode	In-house method based on BS 7755-3.7:1995	L087B	D	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS
pH at 20°C in leachate (automated)	Determination of pH in leachate by electrometric measurement	In-house method	L099-PL	W	ISO 17025
Speciated PAHs and/or Semi-volatile organic compounds in leachate	SVOCs and PAHs in leachate	In-house method	L102B		NONE
Organic 2:1 Leachate		In house method based on BS EN 12457-1	L020B	W	NONE

Analytical Report Number : 24-050309

Project / Site name: Vantage Data Centres, 150MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL' or 'B' 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.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
-	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution



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Analytical Report Number : 24-050310

Project / Site name: Vantage Data Centers, 150MVA Substation

Your job number: 37989

Your order number: 38219-JP

Report Issue Number: 1

Samples Analysed: 2 soil samples - 2 2stage samples

Samples received on: 28/10/2024

**Samples instructed on/
Analysis started on:** 28/10/2024

Analysis completed by: 01/11/2024

Report issued on: 01/11/2024

Signed: _____

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

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

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 24-050310

Project / Site name: Vantage Data Centers, 150MVA Substation

Your Order No: 38219-JP

Lab Sample Number				361374	361375
Sample Reference				TP01	TP05
Sample Number				None Supplied	None Supplied
Depth (m)				0.50-0.70	2.80-3.00
Date Sampled				23/10/2024	24/10/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection
				Test Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1	56.7
Moisture Content	%	0.01	NONE	17	5.5
Total mass of sample received	kg	0.1	NONE	1.4	1.1

General Inorganics

pH (L005B)	pH Units	N/A	MCERTS	7	7.8
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	0.7	< 0.1
Loss on Ignition @ 450°C	%	0.2	MCERTS	3.1	1.3
Acid Neutralisation Capacity	mmol/kg	-9999	NONE	0	0.47

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05

Total PAH

Total WAC-17 PAHs	mg/kg	0.85	NONE	< 0.85	< 0.85
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Petroleum Hydrocarbons

Mineral Oil (EC10 - EC40) EH_CU_1D_AL	mg/kg	10	NONE	< 10	< 10
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VOCs

Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0
Total BTEX	µg/kg	10	MCERTS	< 10	< 10

Analytical Report Number: 24-050310

Project / Site name: Vantage Data Centers, 150MVA Substation

Your Order No: 38219-JP

Lab Sample Number				361374	361375
Sample Reference				TP01	TP05
Sample Number				None Supplied	None Supplied
Depth (m)				0.50-0.70	2.80-3.00
Date Sampled				23/10/2024	24/10/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection
				Test Accreditation Status	

PCBs by GC-MS

PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001	< 0.001

Total PCBs	mg/kg	0.007	MCERTS	< 0.007	< 0.007
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U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



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The results included within the report are representative of the samples submitted for analysis.

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Waste Acceptance Criteria Analytical Results

Report No:	24-050310			
				Client: GEOENG
Location	Vantage Data Centers, 150MVA Substation			
Lab Reference (Sample Number)	361375			Landfill Waste Acceptance Criteria
Sampling Date	24/10/2024			Limits
Sample ID	TP05			Inert Waste Landfill
Depth (m)	2.80-3.00			Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill
				Hazardous Waste Landfill
Solid Waste Analysis				
TOC (%)**	< 0.1			3%
Loss on Ignition (%) **	1.3			5%
BTEX (µg/kg)**	< 10			6%
Sum of PCBs (mg/kg)**	< 0.007			10%
Mineral Oil (mg/kg) EH, ID, CU, AL	< 10			6000
Total PAH (WAC-17) (mg/kg)	< 0.85			1
pH (units)**	7.8			500
Acid Neutralisation Capacity (mmol / kg)	0.47			100
				--
				>6
				--
				To be evaluated
				To be evaluated
Eluate Analysis				
(BS EN 12457 - 3 preparation utilising end over end leaching procedure)	2:1	8:1	Cumulative 10:1	Limit values for compliance leaching test
	mg/l	mg/l	mg/kg	using BS EN 12457-3 at L/S 10 l/kg (mg/kg)
Arsenic *	< 0.0020	< 0.0020	< 0.020	0.5
Barium *	0.0022	< 0.0012	< 0.012	2
Cadmium *	< 0.00010	< 0.00010	< 0.0010	25
Chromium *	0.00083	0.00093	0.0092	0.5
Copper *	0.0072	0.0046	0.049	10
Mercury *	< 0.00070	< 0.0007	< 0.0070	2
Molybdenum *	< 0.0014	< 0.0014	< 0.014	0.01
Nickel *	< 0.00090	< 0.00090	< 0.0090	0.2
Lead *	0.0017	0.0019	0.019	0.5
Antimony *	< 0.0020	< 0.0020	< 0.020	0.06
Selenium *	< 0.0050	< 0.0050	< 0.050	0.7
Zinc *	0.0042	0.0034	0.035	0.5
Chloride *	< 4.0	< 4.0	< 15	4
Fluoride*	0.064	< 0.050	0.47	50
Sulphate *	4.2	0.77	12	15000
TDS*	14	13	130	25000
Phenol Index (Monohydric Phenols) *	< 0.16	< 0.13	< 0.50	50000
DOC	7.93	6.6	67.8	100000
				1
				-
				-
				500
				800
				1000
Leach Test Information				
Stone Content (%)	56.7			
Sample Mass (kg)	1.1			
Dry Matter (%)	95			
Moisture (%)	5.5			
Stage 1				
Volume Eluate L2 (litres)	0.339			
Filtered Eluate VE1 (litres)	0.20			
Results are expressed on a dry weight basis, after correction for moisture content where applicable. * = UKAS accredited (liquid eluate analysis only)				
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation ** = MCERTS accredited				
Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.				
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.				

Analytical Report Number : 24-050310

Project / Site name: Vantage Data Centers, 150MVA Substation

* 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 loam (MCERTS) 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 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
361374	TP01	None Supplied	0.50-0.70	Brown clay and sand
361375	TP05	None Supplied	2.80-3.00	Brown sand with gravel and stones

Analytical Report Number : 24-050310

Project / Site name: Vantage Data Centers, 150MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH at 20°C in soil	Determination of pH in soil by addition of water followed by electrometric measurement	In-house method	L005B	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L023B	D	MCERTS
PCB's By GC-MS in soil	Determination of PCB by extraction with hexane followed by GC-MS	In-house method based on USEPA 8082	L027B	D	MCERTS
TDS in WAC leachate (BS EN 12457-3 Prep)	Determination of total dissolved solids in leachate by electrometric measurement	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L031B	W	ISO 17025
Fluoride in WAC leachate (BS EN 12457-3 Prep)	Determination of fluoride in leachate by 1:1 ratio with a buffer solution followed by Ion Selective Electrode	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L033B	W	ISO 17025
DOC in WAC leachate (BS EN 12457-3 Prep)	Determination of dissolved organic carbon in leachate by TOC/DOC NDIR analyser	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed.	L037B	W	NONE
Metals in WAC leachate (BS EN 12457-3 Prep)	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed	L039B	W	ISO 17025
Sulphate in WAC leachate (BS EN 12457-3 Prep)	Determination of sulphate in leachate by acidification followed by ICP-OES	In-house method based on Standard Methods for the Examination of Water and Waste Water, 21st Ed	L039B	W	ISO 17025
Preparation WAC leachate		In-house method	L043B	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe	In-house method based on Guidance on Sampling and Testing of Wastes to Meet Landfill Waste Acceptance	L046B	W	NONE
Loss on ignition of soil @ 450°C	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	In-house method	L047-PL	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS

Analytical Report Number : 24-050310

Project / Site name: Vantage Data Centers, 150MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total petroleum hydrocarbons by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS	In-house method	L076B/L088-PL	D/W	NONE
Phenol Index in WAC leachate (BS EN 12457-3 Prep)	Determination of monohydric phenols in leachate by continuous flow analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Chloride in WAC leachate (BS EN 12457-3 Prep)	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL' or 'B' 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.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution



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Analytical Report Number : 24-050315

Project / Site name: Vantage Data Centers, 150MVA Substation

Your job number: 37989

Your order number: 38219 JP

Report Issue Number: 1

Samples Analysed: 2 soil samples - 2 leachate samples

Samples received on: 28/10/2024

**Samples instructed on/
Analysis started on:** 28/10/2024

Analysis completed by: 04/11/2024

Report issued on: 04/11/2024

Signed:

Joanna Wawrzeczko
Senior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

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

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.



Analytical Report Number: 24-050315
Project / Site name: Vantage Data Centers, 150MVA Substation
Your Order No: 38219 JP

Lab Sample Number				361403	361404
Sample Reference				IP04	IP05
Sample Number				1	2
Depth (m)				0.10-0.30	0.60-0.80
Date Sampled				23/10/2024	23/10/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Test Limit of detection
				Test Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	15	7.2
Total mass of sample received	kg	0.1	NONE	1.1	1.1

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MMI	MMI

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	7.3	7
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	380	100
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	16	5.8
Water Soluble SO ₄ 16hr extraction (2:1)	mg/l	1.25	MCERTS	7.85	2.92
Sulphide	mg/kg	1	MCERTS	2.4	< 1.0
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	4.2	1.1
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	< 0.5
Ammoniacal Nitrogen as NH ₃	mg/kg	0.5	MCERTS	< 0.5	< 0.5
Ammonium - Exchangeable as NH ₄ ⁺	mg/kg	0.5	NONE	< 0.5	< 0.5
Total Nitrogen (Kjeldahl)	mg/kg	5	NONE	1400	470
Organic Matter (automated)	%	0.1	MCERTS	2.4	0.4
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0
Nitrite as N (Water Soluble) (2:1)	µg/kg	0.02	NONE	95.2	7.49

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05

Total PAH

Total WAC-17 PAHs	mg/kg	0.85	NONE	< 0.85	< 0.85
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Analytical Report Number: 24-050315
Project / Site name: Vantage Data Centers, 150MVA Substation
Your Order No: 38219 JP

Lab Sample Number				361403	361404
Sample Reference				IP04	IP05
Sample Number				1	2
Depth (m)				0.10-0.30	0.60-0.80
Date Sampled				23/10/2024	23/10/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)		Units	Test Limit of detection	Test Accreditation Status	

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	8.9	9.9
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6	0.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.3	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	19	17
Copper (aqua regia extractable)	mg/kg	1	MCERTS	14	13
Lead (aqua regia extractable)	mg/kg	1	MCERTS	24	10
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	17	23
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	68	52

Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	3900	1500
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Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0
TPHCWG - Aliphatic >EC35 - EC44 _{EH_CU_1D_AL}	mg/kg	8.4	NONE	< 8.4	< 8.4
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10
TPHCWG - Aliphatic >EC5 - EC44 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.02	MCERTS	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	< 10
TPHCWG - Aromatic >EC35 - EC44 _{EH_CU_1D_AR}	mg/kg	8.4	NONE	< 8.4	< 8.4
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10	< 10
TPHCWG - Aromatic >EC5 - EC44 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10	< 10

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number: 24-050315
Project / Site name: Vantage Data Centers, 150MVA Substation

Your Order No: 38219 JP

Lab Sample Number				361403	361404
Sample Reference				IP04	IP05
Sample Number				1	2
Depth (m)				0.10-0.30	0.60-0.80
Date Sampled				23/10/2024	23/10/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status		

General Inorganics

pH (automated)	pH Units	N/A	ISO 17025	7.7	7.4
Total Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1.0	< 1.0
Complex Cyanide (Low Level)	µg/l	1	NONE	< 1.0	< 1.0
Free Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1	< 1
Sulphate as SO ₄	mg/l	0.045	ISO 17025	1.9	0.901
Sulphide	µg/l	5	NONE	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	1.6	1.5
Ammoniacal Nitrogen as N	µg/l	15	NONE	89	31
Ammoniacal Nitrogen as NH ₃	µg/l	15	NONE	110	38
Ammonium - Exchangeable as NH ₄ ⁺	µg/l	15	NONE	110	40
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	0.2	0.2
Nitrate as N	mg/l	0.01	NONE	0.04	0.12
Nitrite as N	µg/l	1	ISO 17025	3.7	4.3

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10
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Speciated PAHs

Naphthalene	µg/l	0.01	NONE	0.16	0.24
Acenaphthylene	µg/l	0.01	NONE	< 0.01	0.09
Acenaphthene	µg/l	0.01	NONE	0.03	0.09
Fluorene	µg/l	0.01	NONE	0.04	0.15
Phenanthrene	µg/l	0.01	NONE	< 0.01	0.25
Anthracene	µg/l	0.01	NONE	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	NONE	< 0.01	0.14
Pyrene	µg/l	0.01	NONE	< 0.01	0.08
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01	0.11
Chrysene	µg/l	0.01	NONE	< 0.01	0.05
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01	0.1
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01	0.03
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01	0.05
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01

Speciated PAHs Low level

Coronene (low level)	µg/l	0.01	NONE	< 0.01	< 0.01
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Total PAH

Total WAC-17 PAHs	µg/l	0.17	NONE	0.23	1.38
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Analytical Report Number: 24-050315
Project / Site name: Vantage Data Centers, 150MVA Substation

Your Order No: 38219 JP

Lab Sample Number				361403	361404
Sample Reference				IP04	IP05
Sample Number				1	2
Depth (m)				0.10-0.30	0.60-0.80
Date Sampled				23/10/2024	23/10/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)		Units	Test Limit of detection	Test Accreditation Status	

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1	ISO 17025	3.2	< 1.0
Boron (dissolved)	µg/l	10	ISO 17025	16	15
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	5.2	1.4
Copper (dissolved)	µg/l	0.7	ISO 17025	9.4	14
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	< 1.0
Mercury - CV-AFS	µg/l	0.007	ISO 17025	< 0.0070	< 0.0070
Nickel (dissolved)	µg/l	0.3	ISO 17025	5.6	1.9
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	2.8	6.3

Calcium (dissolved)	mg/l	0.012	ISO 17025	6.2	3.2
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Petroleum Hydrocarbons

TPH - Aliphatic >EC5 - EC6 _{HS_1D_AL}	µg/l	1	NONE	< 1.0	< 1.0
TPH - Aliphatic >EC6 - EC8 _{HS_1D_AL}	µg/l	1	NONE	< 1.0	< 1.0
TPH - Aliphatic >EC8 - EC10 _{HS_1D_AL}	µg/l	1	NONE	< 1.0	< 1.0
TPH - Aliphatic >EC10 - EC12 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC12 - EC16 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC16 - EC21 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC21 - EC35 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC35 - EC40 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC35 - EC44 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC40 - EC44 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC5 - EC35 _{HS+EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aliphatic >EC5 - EC44 _{HS+EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10

TPH - Aromatic >EC5 - EC7 _{HS_1D_AR}	µg/l	1	NONE	< 1.0	< 1.0
TPH - Aromatic >EC7 - EC8 _{HS_1D_AR}	µg/l	1	NONE	< 1.0	< 1.0
TPH - Aromatic >EC8 - EC10 _{EH_1D_AR_MS}	µg/l	1	NONE	< 1.0	< 1.0
TPH - Aromatic >EC10 - EC12 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC12 - EC16 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC16 - EC21 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC21 - EC35 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC35 - EC40 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC35 - EC44 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC40 - EC44 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC5 - EC44 _{HS+EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC6 - EC35 _{HS+EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	NONE	< 3.0	< 3.0
Benzene	µg/l	3	NONE	< 3.0	< 3.0
Toluene	µg/l	3	NONE	< 3.0	< 3.0
Ethylbenzene	µg/l	3	NONE	< 3.0	< 3.0
p & m-xylene	µg/l	3	NONE	< 3.0	< 3.0
o-xylene	µg/l	3	NONE	< 3.0	< 3.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number : 24-050315
Project / Site name: Vantage Data Centers, 150MVA Substation

* 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 loam (MCERTS) 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 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
361403	IP04	1	0.10-0.30	Brown loam and clay with gravel
361404	IP05	2	0.60-0.80	Brown loam and clay with gravel

Analytical Report Number : 24-050315

Project / Site name: Vantage Data Centers, 150MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

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 dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode	In-house method	L010-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode	In-house method	L029-PL	W	NONE
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	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Cations in soil by ICP-OES	Determination of cations 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	L038B	D	ISO 17025
Total sulphate (as SO ₄ in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by 4-aminobenzene sulphonamide reagent addition in the presence of orthophosphoric acid	In-house method based on ISO:EN 26777:1993 nitrite	L082B	W	NONE
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-MS/GC-MS HS in leachate	Determination of total petroleum hydrocarbons in leachate by GC-MS/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L070B/L088-PL	W	NONE
BTEX and/or Volatile organic compounds in leachate	Determination of volatile organic compounds in leachate by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	NONE
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS

Analytical Report Number : 24-050315

Project / Site name: Vantage Data Centers, 150MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088-PL	D/W	MCERTS
Nitrate as N in leachate	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08	L078-PL	W	NONE
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction	L078-PL	W	NONE
Complex cyanide (Low level) in leachate	Determination of complex cyanide by calculation	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
Complex Cyanide in soil	Determination of complex cyanide by calculation	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	MCERTS
Free cyanide (low level) in leachate	Determination of free cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
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	L080-PL	W	MCERTS
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
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	L080-PL	W	MCERTS
Total cyanide (low level) in leachate	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	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	L080-PL	W	MCERTS
Chloride in leachate	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser	In-house method	L082B	D	MCERTS
Ammonia as NH3 in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE
Ammonia as NH3 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	MCERTS

Analytical Report Number : 24-050315
Project / Site name: Vantage Data Centers, 150MVA Substation

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Exchangeable Ammonium as NH4 in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE
Exchangeable Ammonium as NH4 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method,10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	MCERTS
Nitrite as N in leachate	Determination of nitrite in leachate by addition of sulphanilamide and NED followed by discrete analyser (colorimetry)	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L082B	W	ISO 17025
Mercury Low Level in leachate	Mercury in leachate by CV-AFS	In-house method based on USEPA method 1631	L085B	W	ISO 17025
Kjeldahl nitrogen in leachate	Determination of total nitrogen using the Kjeldahl-digestion method and ion selective electrode	In-house method based on BS 7755-3.7:1995	L087B	W	NONE
Kjeldahl nitrogen in soil	Determination of total nitrogen using the Kjeldahl-digestion method and ion selective electrode	In-house method based on BS 7755-3.7:1995	L087B	D	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS
pH at 20°C in leachate (automated)	Determination of pH in leachate by electrometric measurement	In-house method	L099-PL	W	ISO 17025
Speciated PAHs and/or Semi-volatile organic compounds in leachate	SVOCs and PAHs in leachate	In-house method	L102B		NONE
Organic 2:1 Leachate		In house method based on BS EN 12457-1	L020B	W	NONE



Analytical Report Number : 24-050315
Project / Site name: Vantage Data Centers, 150MVA Substation

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammoniacal Nitrogen as N in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' 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.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution



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Analytical Report Number : 24-054034

Project / Site name: Vantage Data Centers, 150MVA Substation

Your job number: 37989

Your order number: 38219 JP

Report Issue Number: 1

Samples Analysed: 3 water samples

Samples received on: 15/11/2024

**Samples instructed on/
Analysis started on:** 15/11/2024

Analysis completed by: 25/11/2024

Report issued on: 25/11/2024

Signed:

Adan Cazas Garcia
Key Account Manager

For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

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.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.



Analytical Report Number: 24-054034
Project / Site name: Vantage Data Centers, 150MVA Substation

Your Order No: 38219 JP

Lab Sample Number				380262	380263	380264
Sample Reference				BH01	BH02	BH03
Sample Number				1	1	1
Water Matrix				Ground water	Ground water	Ground water
Depth (m)				3.68	4.76	3.92
Date Sampled				14/11/2024	14/11/2024	14/11/2024
Time Taken				1435	1415	1400
Analytical Parameter (Water Analysis)	Units	Test Limit of detection	Test Accreditation Status			

General Inorganics

pH (L099)	pH Units	N/A	ISO 17025	6.9	6.7	6.9
Electrical Conductivity at 20°C	µS/cm	10	ISO 17025	280	240	430
Total Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
Complex Cyanide (Low Level)	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
Free Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
Sulphate as SO ₄	mg/l	0.045	ISO 17025	12.6	19.3	19.6
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	12	16	9.1
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15	< 15	< 15
Ammoniacal Nitrogen as NH ₃	µg/l	15	ISO 17025	< 15	< 15	< 15
Ammonium - Exchangeable as NH ₄ ⁺	µg/l	15	ISO 17025	< 15	< 15	< 15
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	1	0.5	0.2
Nitrate as N	mg/l	0.01	ISO 17025	1.01	0.32	0.22
Nitrite as N	µg/l	1	ISO 17025	7.2	5.9	1.5
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	30	11	5.1
BOD (Biochemical Oxygen Demand) (Total) - PL (L086B)	mg/l	1	ISO 17025	4.8	3.4	6.1

Total Phenols

Total Phenols (Monohydric) Low Level	µg/l	1	NONE	1.3	1.3	1.4
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Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Coronene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01

Total PAH

Total WAC-17 PAHs	µg/l	0.17	NONE	< 0.17	< 0.17	< 0.17
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Analytical Report Number: 24-054034
Project / Site name: Vantage Data Centers, 150MVA Substation

Your Order No: 38219 JP

Lab Sample Number				380262	380263	380264
Sample Reference				BH01	BH02	BH03
Sample Number				1	1	1
Water Matrix				Ground water	Ground water	Ground water
Depth (m)				3.68	4.76	3.92
Date Sampled				14/11/2024	14/11/2024	14/11/2024
Time Taken				1435	1415	1400
Analytical Parameter (Water Analysis)	Units	Test Limit of detection	Test Accreditation Status			

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.32	0.33	1.71
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.04	0.04	0.04
Chromium (total)	µg/l	0.2	ISO 17025	0.4	1.4	0.6
Copper (dissolved)	µg/l	0.5	ISO 17025	3.3	1.2	1.7
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2
Mercury (dissolved)	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	2.2	3.7	3.1
Selenium (dissolved)	µg/l	0.6	ISO 17025	< 0.6	< 0.6	2.4
Zinc (dissolved)	µg/l	0.5	ISO 17025	3.5	2	2.4

Boron (dissolved)	µg/l	10	ISO 17025	24	26	36
Calcium (dissolved)	mg/l	0.012	ISO 17025	38	24	65
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0

Petroleum Hydrocarbons

TPH - Aliphatic >EC5 - EC6 _{HS_1D_AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC6 - EC8 _{HS_1D_AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC8 - EC10 _{HS_1D_AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC10 - EC12 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC12 - EC16 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC16 - EC21 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC21 - EC35 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC5 - EC35 _{HS+EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC35 - EC40 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC35 - EC44 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC40 - EC44 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC5 - EC44 _{HS+EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10

TPH - Aromatic >EC5 - EC7 _{HS_1D_AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC7 - EC8 _{HS_1D_AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC8 - EC10 _{HS_1D_AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC10 - EC12 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC12 - EC16 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC16 - EC21 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC21 - EC35 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC5 - EC35 _{HS+EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC35 - EC40 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC35 - EC44 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC40 - EC44 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC5 - EC44 _{HS+EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 24-054034

Project / Site name: Vantage Data Centers, 150MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)

Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited matrices: SW, PW, GW, except B - SW,GW, Hg - SW,PW, Al - SW,PW	In-house method based on USEPA Method 6020 & 200.8 for the determination of trace elements in water by ICP-MS	L012B	W	ISO 17025
Metals in water by ICP-MS (total)	Determination of metals in water by acidification followed by ICP-MS. Accredited matrices: SW, PW, GW, except B - SW,GW, Hg - SW,PW, Al - SW,PW	In-house method based on USEPA Method 6020 & 200.8 for the determination of trace elements in water by ICP-MS	L012B	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode	In-house method	L029-PL	W	NONE
Electrical Conductivity at 20°C in water	Determination of electrical conductivity in water by electrochemical measurement. Accredited matrices: SW, PW, GW, FSE	In-house method	L031B	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW, PW, GW, FSE, LL; PrW, DI PrW (Al, Cu, Fe,Zn)	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Chemical Oxygen Demand in water (Total)	Determination of total COD in water by reflux oxidation with acidified K ₂ Cr ₂ O ₇ followed by colorimetry. Accredited matrices: SW, PW, GW, FSE, LL	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025
Total Petroleum Hydrocarbons with carbon banding in water by GC-MS	Determination of total petroleum hydrocarbons in water by GC-MS with carbon banding aliphatic and aromatic	In-house method	L070B	W	NONE
BTEX and/or Volatile Organic Compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW, PW, GW	In-house method based on USEPA 8260	L073B	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate followed by colorimetry. Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08	L078-PL	W	ISO 17025
Complex Cyanide (low level) in water	Determination of complex cyanide in water by calculation	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5-diphenylcarbazide, followed by colorimetry. Accredited matrices: SW, PW, GW, FSE, LL	In-house method by continuous flow analyser	L080-PL	W	ISO 17025
Free cyanide (low level) in water	Determination of free cyanide in water by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
Monohydric phenols (low level) in water	Determination of phenols in water by continuous flow analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
Total cyanide (low level) in water	Determination of total cyanide in water by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
Chloride in water	Determination of chloride in water by colorimetry using discrete analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025

Analytical Report Number : 24-054034

Project / Site name: Vantage Data Centers, 150MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)

Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Ammonia as NH ₃ in water	Determination of ammonium/ammonia/ammoniacal nitrogen by the colorimetric salicylate/nitroprusside method using discrete analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	ISO 17025
Exchangeable Ammonium as NH ₄ in water	Determination of ammonium/ammonia/ammoniacal nitrogen by the colorimetric salicylate/nitroprusside method using discrete analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	ISO 17025
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by colorimetry using discrete analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	ISO 17025
Biochemical Oxygen Demand in water (Total)	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on standard method 5210B	L086B	W	ISO 17025
Kjeldahl Nitrogen in water	Determination of total nitrogen using the Kjeldahl digestion method and ion selective electrode	In-house method based on BS 7755-3.7:1995 & ISO 11261:1995	L087B	W	NONE
Total Petroleum Hydrocarbons in water by HS-GC-MS	Determination of total petroleum hydrocarbons in water by headspace GC-MS. Accredited matrices: SW, PW, GW	In-house method	L088-PL	W	ISO 17025
pH of water at 20°C (automated)	Determination of pH of water by electrochemical measurement. Accredited matrices: SW, PW, GW, FSE, LL	In-house method	L099-PL	W	ISO 17025
Speciated PAHs and/or Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds (including PAHs) in water by extraction in dichloromethane followed by GC-MS. Accredited matrices (PAHs): SW, PW, GW	In-house method based on USEPA 8270	L102B	W	ISO 17025
Ammoniacal Nitrogen as N in water	Determination of ammonium/ammonia/ammoniacal nitrogen by the colorimetric salicylate/nitroprusside method using discrete analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	ISO 17025
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited matrices: SW, PW, GW, PrW, DI PrW, FSE, LL	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025



Analytical Report Number : 24-054034
Project / Site name: Vantage Data Centers, 150MVA Substation

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' 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.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution



Analytical Report Number : 24-054034
Project / Site name: Vantage Data Centers, 150MVA Substation

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis. Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH01	1	W	380262	c	Biochemical Oxygen Demand in water (Total)	L086B	c
BH02	1	W	380263	c	Biochemical Oxygen Demand in water (Total)	L086B	c
BH03	1	W	380264	c	Biochemical Oxygen Demand in water (Total)	L086B	c



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Analytical Report Number : 24-054114

Project / Site name: Vantage Data Centers, 150MVA Substation

Your job number: 37989

Your order number: 37989-HS

Report Issue Number: 1

Samples Analysed: 1 soil sample - 1 leachate sample

Samples received on: 15/11/2024

**Samples instructed on/
Analysis started on:** 15/11/2024

Analysis completed by: 22/11/2024

Report issued on: 22/11/2024

Signed:

Adan Cazas Garcia
Key Account Manager

For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

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

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.



Analytical Report Number: 24-054114
Project / Site name: Vantage Data Centers, 150MVA Substation
Your Order No: 37989-HS

Lab Sample Number				380710
Sample Reference				TP03
Sample Number				1A
Depth (m)				0.10-0.30
Date Sampled				14/11/2024
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status	

Stone Content	%	0.1	NONE	19.7
Moisture Content	%	0.01	NONE	15
Total mass of sample received	kg	0.1	NONE	2

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	KWB

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	6.9
Total Cyanide	mg/kg	1	MCERTS	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0
Total Sulphate as SO ₄	mg/kg	50	MCERTS	410
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	34
Water Soluble SO ₄ 16hr extraction (2:1)	mg/l	1.25	MCERTS	17
Sulphide	mg/kg	1	MCERTS	96
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	4.3
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5
Ammoniacal Nitrogen as NH ₃	mg/kg	0.5	MCERTS	< 0.5
Ammonium - Exchangeable as NH ₄ ⁺	mg/kg	0.5	NONE	< 0.5
Total Nitrogen (Kjeldahl)	mg/kg	5	NONE	2600
Organic Matter (automated)	%	0.1	MCERTS	4.5
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	4.5
Nitrite as N (Water Soluble) (2:1)	µg/kg	0.02	NONE	159

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.15
Anthracene	mg/kg	0.05	MCERTS	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.25
Pyrene	mg/kg	0.05	MCERTS	0.22
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.15
Chrysene	mg/kg	0.05	MCERTS	0.14
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.24
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.08
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.17
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.09
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.11
Coronene	mg/kg	0.05	NONE	0.08

Total PAH

Total WAC-17 PAHs	mg/kg	0.85	NONE	1.65
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Analytical Report Number: 24-054114
Project / Site name: Vantage Data Centers, 150MVA Substation
Your Order No: 37989-HS

Lab Sample Number	380710			
Sample Reference	TP03			
Sample Number	1A			
Depth (m)	0.10-0.30			
Date Sampled	14/11/2024			
Time Taken	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status	

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	10
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.4
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	40
Copper (aqua regia extractable)	mg/kg	1	MCERTS	19
Lead (aqua regia extractable)	mg/kg	1	MCERTS	48
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	15
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	71

Calcium (aqua regia extractable)	mg/kg	20	ISO 17025	2500
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Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0
TPHCWG - Aliphatic >EC35 - EC44 _{EH_CU_1D_AL}	mg/kg	8.4	NONE	< 8.4
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10
TPHCWG - Aliphatic >EC5 - EC44 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.02	MCERTS	< 0.020
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	< 2.0
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10
TPHCWG - Aromatic >EC35 - EC44 _{EH_CU_1D_AR}	mg/kg	8.4	NONE	< 8.4
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10
TPHCWG - Aromatic >EC5 - EC44 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number: 24-054114
Project / Site name: Vantage Data Centers, 150MVA Substation

Your Order No: 37989-HS

Lab Sample Number				380710
Sample Reference				TP03
Sample Number				1A
Depth (m)				0.10-0.30
Date Sampled				14/11/2024
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status	

General Inorganics

pH (automated)	pH Units	N/A	ISO 17025	6.8
Total Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1.0
Complex Cyanide (Low Level)	µg/l	1	NONE	< 1.0
Free Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1
Sulphate as SO ₄	mg/l	0.045	ISO 17025	1.46
Sulphide	µg/l	5	NONE	< 5.0
Chloride	mg/l	0.15	ISO 17025	1.7
Ammoniacal Nitrogen as N	µg/l	15	NONE	63
Ammoniacal Nitrogen as NH ₃	µg/l	15	NONE	77
Ammonium - Exchangeable as NH ₄ ⁺	µg/l	15	NONE	81
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	0.1
Nitrate as N	mg/l	0.01	NONE	2
Nitrite as N	µg/l	1	ISO 17025	11

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10
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Speciated PAHs

Naphthalene	µg/l	0.01	NONE	0.24
Acenaphthylene	µg/l	0.01	NONE	0.05
Acenaphthene	µg/l	0.01	NONE	0.03
Fluorene	µg/l	0.01	NONE	0.07
Phenanthrene	µg/l	0.01	NONE	0.25
Anthracene	µg/l	0.01	NONE	< 0.01
Fluoranthene	µg/l	0.01	NONE	0.05
Pyrene	µg/l	0.01	NONE	< 0.01
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01
Chrysene	µg/l	0.01	NONE	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01

Speciated PAHs Low level

Coronene (low level)	µg/l	0.01	NONE	< 0.01
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Total PAH

Total WAC-17 PAHs	µg/l	0.17	NONE	0.69
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Analytical Report Number: 24-054114
Project / Site name: Vantage Data Centers, 150MVA Substation

Your Order No: 37989-HS

Lab Sample Number				380710
Sample Reference				TP03
Sample Number				1A
Depth (m)				0.10-0.30
Date Sampled				14/11/2024
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status	

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1	ISO 17025	< 1.0
Boron (dissolved)	µg/l	10	ISO 17025	25
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	2.7
Copper (dissolved)	µg/l	0.7	ISO 17025	32
Lead (dissolved)	µg/l	1	ISO 17025	5.2
Mercury - CV-AFS	µg/l	0.007	ISO 17025	0.0138
Nickel (dissolved)	µg/l	0.3	ISO 17025	2.1
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	18

Calcium (dissolved)	mg/l	0.012	ISO 17025	3.3
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Petroleum Hydrocarbons

TPH - Aliphatic >EC5 - EC6 _{HS_1D_AL}	µg/l	1	NONE	< 1.0
TPH - Aliphatic >EC6 - EC8 _{HS_1D_AL}	µg/l	1	NONE	< 1.0
TPH - Aliphatic >EC8 - EC10 _{HS_1D_AL}	µg/l	1	NONE	< 1.0
TPH - Aliphatic >EC10 - EC12 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC12 - EC16 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC16 - EC21 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC21 - EC35 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC35 - EC40 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC35 - EC44 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC40 - EC44 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC5 - EC35 _{HS+EH_1D_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC5 - EC44 _{HS+EH_1D_AL_MS}	µg/l	10	NONE	< 10

TPH - Aromatic >EC5 - EC7 _{HS_1D_AR}	µg/l	1	NONE	< 1.0
TPH - Aromatic >EC7 - EC8 _{HS_1D_AR}	µg/l	1	NONE	< 1.0
TPH - Aromatic >EC8 - EC10 _{EH_1D_AR_MS}	µg/l	1	NONE	< 1.0
TPH - Aromatic >EC10 - EC12 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC12 - EC16 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC16 - EC21 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC21 - EC35 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC35 - EC40 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC35 - EC44 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC40 - EC44 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC5 - EC44 _{HS+EH_1D_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC6 - EC35 _{HS+EH_1D_AR_MS}	µg/l	10	NONE	< 10

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	NONE	< 3.0
Benzene	µg/l	3	NONE	< 3.0
Toluene	µg/l	3	NONE	< 3.0
Ethylbenzene	µg/l	3	NONE	< 3.0
p & m-xylene	µg/l	3	NONE	< 3.0
o-xylene	µg/l	3	NONE	< 3.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number : 24-054114
Project / Site name: Vantage Data Centers, 150MVA Substation

* 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 loam (MCERTS) 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 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
380710	TP03	1A	0.10-0.30	Brown loam and sand with vegetation and stones

Analytical Report Number : 24-054114

Project / Site name: Vantage Data Centers, 150MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

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 dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode	In-house method	L010-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Sulphide in leachate	Determination of sulphide in leachate by ion selective electrode	In-house method	L029-PL	W	NONE
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	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Cations in soil by ICP-OES	Determination of cations 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	L038B	D	ISO 17025
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Water Soluble Nitrite (2:1) as N in soil	Determination of nitrite in soil by extraction with water followed by 4-aminobenzene sulphonamide reagent addition in the presence of orthophosphoric acid	In-house method based on ISO:EN 26777:1993 nitrite	L082B	W	NONE
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-MS/GC-MS HS in leachate	Determination of total petroleum hydrocarbons in leachate by GC-MS/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L070B/L088-PL	W	NONE
BTEX and/or Volatile organic compounds in leachate	Determination of volatile organic compounds in leachate by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	NONE
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS

Analytical Report Number : 24-054114

Project / Site name: Vantage Data Centers, 150MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088-PL	D/W	MCERTS
Nitrate as N in leachate	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08	L078-PL	W	NONE
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction	L078-PL	W	NONE
Complex cyanide (Low level) in leachate	Determination of complex cyanide by calculation	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
Complex Cyanide in soil	Determination of complex cyanide by calculation	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	MCERTS
Free cyanide (low level) in leachate	Determination of free cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
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	L080-PL	W	MCERTS
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
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	L080-PL	W	MCERTS
Total cyanide (low level) in leachate	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	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	L080-PL	W	MCERTS
Chloride in leachate	Determination of Chloride colorimetrically by discrete analyser	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser	In-house method	L082B	D	MCERTS
Ammonia as NH3 in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE
Ammonia as NH3 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	MCERTS

Analytical Report Number : 24-054114
Project / Site name: Vantage Data Centers, 150MVA Substation

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Exchangeable Ammonium as NH ₄ in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE
Exchangeable Ammonium as NH ₄ in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method,10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	MCERTS
Nitrite as N in leachate	Determination of nitrite in leachate by addition of sulphanilamide and NED followed by discrete analyser (colorimetry)	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton & Polish Standard Method PN-82/C-04579.08	L082B	W	ISO 17025
Mercury Low Level in leachate	Mercury in leachate by CV-AFS	In-house method based on USEPA method 1631	L085B	W	ISO 17025
Kjeldahl nitrogen in leachate	Determination of total nitrogen using the Kjeldahl-digestion method and ion selective electrode	In-house method based on BS 7755-3.7:1995	L087B	W	NONE
Kjeldahl nitrogen in soil	Determination of total nitrogen using the Kjeldahl-digestion method and ion selective electrode	In-house method based on BS 7755-3.7:1995	L087B	D	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS
pH at 20°C in leachate (automated)	Determination of pH in leachate by electrometric measurement	In-house method	L099-PL	W	ISO 17025
Speciated PAHs and/or Semi-volatile organic compounds in leachate	SVOCs and PAHs in leachate	In-house method	L102B		NONE
Organic 2:1 Leachate		In house method based on BS EN 12457-1	L020B	W	NONE
Ammoniacal Nitrogen as N in leachate	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	NONE



Analytical Report Number : 24-054114
Project / Site name: Vantage Data Centers, 150MVA Substation

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' 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 aravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution



Analytical Report Number : 24-054114
Project / Site name: Vantage Data Centers, 150MVA Substation

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis. Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP03	1A	S	380710	b	BTEX and/or Volatile organic compounds in soil	L073B	b
TP03	1A	S	380710	b	Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	L076B/L088-PL	b



4041

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e: reception@i2analytical.com

Analytical Report Number : 25-000439

Project / Site name: Vantage Data Centers, 150MVA Substation

Your job number: 37989

Your order number: 37989-LI

Report Issue Number: 1

Samples Analysed: 3 water samples

Samples received on: 08/01/2025

**Samples instructed on/
Analysis started on:** 08/01/2025

Analysis completed by: 15/01/2025

Report issued on: 15/01/2025

Signed: _____

Anna Goc
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

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
air	- once the analysis is complete

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

Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.



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Analytical Report Number: 25-000439

Project / Site name: Vantage Data Centers, 150MVA Substation

Your Order No: 37989-LI

Lab Sample Number				419495	419496	419497
Sample Reference				BH01	BH02	BH03
Sample Number				2	2	2
Water Matrix				Ground water	Ground water	Ground water
Depth (m)				2.70	2.72	2.92
Date Sampled				07/01/2025	07/01/2025	07/01/2025
Time Taken				1037	1113	1057
Analytical Parameter (Water Analysis)	Units	Test Limit of detection	Test Accreditation Status			

General Inorganics

pH (L099)	pH Units	N/A	ISO 17025	6.6	6.4	6.7
Electrical Conductivity at 20°C	µS/cm	10	ISO 17025	320	170	400
Total Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
Complex Cyanide (Low Level)	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
Free Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
Sulphate as SO ₄	mg/l	0.045	ISO 17025	13.8	10.1	8.82
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0
Chloride	mg/l	0.15	ISO 17025	12	12	6.2
Ammoniacal Nitrogen as N	µg/l	15	ISO 17025	< 15	< 15	< 15
Ammoniacal Nitrogen as NH ₃	µg/l	15	ISO 17025	< 15	< 15	< 15
Ammonium - Exchangeable as NH ₄ ⁺	µg/l	15	ISO 17025	< 15	< 15	< 15
Total Nitrogen (Kjeldahl)	mg/l	0.1	NONE	0.4	0.2	0.2
Nitrate as N	mg/l	0.01	ISO 17025	1.46	0.21	0.28
Nitrite as N	µg/l	1	ISO 17025	< 1.0	< 1.0	3.5
Chemical Oxygen Demand (Total)	mg/l	2	ISO 17025	8.7	6.5	4
BOD (Biochemical Oxygen Demand) (Total) - PL (L086B)	mg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0

Total Phenols

Total Phenols (Monohydric) Low Level	µg/l	1	NONE	2.6	2.9	2.6
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Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01
Coronene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01

Total PAH

Total WAC-17 PAHs	µg/l	0.17	NONE	< 0.17	< 0.17	< 0.17
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4041



Analytical Report Number: 25-000439

Project / Site name: Vantage Data Centers, 150MVA Substation

Your Order No: 37989-LI

Lab Sample Number				419495	419496	419497
Sample Reference				BH01	BH02	BH03
Sample Number				2	2	2
Water Matrix				Ground water	Ground water	Ground water
Depth (m)				2.70	2.72	2.92
Date Sampled				07/01/2025	07/01/2025	07/01/2025
Time Taken				1037	1113	1057
Analytical Parameter (Water Analysis)	Units	Test Limit of detection	Test Accreditation Status			

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.33	0.3	0.55
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	0.04
Chromium (total)	µg/l	0.2	ISO 17025	1.1	0.4	0.4
Copper (dissolved)	µg/l	0.5	ISO 17025	4.4	2.7	3.4
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2
Mercury (dissolved)	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.2	1.5	3.1
Selenium (dissolved)	µg/l	0.6	ISO 17025	1.4	< 0.6	2.1
Zinc (dissolved)	µg/l	0.5	ISO 17025	5.4	4.3	8.7

Boron (dissolved)	µg/l	10	ISO 17025	19	14	31
Calcium (dissolved)	mg/l	0.012	ISO 17025	57	19	71
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0

Petroleum Hydrocarbons

TPH - Aliphatic >EC5 - EC6 _{HS_1D_AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC6 - EC8 _{HS_1D_AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC8 - EC10 _{HS_1D_AL}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC10 - EC12 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC12 - EC16 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC16 - EC21 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC21 - EC35 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC5 - EC35 _{HS+EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC35 - EC40 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC35 - EC44 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC40 - EC44 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC5 - EC44 _{HS+EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10

TPH - Aromatic >EC5 - EC7 _{HS_1D_AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC7 - EC8 _{HS_1D_AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC8 - EC10 _{HS_1D_AR}	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC10 - EC12 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC12 - EC16 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC16 - EC21 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC21 - EC35 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC5 - EC35 _{HS+EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC35 - EC40 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC35 - EC44 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC40 - EC44 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC5 - EC44 _{HS+EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0	< 3.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



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**Analytical Report Number : 25-000439****Project / Site name: Vantage Data Centers, 150MVA Substation****Water matrix abbreviations:****Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)****Final Sewage Effluent (FSE) Landfill Leachate (LL)**

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited matrices: SW, PW, GW, except B - SW, GW, Hg - SW, PW, Al - SW, PW	In-house method based on USEPA Method 6020 & 200.8 for the determination of trace elements in water by ICP-MS	L012B	W	ISO 17025
Metals in water by ICP-MS (total)	Determination of metals in water by acidification followed by ICP-MS. Accredited matrices: SW, PW, GW, except B - SW, GW, Hg - SW, PW, Al - SW, PW	In-house method based on USEPA Method 6020 & 200.8 for the determination of trace elements in water by ICP-MS	L012B	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode	In-house method	L029-PL	W	NONE
Electrical Conductivity at 20°C in water	Determination of electrical conductivity in water by electrochemical measurement. Accredited matrices: SW, PW, GW, FSE	In-house method	L031B	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited matrices: SW, PW, GW, FSE, LL; PrW, DI PrW (Al, Cu, Fe, Zn)	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Chemical Oxygen Demand in water (Total)	Determination of total COD in water by reflux oxidation with acidified K ₂ Cr ₂ O ₇ followed by colorimetry. Accredited matrices: SW, PW, GW, FSE, LL	HACH DR/890 Colorimeter Procedures Manual (48470-22) (Ref 0170.2)	L065-PL	W	ISO 17025
Total Petroleum Hydrocarbons with carbon banding in water by GC-MS	Determination of total petroleum hydrocarbons in water by GC-MS with carbon banding aliphatic and aromatic	In-house method	L070B	W	NONE
BTEX and/or Volatile Organic Compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW, PW, GW	In-house method based on USEPA 8260	L073B	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate followed by colorimetry. Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08	L078-PL	W	ISO 17025
Complex Cyanide (low level) in water	Determination of complex cyanide in water by calculation	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5-diphenylcarbazide, followed by colorimetry. Accredited matrices: SW, PW, GW, FSE, LL	In-house method by continuous flow analyser	L080-PL	W	ISO 17025
Free cyanide (low level) in water	Determination of free cyanide in water by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
Monohydric phenols (low level) in water	Determination of phenols in water by continuous flow analyser	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
Total cyanide (low level) in water	Determination of total cyanide in water by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
Chloride in water	Determination of chloride in water by colorimetry using discrete analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house based on MEWAM Method ISBN 0117516260	L082B	W	ISO 17025
Ammonia as NH ₃ in water	Determination of ammonium/ammonia/ammoniacal nitrogen by the colorimetric salicylate/nitroprusside method using discrete analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	ISO 17025



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**Analytical Report Number : 25-000439****Project / Site name: Vantage Data Centers, 150MVA Substation****Water matrix abbreviations:****Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)****Final Sewage Effluent (FSE) Landfill Leachate (LL)**

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Exchangeable Ammonium as NH ₄ in water	Determination of ammonium/ammonia/ammoniacal nitrogen by the colorimetric salicylate/nitroprusside method using discrete analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	ISO 17025
Nitrite as N in water	Determination of nitrite in water by addition of sulphanilamide and NED followed by colorimetry using discrete analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	ISO 17025
Biochemical Oxygen Demand in water (Total)	Determination of biochemical oxygen demand in water (5 days). Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on standard method 5210B	L086B	W	ISO 17025
Kjeldahl Nitrogen in water	Determination of total nitrogen using the Kjeldahl digestion method and ion selective electrode	In-house method based on BS 7755-3.7:1995 & ISO 11261:1995	L087B	W	NONE
Total Petroleum Hydrocarbons in water by HS-GC-MS	Determination of total petroleum hydrocarbons in water by headspace GC-MS. Accredited matrices: SW, PW, GW	In-house method	L088-PL	W	ISO 17025
pH of water at 20°C (automated)	Determination of pH of water by electrochemical measurement. Accredited matrices: SW, PW, GW, FSE, LL	In-house method	L099-PL	W	ISO 17025
Speciated PAHs and/or Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds (including PAHs) in water by extraction in dichloromethane followed by GC-MS. Accredited matrices (PAHs): SW, PW, GW	In-house method based on USEPA 8270	L102B	W	ISO 17025
Ammoniacal Nitrogen as N in water	Determination of ammonium/ammonia/ammoniacal nitrogen by the colorimetric salicylate/nitroprusside method using discrete analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	ISO 17025

Analytical Report Number : 25-000439

Project / Site name: Vantage Data Centers, 150MVA Substation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)

Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited matrices: SW, PW, GW, PrW, DI PrW, FSE, LL	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL' or 'B' 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.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
-	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution



4041

Sample Deviation Report



Analytical Report Number : 25-000439

Project / Site name: Vantage Data Centers, 150MVA Substation

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis. Please note that the associated result(s) may be unreliable and should be interpreted with care.

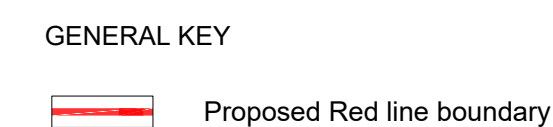
Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH01	2	W	419495	c	Biochemical Oxygen Demand in water (Total)	L086B	c
BH02	2	W	419496	c	Biochemical Oxygen Demand in water (Total)	L086B	c
BH03	2	W	419497	c	Biochemical Oxygen Demand in water (Total)	L086B	c

Appendix B. Figures

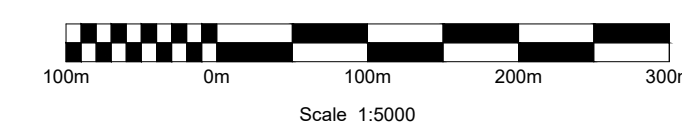


A pie chart with a circle divided into four quadrants by two perpendicular lines. The top-right quadrant is shaded black, representing 25% of the total. The other three quadrants are white, each representing 75% of the total.



GENERAL KEY

Proposed Red line boundary



P01	20/06/2024	ISSUED FOR INFORMATION	SN	PT	DB
Rev.	Date	Description	By	Chk'd	Rev'd

Drawing Status	Suitability
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WORK IN PROGRESS **SO**

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Member of the SNC-Lavalin Group

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Client **Vantage Data Centres**



VANTAGE™
DATA CENTERS

DATA CENTERS

Project Title

VANTAGE DATA CENTRES SUBSTATION

Drawing Title

SITE
LOCATION PLAN

	LOCATION	DATE
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Original Size	Date	Date	Date	Date
A1	09 06 23	09 06 23	09 06 23	09 06 23

00100120	00100120	00100120	00100120
Drawing Number			Revision

5185749-ATK-XX-XX-DR-L-401008	P01
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100
Millimetres
0 10

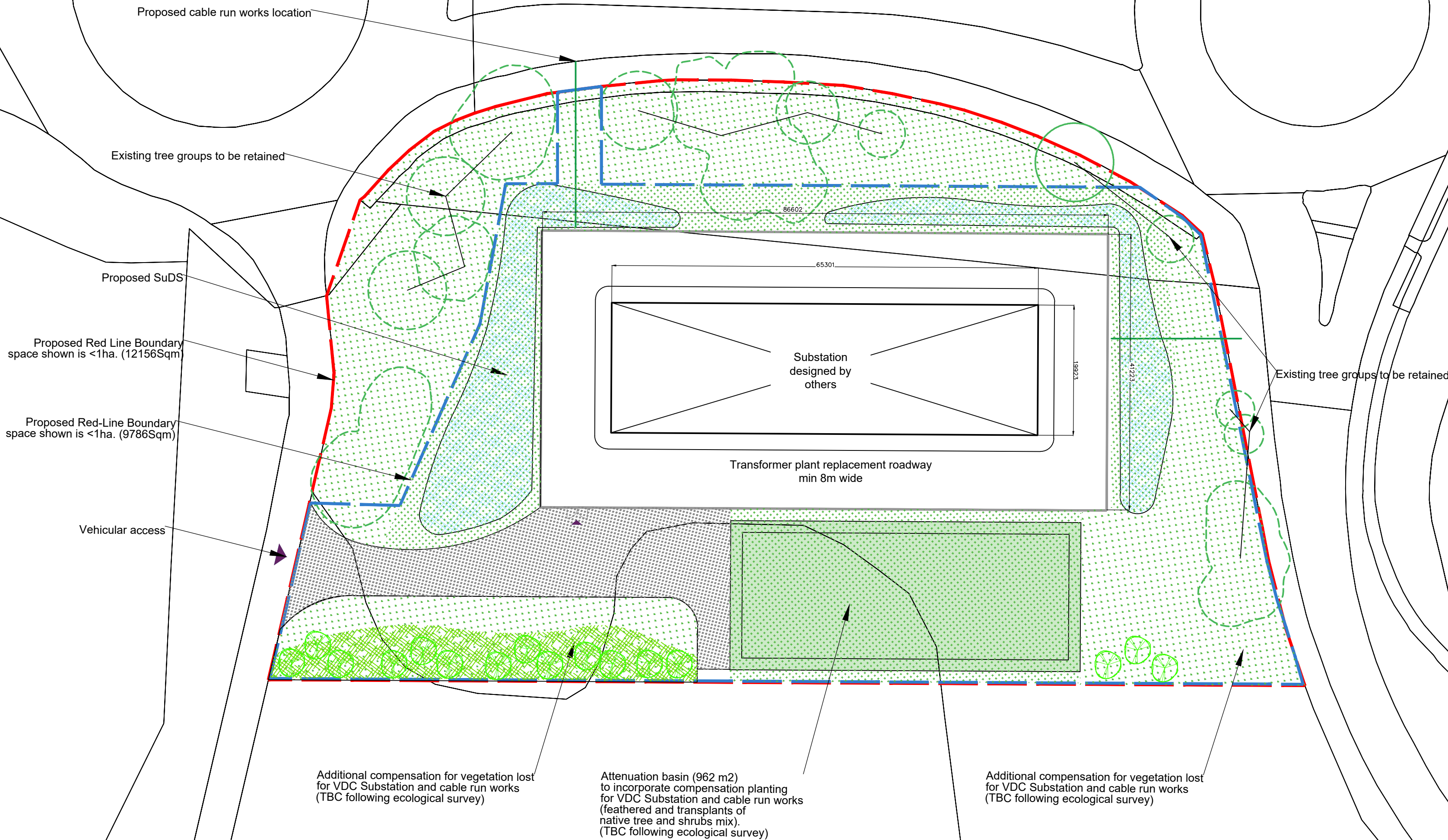
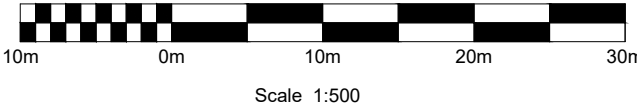
DO NOT SCALE

NORTH

DRAFT

GENERAL KEY

- Proposed Red line boundary
- Proposed Red line boundary
- Proposed fence
- Proposed trees
- Attenuation area
- Proposed Species Rich Grassland for Rain Garden and to attenuation area
- Proposed Species Rich Grassland
- Proposed Native Tree and Shrub mix



Rev.	Date	Description	By	Chk'd	Rev'd
P01	09/06/2023	ISSUED FOR INFORMATION	AM	PT	DB

Drawing Status	WORK IN PROGRESS	Suitability	SO
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Client

Vantage Data Centres

Project Title

VANTAGE DATA CENTRES SUBSTATION

Drawing Title

LANDSCAPE
PRELIMINARY GENERAL ARRANGEMENT

Scale	Designed	Drawn	Checked	Authorised
1:500	AM	AM	PT	DB
Original Size	Date	Date	Date	Date
A1	09.06.23	09.06.23	09.06.23	09.06.23

Drawing Number	Revision
5185749-ATK-XX-XX-DR-L-401001	P01

Appendix C. Groundsure Report



Newport Site 2

Order Details

Date: 30/05/2023
Your ref: Newport Site 2
Our Ref: GSIP-2023-13616-13748

Site Details

Location: 328456 184443
Area: 8.26 ha
Authority: [Casnewydd - Newport City Council](#) ↗



[Summary of findings](#)

[p. 2 >](#)

[Aerial image](#)

[p. 8 >](#)

[OS MasterMap site plan](#)

[p.13 >](#)

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Contact us with any questions at:

info@groundsure.com ↗

01273 257 755

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
14 >	1.1 >	Historical industrial land uses >	0	0	8	7	-
15 >	1.2 >	Historical tanks >	0	0	5	7	-
16 >	1.3 >	Historical energy features >	1	0	8	7	-
17 >	1.4 >	Historical petrol stations >	0	0	0	0	-
17 >	1.5 >	Historical garages >	0	0	0	0	-
17 >	1.6 >	Historical military land >	0	0	0	0	-
Page	Section	Past land use - un-grouped >	On site	0-50m	50-250m	250-500m	500-2000m
18 >	2.1 >	Historical industrial land uses >	0	0	10	7	-
19 >	2.2 >	Historical tanks >	0	0	8	12	-
20 >	2.3 >	Historical energy features >	4	0	24	17	-
22 >	2.4 >	Historical petrol stations >	0	0	0	0	-
22 >	2.5 >	Historical garages >	0	0	0	0	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
23 >	3.1 >	Active or recent landfill >	0	0	0	0	-
23 >	3.2 >	Historical landfill (BGS records) >	0	0	0	0	-
24 >	3.3 >	Historical landfill (LA/mapping records) >	0	0	0	0	-
24 >	3.4 >	Historical landfill (EA/NRW records) >	0	0	0	1	-
24 >	3.5 >	Historical waste sites >	0	0	0	0	-
24 >	3.6 >	Licensed waste sites >	0	0	4	2	-
26 >	3.7 >	Waste exemptions >	0	1	0	16	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
29 >	4.1 >	Recent industrial land uses >	1	2	22	-	-
31 >	4.2 >	Current or recent petrol stations >	0	0	0	0	-
31 >	4.3 >	Electricity cables >	0	0	0	0	-
31 >	4.4 >	Gas pipelines >	0	0	0	0	-
32 >	4.5 >	Sites determined as Contaminated Land >	0	0	0	0	-



32 >	4.6 >	Control of Major Accident Hazards (COMAH) >	1	0	0	0	-
32 >	4.7 >	Regulated explosive sites >	0	0	0	0	-
32 >	4.8 >	Hazardous substance storage/usage >	0	0	1	0	-
33 >	4.9 >	Historical licensed industrial activities (IPC) >	0	0	6	0	-
34 >	4.10 >	Licensed industrial activities (Part A(1)) >	0	0	12	0	-
36 >	4.11 >	Licensed pollutant release (Part A(2)/B) >	0	0	0	1	-
36 >	4.12 >	Radioactive Substance Authorisations >	0	0	5	0	-
37 >	4.13 >	Licensed Discharges to controlled waters >	0	0	7	9	-
39 >	4.14 >	Pollutant release to surface waters (Red List) >	0	0	0	0	-
40 >	4.15 >	Pollutant release to public sewer >	0	0	0	0	-
40 >	4.16 >	List 1 Dangerous Substances >	0	0	0	0	-
40 >	4.17 >	List 2 Dangerous Substances >	0	0	0	0	-
40 >	4.18 >	Pollution Incidents (EA/NRW) >	0	0	2	18	-
43 >	4.19 >	Pollution inventory substances >	0	0	0	0	-
43 >	4.20 >	Pollution inventory waste transfers >	0	0	0	0	-
43 >	4.21 >	Pollution inventory radioactive waste >	0	0	0	0	-
Page	Section	Hydrogeology >	On site	0-50m	50-250m	250-500m	500-2000m
44 >	5.1 >	Superficial aquifer >	Identified (within 500m)				
46 >	5.2 >	Bedrock aquifer >	Identified (within 500m)				
48 >	5.3 >	Groundwater vulnerability >	Identified (within 50m)				
49 >	5.4 >	Groundwater vulnerability- soluble rock risk >	None (within 0m)				
49 >	5.5 >	Groundwater vulnerability- local information >	None (within 0m)				
50 >	5.6 >	Groundwater abstractions >	0	1	0	0	1
51 >	5.7 >	Surface water abstractions >	0	0	0	0	0
51 >	5.8 >	Potable abstractions >	0	0	0	0	0
52 >	5.9 >	Source Protection Zones >	0	0	0	0	-
52 >	5.10 >	Source Protection Zones (confined aquifer) >	0	0	0	0	-
Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m
53 >	6.1 >	Water Network (OS MasterMap) >	0	0	29	-	-



56 >	6.2 >	Surface water features >	1	0	15	-	-
56 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
57 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
57 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding >	On site	0-50m	50-250m	250-500m	500-2000m
58 >	7.1 >	Risk of flooding from rivers and the sea >	None (within 50m)				
59 >	7.2 >	Historical Flood Events >	0	0	0	-	-
59 >	7.3 >	Flood Defences >	0	0	0	-	-
59 >	7.4 >	Areas Benefiting from Flood Defences >	0	0	2	-	-
59 >	7.5 >	Flood Storage Areas >	0	0	0	-	-
60 >	7.6 >	Flood Zone 2 >	None (within 50m)				
60 >	7.7 >	Flood Zone 3 >	None (within 50m)				
Page	Section	Surface water flooding >					
61 >	8.1 >	Surface water flooding >	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
63 >	9.1 >	Groundwater flooding >	Moderate (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
64 >	10.1 >	Sites of Special Scientific Interest (SSSI) >	0	0	1	0	3
65 >	10.2 >	Conserved wetland sites (Ramsar sites) >	0	0	0	0	0
65 >	10.3 >	Special Areas of Conservation (SAC) >	0	0	0	0	0
65 >	10.4 >	Special Protection Areas (SPA) >	0	0	0	0	0
66 >	10.5 >	National Nature Reserves (NNR) >	0	0	0	0	0
66 >	10.6 >	Local Nature Reserves (LNR) >	0	0	0	0	0
66 >	10.7 >	Designated Ancient Woodland >	0	0	0	1	24
67 >	10.8 >	Biosphere Reserves >	0	0	0	0	0
67 >	10.9 >	Forest Parks >	0	0	0	0	0
68 >	10.10 >	Marine Conservation Zones >	0	0	0	0	0
68 >	10.11 >	Green Belt >	0	0	0	0	0
68 >	10.12 >	Proposed Ramsar sites >	0	0	0	0	0



68 >	10.13 >	Possible Special Areas of Conservation (pSAC) >	0	0	0	0	0
68 >	10.14 >	Potential Special Protection Areas (pSPA) >	0	0	0	0	0
69 >	10.15 >	Nitrate Sensitive Areas >	0	0	0	0	0
69 >	10.16 >	Nitrate Vulnerable Zones >	0	0	0	0	0
70 >	10.17 >	SSSI Impact Risk Zones >	0	-	-	-	-
70 >	10.18 >	SSSI Units >	0	0	0	0	0
Page	Section	Visual and cultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
71 >	11.1 >	World Heritage Sites >	0	0	0	-	-
71 >	11.2 >	Area of Outstanding Natural Beauty >	0	0	0	-	-
71 >	11.3 >	National Parks >	0	0	0	-	-
71 >	11.4 >	Listed Buildings >	0	0	0	-	-
72 >	11.5 >	Conservation Areas >	0	0	0	-	-
72 >	11.6 >	Scheduled Ancient Monuments >	0	0	0	-	-
72 >	11.7 >	Registered Parks and Gardens >	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
73 >	12.1 >	Agricultural Land Classification >	Grade 3b (within 250m)				
74 >	12.2 >	Open Access Land >	0	0	0	-	-
74 >	12.3 >	Tree Felling Licences >	0	0	0	-	-
74 >	12.4 >	Environmental Stewardship Schemes >	0	0	0	-	-
75 >	12.5 >	Countryside Stewardship Schemes >	0	0	0	-	-
Page	Section	Habitat designations >	On site	0-50m	50-250m	250-500m	500-2000m
76 >	13.1 >	Priority Habitat Inventory >	0	0	0	-	-
76 >	13.2 >	Habitat Networks >	0	0	0	-	-
76 >	13.3 >	Open Mosaic Habitat >	0	0	0	-	-
76 >	13.4 >	Limestone Pavement Orders >	0	0	0	-	-
Page	Section	Geology 1:10,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
77 >	14.1 >	10k Availability >	Identified (within 500m)				
78 >	14.2 >	Artificial and made ground (10k) >	0	0	0	0	-
79 >	14.3 >	Superficial geology (10k) >	0	0	1	2	-

80 >	14.4 >	Landslip (10k) >	0	0	0	0	-
81 >	14.5 >	Bedrock geology (10k) >	0	0	1	1	-
82 >	14.6 >	Bedrock faults and other linear features (10k) >	0	0	0	0	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
83 >	15.1 >	50k Availability >	Identified (within 500m)				
84 >	15.2 >	Artificial and made ground (50k) >	0	0	0	0	-
84 >	15.3 >	Artificial ground permeability (50k) >	0	0	-	-	-
85 >	15.4 >	Superficial geology (50k) >	1	0	3	1	-
86 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
86 >	15.6 >	Landslip (50k) >	0	0	0	0	-
86 >	15.7 >	Landslip permeability (50k) >	None (within 50m)				
87 >	15.8 >	Bedrock geology (50k) >	2	0	0	0	-
88 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
88 >	15.10 >	Bedrock faults and other linear features (50k) >	0	0	0	0	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
89 >	16.1 >	BGS Boreholes >	3	5	12	-	-
Page	Section	Natural ground subsidence >					
91 >	17.1 >	Shrink swell clays >	Negligible (within 50m)				
92 >	17.2 >	Running sands >	Very low (within 50m)				
93 >	17.3 >	Compressible deposits >	Negligible (within 50m)				
94 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
95 >	17.5 >	Landslides >	Very low (within 50m)				
96 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities >	On site	0-50m	50-250m	250-500m	500-2000m
98 >	18.1 >	Natural cavities >	0	0	0	0	-
99 >	18.2 >	BritPits >	0	0	2	0	-
99 >	18.3 >	Surface ground workings >	1	0	12	-	-
100 >	18.4 >	Underground workings >	0	0	0	0	0
100 >	18.5 >	Historical Mineral Planning Areas >	0	0	0	0	-



100 >	18.6 >	Non-coal mining >	1	0	1	0	0
101 >	18.7 >	Mining cavities >	0	0	0	0	0
101 >	18.8 >	JPB mining areas >	None (within 0m)				
101 >	18.9 >	Coal mining >	None (within 0m)				
101 >	18.10 >	Brine areas >	None (within 0m)				
102 >	18.11 >	Gypsum areas >	None (within 0m)				
102 >	18.12 >	Tin mining >	None (within 0m)				
102 >	18.13 >	Clay mining >	None (within 0m)				
Page	Section	Radon >					
103 >	19.1 >	Radon >	Between 5% and 10% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
105 >	20.1 >	BGS Estimated Background Soil Chemistry >	6	3	-	-	-
105 >	20.2 >	BGS Estimated Urban Soil Chemistry >	0	0	-	-	-
106 >	20.3 >	BGS Measured Urban Soil Chemistry >	0	0	-	-	-
Page	Section	Railway infrastructure and projects >	On site	0-50m	50-250m	250-500m	500-2000m
107 >	21.1 >	Underground railways (London) >	0	0	0	-	-
107 >	21.2 >	Underground railways (Non-London) >	0	0	0	-	-
107 >	21.3 >	Railway tunnels >	0	0	0	-	-
107 >	21.4 >	Historical railway and tunnel features >	0	0	0	-	-
107 >	21.5 >	Royal Mail tunnels >	0	0	0	-	-
108 >	21.6 >	Historical railways >	0	0	0	-	-
108 >	21.7 >	Railways >	0	0	0	-	-
108 >	21.8 >	Crossrail 1 >	0	0	0	0	-
108 >	21.9 >	Crossrail 2 >	0	0	0	0	-
108 >	21.10 >	HS2 >	0	0	0	0	-

Recent aerial photograph



Capture Date: 14/04/2020

Site Area: 8.26ha



Contact us with any questions at:

info@groundsure.com

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Date: 30 May 2023

Recent site history - 2017 aerial photograph



Capture Date: 25/05/2017

Site Area: 8.26ha



Contact us with any questions at:

info@groundsure.com

01273 257 755

Date: 30 May 2023

Recent site history - 2014 aerial photograph



Capture Date: 23/07/2014

Site Area: 8.26ha



Contact us with any questions at:

info@groundsure.com

01273 257 755

Date: 30 May 2023

Recent site history - 2009 aerial photograph



Capture Date: 12/10/2009

Site Area: 8.26ha



Contact us with any questions at:

info@groundsure.com

01273 257 755

Date: 30 May 2023

Recent site history - 2000 aerial photograph



Capture Date: 17/06/2000

Site Area: 8.26ha



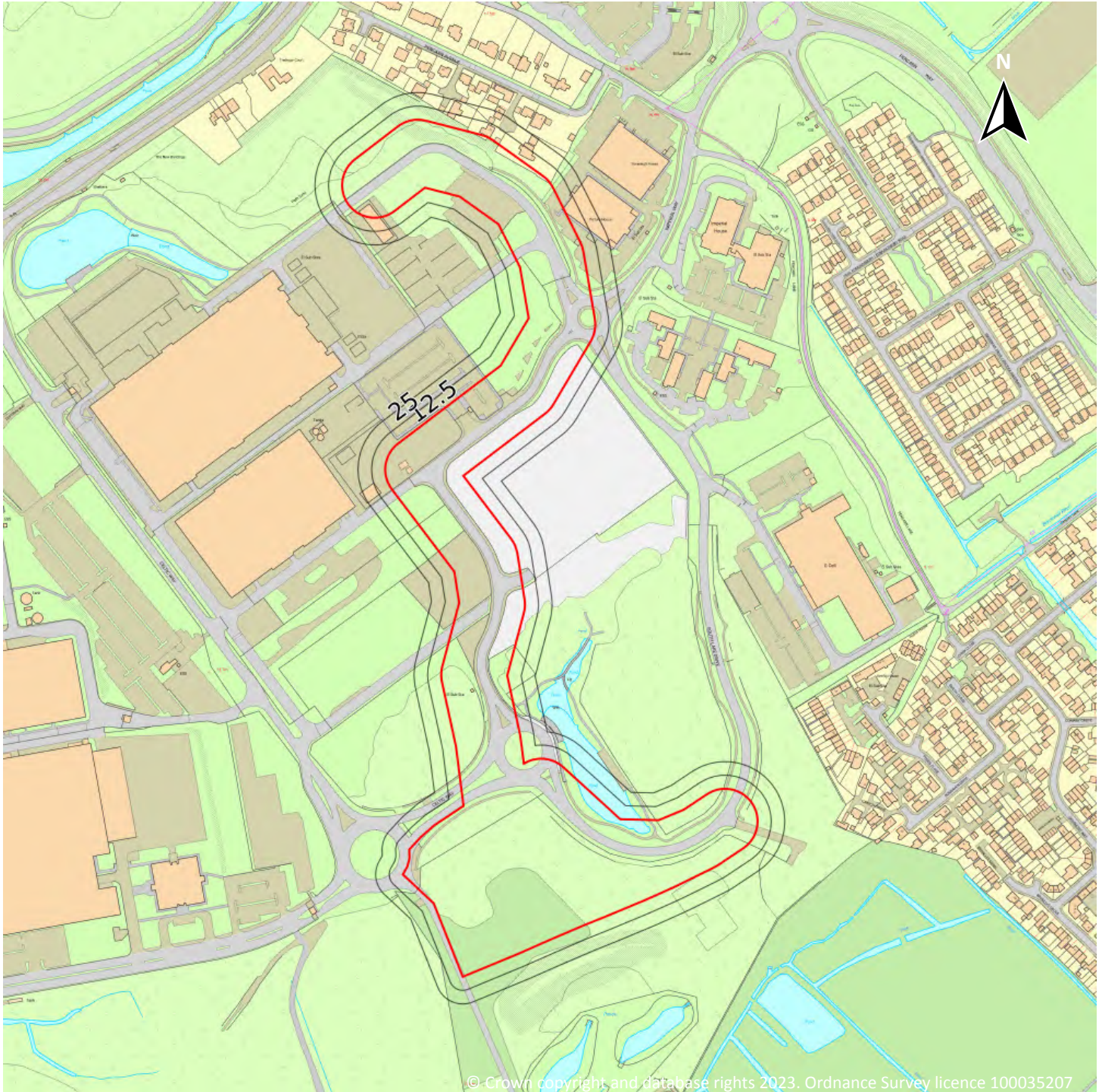
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Date: 30 May 2023

OS MasterMap site plan



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Site Area: 8.26ha



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Date: 30 May 2023