GEO-ENVIRONMENTAL CONSULTING

BEK Geo-Environmental Consulting
No.2 Landwick Court, Metcalf Drive, Altham Business Park,
Lancashire BB5 5GY

mbuckley@bekenviro.co.uk
bekenviro.co.uk
01254 377622

Our Ref: BEK/24035/240712/PPOC

12th July 2024

FAO Tony Barry
PP O'CONNOR
The Exchange
5 Bank Street
Bury
BL9 0DN

Industrial Development, Land at Sharston Industrial Estate, Manchester – Ground Gas Risk Assessment

BEK Enviro (BEK) has been commissioned by PP O'Connor Ltd to carry out a ground gas risk assessment for the industrial development at Sharston Industrial Estate, Wythenshawe, Manchester.

This report has been prepared to support a planning application for the improvements to the existing waste processing facility at the site. This will include construction of a new imported waste sorting building, erection of new perimeter fencing and car parking/access improvements.

The gas/groundwater monitoring wells were installed at locations recommended by BEK following a review of the information presented in the 'Preliminary Risk Assessment' (PRA) (Report Ref: BEK-24035-1 dated April 2024) and a review of the ground conditions encountered during the site investigation carried out by BEK in April 2024.

This report should be read in conjunction with the PRA and the 'Site Investigation & Ground Assessment' report prepared by BEK (Report Ref: BEK-24035-2 dated May 2024).

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Background Information

The site is located to the east of Sharston Road (B5168) and the south of Sharston Industrial estate in the Wythenshawe area of Manchester. The National Grid Reference of the centre of the site is 383244, 389134 and occupies an area of approximately 6000 m^2.

The site is currently utilised by P.P. O'Connor Ltd as a Waste Processing Facility and is currently overlain by concrete and is generally flat with a slight fall from the west to east.

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The waste processing operations comprise the transport of unprocessed waste using grab wagons onto the site via the western site entrance boundary off Sharston Road (B5168). The unprocessed waste is placed on a stockpile in the centre of the site. The waste is segregated via plant machinery and a picking belt into landfill and recyclable stockpiles. The processing automatically sorts the waste by size, type and weight. Weigh bridges are present at the entrance/exits of the site.

A number of semi-permanent and permanent structures utilised to support the current waste processing operations are situated across the site. These include weighbridges, a picking belt complex (including hopper, trammel, sorting belts, picking station and fans), a series of concrete segregated waste storage bays, shipping container, office structures and a series of shipping containers/skips.

Based on the earliest available maps dating from 1872 the site was shown to form part of the Northenden Station. A large building located south of the centre of the site is marked as Northenden Station. Areas of worked ground are present along the northern and southern site boundaries. Circa 1977 all buildings and structures on site had been cleared. The site remained in this configuration until circa 2022 where an aerial image shows a structure located in the east and west of the site as well as numerous stockpiles located across the site.

Potential risks from ground gas were identified at the site due to the presence of an historical landfill some 52 m east of the site, as well as the former uses of the site and the potential for a significant thickness of made ground (>3 m depth to be present).

To characterise the shallow ground conditions and facilitate the assessment of the potential risks from ground gas, BEK carried out site investigation works which comprised the drilling of six window sample boreholes to a maximum depth of 3.45 m. The exploratory locations are presented on BEK Drawing No 24035-3, a copy of which is presented in Annex C.

Following a review of ground conditions, gas monitoring probes were installed in three boreholes (Borehole No WS1, WS3 and WS6).

Made ground was encountered at the surface of all exploratory locations to a maximum depth of 2 m. The made ground subtypes encountered are described below:

Concrete was identified at the surface of every exploratory location ranging in depth from 0.15 to 0.35 m below ground level.

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'Black ashy gravelly SAND with frequent ash and clinker, rare broken brick fragments and rare coal fragments'. This strata was encountered beneath the concrete of Borehole WS1 to 0.5 m. below ground level.

'Golden brown/black slightly gravelly SAND with frequent ash and clinker, occasional broken brick fragments'. This strata was encountered within Borehole WS1 from 0.5 to 2 m below ground level.

'Brown mottled orange and black slightly clayey gravelly SAND with frequent ash and clinker, frequent broken brick fragments, occasional coal fragments, rare plastic'. This strata was encountered beneath the concrete in Borehole WS2 to 1.2 m and in Borehole WS5 to 1 m.

'Black/dark grey slightly clayey/gravelly SAND with frequent fine ash and clinker, frequent broken brick fragments, rare fibrous material'. This strata was encountered in Borehole WS3 to 1.2 m below ground level and in Borehole WS4 to 0.8 m below ground level.

'Grey gravelly SAND with rare broken brick fragments'. This strata was encountered beneath the concrete in Borehole WS6 to 0.6 m below ground level.

'Brown slightly sandy silty CLAY with occasional fine to coarse gravels, rare broken brick fragments'. This strata was encountered within Borehole WS6 from 0.6 – 1.15 m below ground level.

Visual/olfactory evidence of contamination in the form of ash and clinker was encountered within the majority of made ground subtypes during the intrusive site investigation.

The exploratory records are presented in Annex A and the exploratory locations are illustrated on BEK Drawing No 24035-3 in Annex C.

Gas Monitoring

An engineer from BEK has monitored the boreholes on 4 occasions between 12th April 2024 and 14th June 2024 in order to assess the potential for the for the generation and migration of potentially hazardous gases arising from on site and off site sources.

Based on ground conditions encountered and an initial review of the monitoring results, this monitoring program is considered to be sufficient to characterise the ground gas regime at the site.

The monitoring visits were carried out at atmospheric pressures ranging between 994 mb and 1024 mb. The visits undertaken during low/falling pressures are considered to represent a worst-case scenario for the generation and release of ground gas.

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Each borehole was monitoring for the following parameters:

- Gas Flow Rates (l/hr)
- Gas Concentrations (methane, carbon dioxide, oxygen) (v/v)
- Water Level
- Barometric Pressure

A calibrated GFM436 Gas Data Analyser has been used to measure the above. The gas monitoring results are presented in Annex B.

Gas Risk Assessment

The gas monitoring programme and risk assessment has been undertaken in accordance with CIRIA 665 'Assessing Risks Posed by Hazardous Ground Gases to Buildings' and BS8585:2015+A1:2019 'Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings'. The method of assessment requires the calculation of the Gas Screening Value (GSV) for both carbon dioxide and methane.

The gas concentrations and borehole flow rates are used to calculate the GSV to provide a litres of gas per hour. This equals the maximum borehole flow rate (l/hr) x maximum gas concentration (v/v).

The gas monitoring results and the calculated GSVs are presented in the following table:

Monitoring Location	Range of Concentrations (% v/v)			Max Steady Flow Rate (l/hr)	Gas Screening Value (GSV) (based on maximum values) (l/hr)[1]	
	Carbon Dioxide	Methane	Oxygen		Carbon Dioxide	Methane
WS1	2.2 – 6.8	0	8.5 – 15.6	0 (Peak 0.1)	0.0068	0.0001
WS3	1.8 – 4.0	0	12.6 – 16.2	0 (Peak 0)	0.004	0.0001
WS6	1.2 – 2.7	0	13.5 – 16.1	0 (Peak 0)	0.0027	0.0001

Table 1: *Summary of Assessment of the BEK Gas Monitoring Data*

[1] Where gas flow or concentrations were recorded as zero, the limit of detection of the gas analyser was used (0.1 l/hr and 0.1 % v/v)

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It can be seen from the above table that all monitoring visits identified steady flow rates readings of zero, resulting in GSVs which are all below the lowest threshold of 0.07 l/hr.

However, consideration has also been given to the maximum concentrations recorded during the gas monitoring program. CIRIA C665 provides 'typical maximum' concentration of 5% v/v for carbon dioxide and 1% v/v for methane (Modified Wilson and Card classification) and if these typical maximum concentrations are exceeded then consideration should be given to installing measures which adhere to Characteristic Situation 2 (CS2).

It can be seen from the above table and the gas monitoring results (Annex B) that carbon dioxide concentrations exceeded the typical maximum of 5% on one occasion (14th June 2024) in one borehole (Borehole WS1).

Although the typical maximum concentration for carbon dioxide was exceeded during the gas monitoring program, it is noted that it was only exceeded once and in one borehole with the exceedance coincided with low barometric pressure.

As such, due to the lack of active gassing at the site (no steady flows recorded), the marginal exceedance of carbon dioxide on one occasion and the proposed land use of the site (industrial) BEK considers that the site is considered to be very low risk and should be characterised as Characteristic Situation 1 (very low risk) and that no specific gas mitigation measures are required.

I trust the above is satisfactory. Should you have any questions please contact the undersigned.

Yours sincerely



MICHAEL BUCKLEY
BSc (Hons) MSc MIEnvSci CEnv

Rev	Date	Details of Amendments

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ANNEX A

Borehole Records

GEO-ENVIROMENTAL CONSULTING ENGINEERS

GEO-ENVIRONMENTAL CONSULTANTS

PROJECT NUMBER 24035
PROJECT NAME Sharston Industrial Estate
CLIENT PP O'Connor

DATE 5th April 2024
DRILLING METHOD Window Sample Borehole
BOREHOLE NO WS1
SHEET 1/6

COMPLETION | **CASING** uPVC | **SCREEN** uPVC Factory Slotted

COMMENTS Borehole Dry. Refusal on barrel at 3.45 m.

Depth (m)	Depth (m)	Samples/ Test	Field Records	Water	Well Instal.	Graphic Log	Material Description	Elevation (m)
0							CONCRETE	
	0.2	D=0.2 m					Black ashy gravely SAND with frequent ash and clinker, rare broken brick fragments, occasional coal fragments	
0.2								0.2
0.4								0.4
0.6							Medium golden brown/black slightly gravely SAND with frequent ash and clinker, occasional broken bricks	0.6
0.8								0.8
1	1.0 - 1.45	SPT (C) N=18	5,6/6,4,4,4					1
1.2								1.2
1.4								1.4
	1.5	D= 1.5 m						
1.6								1.6
1.8								1.8
2	2.0 - 2.45 2.2	SPT (C) N=22 D= 2.2 m	4,4/5,5,6,6				Medium brown gravely SAND	2
2.2								2.2
2.4							Medium brown fine SAND with rare coal fragments	2.4
	2.6	D= 2.6 m						
2.6								2.6
2.8							Hard very weathered SANDSTONE	2.8
	3.00	D= 3.0 m						
3	3.0 - 3.45	SPT (C) N=>50	6,11/14,21,50/60 Refusal					3
3.2								3.2
3.4								3.4
3.6							Termination Depth at: 3.45 m	3.6

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GEO-ENVIROMENTAL CONSULTING ENGINEERS

GEO-ENVIRONMENTAL CONSULTANTS

PROJECT NUMBER 24035
PROJECT NAME Sharston Industrial Estate
CLIENT PP O'Connor

DATE 6th April 2024
DRILLING METHOD Window Sample Borehole
BOREHOLE NO WS2
SHEET 2/6

COMPLETION | **CASING** uPVC | **SCREEN** uPVC Factory Slotted

COMMENTS Borehole Dry. Refusal on barrel at 3.45 m.

Depth (m)	Depth (m)	Samples/ Test	Field Records	Water	Well Instal.	Graphic Log	Material Description	Elevation (m)
0.2							CONCRETE	0.2
0.4	0.4	D=0.4 m					Medium brown mottled orange and black slightly clayey gravely SAND with frequent ash and clinker, frequent broken brick fragments, occasional coal fragment, rare plastic	0.4
0.6								0.6
0.8								0.8
1	1.0 - 1.45	SPT (C) N=14	3,3/3,3,4,4					1
1.2							Medium brown gravely SAND	1.2
1.4								1.4
1.6	1.5	D= 1.5 m						1.6
1.8							Medium brown SAND rare medium gravel	1.8
2	2.0	D= 2.0 m						2
2.2	2.0 - 2.45 2.2	SPT (C) N=24	4,4/5,5,6,8					2.2
2.4								2.4
2.6							Dense brown fine SAND	2.6
2.8								2.8
3	3.00	D= 3.0 m						3
3.2	3.0 - 3.45	SPT (C) N=42	4,6/8,8,12,14					3.2
3.4								3.4
3.6							Termination Depth at: 3.45 m	3.6

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PROJECT NUMBER 24035
PROJECT NAME Sharston Industrial Estate
CLIENT PP O'Connor

DATE 5th April 2024
DRILLING METHOD Window Sample Borehole
BOREHOLE NO WS3
SHEET 3/6

COMPLETION | **CASING** uPVC | **SCREEN** uPVC Factory Slotted

COMMENTS Water strike at 1.8 m. Refusal on barrel at 3.45 m.

Depth (m)	Depth (m)	Samples/ Test	Field Records	Water	Well Instal.	Graphic Log	Material Description	Elevation (m)
0.2							CONCRETE	0.2
0.4	0.5	D=0.5 m					Black/dark grey slightly clayey gravely SAND with frequent ash and clinker, frequent broken brick fragments, occasional coal fragments, rare fibrous material	0.4
0.6								0.6
0.8								0.8
1	1.0 - 1.45	SPT (C) N=13	2,2/3,3,3,4					1
1.2							Medium brown gravely SAND	1.2
1.4	1.5	D= 1.5 m						1.4
1.6								1.6
1.8				▽				1.8
2	2.0 - 2.45	SPT (C) N=26	4,4/4,6,6,10					2
2.2								2.2
2.4								2.4
2.6							Hard brown slightly sandy CLAY with rare fine to coarse gravels, rare sand lense	2.6
2.8								2.8
3	3.00	D= 3.0 m						3
3.2	3.0 - 3.45	SPT (C) N=40	6,6/6,8,12,14					3.2
3.4								3.4
3.6							Termination Depth at: 3.45 m	3.6

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PROJECT NUMBER 24035
PROJECT NAME Sharston Industrial Estate
CLIENT PP O'Connor

DATE 5th April 2024
DRILLING METHOD Window Sample Borehole
BOREHOLE NO WS4
SHEET 4/6

COMPLETION | **CASING** uPVC | **SCREEN** uPVC Factory Slotted

COMMENTS Borehole Dry. Refusal on barrel at 3.45 m.

Depth (m)	Depth (m)	Samples/ Test	Field Records	Water	Well Instal.	Graphic Log	Material Description	Elevation (m)
0.2							CONCRETE	0.2
0.4	0.4	D=0.4 m					Black/dark grey slightly clayey gravely SAND with frequent ash and clinker, frequent broken brick fragments, occasional coal fragments, rare plastic, rare fabric	0.4
0.6								0.6
0.8								0.8
1	1.0	D= 1.0 m					Medium brown slightly clayey gravely SAND	1
1.2	1.0 - 1.45	SPT (C) N=17	3,3/4,4,4,5					1.2
1.4								1.4
1.6								1.6
1.8								1.8
2	2.0 - 2.45	SPT (C) N=25	4,5/5,6,6,8					2
2.2	2.2							2.2
2.4								2.4
2.6								2.6
2.8							Very dense brown slightly sandy CLAY with rare fine to coarse gravels, rare sand lense	2.8
3	3.00	D= 3.0 m						3
3.2	3.0 - 3.45	SPT (C) N=>50	6,8,12,12,14,18					3.2
3.4								3.4
3.6							Termination Depth at: 3.45 m	3.6

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PROJECT NUMBER 24035
PROJECT NAME Sharston Industrial Estate
CLIENT PP O'Connor

DATE 5th April 2024
DRILLING METHOD Window Sample Borehole
BOREHOLE NO WS5
SHEET 5/6

COMPLETION | **CASING** uPVC | **SCREEN** uPVC Factory Slotted

COMMENTS Borehole Dry. Refusal on barrel at 3.45 m.

Depth (m)	Depth (m)	Samples/ Test	Field Records	Water	Well Instal.	Graphic Log	Material Description	Elevation (m)
0.2							CONCRETE	0.2
0.4	0.5	D=0.5 m					Brown mottled orange and black slightly clayey gravely SAND with frequent ash and clinker, frequent broken brick fragments, occasional coal fragment, rare plastic	0.4
0.6								0.6
0.8								0.8
1	1.0 - 1.45	SPT (C) N=19	4,4/4,5,5,5				Medium brown gravely SAND	1
1.2								1.2
1.4	1.5	D= 1.5 m						1.4
1.6								1.6
1.8								1.8
2	2.0 - 2.45	SPT (C) N=28	5,5/6,6,8,8					2
2.2								2.2
2.4								2.4
2.6	2.6	D= 2.6 m					Medium brown fine SAND	2.6
2.8	2.8 - 3.4	B= 2.8 - 3.4 m					Hard brown slightly sandy CLAY with rare fine to coarse gravels, rare sand lense	2.8
3	3.0 - 3.45	SPT (C) N=42	4,5/8,8,12,14					3
3.2								3.2
3.4								3.4
3.6							Termination Depth at: 3.45 m	3.6

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PROJECT NUMBER 24035
PROJECT NAME Sharston Industrial Estate
CLIENT PP O'Connor

DATE 5th April 2024
DRILLING METHOD Window Sample Borehole
BOREHOLE NO WS6
SHEET 6/6

COMPLETION | **CASING** uPVC | **SCREEN** uPVC Factory Slotted

COMMENTS Water strike at 2 m. Refusal on barrel at 3.45 m.

Depth (m)	Depth (m)	Samples/ Test	Field Records	Water	Well Instal.	Graphic Log	Material Description	Elevation (m)
0.2							CONCRETE	0.2
0.4	0.4	D=0.4 m					Grey gravely SAND with rare broken brick fragments	0.4
0.6							Brown slightly sandy silty CLAY with occasional fine to coarse gravels, rare broken brick fragments.	0.6
0.8								0.8
1	1.0	D= 1.0 m						1
1.2	1.0 - 1.45 1.2	SPT (C) N=18	3,3/4,4,4,6				Medium brown gravely SAND	1.2
1.4								1.4
1.6	1.5 1.5 - 2.0	D= 1.5 m B= 1.5 - 2.0 m					Very stiff brown slightly sandy CLAY with rare fine to coarse gravels, rare sand lense	1.6
1.8								1.8
2	2.0 - 2.45	SPT (C) N=23	4,5/5,6,6,6	▽				2
2.2							Medium brown fine SAND with rare coal fragments	2.2
2.4								2.4
2.6	2.5	D= 2.5 m						2.6
2.8							Very dense brown fine SAND	2.8
3	3.00	D= 3.0 m						3
3.2	3.0 - 3.45	SPT (C) N=>50	6,8/12,18,19,20					3.2
3.4								3.4
3.6							Termination Depth at: 3.45 m	3.6

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ANNEX B

Gas Monitoring Data

Ground Gas Monitoring Record

Borehole No	Gas Flow (L/hr)		Borehole Pressure (Pa)	Methane (%v/v)		Methane (%LEL*)		Carbon Dioxide (%v/v)		Oxygen (%v/v)		H_2S (ppm)		CO (ppm)		Hex (%v/v)		Depth to Water (m bgl)	Depth to Base (m bgl)	Atmospheric Pressure (mB)	Comments
	Initial	Steady		Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady				
WS1	0.0	0.0		0.00	0.00			1.8	2.2	15.6	14.7	0.0	0.0	0.0	0.0	0.000	0.000	2.29	2.3	1023	
WS3	0.0	0.0		0.00	0.00			1.4	1.8	16.6	16.2	0.0	0.0	0.0	0.0	0.000	0.000	Dry	2.77	1023	
WS6	0.0	0.0		0.00	0.00			1.2	1.2	15.9	15.8	0.0	0.0	0.0	0.0	0.000	0.000	1.99	2.27	1023	

Notes:
Monitoring should be for not less than 3 Minutes. However, if high concentrations of gases initially recorded, monitoring should be for up to 10 mins.
* LEL = Explosive Limit = 5%v/v
ND - Not Detected

Relevant Information at times of monitoring

Monitored by:	MLM
Weather :	Sunny Dry
Equipment used:	GFM436 Gas Analyser
Visible signs of vegetation stress:	None
Boreholes sampled for laboratory analysis:	None
Other comments / observations:	None

GEO-ENVIRONMENTAL CONSULTING ENGINEERS

Contract:	
Name	Sharston
Date:	**12.04.24**
Job No.	**24035**
Sheet No.	**1**

Ground Gas Monitoring Record

Borehole No	Gas Flow (L/hr)		Borehole Pressure (Pa)	Methane (%v/v)		Methane (%LEL*)		Carbon Dioxide (%v/v)		Oxygen (%v/v)		H_2S (ppm)		CO (ppm)		Hex (%v/v)		Depth to Water (m bgl)	Depth to Base (m bgl)	Atmospheric Pressure (mB)	Comments
	Initial	Steady		Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady				
WS1	0.0	0.0		0.00	0.00			4.6	4.7	11.8	10.2	0.0	0.0	0.0	0.0	0.000	0.000	Dry	2.38	1024	
WS3	0.0	0.0		0.00	0.00			2.6	2.6	16.3	15.6	0.0	0.0	0.0	0.0	0.000	0.000	2.83	2.84	1024	
WS6	0.0	0.0		0.00	0.00			1.5	1.5	16.3	16.1	0.0	0.0	0.0	0.0	0.000	0.000	2.31	2.32	1024	

Notes:
Monitoring should be for not less than 3 Minutes. However, if high concentrations of gases initially recorded, monitoring should be for up to 10 mins.
* LEL = Explosive Limit = 5%v/v
ND - Not Detected

Relevant Information at times of monitoring

Monitored by:	MLM
Weather :	Dry, Sunny
Equipment used:	GFM436 Gas Analyser
Visible signs of vegetation stress:	None
Boreholes sampled for laboratory analysis:	None
Other comments / observations:	None

GEO-ENVIRONMENTAL CONSULTING ENGINEERS

Contract:
Name Sharston

Date: 08.05.24

Job No. **24035**

Sheet No. **2**

Ground Gas Monitoring Record

Borehole No	Gas Flow (L/hr)		Borehole Pressure (Pa)	Methane (%v/v)		Methane (%LEL*)		Carbon Dioxide (%v/v)		Oxygen (%v/v)		H_2S (ppm)		CO (ppm)		Hex (%v/v)		Depth to Water (m bgl)	Depth to Base (m bgl)	Atmospheric Pressure (mB)	Comments
	Initial	Steady		Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady				
WS1	0.1	0.0		0.00	0.00			3.2	3.6	15.3	15.6	0.0	0.0	0.0	0.0	0.000	0.000	2.34	2.35	1018	
WS3	0.0	0.0		0.00	0.00			3.7	4.0	14.5	12.6	0.0	0.0	0.0	0.0	0.000	0.000	2.58	7.83	1018	
WS6	0.0	0.0		0.00	0.00			2.2	2.4	16.8	14.0	0.0	0.0	0.0	0.0	0.000	0.000	2.08	2.25	0	

Notes:
Monitoring should be for not less than 3 Minutes. However, if high concentrations of gases initially recorded, monitoring should be for up to 10 mins.
* LEL = Explosive Limit = 5%v/v
ND - Not Detected

Relevant Information at times of monitoring

Monitored by:	MLM
Weather :	Dry, Sunny
Equipment used:	GFM436 Gas Analyser
Visible signs of vegetation stress:	None
Boreholes sampled for laboratory analysis:	None
Other comments / observations:	None

GEO-ENVIRONMENTAL CONSULTING ENGINEERS

Contract:
Name Sharston

Date: 31.05.24

Job No. **24035**

Sheet No. **3**

Ground Gas Monitoring Record

Borehole No	Gas Flow (L/hr)		Borehole Pressure (Pa)	Methane (%v/v)		Methane (%LEL*)		Carbon Dioxide (%v/v)		Oxygen (%v/v)		H_2S (ppm)		CO (ppm)		Hex (%v/v)		Depth to Water (m bgl)	Depth to Base (m bgl)	Atmospheric Pressure (mB)	Comments
	Initial	Steady		Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady	Initial	Steady				
WS1	-0.3	0.0		0.00	0.00			6.8	6.8	8.5	8.5	0.0	0.0	0.0	0.0	0.000	0.000	Dry	2.34	994	
WS3	n/a	n/a		n/a	n/a			n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.33	2.71	994	
WS6	0.0	0.0		0.00	0.00			2.7	2.7	13.5	13.5	0.0	0.0	0.0	0.0	0.000	0.000	2.15	2.26	994	

Notes:
Monitoring should be for not less than 3 Minutes. However, if high concentrations of gases initially recorded, monitoring should be for up to 10 mins.
* LEL = Explosive Limit = 5%v/v
ND - Not Detected

Relevant Information at times of monitoring

Monitored by:	AH
Weather :	Partly cloudy, fine
Equipment used:	GFM436 Gas Analyser
Visible signs of vegetation stress:	None
Boreholes sampled for laboratory analysis:	None
Other comments / observations:	WS3 installation damaged (metal lid cracked, water flooded the cap as no longer sealed due to crack. Measuring of flow/gas concentrations not possible due to water in metal top cap, see photos)

GEO-ENVIRONMENTAL CONSULTING ENGINEERS

Contract:
Name Sharston

Date: 14.06.24

Job No. **24035**

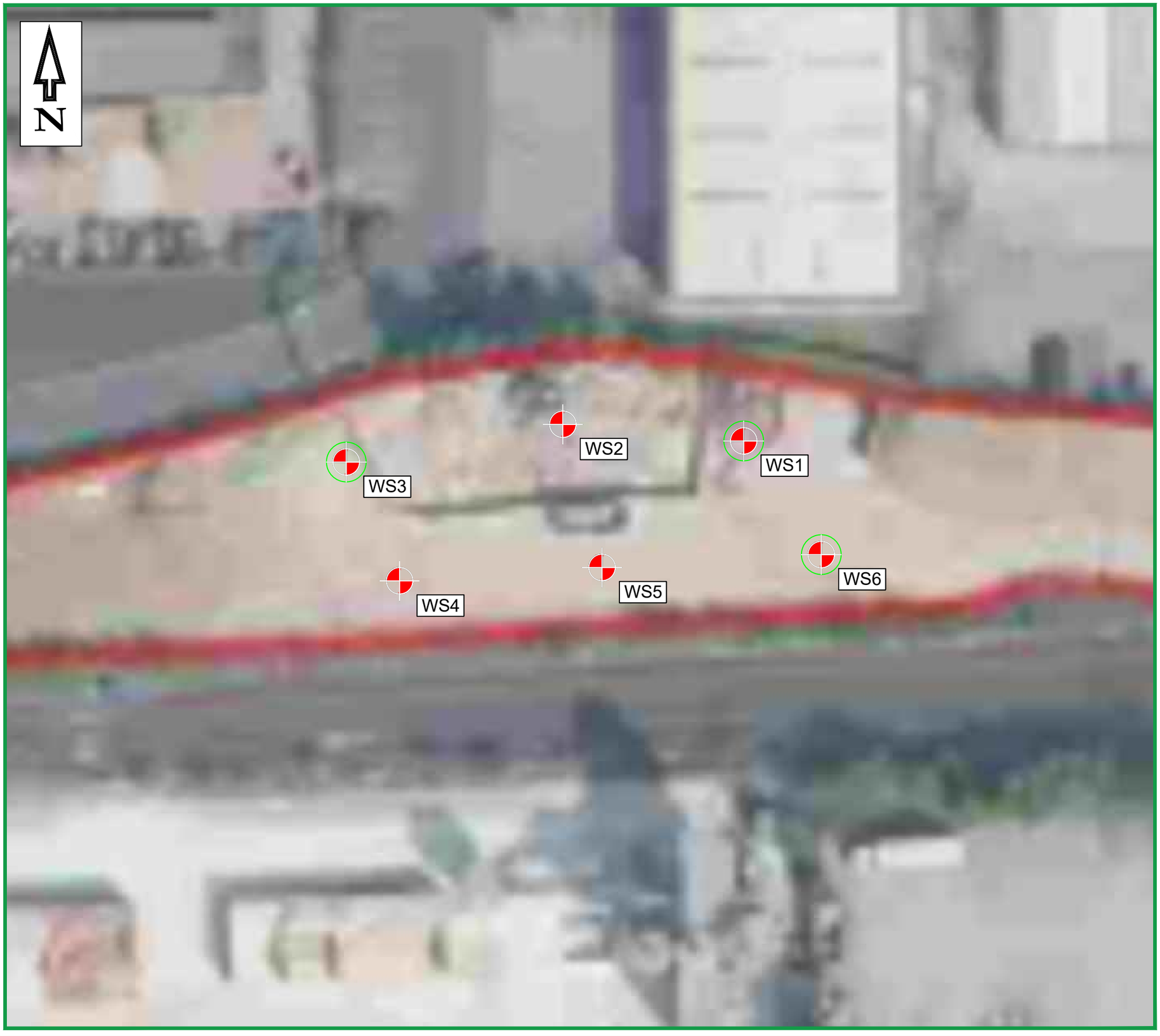
Sheet No. **4**

BEK Geo-Environmental Consulting
No.2 Landwick Court, Metcalf Drive, Altham Business Park,
Lancashire BB5 5GY

mbuckley@bekenviro.co.uk
bekenviro.co.uk
01254 377622

ANNEX C

Drawings



LEGEND

WINDOW SAMPLE BOREHOLE

WINDOW SAMPLE BOREHOLE (GAS/GROUNDWATER WELLS)

REV	DESCRIPTION	DATE	BY

GEO-ENVIRONMENTAL CONSULTING
No 2 Landwick Court, Metcalf Drive, Altham Business Park, Lancashire, BB5 5GY
Tel: 01254 377622 Mob: 07906753583
Email: mbuckley@bekenviro.co.uk
Web: www.bekenviro.co.uk

CLIENT.

P.P. O'CONNOR

JOB TITLE.

SHARSTON INDUSTRIAL ESTATE, MANCHESTER

DRAWING TITLE.

SITE INVESTIGATION PLAN

SCALE @ A3.	DRAWN BY.	APPROVED BY.	DATE.
NTS	D.E.	M.B.	23/04/24

DRAWING No.	REV.
24035-3	-