

Riverdale Developments
c/o Tony Bradbury
Equicom Structural Design (ESD) Limited
2 River Court
Albert Drive
Woking
Surrey
GU21 5RP

2nd March 2017
Our Ref: P9273J732/src

Dear Tony,

32 Percy Street, London, W1T 2DE – GROUNDWATER MONITORING - RESULTS

Subsequent to undertaking a “Geotechnical Desk Study, Ground Investigation & Basement Impact Assessment” for the above site (ref: Final v1.1 P9273J732 dated August 2016) Jomas Associates were commissioned by Riverdale Properties Ltd to undertake further groundwater monitoring at 32 Percy Street, London.

On 23rd October 2015, a single borehole (BH1) was drilled and installed to a depth of 6.92m bbl (metres below basement level). The basement is understood to be at a level of approximately 3.3m below the local ground level (m bgl).

2No return visits for gas and groundwater monitoring were undertaken in October and November 2015 with a further 2No monitoring visits undertaken in February 2017.

The table below summarises the groundwater level results recorded by Jomas:

Date of Monitoring Visit	Depth to Water (m bbl)	Depth to Water (m bgl)
29/10/2015	3.93	7.23
10/11/2015	3.91	7.21
21/02/2017	3.29	6.59
28/02/2017	3.25	6.55

During these visits groundwater was encountered in BH1 at depths between 3.25 and 3.93m bbl.

It should be noted that groundwater levels are likely to fluctuate with seasonal changes.

As the monitoring visits were conducted in the winter months, the initial results at the start of the normal winter wet period in which groundwater recharge occurs. The second phase of results were undertaken towards the end of this normal wet winter or recharge period.



Specialists in the investigation & reclamation of brownfield sites

The observed results of the ground water being slightly higher in February than in November is to be expected and likely to be representative of the normally expected worst case results. It is therefore reasonable to presume that the water levels will not get significantly higher and during the summer months groundwater would be at a lower level.

Whilst carrying out these groundwater monitoring visits ground gas concentrations were monitored from the well. The recorded results are included in the monitoring data attached to this letter.

The recorded groundwater and ground gas monitoring results are not considered to alter the recommendations made within the Jomas report "Geotechnical Desk Study, Ground Investigation & Basement Impact Assessment for 32 Percy Street, London W1T 2DE." (August 2016).

A complete set of gas and groundwater monitoring records are attached.

Yours sincerely,

Shaw Carter BSc (Hons) FGS
Geotechnical Engineer

Enc:

Groundwater / Ground gas monitoring records

GAS AND GROUNDWATER MONITORING BOREHOLE RECORD SHEET

Site: J732 Percy Street	Operative(s): SB	Date: 29/10/15	Time: 11.50	Round: 1	Page:
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MONITORING EQUIPMENT

Instrument Type	Instrument Make	Serial No.	Date Last Calibrated
<i>Analox</i>	GA5000		28/04/2015
<i>PID</i>	Phocheck tiger		26/08/2015
<i>Dip Meter</i>	GeoTech		

MONITORING CONDITIONS

Weather Conditions: Cloudy	Ground Conditions: Dry	Temperature: 15°C
Barometric Pressure (mbar): 1007	Barometric Pressure Trend (24hr): Steady	Ambient Concentration: 0.2 %CH ₄ , 0.2 %CO ₂ , 21.1 %O ₂

MONITORING RESULTS

Monitoring Point Location	Flow		Atmospheric Pressure (mbar)	Methane %	Methane % LEL	Carbon Dioxide %	Oxygen %	VOC (ppm)		Hydrogen Sulphide (ppm)	Carbon Monoxide (ppm)	Depth to water (m bbl)	Depth to Base of well (m bbl)
	Peak	Average						Peak	Average				
BH1	0.0	-	1007	0.2	-	0.2	21.1	1.8	-	0	0	3.93	6.92
Depths quoted are below basement level. For depths below ground level add an additional 3.3m													

GAS AND GROUNDWATER MONITORING BOREHOLE RECORD SHEET

Site: J732 Percy Street	Operative(s): SB	Date: 10/11/15	Time: 10.15	Round: 2	Page:
MONITORING EQUIPMENT					
Instrument Type	Instrument Make	Serial No.	Date Last Calibrated		
<i>Analox</i>	GA5000		28/04/2015		
<i>PID</i>	Phocheck tiger		26/08/2015		
<i>Dip Meter</i>	GeoTech				
MONITORING CONDITIONS					
Weather Conditions: Cloudy		Ground Conditions: Dry		Temperature: 15°C	
Barometric Pressure (mbar): 1015		Barometric Pressure Trend (24hr): Steady		Ambient Concentration: 0.3 %CH ₄ , 0.1 %CO ₂ , 21.1 %O ₂	

MONITORING RESULTS													
Monitoring Point Location	Flow		Atmospheric Pressure (mbar)	Methane %	Methane % LEL	Carbon Dioxide %	Oxygen %	VOC (ppm)		Hydrogen Sulphide (ppm)	Carbon Monoxide (ppm)	Depth to water (mbbl)	Depth to Base of well (mbbl)
	Peak	Average						Peak	Average				
BH1	+0.3	-	1015	0.3	-	0.2	20.9	0.0	-	0	0	3.91	6.92
Depths quoted are below basement level. For depths below ground level add an additional 3.3m													

GAS AND GROUNDWATER MONITORING BOREHOLE RECORD SHEET

Site: J732 Percy Street	Operative(s): AJH	Date: 21/02/2017	Time: 13:00	Round: 3	Page:
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MONITORING EQUIPMENT

Instrument Type	Instrument Make	Serial No.	Date Last Calibrated
<i>Analox</i>	GA5000	G501805	07/10/2016
<i>PID</i>	Multi Rae Lite	M01C009236	22/08/2016
<i>Dip Meter</i>	GeoTech		

MONITORING CONDITIONS

Weather Conditions: Cloudy	Ground Conditions: Dry	Temperature: 13°C
Barometric Pressure (mbar): 1014	Barometric Pressure Trend (24hr): Steady	Ambient Concentration: 0.1%CH ₄ , 0.2 %CO ₂ , 20.8 %O ₂

MONITORING RESULTS

Monitoring Point Location	Flow		Atmospheric Pressure (mbar)	Methane %	Methane % LEL	Carbon Dioxide %	Oxygen %	VOC (ppm)		Hydrogen Sulphide (ppm)	Carbon Monoxide (ppm)	Depth to water (m bbl)	Depth to Base of well (m bbl)
	Peak	Average						Peak	Average				
BH1	0.1	0.1	1014	0.2	-	0.3	20.6	1	1	0	0	3.29	6.93
Depths quoted are below basement level. For depths below ground level add an additional 3.3m													

GAS AND GROUNDWATER MONITORING BOREHOLE RECORD SHEET

Site: J732 Percy Street	Operative(s): AJH	Date: 28/02/2017	Time: 13:00	Round: 4	Page:
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MONITORING EQUIPMENT

Instrument Type	Instrument Make	Serial No.	Date Last Calibrated
<i>Analox</i>	GA5000	G501805	07/10/2016
<i>PID</i>	Multi Rae Lite	M01C009236	22/08/2016
<i>Dip Meter</i>	GeoTech		

MONITORING CONDITIONS

Weather Conditions: Cloudy	Ground Conditions: Dry	Temperature: 5.5°C
Barometric Pressure (mbar): 987	Barometric Pressure Trend (24hr): Rising slightly	Ambient Concentration: 0.1%CH ₄ , 0.2 %CO ₂ , 21.0 %O ₂

MONITORING RESULTS

Monitoring Point Location	Flow		Atmospheric Pressure (mbar)	Methane %	Methane % LEL	Carbon Dioxide %	Oxygen %	VOC (ppm)		Hydrogen Sulphide (ppm)	Carbon Monoxide (ppm)	Depth to water (m bbl)	Depth to Base of well (m bbl)
	Peak	Average						Peak	Average				
BH1	0.1	0.0	987	0.1	-	0.3	20.8	1	0	0	0	3.25	6.60
Depths quoted are below basement level. For depths below ground level add an additional 3.3m													