Project No: 129-0025000-01
Your Ref: as above

2nd February 2023

Richard Woolley
EMR Nottingham,
Mountstar House,
Alcester St,
Nottingham,
NG7 2SF

By email only: Richard.Woolley@emrgroup.com

Dear Richard,

RE: EMR Nottingham, Discharge Water Analysis – January 2023

1. BACKGROUND

Mayer Environmental Ltd (MEL) was commissioned by European Metal Recycling to undertake the assessment of trade effluent discharge from EMR Nottingham, Mounstar House, Alcester Rd, NG7 2SF. We understand the sample represents the discharge of trade effluent to foul sewer. MEL understands that there is no discharge consent for the site.

SAMPLING

An EMR representative collected the sample from the discharge monitoring point on the 9th January 2023. The sample was referenced 'Discharge Point' and was received by the UKAS accredited laboratory on the 11th January 2023.

2. ANALYSIS

2.1 Scheduled Suite

The sample was submitted for a general suite of parameters, including biochemical oxygen demand (BOD), chemical oxygen demand (COD), total suspended solids, mineral oil and metals.

Please refer to 'Appendix A – Laboratory Certificates of Analysis' for a list of the parameters tested.

2.2 Results

As there is no discharge consent for the site, the laboratory results have initially been compared with quality conditions in 'general' discharge consents to foul sewer. Where no general limit is available the laboratory results are compared against the upper Environmental Quality Standards (EQSs) set by The Water Framework Directive. The EQSs are suitable for assessing risks to controlled waters. Where these are not available, UK drinking water standards (DWSs) have been used. However, both EQS and DWS would be deemed very conservative considering the discharge is to foul sewer.

The tables below show the data from January 2023.

Table 1: Sample 'Discharge Point' Laboratory Data Summary – Dissolved Metals

Italic	Reported concentration less than LOD
	Reported Concentration below relevant limit
	Reported concentration within specified range (ranges based on assessment of consent levels from other consents to foul sewer)
	Reported Concentration above relevant limit
	Sample not collected

EMR Nottingham - Dissolved Metals			pH	Arsenic	Boron	Cadmium	Chromium	Copper	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Zinc
General ranges/levels from other consents to foul sewer used for comparison. Where none are applicable EQS/DWS Levels have been used.			pH 6 -11	1 mg/l	2 mg/l	3 mg/l	3 mg/l	3 mg/l	50 mg/l	3 mg/l	0.123 mg/l	0.00007 mg/l	2 mg/l	0.01 mg/l	3 mg/l
Month	**Date**														
Jan-23	9th January 2023	Discharge Point	8.2	0.00041	0.37	*0.00011*	0.0011	0.014	0.42	0.008	0.17	*0.00001*	0.011	*0.0005*	0.2

The majority of the dissolved metals analysed were found below applicable ranges for discharge to foul sewer or below the relevant EQS/DWS (where applicable). However, the reported concentration of dissolved manganese marginally exceeded the relevant EQS threshold.

Table 2: Sample 'Discharge Point' Laboratory Data Summary – Other Parameters

Italic	Reported concentration less than LOD
	Reported Concentration below relevant limit
	Reported concentration within specified range (ranges based on assessment of consent levels from other consents to foul sewer)
	Reported Concentration above relevant limit
	Sample not collected

EMR Nottingham - General Parameters			pH	Electrical Conductivity	Suspended Solids	Biological Oxygen Demand (BOD)	Chemical Oxygen Demand (COD)	Alkalinity	Chloride	Ammonia	Ammoniacal Nitrogen	Nitrate	Phosphate	Sulphate	Cyanide	Total TPH C10-C40	Phenols
General ranges/levels from other consents to foul sewer used for comparison. Where none are applicable EQS/DWS Levels have been used.			6-11	us/cm	400 -1000 mg/l	mg/l	200-1500 mg/l	mg/l	250 mg/l	mg/l	35 mg/l	50 mg/l	mg/l	1,000 mg/l	1 mg/l	5-10 mg/l	0.03 mg/l
Month	**Date**																
Jan-23	9th January 2023	Discharge Point	8.2	590	46	38	70	100	120	*0.05*	0.22	*0.5*	*0.2*	56	*0.005*	9.8	*0.005*

The Total Petroleum Hydrocarbon (TPH) level was noted to be very close to the upper range of general consent limits. All other parameters were well below their relevant threshold.

3. ASSESSMENT & RECOMMENDATIONS

Sample 'Discharge Point' collected from EMR Nottingham, reported the majority of parameter concentrations within acceptable levels. Dissolved manganese was noted to be marginally above the relevant EQS/DWS but this standard would be considered conservative when considering a discharge to foul sewer and therefore it is unlikely to be significant.

We recommend investigating what may have caused a slightly elevated concentration of TPH, and to take appropriate actions to improve the quality of the discharge in the future. Cleaning, emptying and maintenance checks of the interceptor are advisable if they have not been undertaken recently (within 6 months).

We trust this information meets your requirements. Please contact us if you need any further clarification on any of the matters raised.

Yours sincerely,

Callum Sutcliffe
Environmental Consultant

Rebecca Beddard
Senior Environmental Consultant

Mayer Environmental Ltd

Enclosed

Laboratory Certificates of Analysis

Appendix A

Laboratory Certificates of Analysis

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	23-00679-1		
Initial Date of Issue:	17-Jan-2023		
Client	Mayer Environmental Ltd		
Client Address:	Transport Avenue Brentford TW8 9HA		
Contact(s):	Callum Sutcliffe Monitoring		
Project	129-002500-01 EMR Nottingham		
Quotation No.:	Q22-29316	**Date Received:**	11-Jan-2023
Order No.:	129004724	**Date Instructed:**	11-Jan-2023
No. of Samples:	1		
Turnaround (Wkdays):	5	**Results Due:**	17-Jan-2023
Date Approved:	17-Jan-2023		
Approved By:			
Details:	Stuart Henderson, Technical Manager		

Results - Water

Project: 129-002500-01 EMR Nottingham

Client: Mayer Environmental Ltd			**Chemtest Job No.:**		23-00679
Quotation No.: Q22-29316			**Chemtest Sample ID.:**		1571984
Order No.: 129004724			Client Sample Ref.:		Discharge Point
			Sample Type:		WATER
			Date Sampled:		09-Jan-2023
			Time Sampled:		10:00
Determinand	**Accred.**	**SOP**	**Units**	**LOD**	
pH	U	1010		N/A	8.2
Electrical Conductivity	U	1020	µS/cm	1.0	590
Suspended Solids At 105C	U	1030	mg/l	5.0	46
Biochemical Oxygen Demand	N	1090	mg O2/l	4.0	38
Chemical Oxygen Demand	U	1100	mg O2/l	10	70
Alkalinity (Total)	U	1220	mg/l	10	100
Chloride	U	1220	mg/l	1.0	120
Ammonia (Free)	N	1220	mg/l	0.050	< 0.050
Ammoniacal Nitrogen	U	1220	mg/l	0.050	0.22
Nitrate as NO3	U	1220	mg/l	0.50	< 0.50
Phosphate	U	1220	mg/l	0.200	< 0.20
Sulphate	U	1220	mg/l	1.0	56
Cyanide (Total) Low-Level	N	1300	mg/l	0.0050	< 0.0050
Sulphide	U	1325	mg/l	0.050	< 0.050
Arsenic (Dissolved)	U	1455	µg/l	0.20	0.41
Boron (Dissolved)	U	1455	µg/l	10.0	370
Cadmium (Dissolved)	U	1455	µg/l	0.11	< 0.11
Chromium (Dissolved)	U	1455	µg/l	0.50	1.1
Copper (Dissolved)	U	1455	µg/l	0.50	14
Iron (Dissolved)	N	1455	µg/l	5.0	420
Manganese (Dissolved)	U	1455	µg/l	0.50	170
Nickel (Dissolved)	U	1455	µg/l	0.50	11
Lead (Dissolved)	U	1455	µg/l	0.50	8.0
Selenium (Dissolved)	U	1455	µg/l	0.50	< 0.50
Zinc (Dissolved)	U	1455	µg/l	2.5	200
Arsenic (Total)	N	1455	µg/l	0.20	0.63
Boron (Total)	N	1455	µg/l	10.0	300
Cadmium (Total)	N	1455	µg/l	0.11	0.52
Chromium (Total)	N	1455	µg/l	0.50	4.3
Copper (Total)	N	1455	µg/l	0.50	50
Iron (Total)	N	1455	µg/l	5.0	1300
Mercury (Total)	N	1455	µg/l	0.05	< 0.05
Manganese (Total)	N	1455	µg/l	0.50	200
Nickel (Total)	N	1455	µg/l	0.50	14
Lead (Total)	N	1455	µg/l	0.50	48
Selenium (Total)	N	1455	µg/l	0.50	< 0.50
Zinc (Total)	N	1455	µg/l	2.5	350
Mercury Low Level	U	1460	mg/l	0.000010	< 0.00001
Total TPH >C10-C40	U	1670	µg/l	10	9800

Results - Water

Project: 129-002500-01 EMR Nottingham

Client: Mayer Environmental Ltd			**Chemtest Job No.:**		23-00679
Quotation No.: Q22-29316			**Chemtest Sample ID.:**		1571984
Order No.: 129004724			Client Sample Ref.:		Discharge Point
			Sample Type:		WATER
			Date Sampled:		09-Jan-2023
			Time Sampled:		10:00
Determinand	**Accred.**	**SOP**	**Units**	**LOD**	
Total Phenols	N	1900	µg/l	5.00	< 5.0

Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1030	Total Suspended Solids	Total suspended solids	Filtration of a mixed sample through a standard glass fibre filter and determination of the mass of residue retained dried at 105°C.
1090	Biochemical Oxygen Demand	Biochemical Oxygen demand (BOD)	Colorimetric determination of dissolved oxygen in seeded sample after 5 days incubation at 20°C.
1100	Chemical Oxygen Demand	Chemical Oxygen demand (COD)	Dichromate oxidation of organic matter in sample followed by colorimetric determination of residual Cr[VI].
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1325	Sulphide in Waters	Sulphides	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using N,N–dimethyl-pphenylenediamine.
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1460	Mercury low-level in Waters by AFS	Mercury	Atomic Fluorescence Spectrometry, with collimated UV source, wavelength 253.7 nm.
1670	Total Petroleum Hydrocarbons (TPH) in Waters by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO	Pentane extraction / GC FID detection
1900	Phenols in Waters by GC-MS	Approximately 24 substituted Phenols, including Chlorophenols	Solvent extraction / GCMS detection

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

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
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 TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°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

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