



AEROSOL MONITORING CERTIFICATE OF ANALYSIS



CLIENT CHRIS THOMPSON, TFL ENGINEERING, TEST DATE 30/01/19
ADDRESS 7TH FLOOR, 5 ENDEAVOUR SQUARE, PAGE NO 1 OF 3
WESTFIELD AVENUE, STRATFORD, JOB No 183260
LONDON E20 1JN CERTIFICATE No. C183260/300119/02
SITE/LOCATION WEST RUISLIP (CRANSTON CLOSE)
PROCESS BEING MONITORED DIESEL EXHAUST FUMES FROM LOCOMOTIVE
SAMPLES STATIC/~~PERSONAL~~ ANALYST (S) [REDACTED]
ANALYSIS LOCATION BALANCE ROOM, MAIN LABORATORY NO. OF SAMPLES 3 + Blanks

TEST PROCEDURES

TEST METHOD CARRIED OUT IN ACCORDANCE WITH MDHS 14/4 AND IN-HOUSE TEST PROCEDURE 4R-E206. SAMPLING STRATEGY CARRIED OUT IN GENERAL ACCORDANCE WITH HSG 173 MONITORING STRATEGIES FOR TOXIC SUBSTANCES.

TWA: 8-HOUR TIME WEIGHTED AVERAGE

FILTER NUMBER	SAMPLE TYPE *	SAMPLE LOCATION	START TIME	BREAKS IN SAMPLING (IF APPLICABLE)		FINISH TIME	FLOW RATE / (l/min)	VOLUME OF AIR / (litres)	CALC. DUST CONC ⁿ / (mg/m ³)	TWA. / (mg/m ³)
				TIME OFF	TIME ON					
183260/B13	R	P1 – Car Park A	22:01	-	-	00:02	2.2	258.67	<0.02	-
183260/B14	R	P2 – Car Park A	22:02	-	-	00:03	2.2	258.67	<0.02	-
183260/B15	R	P3 – Car Park B	22:04	-	-	00:05	2.2	258.67	<0.02	-

* RESPIRABLE: R, THORACIC: T, INHALABLE: I

TEMPERATURE: -1.0 °C

PRESSURE: 996 MILLIBARS

UNCERTAINTY OF MEASUREMENT

THE LOWER LIMIT OF DETECTION IS CALCULATED TO BE 0.02MG. THE OVERALL ACCURACY OF MEASUREMENT IS DEPENDANT ON THE SAMPLING VOLUME: THE GREATER THE SAMPLING VOLUME, THE LOWER THE LIMIT OF ACCURATE MEASUREMENT.

HSE WORKPLACE EXPOSURE LIMIT (EH40/05): RESPIRABLE DUST : 4 MG/M³ (8-HOUR TWA)
INHALABLE DUST: 10 MG/M³ (8-HOUR TWA)

SAMPLES TAKEN ARE HELD IN THE MAIN LABORATORY AND WILL DISPOSED OF AFTER A MINIMUM PERIOD OF SIX MONTHS.

CERTIFICATE PREPARED BY

GRAVIMETRIC ANALYSIS CARRIED OUT BY:

CERTIFIED BY

SIGNED

SIGNED

SIGNED

ISSUE DATE

12th February 2019

Head Office: Unit 3, Metro Centre, Britannia Way, London, NW10 7PA
Laboratory: Unit 11, Ironbridge Close, Great Central Way, London, NW10 0UF
T: +44(0)20 8955 9680 F: +44(0)20 8955 9689 E-mail: enquiries@4-rail.com
VAT Registration Number: 691 5975 82 Company Registration No.: 3256863

FILTER NUMBER	HEAD/ PUMP No.	START FLOW RATE / (l/min)	START TIME	FINAL FLOW RATE / (l/min)	FINISH TIME	FLOW RATE CHECK / (l/min)	TIME	FLOW RATE CHECK / (l/min)	TIME	FLOW RATE CHECK / (l/min)	TIME	FLOW RATE CHECK / (l/min)	TIME
183260/B13	4RS17/41 0819	2.2	22:01	2.2	00:02	2.2	22:16	2.2	23:16	-	-	-	-
183260/B14	4RS62/41 0806	2.2	22:02	2.2	00:03	2.2	22:17	2.2	23:17	-	-	-	-
183260/B15	4RS65/41 0809	2.2	22:04	2.2	00:05	2.2	22:19	2.2	23:19	-	-	-	-

ENVIRONMENTAL CONDITIONS

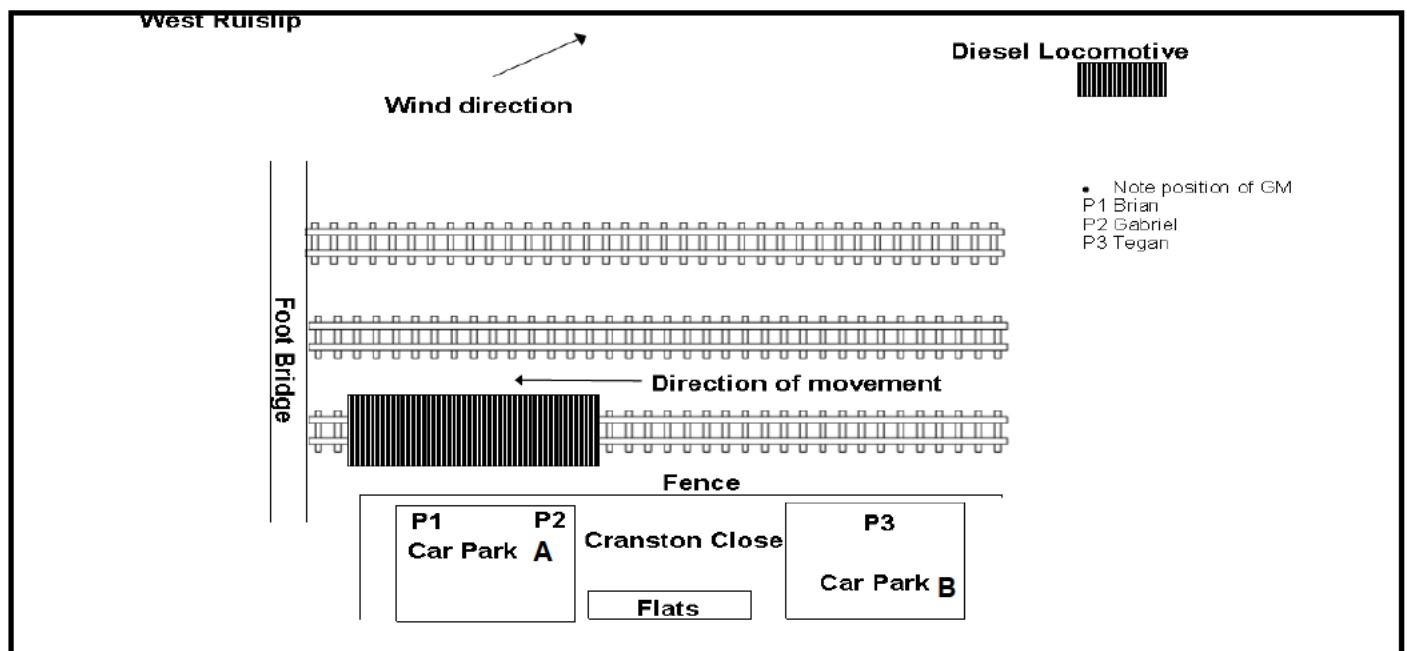
START TEMPERATURE -1.0 °C

START PRESSURE 996 MILLIBARS

FINAL TEMPERATURE -1.0 °C

FINAL PRESSURE 996 MILLIBARS

BALANCE SERIAL No.	<u>L40355</u>	CALIBRATION DUE DATE	<u>JUNE 2019</u>	TIME KEEPING EQUIPMENT	<u>460046</u>	CALIBRATION DUE DATE	<u>02/07/19</u>
FLOWMETER REF. No.	<u>401131</u>	CALIBRATION DUE DATE	<u>02/02/19</u>	TEMPERATURE GAUGE. No.	<u>410783</u>	CALIBRATION DUE DATE	<u>10/08/19</u>

SITE DIAGRAM

REMARKS/OBSERVATIONS

THE OPINIONS AND INTERPRETATIONS EXPRESSED HEREIN ARE OUTSIDE THE SCOPE OF THE UKAS ACCREDITATION

AIR VELOCITY, IF REQUIRED : METRES PER SECOND

AIR DIRECTION, IF REQUIRED :

DURING SAMPLING

21:00	COLLECTED EQUIPMENT FROM 4RS, SITE SHEETS AND READ EMAILS
21:30	LEAVE FOR SITE
21:55	ON SITE AT WEST RUISLIP (CRANSTON CLOSE CAR PARK)
22:01	AM AND GM MONITORING START – DIESEL LOCOMOTIVE PRESENT
22:41	DIESEL LOCOMOTIVE START IDLING
22:41	MODERATE LEVEL OF DIESEL FUMES BLOWING AWAY FROM CAR PARK. IDLING CONTINUES FROM 22:41 – 23:38
23:38	DIESEL LOCOMOTIVE DEPARTS FOR DERBY
00:05	AM AND GM MONITORING STOP

SAMPLES BOOKED IN LAB WITH SITE SHEETS.

POSITION OF GM MONITORS

NOTE: P1 BRIAN P2 GABRIEL P3 TEGAN

DURING GRAVIMETRIC ANALYSIS

VOLUME CORRECTION FOR TEMPERATURE CHANGE