

Customer:

Dr Michael Moynihan
22nd Century Limited LLC
8201 Main Street
Suite 6 Williamsville
New York
USA 14221

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Sample Received: 14 March 2011

Date Testing Commenced: 16 March 2011

Date Reported: 01 April 2011

Samples Received: Camel Blue Box King

Testing Requirements: One thousand cigarettes in branded packets were submitted to the Scientific Services Laboratory of the Filtrona Technology Centre for testing for mainstream smoke yields.

Test Procedures: All tests have been carried out in accordance with documented in house test methods based on ISO standard methods when available. The reported data is only applicable to the sample received.

Results: The results are given on the page attached

Approved by:

(b) (6)

**Laboratory Manager
Filtrona Technology Centre**

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Filtrona Technology Centre

Filtrona Technology Centre, Shaftesbury Avenue, Jarrow, Tyne & Wear NE32 3UP
Tel: +44 (0)191 4230595 Fax: +44 (0)191 4285652 email: scientificservices@filtrona.com www.filtronafilters.com/scientificservices

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Mainstream Smoke Components			
Date	01/04/2011		
Brand	Camel Blue Box King		
Bar Code	FSC 01230739		
Component	Yield Mean	Yield SD	
Tar	10.8 mg/cig	0.9	
Nicotine	0.80 mg/cig	0.05	
Carbon Monoxide	12.5 mg/cig	0.8	
Benz[a] Pyrene	6.7 ng/cig	0.7	
Carbonyls			
Formaldehyde	19.3 µg/cig	2.5	
Acetaldehyde	563.4 µg/cig	13.3	
Acetone	201.8 µg/cig	5.1	
Acrolein	48.9 µg/cig	4.3	
Propionaldehyde	42.4 µg/cig	0.9	
Crotonaldehyde	16.4 µg/cig	1.1	
Methyl Ethyl Ketone	45.1 µg/cig	2.7	
Butyraldehyde	30.3 µg/cig	0.3	
Phenols			
Hydroquinone	38.5 µg/cig	3.1	
Resorcinol	3.5 µg/cig	0.2	
Catechol	41.3 µg/cig	2.2	
Phenol	8.8 µg/cig	0.5	
meta & para-Cresol	6.1 µg/cig	0.4	
ortho-Cresol	2.3 µg/cig	0.2	
Ammonia	9.5 µg/cig	0.3	
Hydrogen Cyanide	157.7 µg/cig	11.9	
Semi-volatile bases			
Pyridine	11.5 µg/cig	1.6	
Quinoline	0.11 µg/cig	0.01	
Miscellaneous Organics			
1,3 Butadiene	46.9 µg/cig	1.5	
Isoprene	400.3 µg/cig	7.9	
Acrylonitrile	9.3 µg/cig	0.1	
Benzene	45.7 µg/cig	4.0	
Toluene	72.3 µg/cig	5.3	
Styrene	16.9 µg/cig	0.9	
Nitrosamines			
N-Nitrosomonicotine NNN	72.3 ng/cig	2.8	
N-Nitrosoanatabine NAT	77.6 ng/cig	0.4	
N-Nitrosoanabasine NAB	7.6 ng/cig	0.4	
4-(N-Nitrosomethylamino)-1-(3-pyridyl)-1-butanone NNK	66.8 ng/cig	2.1	
Aromatic Amines			
3-Aminobiphenyl	0.91 ng/cig	0.01	
4-Aminobiphenyl	0.55 ng/cig	0.08	
1-Aminonaphthalene	9.85 ng/cig	0.37	
2-Aminonaphthalene	2.70 ng/cig	0.24	
NOx Nitric Oxide	156.0 µg/cig	5.4	
pH	6.49 pH units	0.03	
Metals			
Beryllium	< 2 ng/cig		
Cobalt	< 2 ng/cig		
Nickel	< 10 ng/cig		
Lead	14.3 ng/cig	0.7	
Selenium	< 2 ng/cig		
Cadmium	40.8 ng/cig	1.4	
Chromium	< 10 ng/cig		
Arsenic	2.8 ng/cig	0.3	
Menthol	Not Detected	mg/cig	

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Approved by:

(b) (6)

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Customer:

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8201 Main Street
Suite 6 Williamsville
New York
USA 14221

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Sample Received: 14 March 2011

Date Testing Commenced: 16 March 2011

Date Reported: 01 April 2011

Samples Received: Magic Menthol

Testing Requirements: One thousand cigarettes in branded packets were submitted to the Scientific Services Laboratory of the Filtrona Technology Centre for testing for mainstream smoke yields.

Test Procedures: All tests have been carried out in accordance with documented in house test methods based on ISO standard methods when available. The reported data is only applicable to the sample received.

Results: The results are given on the page attached

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Laboratory Manager
Filtrona Technology Centre

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Mainstream Smoke Components			
Date	01/04/2011		
Brand	Magic Menthol		
Bar Code	FSC 00953788		
Component	Yield Mean	Yield SD	
Tar	3.5 mg/cig	0.2	
Nicotine	0.03 mg/cig	0.00	
Carbon Monoxide	5.4 mg/cig	0.2	
Benzo [a] Pyrene	0.9 ng/cig	0.1	
Carbonyls			
Formaldehyde	5.3 µg/cig	1.5	
Acetaldehyde	283.0 µg/cig	13.0	
Acetone	111.7 µg/cig	7.9	
Acrolein	12.0 µg/cig	0.9	
Propionaldehyde	20.0 µg/cig	1.3	
Crotonaldehyde	4.6 µg/cig	0.8	
Methyl Ethyl Ketone	23.4 µg/cig	2.2	
Butyraldehyde	10.4 µg/cig	1.1	
Phenols			
Hydroquinone	15.5 µg/cig	1.0	
Resorcinol	< 0.5 µg/cig		
Catechol	13.2 µg/cig	0.3	
Phenol	5.1 µg/cig	0.3	
meta & para-Cresol	3.9 µg/cig	0.2	
orto-Cresol	1.5 µg/cig	0.1	
Ammonia	24.8 µg/cig	2.0	
Hydrogen Cyanide	44.0 µg/cig	4.6	
Semi-volatile bases			
Pyridine	3.5 µg/cig	0.3	
Quinoline	0.04 µg/cig	0.01	
Miscellaneous Organics			
1,3 Butadiene	17.9 µg/cig	1.0	
Isoprene	115.9 µg/cig	7.1	
Acrylonitrile	5.6 µg/cig	0.2	
Benzene	23.0 µg/cig	3.0	
Toluene	31.9 µg/cig	4.6	
Styrene	3.6 µg/cig	0.4	
Nitrosamines			
N-Nitrosomonicotine NNN	39.1 ng/cig	0.2	
N-Nitrosoanatabine NAT	5.7 ng/cig	0.4	
N-Nitrosoanabasine NAB	1.3 ng/cig	0.1	
4-(N-Nitrosomethylamino)-1-(3-pyridyl)-1-butanone NNK	10.9 ng/cig	1.4	
Aromatic Amines			
3-Aminobiphenyl	1.50 ng/cig	0.13	
4-Aminobiphenyl	1.02 ng/cig	0.07	
1-Aminonaphthalene	7.56 ng/cig	0.09	
2-Aminonaphthalene	4.16 ng/cig	0.08	
NOx Nitric Oxide	153.0 µg/cig	2.7	
pH	7.04 pH units	0.01	
Metals			
Beryllium	< 2 ng/cig		
Cobalt	< 2 ng/cig		
Nickel	< 10 ng/cig		
Lead	< 5 ng/cig		
Selenium	< 2 ng/cig		
Cadmium	13.8 ng/cig	1.3	
Chromium	< 10 ng/cig		
Arsenic	< 1.5 ng/cig		
Menthol	0.34 mg/cig	0.01	

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Customer:

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Dr Michael Moynihan
22nd Century Limited LLC
8201 Main Street
Suite 6 Williamsville
New York
USA 14221

Sample Received: 14 March 2011

Date Testing Commenced: 16 March 2011

Date Reported: 01 April 2011

Samples Received: Magic

Testing Requirements: One thousand cigarettes in branded packets were submitted to the Scientific Services Laboratory of the Filtrona Technology Centre for testing for mainstream smoke yields.

Test Procedures: All tests have been carried out in accordance with documented in house test methods based on ISO standard methods when available. The reported data is only applicable to the sample received.

Results: The results are given on the page attached

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Laboratory Manager
Filtrona Technology Centre

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Mainstream Smoke Components			
Date	01/04/2011		
Brand	Magic		
Bar Code	FSC 00953771		
Component	Yield Mean		Yield SD
Tar	3.7	mg/cig	0.2
Nicotine	0.03	mg/cig	0.00
Carbon Monoxide	6.3	mg/cig	0.4
Benzo [a] Pyrene	2.4	ng/cig	0.1
Carbonyls			
Formaldehyde	5.7	µg/cig	0.6
Acetaldehyde	352.6	µg/cig	40.6
Acetone	138.1	µg/cig	19.0
Acrolein	14.8	µg/cig	2.4
Propionaldehyde	25.3	µg/cig	3.0
Crotonaldehyde	7.5	µg/cig	0.8
Methyl Ethyl Ketone	28.4	µg/cig	2.4
Butyraldehyde	13.2	µg/cig	1.2
Phenols			
Hydroquinone	18.3	µg/cig	1.5
Resorcinol	< 0.5	µg/cig	
Catechol	14.1	µg/cig	1.0
Phenol	6.3	µg/cig	0.3
meta & para-Cresol	4.5	µg/cig	0.3
ortho-Cresol	1.7	µg/cig	0.1
Ammonia	23.1	µg/cig	2.1
Hydrogen Cyanide	60.3	µg/cig	4.0
Semi-volatile bases			
Pyridine	6.0	µg/cig	0.4
Quinoline	0.05	µg/cig	0.00
Miscellaneous Organics			
1,3 Butadiene	21.9	µg/cig	2.8
Isoprene	136.1	µg/cig	24.2
Acrylonitrile	6.8	µg/cig	0.8
Benzene	27.6	µg/cig	3.4
Toluene	39.4	µg/cig	3.7
Styrene	4.8	µg/cig	0.1
Nitrosamines			
N-Nitrosomonicotine NNN	47.1	ng/cig	6.2
N-Nitrosoanatabine NAT	9.1	ng/cig	2.7
N-Nitrosoanabasine NAB	1.9	ng/cig	0.8
4-(N-Nitrosomethylamino)-1-(3-pyridyl)-1-butanone NNK	17.6	ng/cig	4.0
Aromatic Amines			
3-Aminobiphenyl	1.55	ng/cig	0.09
4-Aminobiphenyl	0.89	ng/cig	0.09
1-Aminonaphthalene	8.30	ng/cig	0.20
2-Aminonaphthalene	4.38	ng/cig	0.11
NOx Nitric Oxide	200.4	µg/cig	6.7
pH	7.02	pH units	0.03
Metals			
Beryllium	< 2	ng/cig	
Cobalt	< 2	ng/cig	
Nickel	< 10	ng/cig	
Lead	5.3	ng/cig	0.4
Selenium	< 2	ng/cig	
Cadmium	16.8	ng/cig	0.4
Chromium	< 10	ng/cig	
Arsenic	< 1.5	ng/cig	
Menthol	Not Detected	mg/cig	

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Approved by:

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Customer:

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Dr Michael Moynihan
22nd Century Limited LLC
8201 Main Street
Suite 6 Williamsville
New York
USA 14221

Sample Received: 14 March 2011

Date Testing Commenced: 16 March 2011

Date Reported: 01 April 2011

Samples Received: Marlboro Gold Box King

Testing Requirements: One thousand cigarettes in branded packets were submitted to the Scientific Services Laboratory of the Filtrona Technology Centre for testing for mainstream smoke yields.

Test Procedures: All tests have been carried out in accordance with documented in house test methods based on ISO standard methods when available. The reported data is only applicable to the sample received.

Results: The results are given on the page attached

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(b) (6)

Laboratory Manager
Filtrona Technology Centre

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Mainstream Smoke Components			
Date	01/04/2011		
Brand	Marlboro Gold Box King		
Bar Code	FSC 02838423		
Component	Yield Mean	Yield SD	
Tar	10.1 mg/cig	0.3	
Nicotine	0.72 mg/cig	0.02	
Carbon Monoxide	10.5 mg/cig	0.2	
Benzo [a] Pyrene	9.7 ng/cig	0.2	
Carbonyls			
Formaldehyde	17.7 µg/cig	1.5	
Acetaldehyde	473.8 µg/cig	11.2	
Acetone	167.3 µg/cig	3.2	
Acrolein	43.6 µg/cig	1.9	
Propionaldehyde	34.7 µg/cig	0.7	
Crotonaldehyde	8.9 µg/cig	0.5	
Methyl Ethyl Ketone	35.7 µg/cig	1.1	
Butyraldehyde	26.2 µg/cig	1.4	
Phenols			
Hydroquinone	37.9 µg/cig	1.6	
Resorcinol	3.2 µg/cig	0.1	
Catechol	40.8 µg/cig	0.6	
Phenol	10.6 µg/cig	0.2	
meta & para-Cresol	7.0 µg/cig	0.2	
ortho-Cresol	2.8 µg/cig	0.2	
Ammonia	9.9 µg/cig	2.0	
Hydrogen Cyanide	137.0 µg/cig	1.7	
Semi-volatile bases			
Pyridine	12.6 µg/cig	1.7	
Quinoline	0.16 µg/cig	0.02	
Miscellaneous Organics			
1,3 Butadiene	41.9 µg/cig	1.3	
Isoprene	315.0 µg/cig	18.9	
Acrylonitrile	7.5 µg/cig	0.2	
Benzene	37.3 µg/cig	1.6	
Toluene	53.2 µg/cig	5.5	
Styrene	14.6 µg/cig	0.4	
Nitrosamines			
N-Nitrosomemcotine NNN	102.8 ng/cig	2.3	
N-Nitrosoanatabine NAT	98.9 ng/cig	3.8	
N-Nitrosoanabasine NAB	8.4 ng/cig	1.4	
4-(N-Nitrosomethylamino)-1-(3-pyridyl)-1-butanone NNK	93.1 ng/cig	4.1	
Aromatic Amines			
3-Aminobiphenyl	0.99 ng/cig	0.07	
4-Aminobiphenyl	0.69 ng/cig	0.11	
1-Aminonaphthalene	11.17 ng/cig	0.42	
2-Aminonaphthalene	2.97 ng/cig	0.40	
NOx Nitric Oxide	155.1 µg/cig	5.7	
pH	6.47 pH units	0.02	
Metals			
Beryllium	< 2 ng/cig		
Cobalt	< 2 ng/cig		
Nickel	< 10 ng/cig		
Lead	14.3 ng/cig	0.3	
Selenium	< 2 ng/cig		
Cadmium	36.7 ng/cig	1.4	
Chromium	< 10 ng/cig		
Arsenic	3.1 ng/cig	0.1	
Menthol	Not Detected	mg/cig	

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Approved by:

(b) (6)

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Dr Michael Moynihan
22nd Century Limited LLC
8201 Main Street
Suite 6 Williamsville
New York
USA 14221

Sample Received: 14 March 2011

Date Testing Commenced: 16 March 2011

Date Reported: 01 April 2011

Samples Received: Newport Menthol Box

Testing Requirements: One thousand cigarettes in branded packets were submitted to the Scientific Services Laboratory of the Filtrona Technology Centre for testing for mainstream smoke yields.

Test Procedures: All tests have been carried out in accordance with documented in house test methods based on ISO standard methods when available. The reported data is only applicable to the sample received.

Results: The results are given on the page attached

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Mainstream Smoke Components			
Date	01/04/2011		
Brand	Newport Menthol Box		
Bar Code	FSC 02657512		
Component	Yield Mean	Yield SD	
Tar	18.7 mg/cig	0.7	
Nicotine	1.07 mg/cig	0.02	
Carbon Monoxide	19.7 mg/cig	0.7	
Benzo [a] Pyrene	9.3 ng/cig	0.1	
Carbonyls			
Formaldehyde	33.0 µg/cig	1.0	
Acetaldehyde	767.8 µg/cig	28.6	
Acetone	264.8 µg/cig	12.0	
Acrolein	75.2 µg/cig	1.2	
Propionaldehyde	53.7 µg/cig	1.9	
Crotonaldehyde	16.9 µg/cig	1.2	
Methyl Ethyl Ketone	55.5 µg/cig	3.2	
Butyraldehyde	39.9 µg/cig	4.3	
Phenols			
Hydroquinone	64.4 µg/cig	2.1	
Resorcinol	5.7 µg/cig	0.3	
Catechol	59.0 µg/cig	0.8	
Phenol	13.4 µg/cig	0.7	
meta & para-Cresol	9.2 µg/cig	0.4	
ortho-Cresol	3.6 µg/cig	0.2	
Ammonia	14.0 µg/cig	0.2	
Hydrogen Cyanide	291.3 µg/cig	21.7	
Semi-volatile bases			
Pyridine	18.0 µg/cig	1.2	
Quinoline	0.20 µg/cig	0.02	
Miscellaneous Organics			
1,3 Butadiene	60.7 µg/cig	1.9	
Isoprene	493.5 µg/cig	23.1	
Acrylonitrile	10.4 µg/cig	0.5	
Benzene	52.8 µg/cig	1.8	
Toluene	78.9 µg/cig	8.3	
Styrene	24.6 µg/cig	0.9	
Nitrosamines			
N-Nitrosomonicotine NNN	113.0 ng/cig	2.8	
N-Nitrosoanatabine NAT	95.6 ng/cig	2.4	
N-Nitrosoanabasine NAB	9.7 ng/cig	0.8	
4-(N-Nitrosomethylamino)-1-(3-pyridyl)-1-butanone NNK	57.6 ng/cig	4.7	
Aromatic Amines			
3-Aminobiphenyl	0.83 ng/cig	0.09	
4-Aminobiphenyl	0.61 ng/cig	0.10	
1-Aminonaphthalene	10.48 ng/cig	0.40	
2-Aminonaphthalene	2.32 ng/cig	0.12	
NOx Nitric Oxide	163.4 µg/cig	11.9	
pH	6.13 pH units	0.01	
Metals			
Beryllium	< 2 ng/cig		
Cobalt	< 2 ng/cig		
Nickel	< 10 ng/cig		
Lead	21.2 ng/cig	0.1	
Selenium	< 2 ng/cig		
Cadmium	63.3 ng/cig	1.4	
Chromium	< 10 ng/cig		
Arsenic	4.3 ng/cig	0.3	
Menthol	0.58 mg/cig	0.02	

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Customer:

Dr Michael Moynihan
22nd Century Limited LLC
8201 Main Street
Suite 6 Williamsville
New York
USA 14221

Sample Received: 24 June 2011**Date Testing Commenced:** 27 June 2011**Date Reported:****Samples Received:** X 22

Testing Requirements: One thousand cigarettes in branded packets were submitted to the Scientific Services Laboratory of the Filtrona Technology Centre for testing for mainstream smoke yields.

Test Procedures: All tests have been carried out in accordance with documented in house test methods based on ISO standard methods when available. The reported data is only applicable to the sample received.

Results: The results are given on the page attached

Approved by:

(b) (6)

Laboratory Manager
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Mainstream Smoke Components			
Date			
Brand	X 22		
Bar Code			
Component	Yield Mean		Yield SD
Tar	6.7	mg/cig	0.6
Nicotine	0.02	mg/cig	0.00
Carbon Monoxide	12.0	mg/cig	0.8
Benzo [a] Pyrene	5.0	ng/cig	0.2
Carbonyls			
Formaldehyde	12.0	µg/cig	1.0
Acetaldehyde	551.0	µg/cig	7.6
Acetone	215.6	µg/cig	1.8
Acrolein	32.6	µg/cig	1.3
Propionaldehyde	37.3	µg/cig	0.4
Crotonaldehyde	7.6	µg/cig	0.3
Methyl Ethyl Ketone	45.6	µg/cig	1.1
Butyraldehyde	19.5	µg/cig	0.8
Phenols			
Hydroquinone	25.5	µg/cig	0.9
Resorcinol	0.6	µg/cig	0.1
Catechol	20.8	µg/cig	0.9
Phenol	8.6	µg/cig	0.6
meta & para-Cresol	6.6	µg/cig	0.4
ortho-Cresol	2.6	µg/cig	0.2
Ammonia	27.1	µg/cig	5.7
Hydrogen Cyanide	127.0	µg/cig	5.7
Semi-volatile bases			
Pyridine	19.4	µg/cig	1.4
Quinoline	0.15	µg/cig	0.01
Miscellaneous Organics			
1,3 Butadiene	32.9	µg/cig	0.3
Isoprene	203.5	µg/cig	3.8
Acrylonitrile	6.5	µg/cig	0.1
Benzene	39.6	µg/cig	5.1
Toluene	66.0	µg/cig	0.5
Styrene	14.1	µg/cig	1.3
Nitrosamines			
N-Nitrosornicotine NNN	53.4	ng/cig	1.8
N-Nitrosoanatabine NAT	5.6	ng/cig	0.3
N-Nitrosoanabasine NAB	< 1	ng/cig	
4-(N-Nitrosomethylamino)-1-(3-pyridyl)-1-butanone NNK	13.5	ng/cig	0.4
Aromatic Amines			
3-Aminobiphenyl	2.16	ng/cig	0.05
4-Aminobiphenyl	1.59	ng/cig	0.10
1-Aminonaphthalene	9.07	ng/cig	0.24
2-Aminonaphthalene	4.00	ng/cig	0.20
NOx Nitric Oxide	229.9	µg/cig	9.9
pH	6.76	pH units	0.03
Metals			
Beryllium		ng/cig	
Cobalt		ng/cig	
Mercury		ng/cig	
Nickel		ng/cig	
Lead		ng/cig	
Selenium		ng/cig	
Cadmium		ng/cig	
Chromium		ng/cig	
Arsenic		ng/cig	
Menthol	0.13	mg/cig	0.01

Approved by:

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