London Borough of Richmond
PAH Survey

Annual Mean B[a]P Concentration: **0.11** ng m-3

N.D = None detected

UKAS Analysis of USEPA-16 BY GC-MS

May-02

Sample No	Compound	Date On	Time On	Date Off	Time Off	Volume	Conc (ng)	Combined Particulate and Vapour
RICH0502								**ng m-3**
	Naphthalene	16/05/2002	14:12	30/05/2002	11:26	272.52	71	0.26
	Acenaphthylene	16/05/2002	14:12	30/05/2002	11:26	272.52	16	0.06
	Acenaphthene	16/05/2002	14:12	30/05/2002	11:26	272.52	13	0.05
	Fluorene	16/05/2002	14:12	30/05/2002	11:26	272.52	88	0.32
	Phenanthrene	16/05/2002	14:12	30/05/2002	11:26	272.52	977	3.59
	Anthracene	16/05/2002	14:12	30/05/2002	11:26	272.52	68	0.25
	Fluoranthene	16/05/2002	14:12	30/05/2002	11:26	272.52	541	1.99
	Pyrene	16/05/2002	14:12	30/05/2002	11:26	272.52	388	1.42
	Benz(a)anthracene	16/05/2002	14:12	30/05/2002	11:26	272.52	9	0.03
	Chrysene	16/05/2002	14:12	30/05/2002	11:26	272.52	57	0.21
	Benzo(b)fluoranthene	16/05/2002	14:12	30/05/2002	11:26	272.52	26	0.10
	Benzo(k)fluoranthene	16/05/2002	14:12	30/05/2002	11:26	272.52	15	0.06
	Benzo(a)pyrene	16/05/2002	14:12	30/05/2002	11:26	272.52	8	**0.03**
	Indeno(1,2,3-cd)pyrene	16/05/2002	14:12	30/05/2002	11:26	272.52	22	0.08
	Dibenz(a,h)anthracene	16/05/2002	14:12	30/05/2002	11:26	272.52	<4	N.D
	Benzo(g,h,i)perylene	16/05/2002	14:12	30/05/2002	11:26	272.52	30	0.11
	Total PAH (ng m3)							**8.55**

London Borough of Richmond
PAH Survey

Annual Mean B[a]P Concentration: **0.11** ng m-3

N.D = None detected

UKAS Analysis of USEPA-16 BY GC-MS

Jun-02

Sample No	Compound	Date On	Time On	Date Off	Time Off	Volume	Conc (ng)	Combined Particulate and Vapour
RICH0602								**ng m-3**
	Naphthalene	20/06/2002	12:56	01/07/2002	14:34	217.23	34	0.16
	Acenaphthylene	20/06/2002	12:56	01/07/2002	14:34	217.23	18	0.08
	Acenaphthene	20/06/2002	12:56	01/07/2002	14:34	217.23	18	0.08
	Fluorene	20/06/2002	12:56	01/07/2002	14:34	217.23	86	0.40
	Phenanthrene	20/06/2002	12:56	01/07/2002	14:34	217.23	1448	6.67
	Anthracene	20/06/2002	12:56	01/07/2002	14:34	217.23	39	0.18
	Fluoranthene	20/06/2002	12:56	01/07/2002	14:34	217.23	736	3.39
	Pyrene	20/06/2002	12:56	01/07/2002	14:34	217.23	400	1.84
	Benz(a)anthracene	20/06/2002	12:56	01/07/2002	14:34	217.23	13	0.06
	Chrysene	20/06/2002	12:56	01/07/2002	14:34	217.23	59	0.27
	Benzo(b)fluoranthene	20/06/2002	12:56	01/07/2002	14:34	217.23	23	0.11
	Benzo(k)fluoranthene	20/06/2002	12:56	01/07/2002	14:34	217.23	12	0.06
	Benzo(a)pyrene	20/06/2002	12:56	01/07/2002	14:34	217.23	8	**0.04**
	Indeno(1,2,3-cd)pyrene	20/06/2002	12:56	01/07/2002	14:34	217.23	17	0.08
	Dibenz(a,h)anthracene	20/06/2002	12:56	01/07/2002	14:34	217.23	<2	N.D
	Benzo(g,h,i)perylene	20/06/2002	12:56	01/07/2002	14:34	217.23	<45	N.D
	Total PAH (ng m3)							**13.40**

London Borough of Richmond
PAH Survey

Annual Mean B[a]P Concentration: **0.11** ng m-3

N.D = None detected

UKAS Analysis of USEPA-16 BY GC-MS

Jul-02

Sample No	Compound	Date On	Time On	Date Off	Time Off	Volume	Conc (ng)	Combined Particulate and Vapour
RICH0702								**ng m-3**
	Naphthalene	17/07/2002	14:14	30/07/2002	13:56	254.91	<60	N.D
	Acenaphthylene	17/07/2002	14:14	30/07/2002	13:56	254.91	17	0.07
	Acenaphthene	17/07/2002	14:14	30/07/2002	13:56	254.91	20	0.08
	Fluorene	17/07/2002	14:14	30/07/2002	13:56	254.91	185	0.73
	Phenanthrene	17/07/2002	14:14	30/07/2002	13:56	254.91	2856	11.20
	Anthracene	17/07/2002	14:14	30/07/2002	13:56	254.91	55	0.22
	Fluoranthene	17/07/2002	14:14	30/07/2002	13:56	254.91	969	3.80
	Pyrene	17/07/2002	14:14	30/07/2002	13:56	254.91	542	2.13
	Benz(a)anthracene	17/07/2002	14:14	30/07/2002	13:56	254.91	15	0.06
	Chrysene	17/07/2002	14:14	30/07/2002	13:56	254.91	68	0.27
	Benzo(b)fluoranthene	17/07/2002	14:14	30/07/2002	13:56	254.91	59	0.23
	Benzo(k)fluoranthene	17/07/2002	14:14	30/07/2002	13:56	254.91	32	0.13
	Benzo(a)pyrene	17/07/2002	14:14	30/07/2002	13:56	254.91	17	**0.07**
	Indeno(1,2,3-cd)pyrene	17/07/2002	14:14	30/07/2002	13:56	254.91	23	0.09
	Dibenz(a,h)anthracene	17/07/2002	14:14	30/07/2002	13:56	254.91	5	0.02
	Benzo(g,h,i)perylene	17/07/2002	14:14	30/07/2002	13:56	254.91	37	0.15
	Total PAH (ng m3)							**19.22**

London Borough of Richmond
PAH Survey

Annual Mean B[a]P Concentration: **0.11** ng m-3

N.D = None detected

UKAS Analysis of USEPA-16 BY GC-MS

Sep-02

Sample No	Compound	Date On	Time On	Date Off	Time Off	Volume	Conc (ng)	Combined Particulate and Vapour
RICH0902								**ng m-3**
	Naphthalene	10/09/2002	11:47	24/09/2002	12:28	275.34	<280	N.D
	Acenaphthylene	10/09/2002	11:47	24/09/2002	12:28	275.34	13	0.05
	Acenaphthene	10/09/2002	11:47	24/09/2002	12:28	275.34	30	0.11
	Fluorene	10/09/2002	11:47	24/09/2002	12:28	275.34	118	0.43
	Phenanthrene	10/09/2002	11:47	24/09/2002	12:28	275.34	1695	6.16
	Anthracene	10/09/2002	11:47	24/09/2002	12:28	275.34	92	0.33
	Fluoranthene	10/09/2002	11:47	24/09/2002	12:28	275.34	788	2.86
	Pyrene	10/09/2002	11:47	24/09/2002	12:28	275.34	588	2.14
	Benz(a)anthracene	10/09/2002	11:47	24/09/2002	12:28	275.34	34	0.12
	Chrysene	10/09/2002	11:47	24/09/2002	12:28	275.34	84	0.31
	Benzo(b)fluoranthene	10/09/2002	11:47	24/09/2002	12:28	275.34	55	0.20
	Benzo(k)fluoranthene	10/09/2002	11:47	24/09/2002	12:28	275.34	33	0.12
	Benzo(a)pyrene	10/09/2002	11:47	24/09/2002	12:28	275.34	17	**0.06**
	Indeno(1,2,3-cd)pyrene	10/09/2002	11:47	24/09/2002	12:28	275.34	51	0.19
	Dibenz(a,h)anthracene	10/09/2002	11:47	24/09/2002	12:28	275.34	5	0.02
	Benzo(g,h,i)perylene	10/09/2002	11:47	24/09/2002	12:28	275.34	66	0.24
	Total PAH (ng m3)							**13.33**

London Borough of Richmond
PAH Survey

Annual Mean B[a]P Concentration: **0.11** ng m-3

N.D = None detected

UKAS Analysis of USEPA-16 BY GC-MS

Oct-02

Sample No	Compound	Date On	Time On	Date Off	Time Off	Volume	Conc (ng)	Combined Particulate and Vapour
RICH1002								**ng m-3**
	Naphthalene	15/10/2002	13:24	28/10/2002	11:22	253.49	<110	N.D
	Acenaphthylene	15/10/2002	13:24	28/10/2002	11:22	253.49	22	0.09
	Acenaphthene	15/10/2002	13:24	28/10/2002	11:22	253.49	22	0.09
	Fluorene	15/10/2002	13:24	28/10/2002	11:22	253.49	108	0.43
	Phenanthrene	15/10/2002	13:24	28/10/2002	11:22	253.49	2187	8.63
	Anthracene	15/10/2002	13:24	28/10/2002	11:22	253.49	66	0.26
	Fluoranthene	15/10/2002	13:24	28/10/2002	11:22	253.49	1164	4.59
	Pyrene	15/10/2002	13:24	28/10/2002	11:22	253.49	929	3.66
	Benz(a)anthracene	15/10/2002	13:24	28/10/2002	11:22	253.49	55	0.22
	Chrysene	15/10/2002	13:24	28/10/2002	11:22	253.49	150	0.59
	Benzo(b)fluoranthene	15/10/2002	13:24	28/10/2002	11:22	253.49	97	0.38
	Benzo(k)fluoranthene	15/10/2002	13:24	28/10/2002	11:22	253.49	87	0.34
	Benzo(a)pyrene	15/10/2002	13:24	28/10/2002	11:22	253.49	35	**0.14**
	Indeno(1,2,3-cd)pyrene	15/10/2002	13:24	28/10/2002	11:22	253.49	72	0.28
	Dibenz(a,h)anthracene	15/10/2002	13:24	28/10/2002	11:22	253.49	7	0.03
	Benzo(g,h,i)perylene	15/10/2002	13:24	28/10/2002	11:22	253.49	123	0.49
	Total PAH (ng m3)							**20.21**

London Borough of Richmond
PAH Survey

Annual Mean B[a]P Concentration: **0.11** ng m-3

N.D = None detected

UKAS Analysis of USEPA-16 BY GC-MS

Nov-02

Sample No	Compound	Date On	Time On	Date Off	Time Off	Volume	Conc (ng)	Combined Particulate and Vapour
RICH1102								**ng m-3**
	Naphthalene	18/11/2002	11:37	03/12/2002	11:45	294.52	<130	N.D
	Acenaphthylene	18/11/2002	11:37	03/12/2002	11:45	294.52	81	0.28
	Acenaphthene	18/11/2002	11:37	03/12/2002	11:45	294.52	35	0.12
	Fluorene	18/11/2002	11:37	03/12/2002	11:45	294.52	138	0.47
	Phenanthrene	18/11/2002	11:37	03/12/2002	11:45	294.52	1883	6.39
	Anthracene	18/11/2002	11:37	03/12/2002	11:45	294.52	119	0.40
	Fluoranthene	18/11/2002	11:37	03/12/2002	11:45	294.52	1166	3.96
	Pyrene	18/11/2002	11:37	03/12/2002	11:45	294.52	1035	3.51
	Benz(a)anthracene	18/11/2002	11:37	03/12/2002	11:45	294.52	65	0.22
	Chrysene	18/11/2002	11:37	03/12/2002	11:45	294.52	182	0.62
	Benzo(b)fluoranthene	18/11/2002	11:37	03/12/2002	11:45	294.52	126	0.43
	Benzo(k)fluoranthene	18/11/2002	11:37	03/12/2002	11:45	294.52	107	0.36
	Benzo(a)pyrene	18/11/2002	11:37	03/12/2002	11:45	294.52	48	**0.16**
	Indeno(1,2,3-cd)pyrene	18/11/2002	11:37	03/12/2002	11:45	294.52	102	0.35
	Dibenz(a,h)anthracene	18/11/2002	11:37	03/12/2002	11:45	294.52	10	0.03
	Benzo(g,h,i)perylene	18/11/2002	11:37	03/12/2002	11:45	294.52	155	0.53
	Total PAH (ng m3)							**17.83**

London Borough of Richmond
PAH Survey

Annual Mean B[a]P Concentration: **0.11** ng m-3

N.D = None detected

UKAS Analysis of USEPA-16 BY GC-MS

Feb-03

Sample No	Compound	Date On	Time On	Date Off	Time Off	Volume	Conc (ng)	Combined Particulate and Vapour
PH10203								**ng m-3**
	Naphthalene	05/02/2003	13:07	18/02/2003	15:57	257.28	212	0.82
	Acenaphthylene	05/02/2003	13:07	18/02/2003	15:57	257.28	46	0.18
	Acenaphthene	05/02/2003	13:07	18/02/2003	15:57	257.28	36	0.14
	Fluorene	05/02/2003	13:07	18/02/2003	15:57	257.28	260	1.01
	Phenanthrene	05/02/2003	13:07	18/02/2003	15:57	257.28	2960	11.50
	Anthracene	05/02/2003	13:07	18/02/2003	15:57	257.28	115	0.45
	Fluoranthene	05/02/2003	13:07	18/02/2003	15:57	257.28	889	3.46
	Pyrene	05/02/2003	13:07	18/02/2003	15:57	257.28	732	2.85
	Benz(a)anthracene	05/02/2003	13:07	18/02/2003	15:57	257.28	79	0.31
	Chrysene	05/02/2003	13:07	18/02/2003	15:57	257.28	222	0.86
	Benzo(b)fluoranthene	05/02/2003	13:07	18/02/2003	15:57	257.28	126	0.49
	Benzo(k)fluoranthene	05/02/2003	13:07	18/02/2003	15:57	257.28	156	0.61
	Benzo(a)pyrene	05/02/2003	13:07	18/02/2003	15:57	257.28	66	**0.26**
	Indeno(1,2,3-cd)pyrene	05/02/2003	13:07	18/02/2003	15:57	257.28	100	0.39
	Dibenz(a,h)anthracene	05/02/2003	13:07	18/02/2003	15:57	257.28	13	0.05
	Benzo(g,h,i)perylene	05/02/2003	13:07	18/02/2003	15:57	257.28	162	0.63
	Total PAH (ng m3)							**24.00**

London Borough of Richmond
PAH Survey

Annual Mean B[a]P Concentration: **0.11** ng m-3

N.D = None detected

UKAS Analysis of USEPA-16 BY GC-MS

Mar-03

Sample No	Compound	Date On	Time On	Date Off	Time Off	Volume	Conc (ng)	Combined Particulate and Vapour
PH030304								**ng m-3**
	Naphthalene	06/03/2003	11:29	18/03/2003	15:01	238.59	<60	N.D
	Acenaphthylene	06/03/2003	11:29	18/03/2003	15:01	238.59	8	0.03
	Acenaphthene	06/03/2003	11:29	18/03/2003	15:01	238.59	19	0.08
	Fluorene	06/03/2003	11:29	18/03/2003	15:01	238.59	107	0.45
	Phenanthrene	06/03/2003	11:29	18/03/2003	15:01	238.59	1534	6.43
	Anthracene	06/03/2003	11:29	18/03/2003	15:01	238.59	25	0.10
	Fluoranthene	06/03/2003	11:29	18/03/2003	15:01	238.59	676	2.83
	Pyrene	06/03/2003	11:29	18/03/2003	15:01	238.59	504	2.11
	Benz(a)anthracene	06/03/2003	11:29	18/03/2003	15:01	238.59	29	0.12
	Chrysene	06/03/2003	11:29	18/03/2003	15:01	238.59	117	0.49
	Benzo(b)fluoranthene	06/03/2003	11:29	18/03/2003	15:01	238.59	65	0.27
	Benzo(k)fluoranthene	06/03/2003	11:29	18/03/2003	15:01	238.59	71	0.30
	Benzo(a)pyrene	06/03/2003	11:29	18/03/2003	15:01	238.59	32	**0.13**
	Indeno(1,2,3-cd)pyrene	06/03/2003	11:29	18/03/2003	15:01	238.59	45	0.19
	Dibenz(a,h)anthracene	06/03/2003	11:29	18/03/2003	15:01	238.59	8	0.03
	Benzo(g,h,i)perylene	06/03/2003	11:29	18/03/2003	15:01	238.59	74	0.31
	Total PAH (ng m3)							**13.89**