

WATER SUPPLY ZONE Upminster
Essex & Suffolk Water: Period from 01-JAN-2019 to 31-DEC-2019

Parameter		U/A	No. of	No. of	PCV	No. Of	% of	Concentration or value		
		&	samples	samples		samples	samples	(all samples)		
		Freq.	planned	taken in		contraven	contraven			
			per annum	year	Relaxed	ing PCV	ing PCV	Min.	Mean	Max.
flufenacet	ug/l	AS	24	24	0.1	0	0.000	< 0.002	< 0.002	0.009
heptachlor	ug/l	AS	24	24	0.03	0	0.000	< 0.005	< 0.005	< 0.005
aldrin	ug/l	AS	24	24	0.03	0	0.000	< 0.002	< 0.002	< 0.002
dieldrin	ug/l	AS	24	24	0.03	0	0.000	< 0.003	< 0.003	< 0.003
clopyralid	ug/l	AS	24	24	0.1	0	0.000	0.007	0.019	0.035
bentazone	ug/l	AS	24	24	0.1	0	0.000	< 0.001	< 0.002	0.004
sulphate	mg/l SO4	AS	24	24	250	0	0.000	82.731	95.084	106.757
fluoride	mg/l F	AS	24	24	1.5	0	0.000	0.260	0.294	0.340
propyzamide	ug/l	AS	24	24	0.1	0	0.000	0.006	0.012	0.019
ethofumesate	ug/l	AS	24	24	0.1	0	0.000	< 0.002	< 0.003	< 0.007
terbutryn	ug/l	AS	24	24	0.1	0	0.000	< 0.002	< 0.003	< 0.007
diuron	ug/l	AS	24	24	0.1	0	0.000	< 0.002	< 0.002	< 0.006
MCPD	ug/l	AS	24	24	0.1	0	0.000	< 0.001	< 0.002	< 0.004
triclopyr	ug/l	AS	24	24	0.1	0	0.000	< 0.004	< 0.005	< 0.012
AMPA	ug/l	AS	24	24	0.1	0	0.000	< 0.003	< 0.004	< 0.011
cyanide (total)	ug/l CN	AS	24	24	50	0	0.000	< 1.700	< 3.101	16.859
fenpropidin	ug/l	AS	24	24	0.1	0	0.000	< 0.004	< 0.005	< 0.012
oxamyl	ug/l	AS	24	24	0.1	0	0.000	< 0.001	< 0.005	< 0.023
MCPA	ug/l	AS	24	24	0.1	0	0.000	< 0.001	< 0.001	< 0.002
2,4-D	ug/l	AS	24	24	0.1	0	0.000	< 0.001	< 0.002	< 0.004
quinmerac	ug/l	AS	24	24	0.1	0	0.000	0.006	0.010	0.015
carbetamide	ug/l	AS	24	24	0.1	0	0.000	< 0.002	< 0.005	0.009
isoproturon	ug/l	AS	24	24	0.1	0	0.000	< 0.001	< 0.001	< 0.003
mercury	ug/l Hg	AS	24	24	1	0	0.000	< 0.011	< 0.014	0.024
hexachlorobenzene	ug/l	AS	24	24	0.1	0	0.000	< 0.006	< 0.006	< 0.006
dicamba	ug/l	AS	24	24	0.1	0	0.000	< 0.012	< 0.013	< 0.017
dichlorprop	ug/l	AS	24	24	0.1	0	0.000	< 0.001	< 0.002	< 0.004
total organic carbon	mg/l C	AS	24	24		0	0.000	3.200	3.513	4.000
atrazine	ug/l	AS	24	24	0.1	0	0.000	< 0.003	< 0.003	< 0.008
boron	mg/l B	AS	24	24	1	0	0.000	0.054	0.061	0.066
heptachlor epoxides	ug/l	AS	24	24	0.03	0	0.000	0.000	0.000	0.000
diflufenican	ug/l	AS	24	24	0.1	0	0.000	< 0.003	< 0.004	< 0.009
metazachlor	ug/l	AS	24	24	0.1	0	0.000	< 0.003	< 0.004	< 0.010
MCPB	ug/l	AS	24	24	0.1	0	0.000	< 0.004	< 0.006	< 0.014
chloridazon	ug/l	AS	24	24	0.1	0	0.000	< 0.002	< 0.002	< 0.005
picloram	ug/l	AS	24	24	0.1	0	0.000	< 0.004	< 0.004	< 0.007
ethenes (total by calculation)	ug/l	AS	24	24	10	0	0.000	0.000	< 0.008	< 0.200
tebuconazole	ug/l	AS	24	24	0.1	0	0.000	< 0.001	< 0.001	< 0.004
chloride	mg/l	AS	24	24	250	0	0.000	79.000	84.833	90.000
fenpropimorph	ug/l	AS	24	24	0.1	0	0.000	< 0.003	< 0.004	< 0.009
2,4-DB	ug/l	AS	24	24	0.1	0	0.000	< 0.003	< 0.005	< 0.012
pentachlorophenol	ug/l	AS	24	24	0.1	0	0.000	< 0.002	< 0.003	< 0.006
pesticides total (calculated)	ug/l	AS	24	24	0.5	0	0.000	0.029	0.062	0.087
tetrachloromethane	ug/l	AS	24	24	3	0	0.000	< 0.025	< 0.032	< 0.081
benzene	ug/l	AS	24	24	1	0	0.000	< 0.013	< 0.017	< 0.041
1,2-dichloroethane	ug/l	AS	24	24	3	0	0.000	< 0.024	< 0.031	< 0.079
chlortoluron	ug/l	AS	24	24	0.1	0	0.000	< 0.001	< 0.001	< 0.003
asulam	ug/l	AS	24	24	0.1	0	0.000	< 0.005	< 0.008	0.028

WATER SUPPLY ZONE Upminster
Essex & Suffolk Water: Period from 01-JAN-2019 to 31-DEC-2019

Parameter		U/A	No. of	No. of	PCV	No. Of	% of	Concentration or value		
		&	samples	samples		samples	samples	(all samples)		
		Freq.	planned	taken in		contraven	contraven			
			per annum	year	Relaxed	ing PCV	ing PCV	Min.	Mean	Max.
glyphosate	ug/l	AS	24	23	0.1	0	0.000	< 0.003	< 0.005	< 0.012
chlormequat	ug/l	AS	24	24	0.1	0	0.000	< 0.006	< 0.009	< 0.020
metaldehyde	ug/l	AS	24	24	0.1	0	0.000	0.008	0.020	0.032
chlorthalonil	ug/l	AS	24	24	0.1	0	0.000	< 0.010	< 0.010	< 0.010
pendimethalin	ug/l	AS	24	24	0.1	0	0.000	< 0.003	< 0.003	< 0.008
fluroxypyr	ug/l	AS	24	24	0.1	0	0.000	< 0.005	< 0.009	< 0.018
2,4,5-T	ug/l	AS	24	24	0.1	0	0.000	< 0.001	< 0.002	< 0.004
lenacil	ug/l	AS	24	24	0.1	0	0.000	< 0.002	< 0.002	< 0.006
metamitron	ug/l	AS	24	24	0.1	0	0.000	< 0.002	< 0.003	< 0.007
linuron	ug/l	AS	24	24	0.1	0	0.000	< 0.001	< 0.002	< 0.006
E.coli	/100ml	S	192	192	>0	0	0.000	0.000	0.000	0.000
residual disinfectant - total	mg/l	S	192	192		0	0.000	0.090	0.628	1.130
total coliforms	/100ml	S	192	192	>0	1	0.521	0.000	0.078	15.000
colony counts after 3 days at 22C	/ml	S	52	52		0	0.000	0.000	6.212	290.000
colour	mg/l Pt/Co scale	S	52	52	20	0	0.000	< 0.930	< 1.378	2.600
electrical conductivity	uS/cm 20C	S	52	52	2500	0	0.000	600.000	719.615	790.000
hydrogen ion (pH)	pH units	S	52	52	9.5	0	0.000	7.310	7.485	7.790
odour (quantitative)	DN	S	52	52	>0	1	1.923	0.000	> 0.173	> 9.000
taste (quantitative)	DN	S	52	52	>0	0	0.000	0.000	0.000	0.000
turbidity	NTU	S	52	52	4	0	0.000	0.051	0.111	0.990
ammonium	mg/l NH4	S	52	52	0.5	0	0.000	0.025	0.180	0.240
aluminium	ug/l Al	S	52	52	200	0	0.000	< 6.600	< 12.816	20.979
antimony	ug/l Sb	S	8	8	5	0	0.000	0.291	0.331	0.374
arsenic	ug/l As	S	8	8	10	0	0.000	0.512	0.877	1.693
benzo(a)pyrene	ug/l	S	8	8	0.01	0	0.000	< 0.001	< 0.001	< 0.002
bromate	ug BrO3/l	S	8	8	10	0	0.000	< 0.100	< 0.700	1.200
cadmium	ug/l Cd	S	8	8	5	0	0.000	< 0.009	< 0.015	0.045
chromium	ug/l Cr	S	8	8	50	0	0.000	0.268	0.999	1.807
copper	mg/l Cu	S	8	8	2	0	0.000	0.002	0.039	0.100
enterococci (confirmed)	/100ml	S	8	8	>0	0	0.000	0.000	0.000	0.000
iron	ug/l Fe	S	52	52	200	0	0.000	< 1.200	< 7.184	120.726
manganese	ug/l Mn	S	52	52	50	0	0.000	< 0.180	< 0.796	14.299
nickel	ug/l Ni	S	8	8	20	0	0.000	1.901	2.448	3.959
nitrate	mg/l NO3	S	52	52	50	0	0.000	3.200	15.375	29.000
nitrite	mg/l NO2	S	52	52	0.5	0	0.000	< 0.003	< 0.047	0.270
total PAH	ug/l	S	8	8	0.1	0	0.000	0.000	0.000	0.001
selenium	ug/l Se	S	8	8	10	0	0.000	< 0.420	< 0.576	< 0.830
sodium	mg/l Na	S	8	8	200	0	0.000	49.477	56.651	84.130
total THM	ug/l	S	8	8	100	0	0.000	25.900	34.113	47.300
clostridium perfringens	/100ml	S	52	52	>0	0	0.000	0.000	0.000	0.000
nitrite/nitrate formula		S	52	52	1.00	0	0.000	0.090	< 0.323	< 0.581
lead (total - 10)	ug/l Pb	S	8	8	10	1	12.500	0.049	2.895	15.531

-----+
WATER SUPPLY ZONE Upminster
Essex & Suffolk Water: Period from 01-JAN-2019 to 31-DEC-2019
-----+

Commentary on Water Quality:

A: Supply point authorisation for pesticides and related products.

Population of zone = 76012

PCV Exceedances:

Sample failed 25-MAR-2019 (EXZ634) total coliforms = 15. Sample 1849257 taken on 25/04/2019. Total coliform = 15/100ml. Resamples and associated samples satisfactory. Tap swab contained coliform bacteria. There is enough evidence to attribute the exceedance to the customers tap.

Sample failed 18-JUN-2019 (EXZ634) odour (quantitative) = >9. Sample 1895431 18/06/2019 odour = >9 described as pencils/woody this type of odour is commonly associated with black alkathene pipes. Resamples from original property and two other neighbouring properties confirmed a pencils/woody taste and odour, a property further downstream was satisfactory. A communication pipe investigation confirmed the presence of black alkathene pipes on the customer's side.

Sample failed 19-FEB-2019 (EXZ634) lead (total - 10) = 16. Sample 1831639, taken 19/02/19. Lead result 16ug/l. First draw resample and sample from neighbouring property unsatisfactory. All flushed sampled satisfactory for lead. Communication pipes for all properties sampled with lead results >4ug/l investigated and found not to be lead. The most likely cause of the exceedance is the customer's lead supply pipe.

Notes:

PCV = Prescribed Concentration or Value

U = Undertaking

S = Standard Sampling Frequency

R = Reduced Sampling Frequency

A = Authorised Supply Point