

R2 Reasonable Potential Tool Parameter Report

PR0024163 - 001 : Lead, total [as Pb]

Evaluated from 08/04/2017 to 08/04/2022

FACILITY INFORMATION:

PRASA HATILLO WTP

STATE ROAD 2, KM 88.9

HATILLO, PR

WQS Import File: PR2022Standards-RPTool.xlsx

SUMMARY STATISTICS:

Number of Samples: 19

Min: 0.8 ug/L

Mean: ug/L

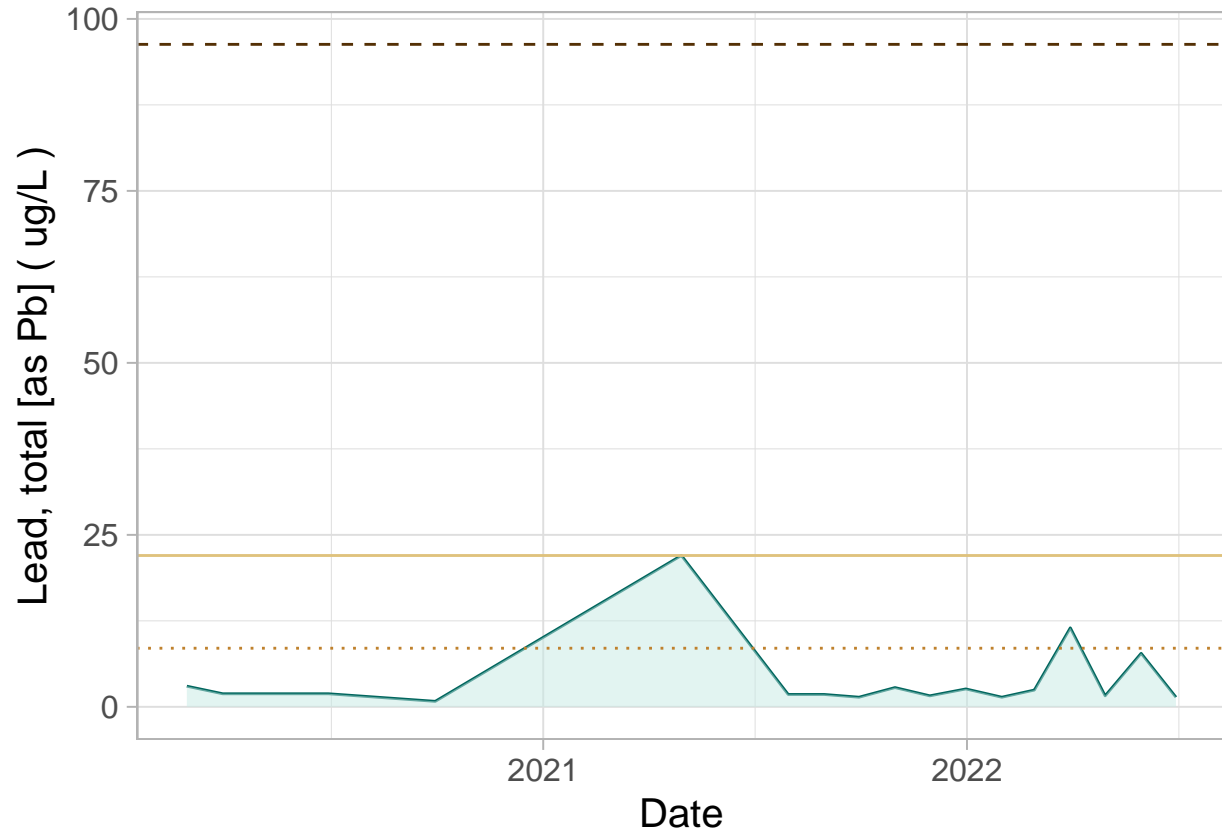
Max: 22 ug/L

WQS - SB: 8.52 ug/L

WQS - SD: NA ug/L

RWC: 96.3 ug/L

TIME SERIES



—Max: 22 ug/L

...WQS - SB: 8.52 ug/L

- - WQS - SD: NA ug/L

-RWC: 96.3 ug/L

RECEIVING WATER CONCENTRATION CALCULATIONS

*assuming a 95% confidence level and a 95% probability basis
calculations from 1991 Technical Support Document pgs 51-55*

$$\text{Number of samples} = n$$

$$\text{Maximum effluent concentration} = \max$$

$$\text{Dilution Ratio} = DR$$

$$\text{Coefficient of Variation (CV)} = S_n/\mu \text{ or } 0.6 \text{ when } n \leq 10$$

$$Z - \text{statistic} = Z_x$$

$$RPM = \frac{\exp(Z_{95} \ln(1 + CV^2)^{0.5} - 0.5 \ln(1 + CV^2))}{\exp(Z_x \ln(1 + CV^2)^{0.5} - 0.5 \ln(1 + CV^2))}$$

$$RWC = \text{maximum effluent concentration} * RPM * \text{Dilution Ratio}$$

$$n = 19$$

$$\max = 22$$

$$DR = 1$$

$$CV = 1.36$$

$$Z_{95} = 1.645$$

$$Z_x = 0.202$$

$$\begin{aligned} RPM &= \frac{\exp(1.645 \ln(1 + 1.36^2)^{0.5} - 0.5 \ln(1 + 1.36^2))}{\exp(0.202 \ln(1 + 1.36^2)^{0.5} - 0.5 \ln(1 + 1.36^2))} \\ &= 4.38 \end{aligned}$$

$$\begin{aligned} RWC &= 22 * 4.38 * 1 \\ &= 96.3 \end{aligned}$$

DATA TABLE

NPDES ID	Outfall	Parameter	Monitoring Period	Value	Unit	NODI Code
PR0024163	001	Lead, total [as Pb]	2020-02-29	3.00	ug/L	
PR0024163	001	Lead, total [as Pb]	2020-03-31	1.90	ug/L	
PR0024163	001	Lead, total [as Pb]	2020-04-30	1.90	ug/L	
PR0024163	001	Lead, total [as Pb]	2020-05-31	1.90	ug/L	
PR0024163	001	Lead, total [as Pb]	2020-06-30	1.90	ug/L	
PR0024163	001	Lead, total [as Pb]	2020-09-30	0.80	ug/L	
PR0024163	001	Lead, total [as Pb]	2021-04-30	22.00	ug/L	
PR0024163	001	Lead, total [as Pb]	2021-07-31	1.80	ug/L	
PR0024163	001	Lead, total [as Pb]	2021-08-31	1.80	ug/L	
PR0024163	001	Lead, total [as Pb]	2021-09-30	1.40	ug/L	
PR0024163	001	Lead, total [as Pb]	2021-10-31	2.80	ug/L	
PR0024163	001	Lead, total [as Pb]	2021-11-30	1.60	ug/L	
PR0024163	001	Lead, total [as Pb]	2021-12-31	2.60	ug/L	
PR0024163	001	Lead, total [as Pb]	2022-01-31	1.40	ug/L	
PR0024163	001	Lead, total [as Pb]	2022-02-28	2.44	ug/L	
PR0024163	001	Lead, total [as Pb]	2022-03-31	11.48	ug/L	
PR0024163	001	Lead, total [as Pb]	2022-04-30	1.60	ug/L	
PR0024163	001	Lead, total [as Pb]	2022-05-31	7.78	ug/L	
PR0024163	001	Lead, total [as Pb]	2022-06-30	1.40	ug/L	