

PETERS TOWNSHIP SANITARY AUTHORITY
BRUSH RUN WPCP LABORATORY
DMRQA STUDIES
PERFORMANCE REPORT

Study Year	Analyte	PTSA Results	True Value	Acceptable Range	Evaluation
2006	CBOD ₅	12.7 mg/L	13.5 mg/L	6.02 - 21 mg/L	Acceptable
2007	CBOD ₅	27.5 mg/L	28.4 mg/L	12.7 - 44.1 mg/L	Acceptable
2008	CBOD ₅	93.2 mg/L	117 mg/L	52.5 - 182 mg/L	Acceptable
2009	CBOD ₅	32.4 mg/L	41.1 mg/L	18.4 - 63.8 mg/L	Acceptable
2010	CBOD ₅	49.8 mg/L	54.5 mg/L	24.4 - 84.6 mg/L	Acceptable
2011	CBOD ₅	105.7 mg/L	110 mg/L	49.5 - 171 mg/L	Acceptable
2012	CBOD ₅	133 mg/L	120 mg/L	53.9 – 186 mg/L	Acceptable
2013	CBOD ₅	151 mg/L	125 mg/L	56.1 – 194 mg/L	Acceptable
2014	CBOD ₅	80.1 mg/L	85.4 mg/L	39.5 – 131 mg/L	Acceptable
2015	CBOD ₅	82.2 mg/L	84.8 mg/L	39.2 – 130 mg/L	Acceptable
2016	CBOD ₅	96.8 mg/L	80.2 mg/L	37.0 – 124 mg/L	Acceptable
2017	CBOD ₅	98 mg/l	101 mg/L	46.9 – 154 mg/L	Acceptable
2018	CBOD ₅	33.6 mg/L	62.8 mg/L	25.8 – 97.1 mg/L	Acceptable
2019	CBOD ₅	74.0 mg/L	109 mg/L	50.8 – 166 mg/L	Acceptable
2020	CBOD ₅	80.9 mg/L	82.0 mg/L	37.8 – 126 mg/L	Acceptable
2021	CBOD ₅	109.5 mg/L	124 mg/L	58.5 – 190 mg/l	Acceptable
2022	CBOD ₅	63.9 mg/L	63.9 mg/L	29.0 – 98.8 mg/L	Acceptable
2023	CBOD ₅	48.5 mg/L	46.2 mg/L	20.4 – 72.0 mg/L	Acceptable
2006	Ammonia Nitrogen	12.3 mg/L	12.3 mg/L	9.13 - 15.3 mg/L	Acceptable
2007	Ammonia Nitrogen	1.65 mg/L	1.83 mg/L	1.24 - 2.53 mg/L	Acceptable
2008	Ammonia Nitrogen	7.19 mg/L	7.55 mg/L	5.55 - 9.51 mg/L	Acceptable
2009	Ammonia Nitrogen	7.84 mg/L	8.52 mg/L	6.28 - 10.7 mg/L	Acceptable
2010	Ammonia Nitrogen	15.7 mg/L	16.6 mg/L	12.4 - 20.5 mg/L	Acceptable
2011	Ammonia Nitrogen	5.97 mg/L	6.86 mg/L	5.03 - 8.66 mg/L	Acceptable
2012	Ammonia Nitrogen	16.8 mg/L	18.5 mg/L	13.8 – 22.8 mg/L	Acceptable
2013	Ammonia Nitrogen	10.2 mg/L	9.6 mg/L	7.10 – 12.0 mg/L	Acceptable
2014	Ammonia Nitrogen	9.15 mg/L	9.33 mg/L	7.41 – 11.2 mg/L	Acceptable
2015	Ammonia Nitrogen	18.0 mg/L	17.8 mg/l	14.3 – 21.1 mg/L	Acceptable
2016	Ammonia Nitrogen	3.26 mg/L	2.86 mg/L	2.12 – 3.67 mg/L	Acceptable
2017	Ammonia Nitrogen	16.7 mg/L	16.2 mg/L	13.0 – 19.2 mg/L	Acceptable
2018	Ammonia Nitrogen	2.02 mg/l	1.98 mg/L	1.40 – 2.64 mg/L	Acceptable
2019	Ammonia Nitrogen	4.61 mg/L	4.09 mg/L	3.13 – 5.10 mg/L	Acceptable
2020	Ammonia Nitrogen	9.58 mg/L	10.8 mg/L	8.61 – 12.9 mg/L	Acceptable
2021	Ammonia Nitrogen	7.39 mg/L	8.34 mg/L	6.60 – 10.1 mg/L	Acceptable
2022	Ammonia Nitrogen	6.02 mg/L	4.90 mg/L	3.79 – 6.05 mg/l	Acceptable
2023	Ammonia Nitrogen	15.6 mg/L	15.6 mg/l	12.5 – 18.5 mg/L	Acceptable
2006	pH	5.6 s.u.	5.59 s.u.	5.39 - 5.79 s.u.	Acceptable
2007	pH	6.2 s.u.	6.18 s.u.	5.98 - 6.38 s.u.	Acceptable
2008	pH	6.39 s.u.	6.46 s.u.	6.26 - 6.66 s.u.	Acceptable

2009	pH	9.34 s.u.	9.30 s.u.	9.10 - 9.50 s.u.	Acceptable
2010	pH	7.54 s.u.	7.53 s.u.	7.33 - 7.73 s. u.	Acceptable
2011	pH	7.98 s.u.	7.98 s.u.	7.78 - 8.18 s.u.	Acceptable
2012	pH	7.28 s.u.	7.31 s.u.	7.11 – 7.51 s.u.	Acceptable
2013	pH	6.30 s.u.	6.24 s.u.	6.04 – 6.44 s.u.	Acceptable
2014	pH	8.29 s. u.	8.28 s.u.	8.08 – 8.48 s.u.	Acceptable
2015	pH	8.33 s.u.	8.40 s.u.	8.20 – 8.40 s.u.	Acceptable
2016	pH	7.45 s.u.	7.42 s.u.	7.22 – 7.62 s.u.	Acceptable
2017	pH	6.70 s.u.	6.69 s.u.	6.49 – 6.89 s.u.	Acceptable
2018	pH	7.64 s.u.	7.64 s.u.	7.44 – 7.84 s.u.	Acceptable
2019	pH	8.72 s.u.	8.69 s.u.	8.49 – 8.89 s.u.	Acceptable
2020	pH	8.18 s.u.	8.21 s.u.	8.01 – 8.41 s.u.	Acceptable
2021	pH	6.9 s.u.	6.78 s.u.	6.58 – 6.98 s.u.	Acceptable
2022	pH	5.84 s.u.	5.82 s.u.	5.62 – 6.02 s.u.	Acceptable
2023	pH	8.72 s.u.	8.69 s.u.	8.49 – 8.89 s.u.	Acceptable
2006	Total Suspended Solids	57.5 mg/L	70.2 mg/l	56.6 - 78.7 mg/L	Acceptable
2007	Total Suspended Solids	34.6 mg/L	39.6 mg/l	29.6 - 46.2 mg/L	Acceptable
2008	Total Suspended Solids	54 mg/L	51.6 mg/l	40.2 - 58.9 mg/L	Acceptable
2009	Total Suspended Solids	88 mg/L	93.3 mg/l	77 - 103 mg/l	Acceptable
2010	Total Suspended Solids	92 mg/L	93.8 mg/l	77.4 - 104 mg/L	Acceptable
2011	Total Suspended Solids	62 mg/L	64.2 mg/L	51.3 - 72.3 mg/L	Acceptable
2012	Total Suspended Solids	53 mg/L	56.1 mg/L	44.2 – 63.7 mg/L	Acceptable
2013	Total Suspended Solids	83 mg/L	86.8 mg/L	71.2 – 96.4 mg/L	Acceptable
2014	Total Suspended Solids	48 mg/L	53.6 mg/L	41.9 – 61.21 mg/l	Acceptable
2015	Total Suspended Solids	78 mg/L	85.8 mg/L	70.4 – 95.3 mg/L	Acceptable
2016	Total Suspended Solids	54 mg/L	58.1 mg/L	45.9 – 65.9 mg/L	Acceptable
2017	Total Suspended Solids	67 mg/L	69.1 mg/L	55.6 - 77.5 mg/L	Acceptable
2018	Total Suspended Solids	41 mg/L	44.0 mg/L	33.5 – 50.9 mg/L	Acceptable
2019	Total Suspended Solids	86 mg/l	88.4 mg/L	72.7 – 98.1 mg/L	Acceptable
2020	Total Suspended Solids	59 mg/L	59.2 mg/L	46.9 – 67.0 mg/L	Acceptable
2021	Total Suspended Solids	34.5 mg/L	33.7 mg/L	24.4 – 39.9 mg/L	Acceptable
2022	Total Suspended Solids	65 mg/L	68.4 mg/L	55.0 – 76.8 mg/L	Acceptable
2023	Total Suspended Solids	77 mg/L	80.6 mg/L	65.8 – 89.8 mg/L	Acceptable
2006	Total Residual Chlorine	0.55 mg/L	0.64 mg/L	0.465 - 0.807 mg/L	Acceptable
2007	Total Residual Chlorine	1.31 mg/L	1.43 mg/L	1.03 - 1.77 mg/L	Acceptable
2008	Total Residual Chlorine	0.89 mg/l	0.93 mg./L	0.671 - 1.16 mg/L	Acceptable
2009	Total Residual Chlorine	0.65 mg/L	0.70 mg/L	0.507 - 0.88 mg/L	Acceptable
2010	Total Residual Chlorine	1.97 mg/L	2.09 mg/L	1.49 - 2.57 mg/L	Acceptable
2011	Total Residual Chlorine	0.86 mg/L	0.932 mg/L	0.672 - 1.16 mg/L	Acceptable
2012	Total Residual Chlorine	1.66 mg/L	2.02 mg/L	1.44 – 2.49 mg/L	Acceptable
2013	Total Residual Chlorine	1.17 mg/L	1.34 mg/L	0.96 – 1.66 mg/L	Acceptable
2014	Total Residual Chlorine	1.24 mg/L	1.30 mg/L	0.96 – 1.54 mg/L	Acceptable
2015	Total Residual Chlorine	1.98 mg/L	2.25 mg/L	1.66 – 2.63 mg/L	Acceptable
2016	Total Residual Chlorine	1.06 mg/L	1.20 mg/L	0.891 – 1.43 mg/L	Acceptable
2017	Total Residual Chlorine	1.84 mg/L	1.92 mg/L	1.42 – 2.25 mg/L	Acceptable
2018	Total Residual Chlorine	1.41 mg/L	1.50 mg/L	1.11 – 1.77 mg/L	Acceptable

2019	Total Residual Chlorine	1.57 mg/L	1.71 mg/L	1.26 – 2.01 mg/L	Acceptable
2020	Total Residual Chlorine	2.13 mg/L	2.46 mg/L	1.81 – 2.87 mg/L	Acceptable
2021	Total Residual Chlorine	1.53 mg/L	1.59 mg/L	1.17 – 1.88 mg/L	Acceptable
2006	Fecal Coliform	133 #/100 ml	190 #/100 ml	13 - 2800 #/100 ml	Acceptable
2007	Fecal Coliform	260 #/100 ml	440 #/100 ml	12 - 2200 #/100 ml	Acceptable
2008	Fecal Coliform	138 #/100 ml	1230 #/100 ml	114 - 2470 #/100 ml	Acceptable
2009	Fecal Coliform	143 #/100 ml	203 #/100 ml	40 - 1040 #/100 ml	Acceptable
2010	Fecal Coliform	93 #/100 ml	73 #/100 ml	12 - 443 #/100 ml	Acceptable
2011	Fecal Coliform	23 #/100 ml	37 #/100 ml	8 -180 #/100 ml	Acceptable
2012	Fecal Coliform	13 #/100 ml	61 #/100 ml	4 -209 #/100 ml	Acceptable
2013	Fecal Coliform	225 #/100 ml	479 #/100 ml	42 – 1240 #/100 ml	Acceptable
2014	Fecal Coliform	225 #/100 ml	707 #/100 ml	57 – 1520 #/100 ml	Acceptable
2015	Fecal Coliform	60 #/100 ml	181 #/100 ml	8 – 469 #/100 ml	Acceptable
2016	Fecal Coliform	90 #/100 ml	239 #/100 ml	25.0 – 592 #/100 ml	Acceptable
2017	Fecal Coliform	92 #/100 ml	150 #/100 ml	21.0 – 309 #/100 ml	Acceptable
2018	Fecal Coliform	360 #/100 ml	628 #/100 ml	65.0–1060 #/100 ml	Acceptable
2019	Fecal Coliform	480 3/100 ml	1400 #/100 ml	152 –3920 #/100 ml	Acceptable
2020	Fecal Coliform	103 #/100 ml	214 #/100 ml	73.0 – 470 3/100 ml	Acceptable
2021	Fecal Coliform	190 #/100 ml	428 #/100 ml	111 –1660 #/100 ml	Acceptable
2022	Fecal Coliform	470 #/100 ml	402 #/100 ml	121 –1340 #/100 ml	Acceptable
2023	Fecal Coliform	222 #/100 ml	316 #/100 ml	93.0–1080 #/100 ml	Acceptable
2019	Total Phosphorous	4.09 mg/L	3.97 mg/L	3.27 – 4.63 mg/L	Acceptable
2020	Total Phosphorous	9.0 Mg/L	8.66 mg/L	7.22 – 10.0 mg/l	Acceptable
2021	Total Phosphorous	5.36 mg/L	5.30 mg/L	4.39 – 6.15 mg/L	Acceptable
2022	Total Phosphorous	5.18 mg/L	5.20 mg/L	4.31 – 6.04 mg/L	Acceptable
2023	Total Phosphorous	3.37 mg/L	3.33 mg/L	2.73 – 3.90 mg/L	Acceptable

1 mg/L is the equivalent of 1 minute in 2 years or 1 inch in 16 miles