

TCEQ Analysis of ITC Water Quality Sampling Data (Final Lab Results)

The Texas Commission on Environmental Quality (TCEQ) assessed final water quality data for up to 117 constituents at one site. Thirty-one (31) samples were collected from April 5 through April 8, 2019 by Intercontinental Terminal Company (ITC). The constituents consist of organics, chemical oxygen demand (COD), and oil and grease in water. The sampling site was the following:

- Gate 13 Ditch

This assessment is based on final results received from the laboratory. As additional water quality sampling is completed, the data will be assessed, and results made available.

The TCEQ used the Texas Water Quality Standards and the Texas Risk Reduction Program as references for determining the known health protective concentration levels (PCLs) in surface water. PCLs are very conservative and below levels where we would expect any health impacts. The TCEQ is using these PCLs to evaluate impacts to aquatic life and human health. No public drinking water system draws its source water from the Houston Ship Channel. This methodology was also used for previously reviewed data from samples collected by ITC and will be used to review samples from the TCEQ contractor. The TCEQ used the PCLs listed in the tables below to assess the surface water quality data

Table 1. Assessment of Final Laboratory Results

	Gate 13 Ditch on April 5, 2019 at 12:00 PM	Gate 13 Ditch on April 5, 2019 at 2:00 PM	Gate 13 Ditch on April 5, 2019 at 4:00 PM	Gate 13 Ditch on April 5, 2019 at 6:00 PM	Gate 13 Ditch on April 5, 2019 at 8:00 PM	Gate 13 Ditch on April 5, 2019 at 10:00 PM	Gate 13 Ditch on April 5, 2019 at 11:59 PM
Number of Constituents	117	117	117	117	117	117	117
Number of constituents analyzed but not detected (not detected above the method detection limit or quantitation limit)	108	108	108	108	109	108	108
Number of constituents detected above the method detection limit or quantitation limit	9	9	9	9	8	9	9
Number of constituents detected but below their known PCLs	3	3	2	2	3	2	3
Number of constituents that exceeded their known PCLs	6	6	7	7	5	7	6
Number of constituents that are still pending further TCEQ evaluation	0	0	0	0	0	0	0
Number of constituents that do not have a PCL or are assessed with other constituents	0	0	0	0	0	0	0

Table 1 continued. Assessment of Final Laboratory Results

	Gate 13 Ditch on April 6, 2019 at 2:00 AM	Gate 13 Ditch on April 6, 2019 at 4:00 AM	Gate 13 Ditch on April 6, 2019 at 6:00 AM	Gate 13 Ditch on April 6, 2019 at 8:00 AM	Gate 13 Ditch on April 6, 2019 at 10:00 AM	Gate 13 Ditch on April 6, 2019 at 12:00 PM	Gate 13 Ditch on April 6, 2019 at 2:00 PM
Number of Constituents	117	117	117	117	117	117	117
Number of constituents analyzed but not detected (not detected above the method detection limit or quantitation limit)	108	108	107	108	108	108	108
Number of constituents detected above the method detection limit or quantitation limit	9	9	10	9	9	9	9
Number of constituents detected but below their known PCLs	2	3	3	2	2	4	4
Number of constituents that exceeded their known PCLs	7	6	7	7	7	5	5
Number of constituents that are still pending further TCEQ evaluation	0	0	0	0	0	0	0
Number of constituents that do not have a PCL or are assessed with other constituents	0	0	0	0	0	0	0

Table 1 continued. Assessment of Final Laboratory Results

	Gate 13 Ditch on April 6, 2019 at 4:00 PM	Gate 13 Ditch on April 6, 2019 at 6:00 PM	Gate 13 Ditch on April 6, 2019 at 8:00 PM	Gate 13 Ditch on April 6, 2019 at 10:00 PM	Gate 13 Ditch on April 6, 2019 at 11:59 PM*	Gate 13 Ditch on April 7, 2019 at 2:00 AM	Gate 13 Ditch on April 7, 2019 at 4:00 AM
Number of Constituents	117	117	117	117	117	117	117
Number of constituents analyzed but not detected (not detected above the method detection limit or quantitation limit)	108	108	108	109	109	109	109
Number of constituents detected above the method detection limit or quantitation limit	9	9	9	8	8	8	8
Number of constituents detected but below their known PCLs	4	4	3	3	2	2	2
Number of constituents that exceeded their known PCLs	5	5	6	5	6	6	6
Number of constituents that are still pending further TCEQ evaluation	0	0	0	0	0	0	0
Number of constituents that do not have a PCL or are assessed with other constituents	0	0	0	0	0	0	0

*Laboratory labeled sample as taken April 7 11:59 PM.

Table 1 continued. Assessment of Final Laboratory Results

	Gate 13 Ditch on April 7, 2019 at 6:00 AM	Gate 13 Ditch on April 7, 2019 at 8:00 AM	Gate 13 Ditch on April 7, 2019 at 10:00 AM	Gate 13 Ditch on April 7, 2019 at 12:00 PM	Gate 13 Ditch on April 7, 2019 at 3:00 PM	Gate 13 Ditch on April 7, 2019 at 5:00 PM	Gate 13 Ditch on April 7, 2019 at 7:00 PM
Number of Constituents	117	117	117	117	117	117	117
Number of constituents analyzed but not detected (not detected above the method detection limit or quantitation limit)	109	109	109	109	108	108	110
Number of constituents detected above the method detection limit or quantitation limit	8	8	8	8	9	9	7
Number of constituents detected but below their known PCLs	2	2	2	2	6	6	5
Number of constituents that exceeded their known PCLs	6	6	6	6	3	3	2
Number of constituents that are still pending further TCEQ evaluation	0	0	0	0	0	0	0
Number of constituents that do not have a PCL or are assessed with other constituents	0	0	0	0	0	0	0

Table 1 continued. Assessment of Final Laboratory Results

	Gate 13 Ditch on April 7, 2019 at 9:00 PM	Gate 13 Ditch on April 7, 2019 at 11:00 PM	Gate 13 Ditch on April 8, 2019 at 1:00 AM
Number of Constituents	117	117	65
Number of constituents analyzed but not detected (not detected above the method detection limit or quantitation limit)	110	109	65
Number of constituents detected above the method detection limit or quantitation limit	7	8	0
Number of constituents detected but below their known PCLs	5	6	0
Number of constituents that exceeded their known PCLs	2	2	0
Number of constituents that are still pending further TCEQ evaluation	0	0	0
Number of constituents that do not have a PCL or are assessed with other constituents	0	0	0

Below are tables of constituents that exceeded their known PCLs at each of the sampling times.

Table 2. Summary of Constituents Exceeding PCLs for April 5, 2019 at 12:00 PM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	32000	581
Styrene	1600	455
Toluene	11000	1000
Xylenes, Total	12000	850
Chemical Oxygen Demand	1900000	150000*
Oil and Grease	57500	28000

Table 3. Summary of Constituents Exceeding PCLs for April 5, 2019 at 2:00 PM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	35000	581
Styrene	1500	455
Toluene	11000	1000
Xylenes, Total	13000	850
Chemical Oxygen Demand	1900000	150000*
Oil and Grease	80800	28000

Table 4. Summary of Constituents Exceeding PCLs for April 5, 2019 at 4:00 PM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	32000	581
Ethylbenzene	2100	1867
Styrene	1600	455
Toluene	11000	1000
Xylenes, Total	16000	850
Chemical Oxygen Demand	1900000	150000*
Oil and Grease	62900	28000

Table 5. Summary of Constituents Exceeding PCLs for April 5, 2019 at 6:00 PM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	32000	581
Ethylbenzene	2100	1867
Styrene	1600	455
Toluene	11000	1000
Xylenes, Total	16000	850
Chemical Oxygen Demand	2150000	150000*
Oil and Grease	58300	28000

Table 6. Summary of Constituents Exceeding PCLs for April 5, 2019 at 8:00 PM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	25000	581
Toluene	8400	1000
Xylenes, Total	13000	850
Chemical Oxygen Demand	2050000	150000*
Oil and Grease	47500	28000

Table 7. Summary of Constituents Exceeding PCLs for April 5, 2019 at 10:00 PM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	32000	581
Ethylbenzene	2200	1867
Styrene	1600	455
Toluene	11000	1000
Xylenes, Total	17000	850
Chemical Oxygen Demand	2000000	150000*
Oil and Grease	31200	28000

Table 8. Summary of Constituents Exceeding PCLs for April 5, 2019 at 11:59 PM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	32000	581
Ethylbenzene	2000	1867
Styrene	1500	455
Toluene	11000	1000
Xylenes, Total	16000	850
Chemical Oxygen Demand	2000000	150000*

Table 9. Summary of Constituents Exceeding PCLs for April 6, 2019 at 2:00 AM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	30000	581
Ethylbenzene	2000	1867
Styrene	1500	455
Toluene	10000	1000
Xylenes, Total	15000	850
Chemical Oxygen Demand	2050000	150000*
Oil and Grease	32500	28000

Table 10. Summary of Constituents Exceeding PCLs for April 6, 2019 at 4:00 AM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	30000	581
Ethylbenzene	2100	1867
Styrene	1500	455
Toluene	10000	1000
Xylenes, Total	16000	850
Chemical Oxygen Demand	1900000	150000*

Table 11. Summary of Constituents Exceeding PCLs for April 6, 2019 at 6:00 AM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
2,6-Dinitrotoluene	770	30
Benzene	31000	581
Ethylbenzene	2100	1867
Styrene	1500	455
Toluene	10000	1000
Xylenes, Total	16000	850
Chemical Oxygen Demand	2050000	150000*

Table 12. Summary of Constituents Exceeding PCLs for April 6, 2019 at 8:00 AM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	32000	581
Ethylbenzene	2200	1867
Styrene	1600	455
Toluene	11000	1000
Xylenes, Total	17000	850
Chemical Oxygen Demand	1900000	150000*
Oil and Grease	31700	28000

Table 13. Summary of Constituents Exceeding PCLs for April 6, 2019 at 10:00 AM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	29000	581
Ethylbenzene	2200	1867
Styrene	1400	455
Toluene	10000	1000
Xylenes, Total	16000	850
Chemical Oxygen Demand	1900000	150000*
Oil and Grease	33300	28000

Table 14. Summary of Constituents Exceeding PCLs for April 6, 2019 at 12:00 PM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	31000	581
Styrene	1300	455
Toluene	9900	1000
Xylenes, Total	14000	850
Chemical Oxygen Demand	1800000	150000*

Table 15. Summary of Constituents Exceeding PCLs for April 6, 2019 at 2:00 PM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	30000	581
Styrene	1300	455
Toluene	9900	1000
Xylenes, Total	13000	850
Chemical Oxygen Demand	1800000	150000*

Table 16. Summary of Constituents Exceeding PCLs for April 6, 2019 at 4:00 PM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	29000	581
Styrene	1300	455
Toluene	9500	1000
Xylenes, Total	14000	850
Chemical Oxygen Demand	1850000	150000*

Table 17. Summary of Constituents Exceeding PCLs for April 6, 2019 at 6:00 PM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	30000	581
Styrene	1300	455
Toluene	9800	1000
Xylenes, Total	12000	850
Chemical Oxygen Demand	1900000	150000*

Table 18. Summary of Constituents Exceeding PCLs for April 6, 2019 at 8:00 PM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	28000	581
Ethylbenzene	2900	1867
Styrene	1400	455
Toluene	9800	1000
Xylenes, Total	23000	850
Chemical Oxygen Demand	1460000	150000*

Table 19. Summary of Constituents Exceeding PCLs for April 6, 2019 at 10:00 PM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	23000	581
Ethylbenzene	3700	1867
Toluene	7500	1000
Xylenes, Total	31000	850
Chemical Oxygen Demand	1050000	150000*

Table 20. Summary of Constituents Exceeding PCLs for April 6, 2019 at 11:59 PM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	18000	581
Ethylbenzene	4800	1867
m,p-Xylene	28000	24000
Toluene	6500	1000
Xylenes, Total	41000	850
Chemical Oxygen Demand	750000	150000*

*Laboratory labeled sample as taken April 7 11:59 PM.

Table 21. Summary of Constituents Exceeding PCLs for April 7, 2019 at 2:00 AM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	16000	581
Ethylbenzene	4600	1867
m,p-Xylene	28000	24000
Toluene	5700	1000
Xylenes, Total	42000	850
Chemical Oxygen Demand	670000	150000*

Table 22. Summary of Constituents Exceeding PCLs for April 7, 2019 at 4:00 AM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	14000	581
Ethylbenzene	4400	1867
m,p-Xylene	26000	24000
Toluene	5100	1000
Xylenes, Total	37000	850
Chemical Oxygen Demand	540000	150000*

Table 23. Summary of Constituents Exceeding PCLs for April 7, 2019 at 6:00 AM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	15000	581
Ethylbenzene	4600	1867
m,p-Xylene	27000	24000
Toluene	4700	1000
Xylenes, Total	39000	850
Chemical Oxygen Demand	530000	150000*

Table 24. Summary of Constituents Exceeding PCLs for April 7, 2019 at 8:00 AM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	14000	581
Ethylbenzene	4100	1867
m,p-Xylene	25000	24000
Toluene	5100	1000
Xylenes, Total	36000	850
Chemical Oxygen Demand	480000	150000*

Table 25. Summary of Constituents Exceeding PCLs for April 7, 2019 at 10:00 AM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	13000	581
Ethylbenzene	4100	1867
m,p-Xylene	25000	24000
Toluene	4700	1000
Xylenes, Total	37000	850
Chemical Oxygen Demand	380000	150000*

Table 26. Summary of Constituents Exceeding PCLs for April 7, 2019 at 12:00 PM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	13000	581
Ethylbenzene	4400	1867
m,p-Xylene	26000	24000
Toluene	4300	1000
Xylenes, Total	38000	850
Chemical Oxygen Demand	330000	150000*

Table 27. Summary of Constituents Exceeding PCLs for April 7, 2019 at 3:00 PM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	1800	581
Toluene	1200	1000
Xylenes, Total	7500	850

Table 28. Summary of Constituents Exceeding PCLs for April 7, 2019 at 5:00 PM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	2000	581
Toluene	1200	1000
Xylenes, Total	7100	850

Table 29. Summary of Constituents Exceeding PCLs for April 7, 2019 at 7:00 PM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	930	581
Xylenes, Total	2200	850

Table 30. Summary of Constituents Exceeding PCLs for April 7, 2019 at 9:00 PM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	920	581
Xylenes, Total	2200	850

Table 31. Summary of Constituents Exceeding PCLs for April 7, 2019 at 11:00 PM Sample

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	1000	581
Xylenes, Total	3000	850

*COD is a measure of the oxygen demand exerted by chemical constituents in water. There was not a known PCL for COD, therefore the permitted technology-based limit was used for comparison purposes. Although COD levels for treated process wastewater vary 150000 micrograms/L for noncontact stormwater was provided for comparison purposes.