

## **TCEQ Analysis of ITC Water Quality Sampling Data (final lab results)**

The Texas Commission on Environmental Quality (TCEQ) assessed final water quality data for 117 constituents at one site. Seven samples were collected on March 28 through March 29, 2019 by Intercontinental Terminal Company (ITC). The constituents consist of organics, chemical oxygen demand (COD), and oil and grease. The sampling site was the following:

- Gate 13 Ditch

This assessment is based on final laboratory results. 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 March 28, 2019 at 10:00 AM	Gate 13 Ditch on March 28, 2019 at 12:00 PM	Gate 13 Ditch on March 28, 2019 at 6:00 PM	Gate 13 Ditch on March 29, 2019 at 2:00 AM	Gate 13 Ditch on March 29, 2019 at 4:00 AM	Gate 13 Ditch on March 29, 2019 at 6:00 AM	Gate 13 Ditch on March 29, 2019 at 8:00 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)	111	110	107	108	110	105	110
Number of constituents detected above the method detection limit or quantitation limit	6	7	10	9	7	12	7
Number of constituents detected but below their known PCLs	1	2	2	2	2	3	2
Number of constituents that exceeded their known PCLs	5	5	8	7	5	9	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

\*The water quality parameters ammonia nitrogen (as N), total Kjeldahl nitrogen, total phosphate, total organic nitrogen, total sulfides, and total suspended solids are not related to human health; therefore it is not appropriate to develop human health comparison values to evaluate these parameters. Three chemicals on the laboratory target analyte list (4-bromophenyl phenyl ether, 4-chlorophenyl phenyl ether, and benzo(g,h,i)perylene) do not have surface water comparison values and consequently will not be evaluated. These water quality parameters and chemicals are not directly related to the ITC incident, and the TCEQ is evaluating the chemicals that are directly related to the ITC incident (benzene and toluene, for example). C6-12, C12-28 and C28-35 range hydrocarbons, as well as total petroleum hydrocarbons, are included in the assessment of oil and grease. Therefore, these constituents are not assessed individually.

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

**Table 2. Summary of Constituents Exceeding PCLs for March 28, 2019 at 10:00 AM Sample**

<b>Constituent</b>	<b>Maximum (micrograms/L)</b>	<b>PCL (micrograms/L)</b>
Benzene	120000	581
COD	6600000	150000*
Oil and Grease	315000	28000
Toluene	22000	1000
Xylenes, Total	7600	850

**Table 3. Summary of Constituents Exceeding PCLs for March 28, 2019 at 12:00 PM Sample**

<b>Constituent</b>	<b>Maximum (micrograms/L)</b>	<b>PCL (micrograms/L)</b>
Benzene	140000	581
COD	7600000	150000*
Oil and Grease	577000	28000
Toluene	31000	1000
Xylenes, Total	14000	850

**Table 4. Summary of Constituents Exceeding PCLs for March 28, 2019 at 6:00 PM Sample**

<b>Constituent</b>	<b>Maximum (micrograms/L)</b>	<b>PCL (micrograms/L)</b>
Benzene	120000	581
COD	7600000	150000*
Ethylbenzene	2900	1867
2-Methylnaphthalene	15000	30
Naphthalene	29000	125
Oil and Grease	320000000	28000
Toluene	33000	1000
Xylenes, Total	19000	850

**Table 5. Summary of Constituents Exceeding PCLs for March 29, 2019 at 2:00 AM Sample**

<b>Constituent</b>	<b>Maximum (micrograms/L)</b>	<b>PCL (micrograms/L)</b>
Benzene	110000	581
COD	9300000	150000*
Ethylbenzene	3600	1867
Naphthalene	4100	125
Oil and Grease	4120000	28000
Toluene	36000	1000
Xylenes, Total	23000	850

**Table 6. Summary of Constituents Exceeding PCLs for March 29, 2019 at 4:00 AM Sample**

<b>Constituent</b>	<b>Maximum (micrograms/L)</b>	<b>PCL (micrograms/L)</b>
Benzene	110000	581
COD	9000000	150000*
Oil and Grease	130000000	28000
Toluene	25000	1000
Xylenes, Total	10000	850

**Table 7. Summary of Constituents Exceeding PCLs for March 29, 2019 at 6:00 AM Sample**

<b>Constituent</b>	<b>Maximum (micrograms/L)</b>	<b>PCL (micrograms/L)</b>
Benzene	130000	581
COD	8400000	150000*
Ethylbenzene	6100	1867
Naphthalene	6000	125
Oil and Grease	346000000	28000
Styrene	3200	455
Toluene	52000	1000
Xylenes, Total	41000	850
m, p Xylene	29000	24000

**Table 8. Summary of Constituents Exceeding PCLs for March 29, 2019 at 8:00 AM Sample**

<b>Constituent</b>	<b>Maximum (micrograms/L)</b>	<b>PCL (micrograms/L)</b>
Benzene	110000	581
COD	7900000	150000*
Oil and Grease	1120000	28000
Toluene	23000	1000
Xylenes, Total	11000	850

Footnote:

\*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.