TCEQ Analysis of TCEQ Contractor Surface Water Quality Sampling Data Collected on March 24, 2019 (preliminary lab results)

The Texas Commission on Environmental Quality (TCEQ) received preliminary surface water quality data for up to 135 constituents at four (4) different sites. One sample was collected at each site on March 24, 2019 by the TCEQ's contractor. The constituents consist of inorganics, organics, metals, nutrients, chemical oxygen demand (COD), PCBs, and oil and grease in water. The sampling sites were the following:

- Mouth of Tucker @ Buffalo Bayou
- Tidal Road @ Tucker Bayou
- Upstream Tucker
- Containment

This assessment is based on preliminary results received from the laboratory. These laboratory results are subject to change once the final report is issued. The TCEQ is providing the assessment of preliminary results in abundance of caution to make this information publicly available as quickly as possible. As sample results are received, or 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 Preliminary Laboratory Results

	Mouth of Tucker @ Buffalo Bayou	Tidal Road @ Tucker Bayou	Upstream Tucker	Containment
Number of Constituents	128	128	128*	135
Number of constituents analyzed but not detected (not detected above the method detection limit or quantitation limit)	107	104	121	108
Number of constituents detected above the method detection limit or quantitation limit	21	24	6	27
Number of constituents detected but below their known PCLs	3	1	2	3
Number of constituents that exceeded their known PCLs	6	11	0	13
Number of constituents that are still pending further TCEQ evaluation	12	12	4	11

*1 constituent, Phenolic, collected at the Upstream Tucker Bayou site included a sample where the MS/MSD recovery was found to be outside of the laboratory control limit due to possible matrix/chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD. Therefore, it was excluded from the assessment of preliminary laboratory results.

Table 2: Mouth of Tucker Bayou @ Buffalo Bayou

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	28100	581
Chemical Oxygen Demand	380000	150000*
2 Methylnaphthalene	31.7	30
Oil & Grease, HEM	7980000	28000
Toluene	3470	1000
Xylenes, Total	5260	850

Table 3: Tidal Road @ Tucker Bayou

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Benzene	66800	581
Chemical Oxygen Demand	1720000	150000*
Copper	9.43	3.6
Ethylbenzene	43300	1867
Lead	5.99	3.83
2 Methylnaphthalene	493	30
Naphthalene	1230	125
Oil & Grease, HEM	31700000	28000
Toluene	128000	1000
Xylenes, Total	230000	850
Zinc	259	84.2

Table 4: Containment

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Arsenic	10.1	10
Benzene	81100	581
Bis (2-ethylhexyl) phthalate	27.3	7.55
Chemical Oxygen Demand	3650000	150000*
Copper	12.5	3.6
Lead	7.05	3.83
2 Methylnaphthalene	181	30
Naphthalene	464	125
Nickel	15.3	13.1
Oil & Grease, HEM	101000	28000
Toluene	15900	1000
Xylenes, Total	8110	850
Zinc	588	84.2

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.