TCEQ Analysis of TCEQ Contractor Surface Water Quality Sampling Data Collected on May 12, 2019 (Final Lab Results)

The Texas Commission on Environmental Quality (TCEQ) received final surface water quality data for 129 constituents at four (4) different sites. One sample was collected at each site on May 12, 2019 by the TCEQ's contractor. The constituents consist of inorganics, organics, metals, nutrients, chemical oxygen demand (COD), carbonaceous biochemical oxygen demand (CBOD), total suspended solids, total petroleum hydrocarbons, and oil and grease in water. The sampling sites were the following:

- Tidal Td @ Tucker Bayou
- Tidal Rd @ Gate #13
- Upstream Tucker Bayou Clean
- Mouth of Tucker Bayou and Buffalo Bayou

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

	Tidal Rd @ Tucker Bayou	Tidal Rd @ Gate #13	Upstream Tucker Bayou Clean	Mouth of Tucker Bayou and Buffalo Bayou
Number of Constituents	129	129	129*	129
Number of constituents analyzed but not detected (not detected above the method detection limit or quantitation limit)	118	116	119	123
Number of constituents detected above the method detection limit or quantitation limit	11	13	9	6
Number of constituents detected but below their known PCLs	4	6	2	1
Number of constituents that exceeded their known PCLs	3	1	3	1
Number of constituents that are still pending further TCEQ evaluation	0	0	0	0
Number of constituents that do not have a PCL or are assessed with other constituents**	4	6	4	4

*One constituent, Benzyl Butyl Phthalate, collected at the Upstream Tucker Bayou Clean site, included samples where a target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

**The water quality parameters ammonia nitrogen (as N), total Kjeldahl nitrogen, total phosphate, total organic nitrogen, 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 the constituents that exceeded their known PCL at the sampling site(s).

Table 2: Tidal Road @ Tucker Bayou

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Nickel	15.3	13.1
Zinc	197	84.2
Phenolic	31.8	0.29

Table 3: Tidal Road @ Gate #13

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Phenolic	15.4	0.29

Table 4: Upstream Tucker Bayou Clean

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Nickel	19.5	13.1
Copper	22.6	3.6
Zinc	383	84.2

Table 5: Mouth of Tucker Bayou and Buffalo Bayou

Constituent	Maximum (micrograms/L)	PCL (micrograms/L)
Nickel	13.8	13.1