













### Analysis of POPs in Gill and Liver of *Tilapia guineensis*

The POPs in gills and liver ranged from -0 to 0.03 mg/kg from station1 to station 3. This is as a result of increased level of activities at station 1 to reduced activity at station 3. Table 2 showed that Endosulfan II had the highest mean value of 0.03mg/kg, Aldrin with a mean value of 0.0004 mg/kg and Pentachlorobenzene with a mean value of 0.0007mg/kg. For the liver, the values ranged between 0 -0.0032 mg/kg across station 1 to 3 in the month of October to December. Methoxychlor had the highest value of 0.0032 which occurred at station 2 followed by Aldrin with a value of 0.00027mg/kg at station 1 and Pentachlorobenzene with a value of 0.0007 mg/kg at station 1 within the month of October to December. This is not in accordance with [19] result which ranged between 0.31 to 77.15 mg/kg. Generally, few concentrations of these POPs were found in both gills and liver of the fish as shown (Table 2) below but statistically using the p-level, there was significant value of some of these POPs which were found and they include; Aldrin (0.590 mg/kg), Heptachlor Epoxide (0.645 mg/kg), Endrin (0.928 mg/kg) and P.P DDD (0.928 mg/kg)

**Table 2: POPs in Gill and Liver of *Tilapia guineensis* in the sampling stations**

COMPONENT (mg/kg)	ST1		ST2		Control	
	Gill	Liver	Gill	Liver	Gill	Liver
ALDRIN	0.000329	0.000275	0.000402	0.000050	0.000163	0.000000
ALPHA - BHC	0.000271	0.000351	0.000000	0.000000	0.000000	0.000000
BETA - BHC	0.001001	0.000200	0.000970	0.000000	0.000005	0.000000
DELTA - BHC	0.000431	0.000000	0.000382	0.000000	0.000000	0.000000
GAMMA - BHC (LINDANE)	0.000255	0.000569	0.000391	0.000000	0.000118	0.000000

<b>ALPHA - CHLORDANE</b>	0.000527	0.001089	0.002320	0.000133	0.000000	0.000000
<b>GAMMA - CHLORDANE</b>	0.001602	0.000871	0.001600	0.000000	0.000631	0.000000
<b>p,p DDD</b>	0.003489	0.000682	0.004737	0.000000	0.004081	0.000000
<b>p,p DDE</b>	0.000502	0.000006	0.002571	0.000000	0.000000	0.000000
<b>p,p DDT</b>	0.000000	0.000333	0.004639	0.000007	0.000000	0.000000
<b>DIELDRIN</b>	0.000277	0.000000	0.001227	0.000000	0.000000	0.000000
<b>ENDOSULFAN I</b>	0.000161	0.000774	0.001078	0.000243	0.000000	0.000003
<b>ENDOSULFAN II</b>	0.033384	0.000000	0.001706	0.000000	0.000000	0.000000
<b>ENDOSULFAN SULFATE</b>	0.000718	0.000006	0.001240	0.000000	0.000000	0.000000
<b>ENDRIN</b>	0.001326	0.000363	0.001339	0.000000	0.000973	0.000000
<b>ENDRIN ALDEHYDE</b>	0.001854	0.000287	0.002516	0.000000	0.000369	0.000003
<b>HEPTACLOR</b>	0.001990	0.000355	0.002553	0.000000	0.000385	0.000000
<b>HEPTACLOR EPOXIDE</b>	0.000402	0.000000	0.000713	0.000000	0.001077	0.000000
<b>METHOXYCHLOR</b>	0.000197	0.007844	0.000310	0.003233	0.000771	0.000733
<b>PENTACHLOROBENZENE</b>	0.000789	0.001000	0.000553	0.000167	0.000005	0.000003
<b>DECACHLOROBIPHENYL</b>	0.000152	0.000000	0.001067	0.000000	0.000000	0.000000

## CONCLUSION

This study showed that Azuabie creek in Port Harcourt, Rivers State, Nigeria is polluted. This is evinced from the analysis done at the location as a result of high level of activities and abattoir situated at the area. This prompted our choice of using the site as a sampling place for this study. The most common items recorded at the dumpsites were animal slaughtering, human feces, animal dung, human waste, papers and some other wastes from the companies around such as oils and diesels. Physicochemical parameters were conducted and POPs were also analyzed. The result showed evidence of varying physicochemical parameters and also different levels of POPs analyzed. This confirms that the environments were polluted despite that the fact that parameters recorded were below regulatory standards. This further explained the need for consistent development of regulatory framework to enable control of the water body against contamination due to high level of activity (industrial and domestic) in the area.

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