

Case Study 2

Powertech Labs, the technical division of British Columbia Hydro were commissioned to carry out experimental studies to obtain independent verification that the MLM Technology does work as claimed.

Barriers were supplied to Powertech Labs and they were requested to prepare the following test samples:-

Transformer oil in water at 25 – 50 ppm
PCB (Arochlor) in water up to 5 ppm

These samples were to be tested for their concentration of contaminants.

The prepared samples were then passed through the test barriers which had been pre-saturated with uncontaminated water. Samples of these test samples after passing through the filter barriers were then tested for total extractable hydrocarbon oils and PCBs respectively.

The Lab was also requested to pass water through the barriers and then add 10-15 ccs of transformer oil into the barrier and report what happened to the flow of liquid. If, as expected the oil formed a solid plug and stopped flowing, they were requested to pass water into the barrier and observe whether any water flowed out of the barrier.

RESULTS OF ANALYSIS

A = Transformer Oil					
Lab Ref. NO.	Sample I.D.	Initial EPH Concentration in Water (mg/L)	EPH Concentration in Water After Passing Through Petro Barrier Column		EPH Removal %
			Extractable Petroleum Hydrocarbons (EPH w10-19)	Extractable Petroleum Hydrocarbons (EPH w19-30)	
06310-681	V35 in Water	53.8	0.9	0.9	96.5
06310-683	V35 in Water	56.2	1.9	1.5	94.5
06310-687	V35 in Water	58.9	0.2	0.2	99.2
06310-689	V35 in Water	64.6	0.5	0.4	98.5
Quality Control		Initial EPH Concentration in Water (mg/L)	Not Passed Through Column		EPH Spike Recovery %
06310-691	V35 in Water	67.3	38.2	20.1	86.5
06310-693	Blank	0	0.8*	<0.2	n/a
06310-705	V35 in Water	157.6	76.9	62.5	87.9

B = PCBs						
Lab Ref. NO.	Sample I.D.	Initial PCB Concentration in Water (mg/L)	PCB Concentration In Water After Column (mg/L)	PCB Surrogate Recovery %	PCB Type	PCB Removal %
06310-772	A1260/V35	0.130	0.0011	57.5	A1260	99.1
06310-773	A1260/V35	0.179	0.0003	66.0	A1260	99.1
06310-776	A1242/V35	0.135	<0.0002	66.9	-	100
06310-777	A1242/V35	0.222	<0.0002	69.6	-	100
Quality Control			Not Passed Through Column			EPH Spike Recovery %
06310-774	A1260 in V35	0.196	0.155	83.9	A1260	78.8
06310-775	Blank	0	<0.0002	60.3	-	n/a
06310-778	A1242 in V35	0.0222	1.0172	52.4	A1242	77.2
Column rinse between A1260 and 1242		0	<0.0002	58.1	-	n/a

< = less than the Detection Limit indicated n/a = Not Applicable
 Results are reported in milligrams per litre of sample.

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