

# Case 5: Fort St John, Canada

This site is a commercial property located in Fort St. John, BC which was contaminated with hydrocarbons during historical operations at the site.

## Solution:

- The site is undergoing ongoing bioremediation using a combination of electrokinetics, biosurfactants, and hydrocarbon degrading bacteria and fungi.  
**EKOGRID™** was used for delivery of remediation reagents and for remediation.

## Results:

- The site has been treated for 45 days and a significant reduction in hydrocarbons occurred in the soil and groundwater. The decrease in hydrocarbon concentrations has allowed for the successful completion of a Screening Level Risk Assessment for the site.
- The initial increase in BTEX parameters in groundwater following the initial treatment is typical and due to the use of biosurfactants and/or EKOGRID (i.e. BTEX is liberated from the soil particles).

Table 5. Fort St John Site 1 - Groundwater

Parameter	Applicable Standard	Pre-Treatment	10 Days of Treatment	20 Days of Treatment	37 Days of Treatment	45 Days of Treatment
Benzene	5 ug/L	1580 ug/L	2450 ug/L	1730 ug/L	1350 ug/L	1090 ug/L
Toluene	60 ug/L	17 ug/L	17.2 ug/L	15 ug/L	11 ug/L	8 ug/L
Ethylbenzene	140 ug/L	132 ug/L	417 ug/L	243 ug/L	101 ug/L	92 ug/L
Xylenes	90 ug/L	146 ug/L	311 ug/L	264 ug/L	126 ug/L	111 ug/L
C6-C10	15,000 ug/L	1020 ug/L	1930 ug/L	580 ug/L	-	-
C10-C19	5000 ug/L	10000 ug/L	610 ug/L	-	-	-
C19-C32	-	31000 ug/L	<200 ug/L	-	-	-

Table 6. Fort St John Site 1 - Soil

Parameter	Applicable Standard	Pre-Treatment	Post-1	Post-2	Post-3	Post-4	Post-5	Post-6	Post-7
Benzene	0.035 mg/kg	4.82	0.0510	0.253	0.656	3.22	2.82	0.126	1.00
Toluene	6 mg/kg	3.02	<0.014	0.028	0.022	0.262	0.053	<0.014	0.019
Ethylbenzene	15 mg/kg	43.2	0.140	0.328	3.63	13.1	8.31	0.144	0.148
Xylenes	6.5 mg/kg	101	<0.071	0.134	0.276	22.12	7.728	0.148	0.515
VPH (C6-C10)	200 mg/kg	908	127	121	262	690	690	11	19

