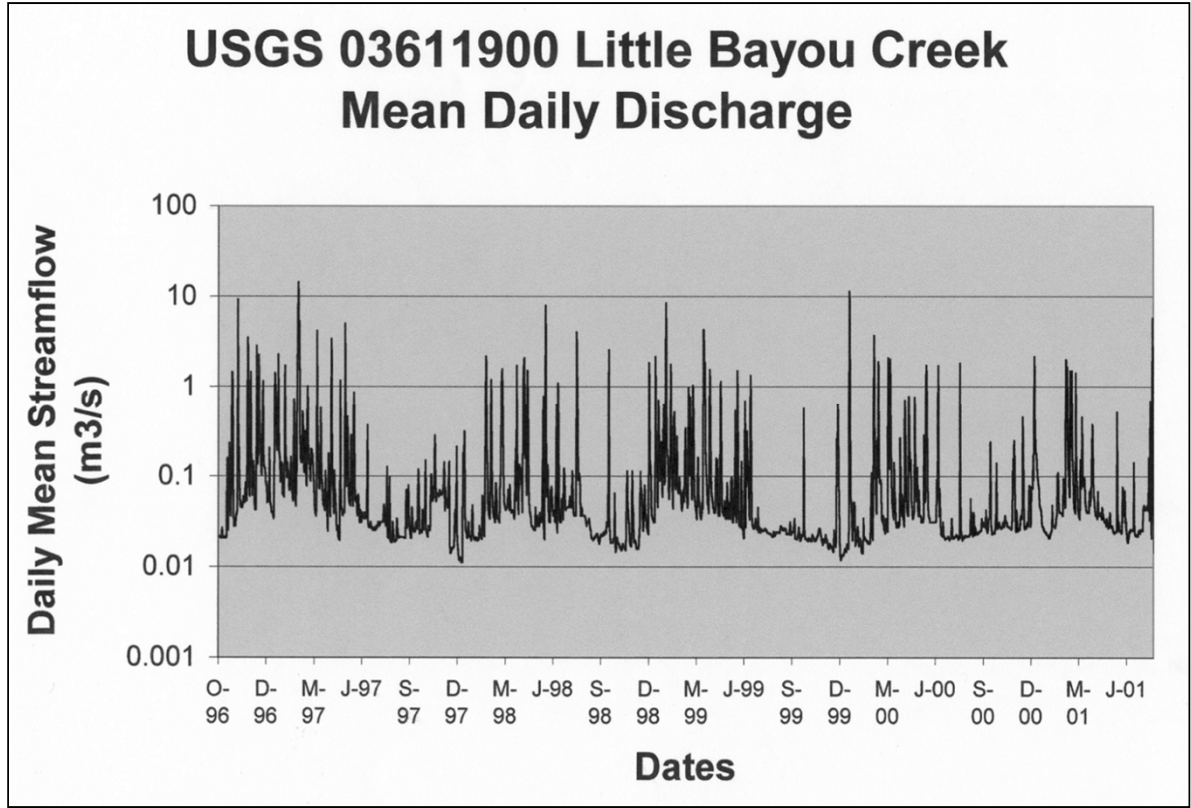


Little Bayou Creek Seep Studies



USGS 03611900 – Gauging Station approximately ½ mile upstream of LBC Seep Reach

Table 2.3 Discharge of springs emptying into Little Bayou Creek.

Spring	Spring discharge (L/s)							
	Jun-99	Sep-99	Jan-00	May-00	Aug-00	Oct-00	Jan-01	May-01
RR	0.170	0.080	0.040	0.030			0.100	
WB3		0.040		0.030				
WB2A		0.810	0.080	0.005				
WB2		0.003		0.006	0.002			
MS2								
MS1				0.100				
WB1.5				0.140	0.070			
WB1	0.230	0.320	0.001	0.120		0.050	0.060	0.113
EB4	0.320	0.210	0.070	0.070				
EB3	0.240	0.000	0.002	0.070				
EB2	0.390	0.210	0.060	0.490	0.350			
EB1	0.850	0.630	0.560	1.040	0.350			
Total (L/s)	3.870	2.303	0.813	4.651	0.772	0.050	0.160	0.113
Total (m³/s)	0.0039	0.0023	0.00081	0.0055	0.0046	0.00077	0.00005	0.00016
Stream site	Stream discharge (m³/s)							
LBC-5	0.017	0.008	0.002	0.037	0.016	0.008	0.019	0.022
LBC-4	0.029	0.019	0.013	0.056	0.021	0.011	0.018	0.042
Gain (m³/s)	0.013	0.010	0.011	0.019	0.005	0.004	-0.002	0.020
Ratio of spring discharge to total gain	0.312	0.227	0.077	0.288	0.902	0.216	-0.033	0.008

Table 2.5 Trends of features in the streambed sediments of Little Bayou Creek.

Type of Feature	Strike*
Joint between WB1 and WB1.5	N70W
Trend from joint to collapse feature in bank	N80W
Joint at bend (near soil sample site 2)	N58W
Joint in streambed	N55W
Joint in streambed	N9E
Joint in streambed	N17E
Strike from WB1 to EB1	N41E
Ridge in streambed near EB3	N3W
Ridge in streambed near EB3	N19E
Ridge downstream of WB1	N26E
Strike of boil to EB3	N35E
Strike of boil to EB3	N27E
Ridge at EB3	N69W

(see Figure 1.3 Upper Right Corner)

* measured relative to magnetic north

"NATURAL ATTENUATION ALONG A FIRST-ORDER STREAM RECHARGED BY CONTAMINATED GROUND WATER" Dr. Danita LaSage Dissertation (2002)

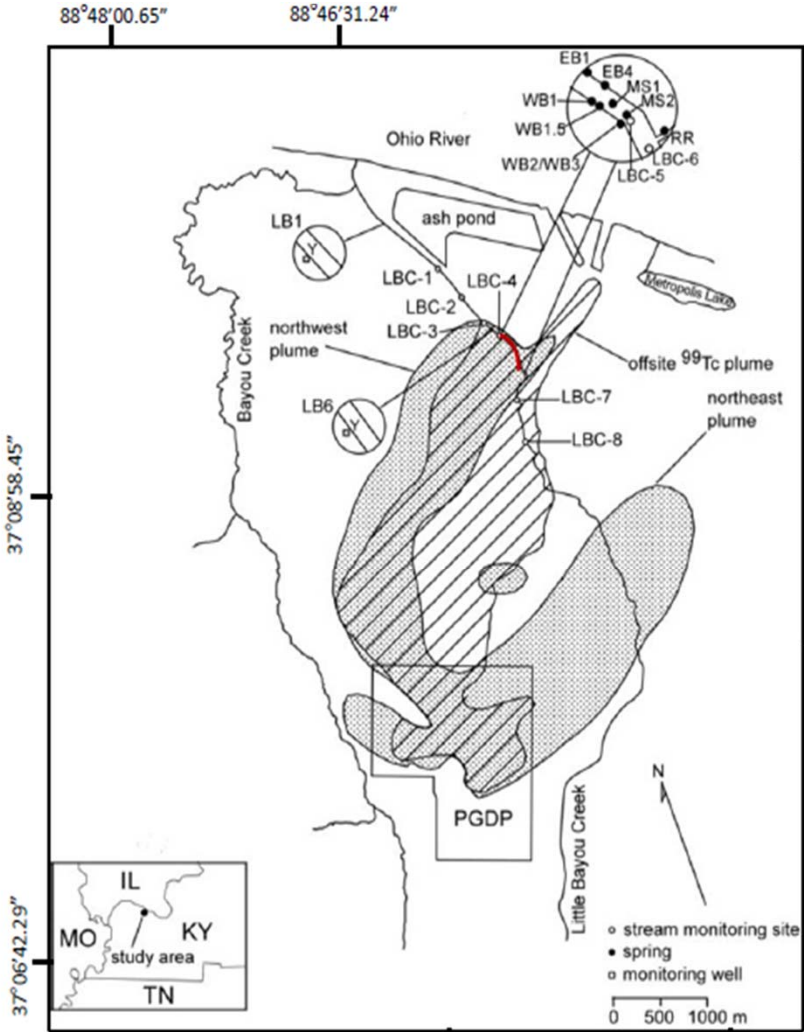


Figure 1.2. Location map showing Paducah Gaseous Diffusion Plant and northeast and northwest contaminant plumes along with previous and current (highlighted in red) study sites (modified from LaSage et al. [2008b]).

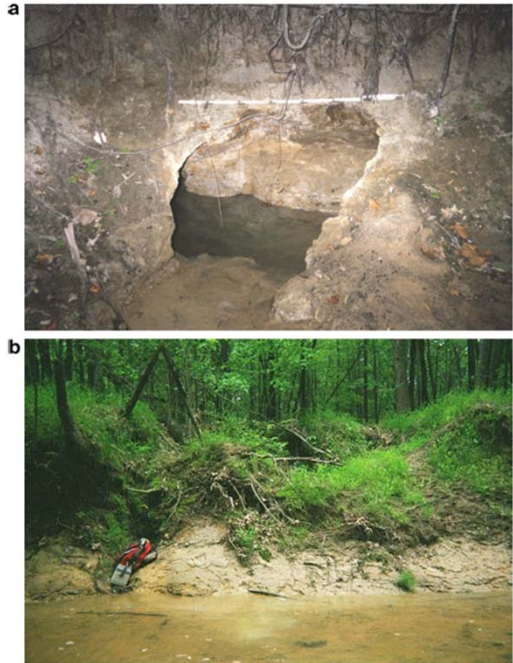


Plate 1. (a) Spring WB3 in Metropolis Formation, August 2002. Width of orifice (marked by folding rule) is 0.9 m. (b) Bank collapse in Metropolis formation adjoining spring WB2, May 2000. Excluding handle, cooler on bank at lower left has dimensions (width x height) of 0.2 x 0.2 m.



Figure 4.14. West bank spring, WB3 in 2002 and 2011.

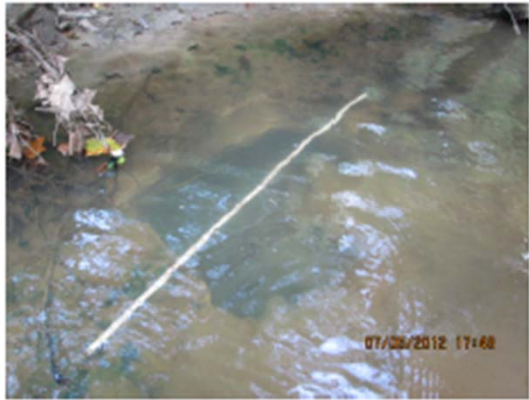


Figure 4.15. Newly emerged streambed spring along reach 2.

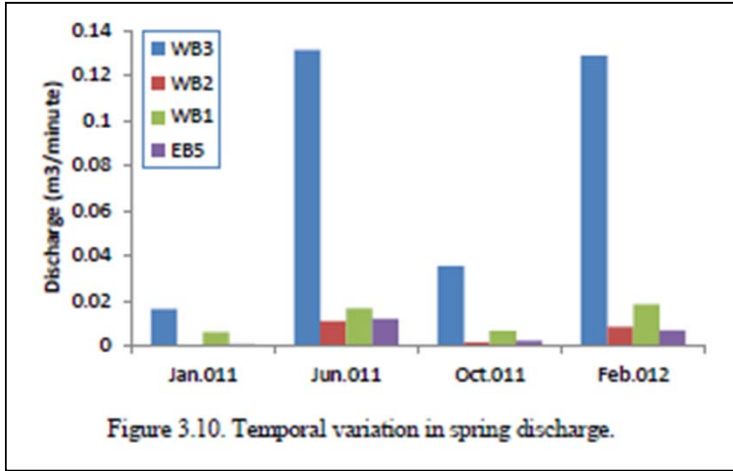


Figure 3.10. Temporal variation in spring discharge.

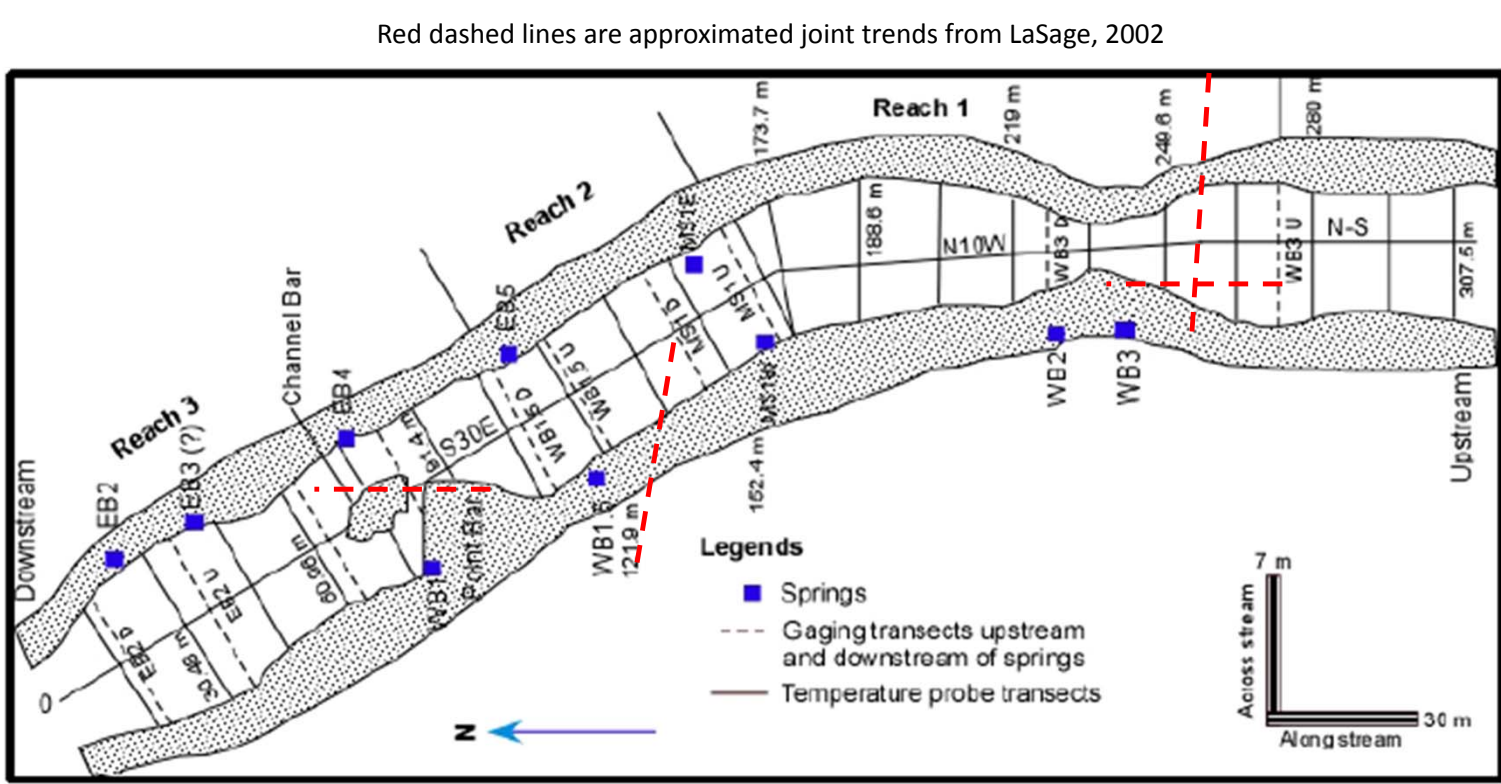
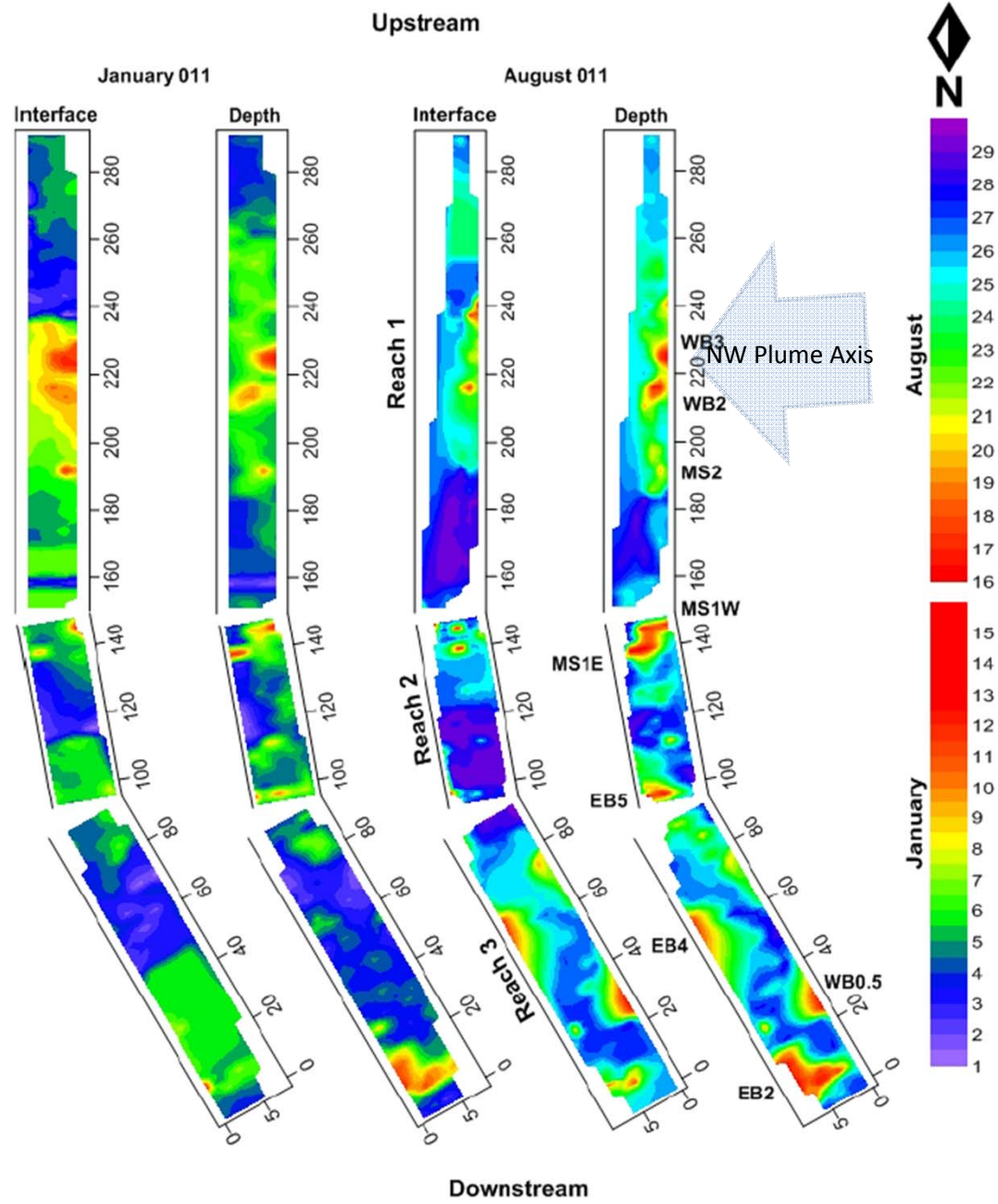
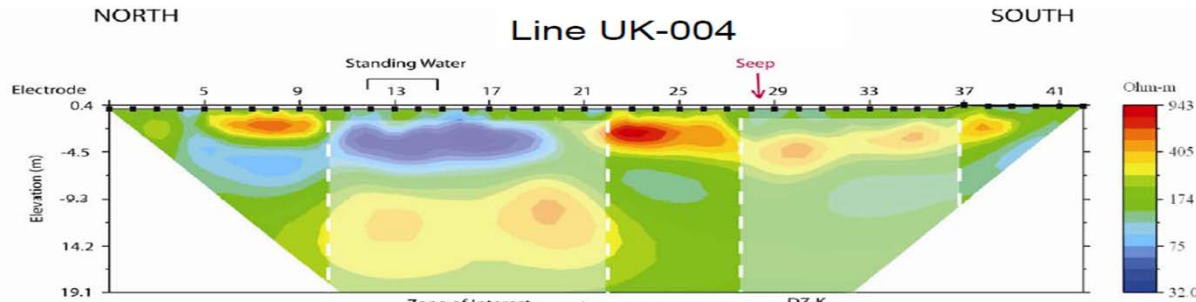


Figure 1.3. Close-up views of the study reach sketched based on the measurements taken during stream gauging and temperature probing.

Temperature distribution at the interface and at depth along the entire study reach



'SPATIO-TEMPORAL VARIABILITY IN GROUNDWATER DISCHARGE AND CONTAMINANT FLUXES ALONG A CHANNELIZED STREAM IN WESTERN KENTUCKY' Dr. Ganesh Tripathi Dissertation (2013)



Resistivity Line on West Bank of LBC along Reaches 1 & 2 (@ MS1W to WB2 & WB3)

'INTEGRATED GEOPHYSICAL IMAGING OF SUBSURFACE GEOLOGIC CONDITIONS ACROSS A CONTAMINANT PLUME, MCCracken County, Kentucky' Cora Blitz Masters Thesis (2008)