

Shifflett Farm Sampling October 16 – 19, 2006



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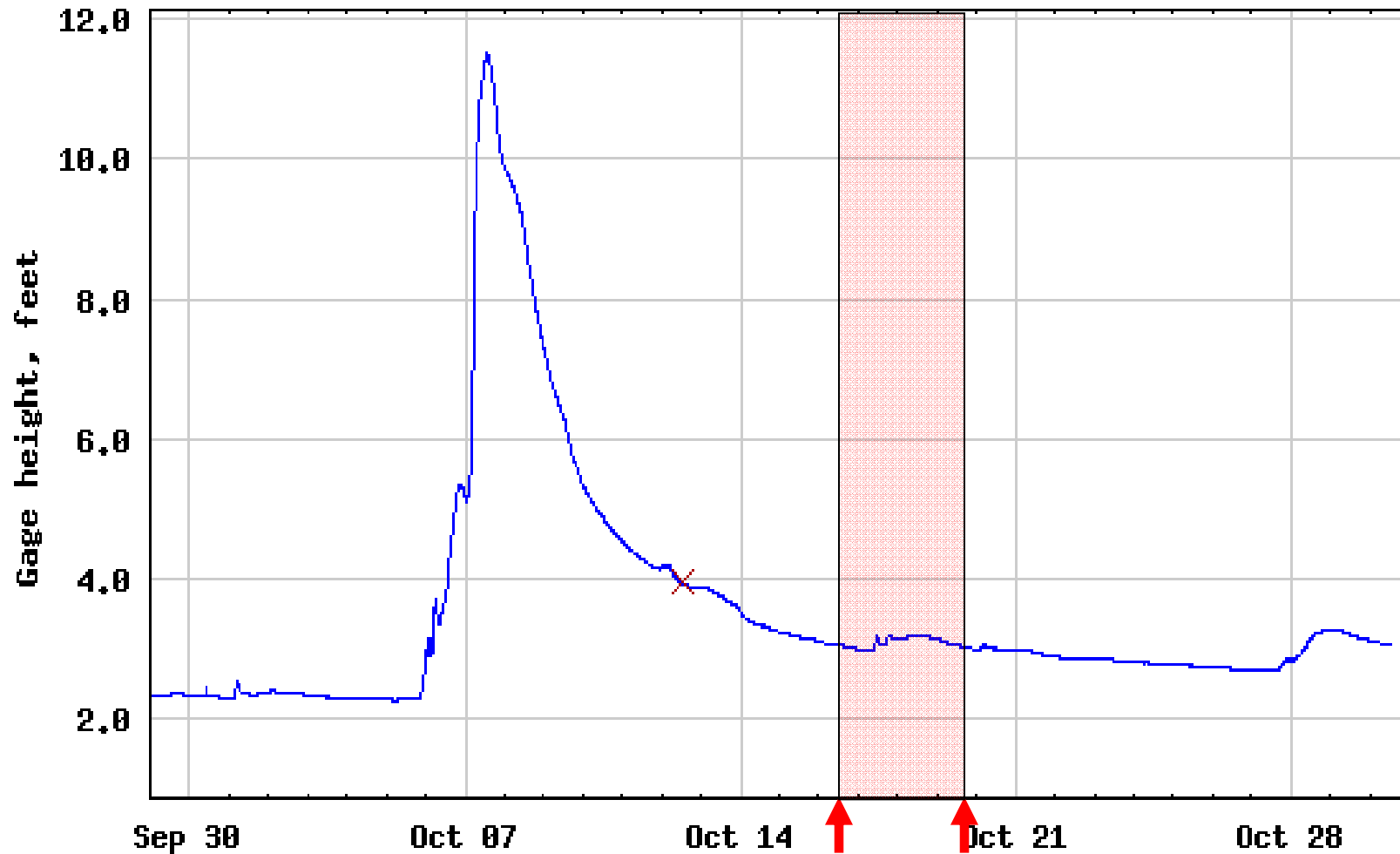
- Direct Push sampling at 18 locations
 - Soil sampling (Hg – surface and 4 subsurface; grain size upper 2.5 feet at 4 locations)
 - 16 temporary groundwater wells
 - 2 permanent wells
 - Groundwater sampling (filtered and unfiltered Hg, Methyl Hg, TSS, TOC, VOCs in 9 wells)
 - Groundwater elevation all locations, transducers installed at 3 permanent wells
- Surface water sampling at 4 locations
 - 3 cow ponds
 - 1 surface water runoff channel
 - filtered and unfiltered Hg, Methyl Hg, TSS, TOC, VOCs (ponds only)

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- EPA, USACE, ICOR
 - Total Hg in soil – EPA SW-846 Method 7471A
 - Soil grain size analysis – ASTM Method 422-63
 - VOCs in GW – EPA SW-846 Method 8260B
- VADEQ
 - Filtered & Unfiltered Hg in GW & SW
 - TSS, TOC
- USGS
 - Methyl Hg in GW & SW

USGS 01626850 SOUTH RIVER NEAR DOOMS, VA



----- Provisional Data Subject to Revision -----

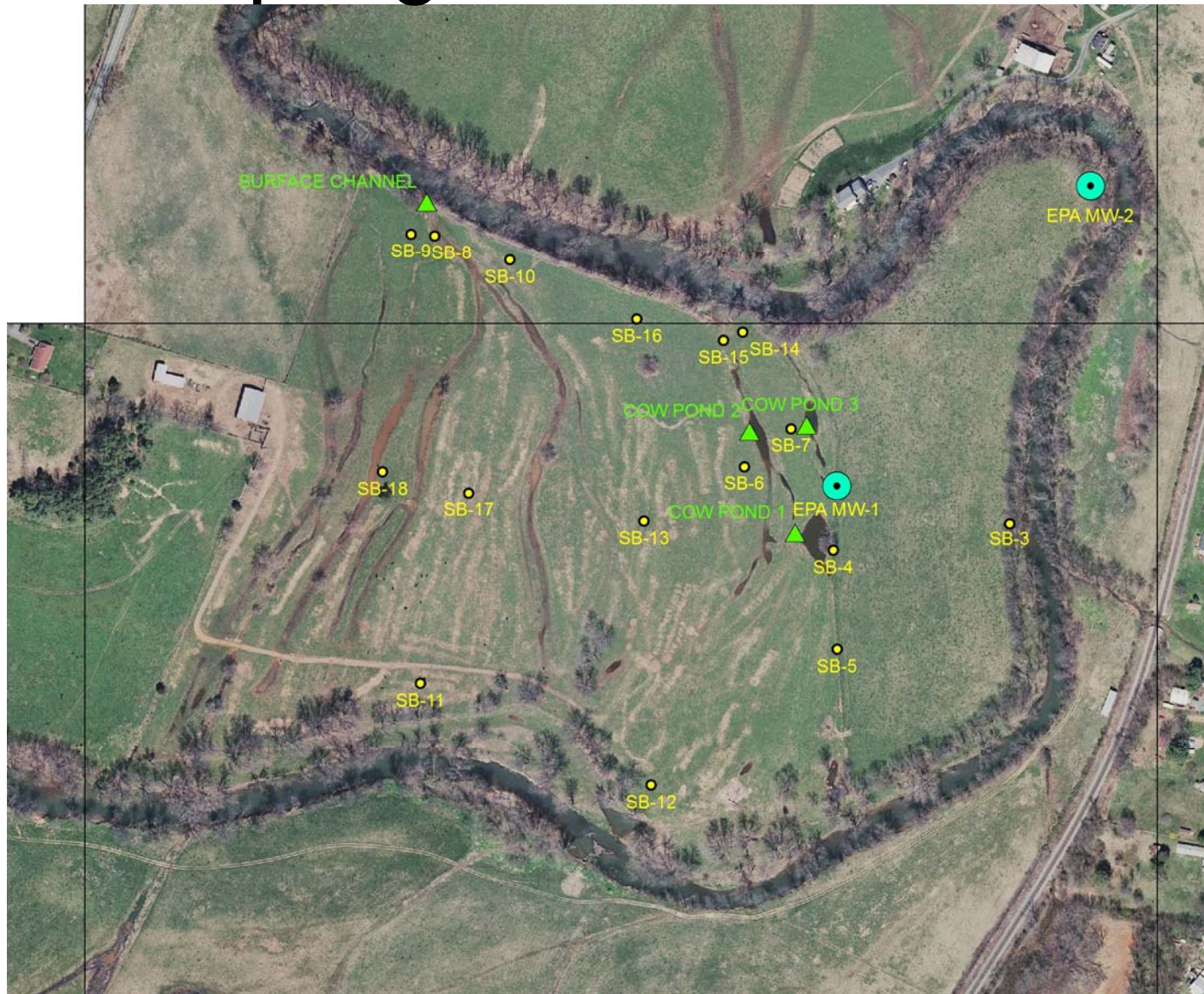
— Gage height

× Measured gage height

Sampling Locations – 11/05



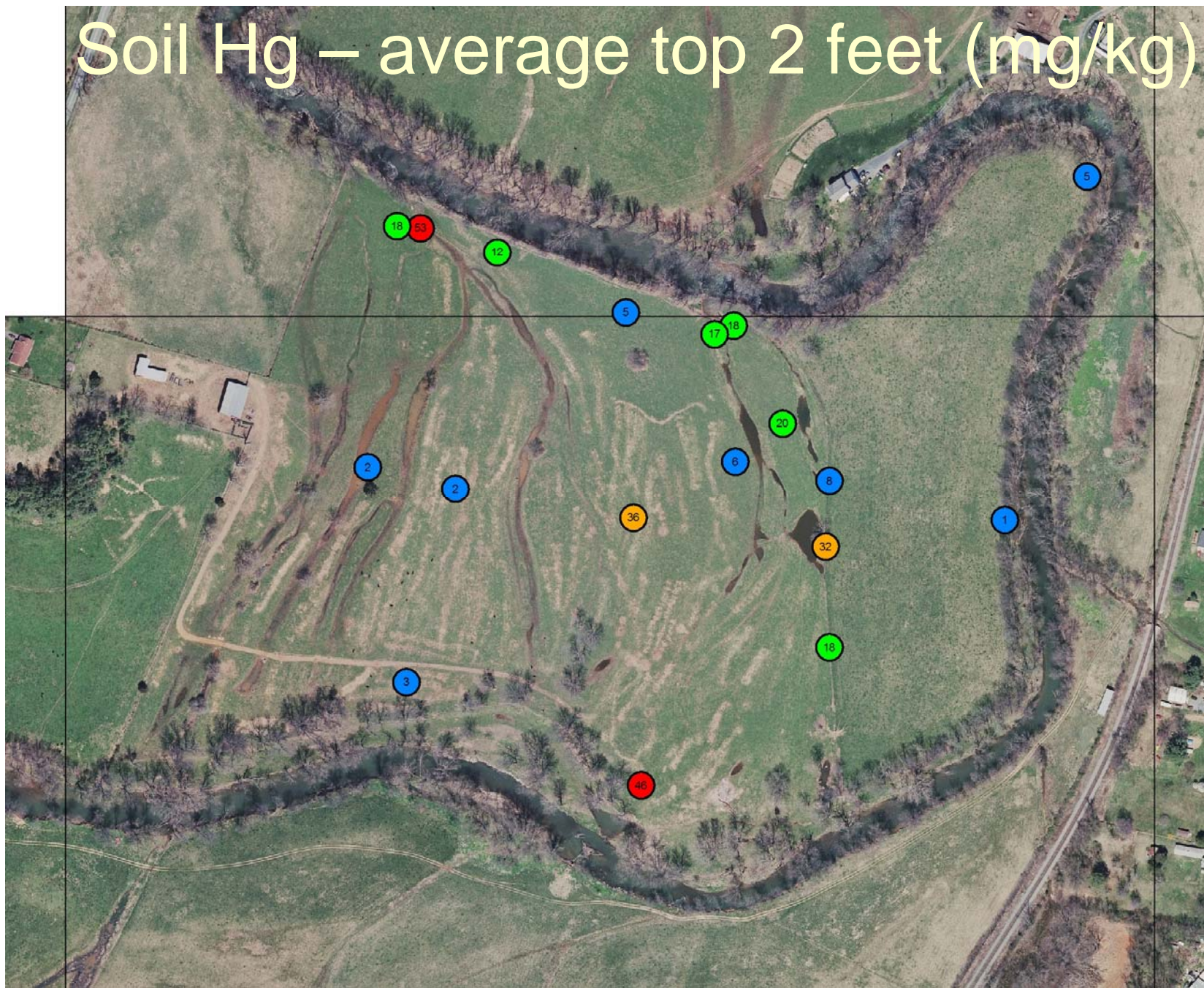
Sampling Locations – 10/06



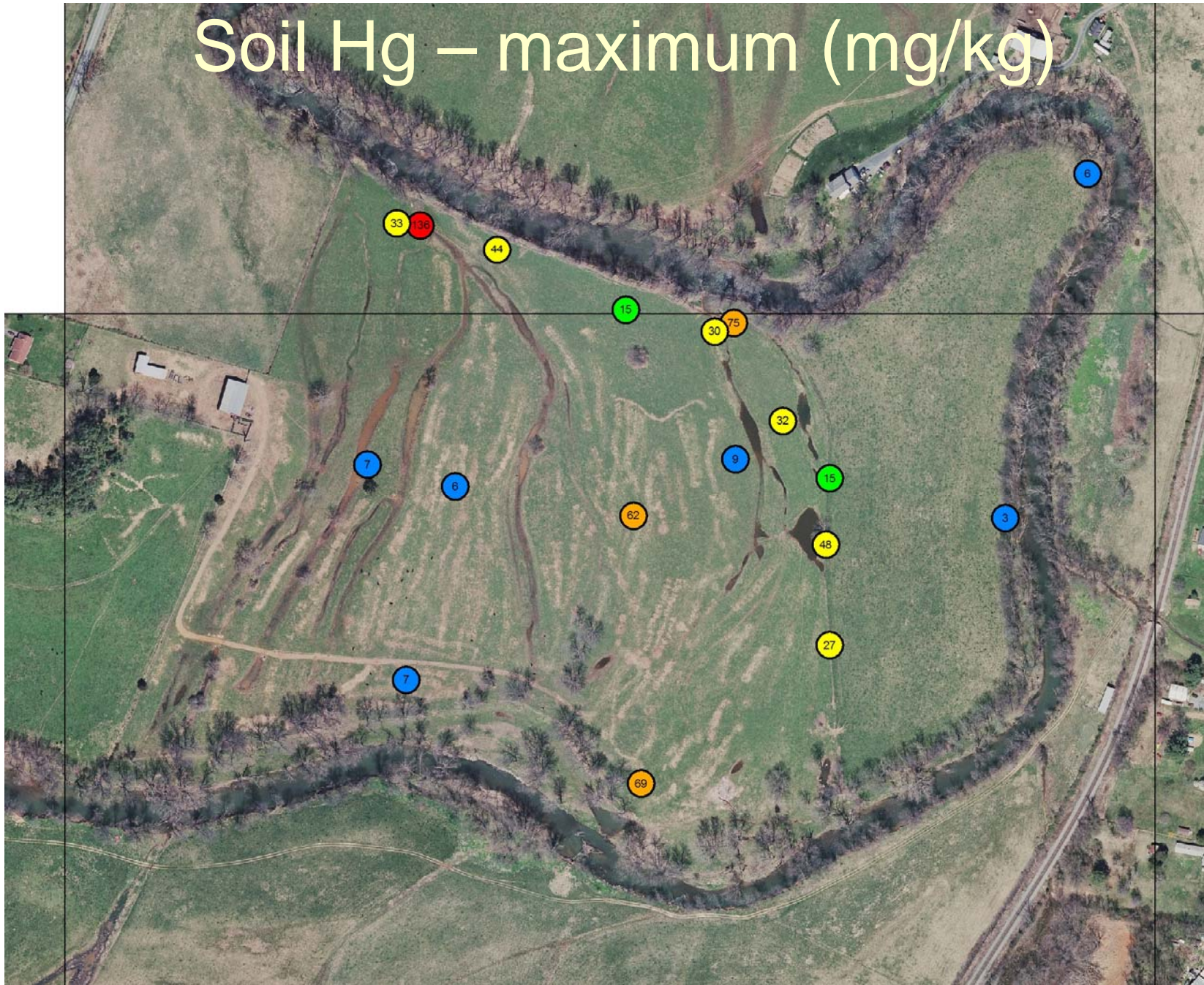
Results

- Soil
 - Total Hg: < 0.034 mg/kg to 136 mg/kg
- Groundwater
 - Unfiltered Hg: <1.5 ng/l to 778 ng/l
 - Filtered Hg: < 1.5 ng/l to 25.8 ng/l
(detected in 5 wells)
 - Filtered Methyl Hg: < 0.04 ng/l to 0.23 ng/l
(detected in 5 wells)
 - TOC: < 2.0 mg/l to 3.4 mg/l
 - TSS: 2.0 mg/l to 274 mg/l
- Surface Water
 - Unfiltered Hg: 37.1 ng/l to 281 ng/l
 - Filtered Hg: < 1.5 ng/l to 56 ng/l
 - Filtered Methyl Hg: 1.5 ng/l to 3.52 ng/l
 - TOC: 2.9 mg/l to 10.8 mg/l
 - TSS: 2.0 mg/l to 11 mg/l

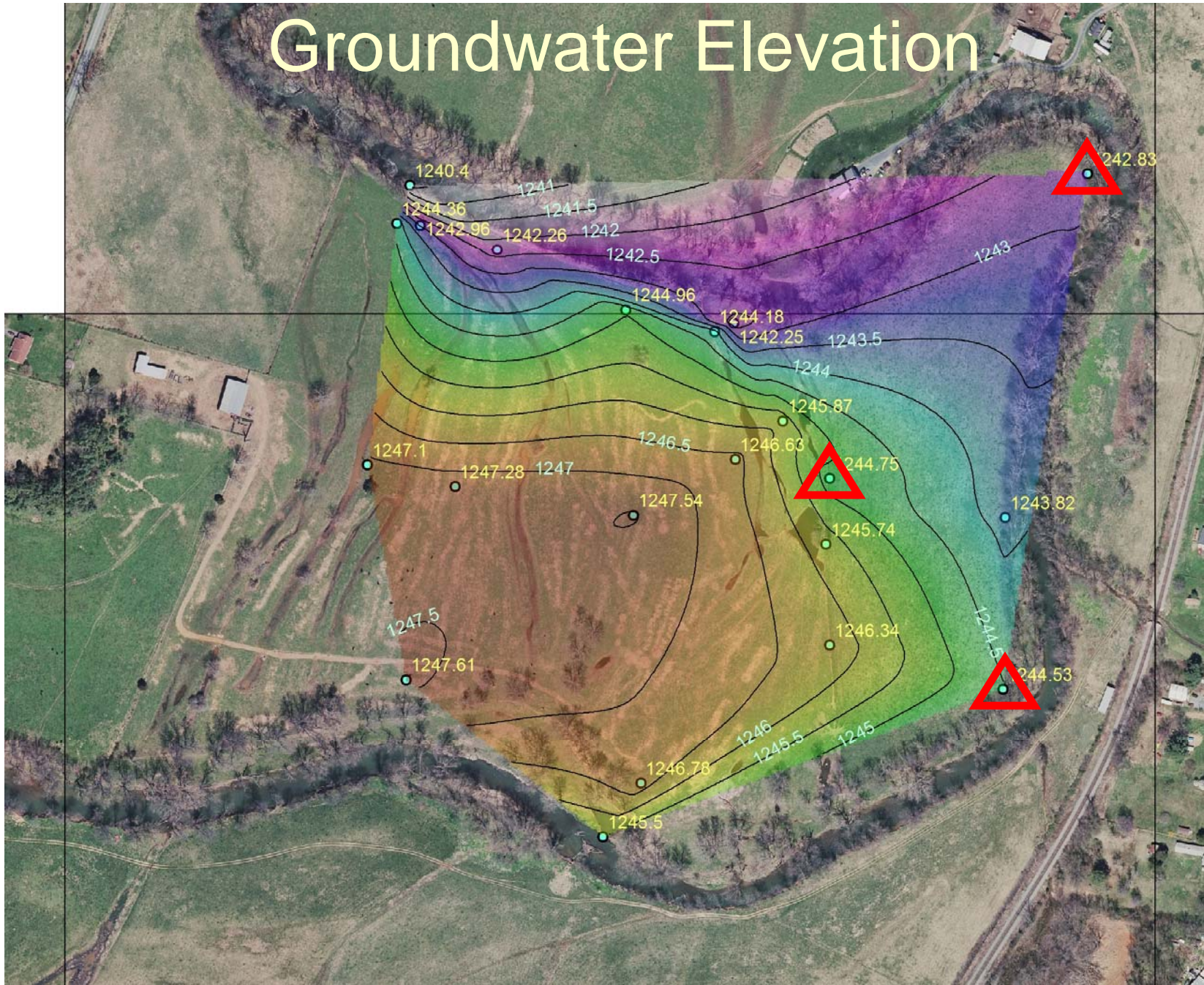
Soil Hg – average top 2 feet (mg/kg)



Soil Hg – maximum (mg/kg)



Groundwater Elevation



Results – Groundwater & Surface Water

Location	Filtered Methyl Hg (ng/l)	Filtered Hg (ng/l)	Unfiltered Hg (ng/l)	TSS mg/l	TOC mg/l
SB-3	< 0.04	< 1.5	< 1.5	6.00	< 2
SB-4	0.22	7.50	219.00	9.00	< 2
SB-5	< 0.04	< 1.5	12.80	2.00	< 2
SB-6	< 0.04	< 1.5	96.00	274.00	3.30
SB-7	< 0.04	< 1.5	7.80	3.00	< 2
SB-8	< 0.04	< 1.5	273.00	41.00	< 2
SB-9	< 0.04	< 1.5	63.90	21.00	< 2
SB-10	< 0.04	< 1.5	21.60	19.00	< 2
SB-11	< 0.04	< 1.5	7.00	13.00	< 2
SB-12	< 0.04	< 1.5	301.00	31.00	< 2
SB-13	0.08	7.70	103.00	178.00	2.08
SB-14	0.23	25.80	778.00	95.00	3.40
SB-15	0.08	9.50	734.00	103.00	3.30
SB-16	< 0.04	< 1.5	5.60	2.00	< 2
SB-17	< 0.04	< 1.5	8.70	90.00	< 2
SB-18	not analyzed	< 1.5	25.50	165.00	2.40
EPA MW-1	0.04	1.70	3.10	65.00	3.40
EPA MW-2	< 0.04	< 1.5	< 1.5	1.00	< 2
COW POND 1	2.09	18.10	50.00	11.00	4.00
COW POND 2	1.6	13.40	59.00	3.00	5.30
COW POND 3	1.5	< 1.5	37.10	2.00	2.90
SURFACE CHANNEL	3.52	56.00	281.00	8.00	10.80

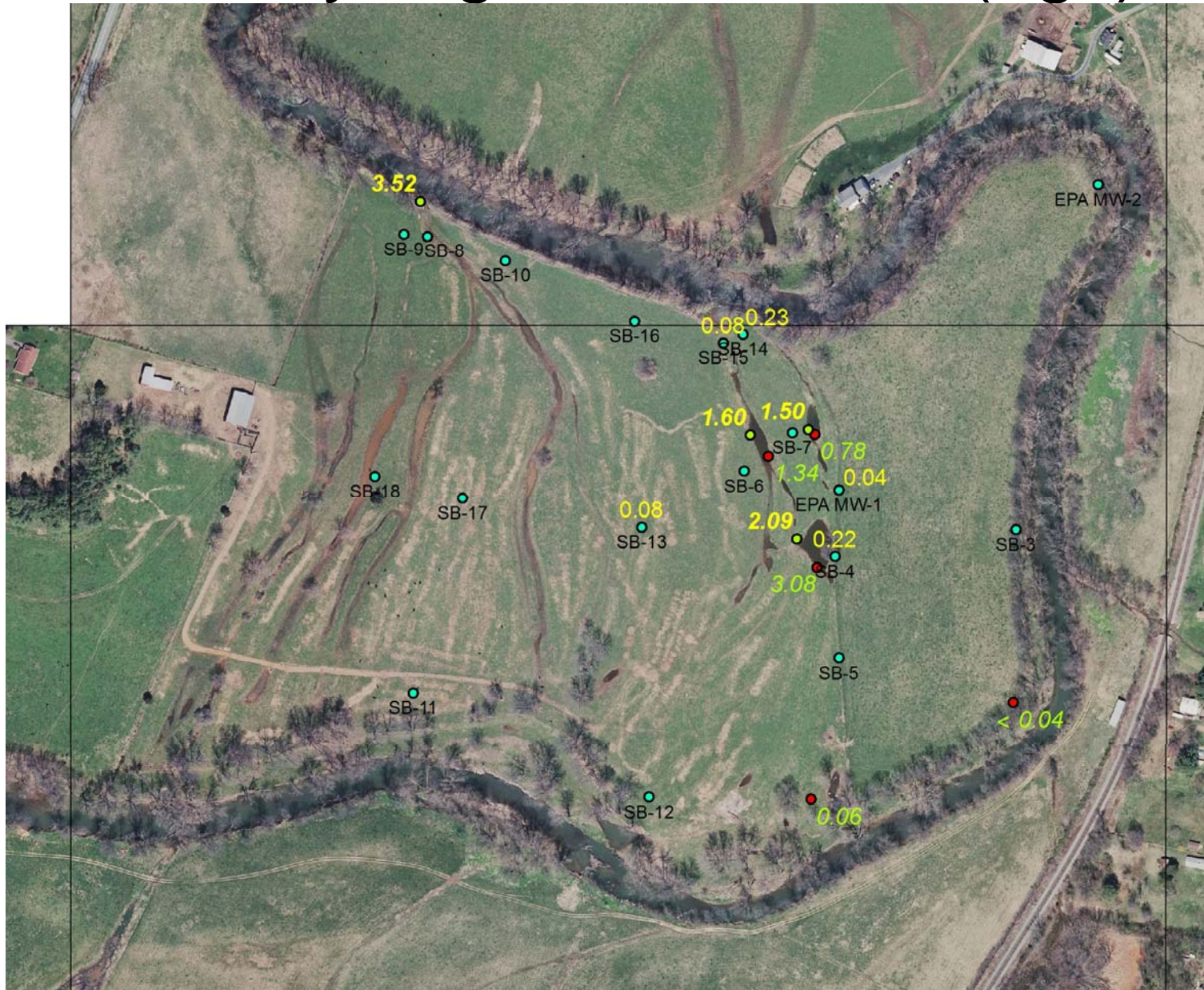
Methyl Hg in Groundwater (ng/l)



Methyl Hg GW and SW (ng/l)



Methyl Hg GW and SW (ng/l)

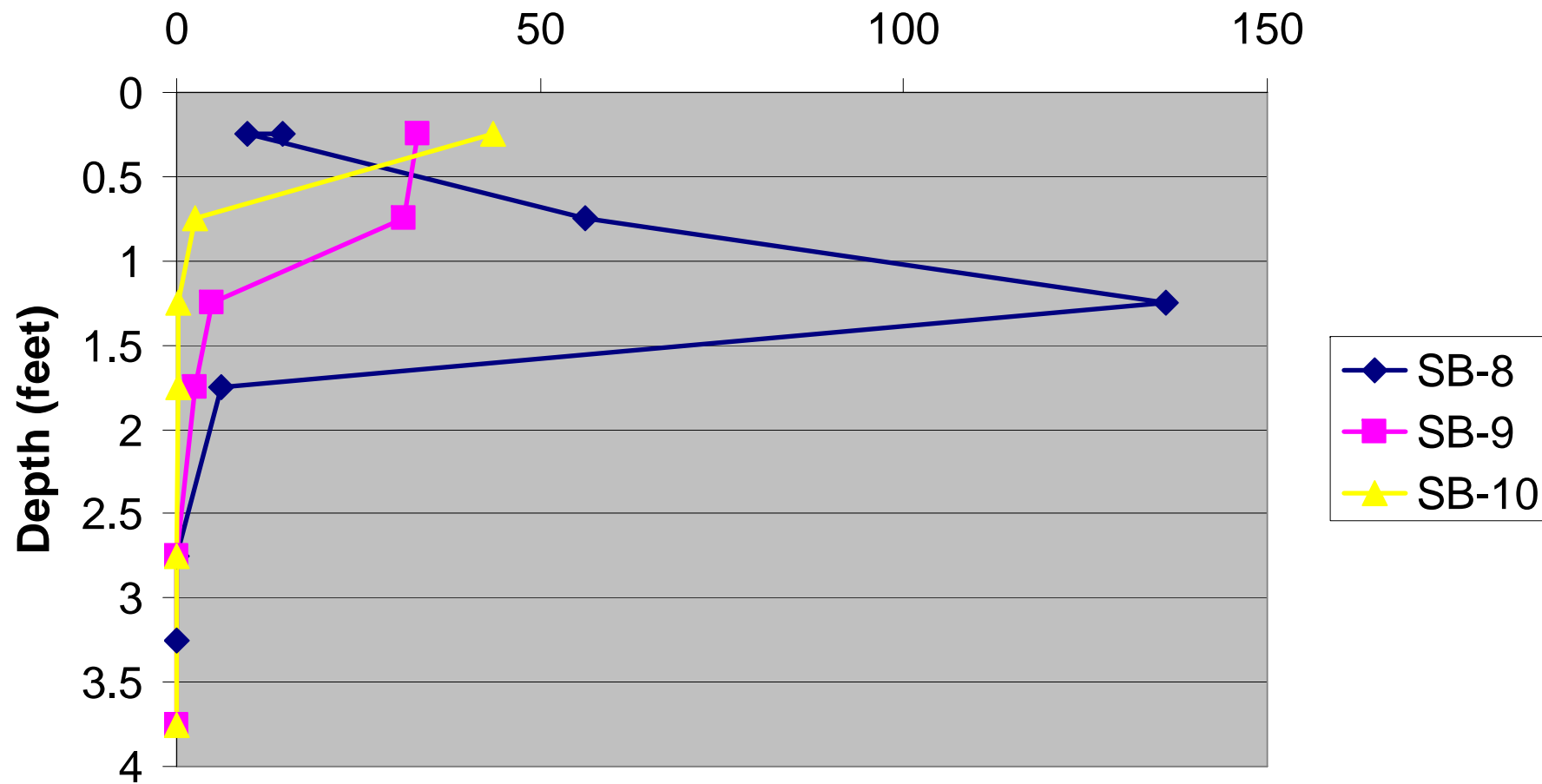


Methyl Hg Surface Channel (ng/l)



Soil Hg with Depth

Total Hg (mg/kg)

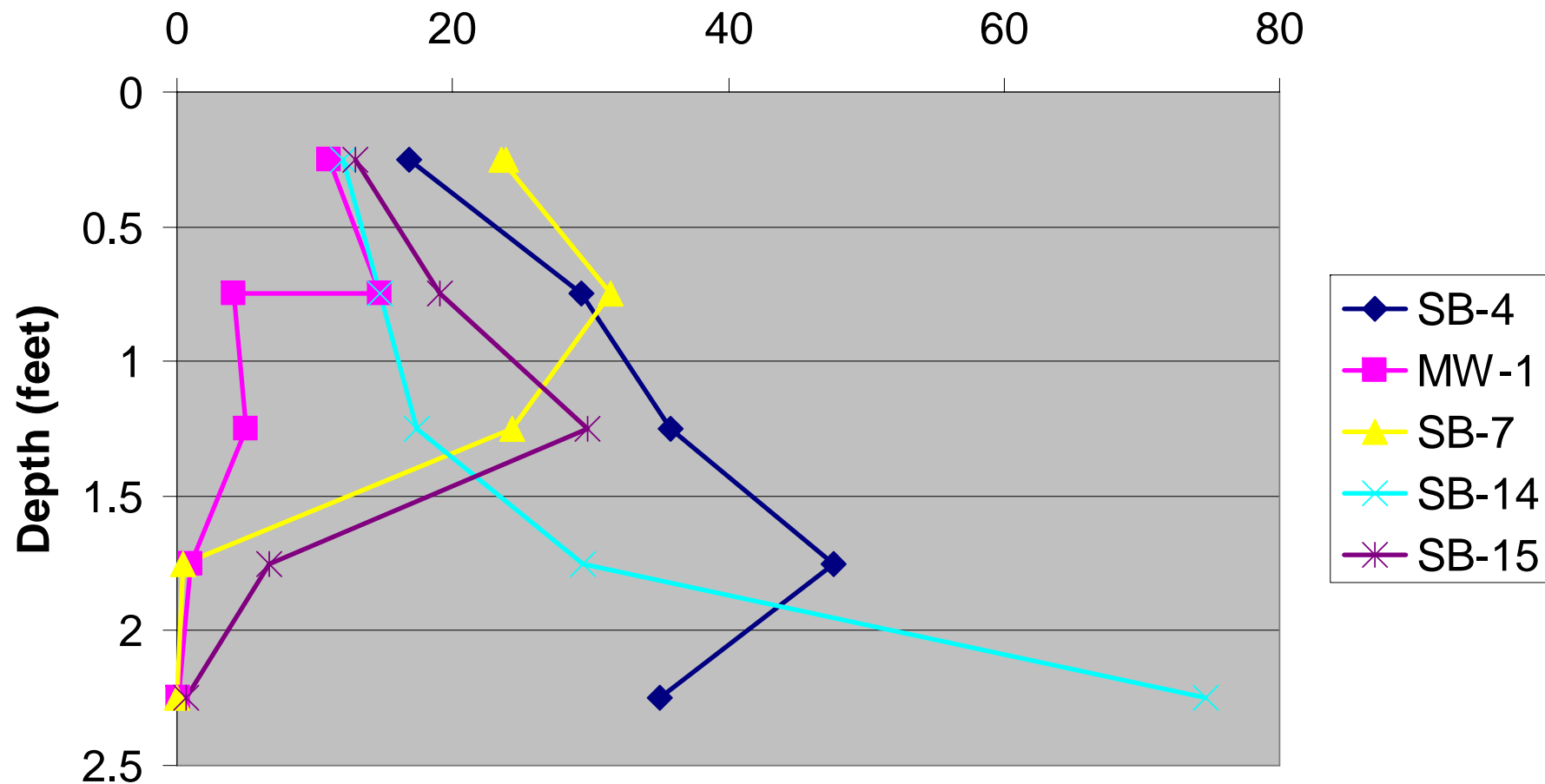


Cow Ponds & GW Methyl Hg

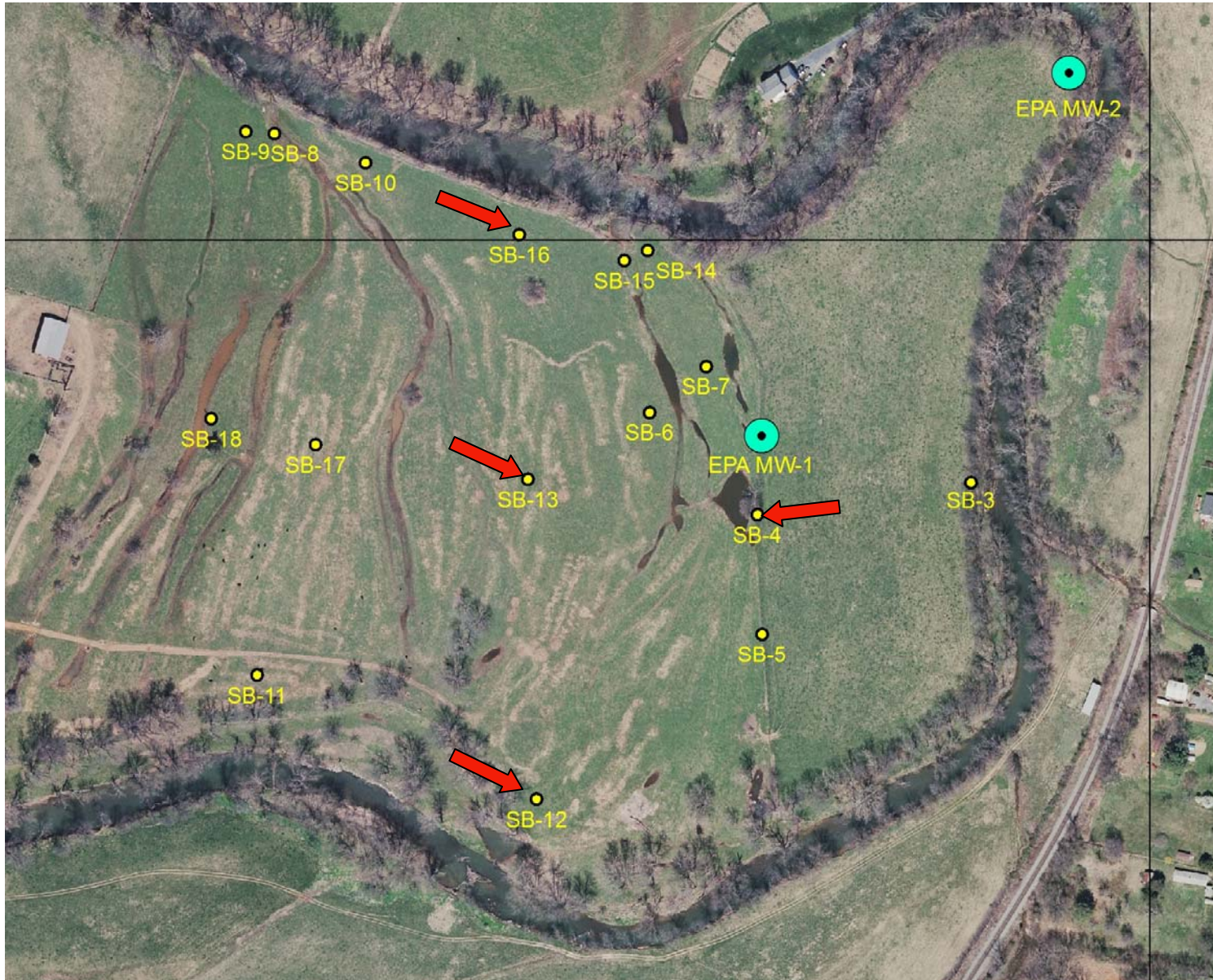


Soil Hg with Depth

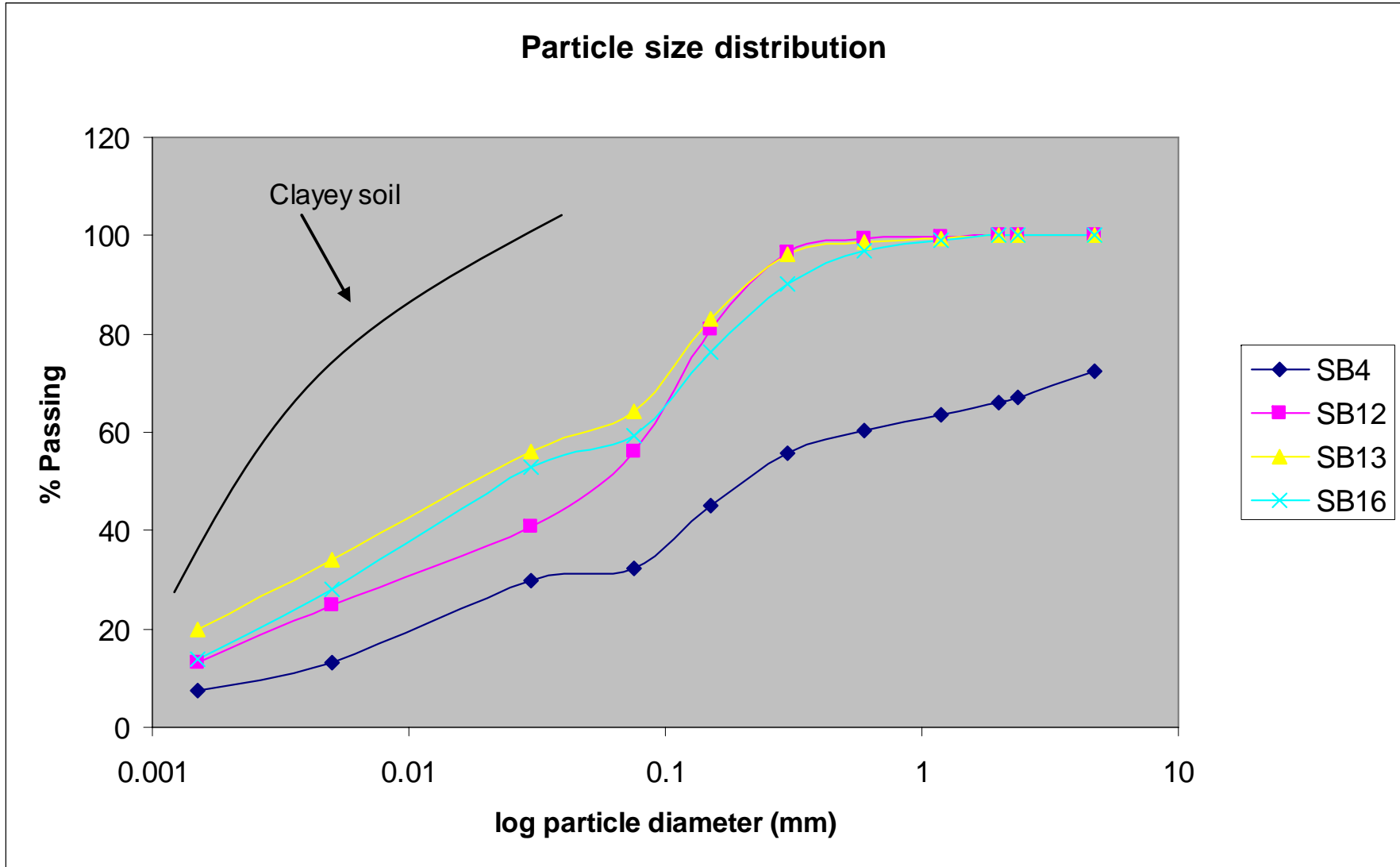
Total Hg (mg/kg)



Grain Size



Grain Size Distribution



Soil Hg with Depth

Total Hg (mg/kg)

