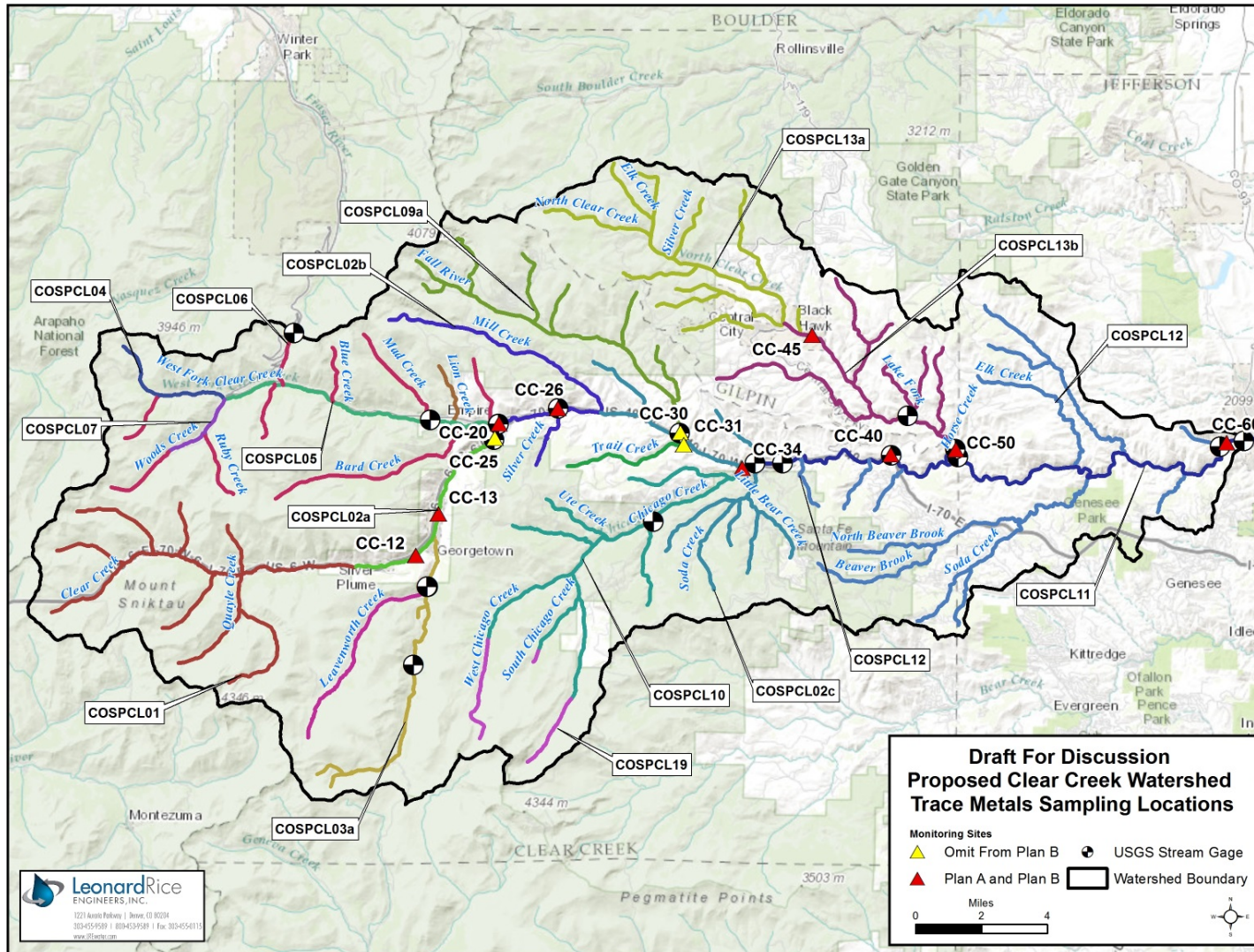


# Upper Clear Creek Watershed – 2016 Trace-Metals Monitoring Program



## Upper Clear Creek Watershed – Re-Activation of USEPA-ESAT Supported Trace-Metals Monitoring

### *Proposed Network Design Components – Site Locations*

Site ID (see map)	Site Description	Stream Segment	Plan "A" – Optimal Design (12 sites/8 Surveys)	Plan "B" – Downscaled Version (9 sites/6 surveys)	Notes & Comments -- Rationale
CC-12	Clear Creek below Silver Plume	2a	√	√	No Qs; high Zn contribution
CC-13	Clear Creek above Georgetown Res	2a	√	√	Qs (S); below SFCC
CC-20	West Fork Clear Creek at Mouth	5	√	√	Qs; relatively low Zn-high Mn
CC-25	Clear Creek above WFCC	2a	√	omit	Qs; bl Georgetown Lake
CC-26	Clear Creek at Lawson	2b	√	√	Qs; below CC-WFCC junction
CC-30	Fall River at Mouth	9a	√	omit	Qs (SEO); few exceedances
CC-31	Trail Creek at Mouth	9b	√	omit	No Qs; high TMs; low flows (3%)
CC-34	Clear Creek ab Chicago Creek	2c	√	√	No Qs; only 2c site
CC-40	Clear Creek at Kermitts	11	√	√	Qs (CCC); highest flows
CC-45*	North Fork Clear Creek – Blackhawk	13b	√	√	No Qs; BH-CC close-in TMs
CC-50	North Fork Clear Creek at Mouth	13b	√	√	Qs; high TMs; low flows (10%)
CC-60	Clear Creek at Golden	11	√	√	Qs; terminus of UCC watershed

*Notes: \* = move from historical location to downstream from the new mine-wastewater treatment plant discharge.  
Qs = Stream-gaging station (daily flows); TMs = trace metals; Zn = zinc; Mn = manganese.*

## Trace-Metals Monitoring Re-Activation -- Discussion Aspects

### **Background:**

Systematic sampling surveys began in February 1994; sampling conducted by UCCWA-SLCs teams. Sampling teams took field measurements (pH, temperature, SC, and DO); USEPA lab performed analyses. In 2005, USEPA-ESAT took over the field-sampling responsibilities.

The USEPA Region 8 lab has analyzed the majority of samples; the ESAT lab served as back-up to USEPA.

The trace-metals (TMs) monitoring component was halted after the June 2015 sampling survey.

These data have been used for a variety of purposes; numerous information reports have been prepared.

The USEPA SAP-QAPP developed in 2013 and modified in 2014 covered recent sampling (27 sites; 8 sampling surveys annually; field and lab analyses are listed). No flow measurements are included.

This network design was prepared, based upon discussions with Leslie Sims, USEPA Program Manager.

### **Additional Information:**

For 22 years, the sampling-survey scheduling has been consistent: 4 each high-flow & low-flow surveys.

Proposed Plan B sample frequency reduction would reduce the wintertime surveys from four to two.

Stream gages are currently operating at nine of the 12 proposed sites, as indicated in the table.

The original UCC Watershed Plan laid the groundwork for promoting seasonal HRD-based stream standards.

Lab TMs analyses would remain the same – all ICP results and HRD (ESAT lab reports additional TMs).

The three sites removed in Plan B are judged to be lower in priority and in response to fiscal constraints.

### **Action Items:**

UCCWA-CCWF transmit recommended Plan(s) to USEPA (Les Sims)

USEPA accepts or presents a counter-proposal, after discussion and consideration of fiscal constraints, logistical support (field support, lab capacity, etc.)

Additional discussion within UCCWA (and CCWF, if appropriate); amend USEPA's SAP-QAPP with changes

USEPA implements program as soon as possible (assume an amendment to the existing SAP-QAPP will suffice program protocols, indicating the subset of sites incorporated into this re-activated TMs program)