**General Assumptions and Changes to Dashboard**

1. Assumptions:
   1. Trace metals not qualified as “total” or “dissolved” were assumed to be “total” (ex. Zinc = Zinc, Total)
   2. Matrix Name assumed to be water unless otherwise stated
2. Changes to Dashboard:
   1. Shape used to symbolize source dataset consistently on figures and map
   2. Only relevant analytes and sample depth filters show up according to other filter selections (for example, choosing site on map will only show analytes for that site in filter drop-down)
   3. Currently only showing water sample data (filter on worksheet)
   4. No Null values are showing (filter on worksheet)
   5. Sample Depth filter added
   6. Minor format changes

**General Questions**

1. Filenames corresponding to different water quality dataset sources in Tableau

**Sulfur Mine Dataset**

1. Stations coordinates:
   1. Updated.
   2. Replaced existing dataset ~300+ data points with new 11/08 dataset ~124 points.
2. Still waiting on some heavy metals data?

**Matrix**

1. Sediment data
   1. Issues:
      1. Units don’t match with water sample units for same analyte, but this isn’t too common

**Analytes**

1. Method
   1. Modified Analyte column uses vlookup to conform all units to specified names
2. Data Issues
   1. Water temperature 66, 99, and 120 deg C (BVR dataset 9/23/1999, 2/24/2012; Elem Data 11/19/14)
   2. Specific Conductance units given in “deg C” assumed to actually be mS/cm (BVR dataset 9/29/14)
   3. Skeptical of Dissolved Oxygen from 60 to 147.6 mg/L (BVR data 12/17/99, 3/15/2002, 9/25/12, and 9/29/15; CDFA data 10/28/13). Maybe these are % saturation?
   4. pH “Not Detected”doesn’t make sense from a water quality perspective (BVR data 10/22/2014, 11/24/2014) so changed to “not reported”. Wondering if supposed to be “not reported?”
   5. pH values of 45.5, 20.02, and 0 are off the scale (BVR data 7/21/15, Elem data, SWAMP)
   6. Turbidity > 1,000 NTU up to 6,000 NTU

**Results**

1. Decisions to be made:
   1. Records with no result and no unit value (currently showing as Null)
   2. Anatoxin A and Microcystin “Trace” value (currently reported as ND = -1)
2. Table of current modifications for non-numeric values:

|  |  |
| --- | --- |
| **Original Result** | **Modified Result** |
| \*\*\* | -1 |
| < R.L. | -1 |
| <5 | -1 |
| <MDL | -1 |
| <R.L.\*See Units Note | -1 |
| >1600 | 1600 |
| Trace | -1 |
| All weather descriptions | Null |
| MDL | Null |
| N.S. | Null |
| N/A | Null |
| ND | -1 |
| Non-Detect | -1 |
| Not Detected | -1 |
| Not Reported | Null |
| Uncertain of correct value | Null |
| Positive | Null |
| Present Above Quantification Limit | Null |
| Present Below Quantification Limit | Null |

**Units**

1. Empty unit records were converted to most common unit. All empty units corresponded to empty results, so units don’t actually matter for these, but helps with visualization in Dashboard.
2. Unreconciled disparate units:
   1. Alkalinity
      1. mg/L
      2. mg/L as CaCO3
   2. Ammonia
      1. mg/L as N
      2. mg/L
   3. Ammonia + Ammonium
      1. mg/L as NH4
      2. mg/L as N
   4. Chlorophyll a
      1. ug/L
      2. mg/m2
   5. Conductance
      1. uC/cm
      2. uC/cm at 25oC
   6. Hardness
      1. mg/L
      2. mg/L as CaCO3
   7. Nitrate
      1. mg/L as N
      2. mg/L
   8. Nitrate + Nitrite
      1. mg/L as N
      2. mg/L
   9. Nitrite
      1. mg/L as N
      2. mg/L
   10. Nitrogen mixed forms
       1. mg/L as NO3
       2. mg/L
   11. Total Organic Nitrogen
       1. mg/L as N
       2. mg/L
   12. Orthophosphate
       1. mg/L as P
       2. mg/L
   13. Total Dissolved Solids
       1. mg/L
       2. mg/L at 180OC
       3. tons/AF
   14. TKN
       1. mg/L as N
       2. mg/L
   15. Total Phosphorus
       1. mg/L as P
       2. mg/L
   16. Turbidity
       1. NTU
       2. Turbidity as SiO2
3. Unit Conversions:
   1. *All conversions result in a modification of the ConvertedUnit column to reflect change of original Results and Units to converted results and units.*
   2. Issues:
      1. I have a feeling some of the units are incorrectly labeled because when converted to ug/L, some of the values are several orders of magnitude larger than the rest.
         1. Dissolved Nickel
         2. Selenium
         3. Mercury
         4. Zinc
         5. Manganese
         6. Lead
         7. Iron
         8. Copper
         9. Chromium
         10. Cadmium
         11. Aluminum
      2. Apparent unit errors changed:
         1. DO Saturation g/L to %
         2. Secchi depth ft/s to ft
   3. Conversions completed:
      1. All oF to oC = Done
      2. Anatoxin-A ug/L to ppb = Done
      3. Aluminum mg/L to ug/L = Done
      4. Arsenic mg/L to ug/L = done
      5. Cadmium mg/L to ug/L = Done
      6. Chromium mg/L to ug/L = Done
      7. Conductance mS/cm to uS/cm
      8. Copper mg/L, ppb to ug/L = Done
      9. Cylindrospermopsin ug/L to ppb
      10. Dissolved Oxygen ppm to mg/L = Done
      11. Dissolved Oxygen Saturation (% saturation) to (%) = Done
      12. Iron mg/L to ug/L = Done
      13. Lead mg/L to ug/L = Done
      14. Manganese mg/L to ug/L = Done
      15. Mercury mg/L to ug/L = Done
      16. Nickel mg/L, ng/L to ug/L = Done
      17. Secchi Depth m to ft = Done
      18. Selenium mg/L to ug/L =Done
      19. Total Dissolved Solids g/L to mg/L
      20. Zinc mg/L to ug/L = Done