



**Differences in
Filtered and Non Filtered
Water Quality Samples**


1. Filtering Non Preserved Samples at AMD Treatment Sites





Data Comparison of Three Samples from both Lime Dosers

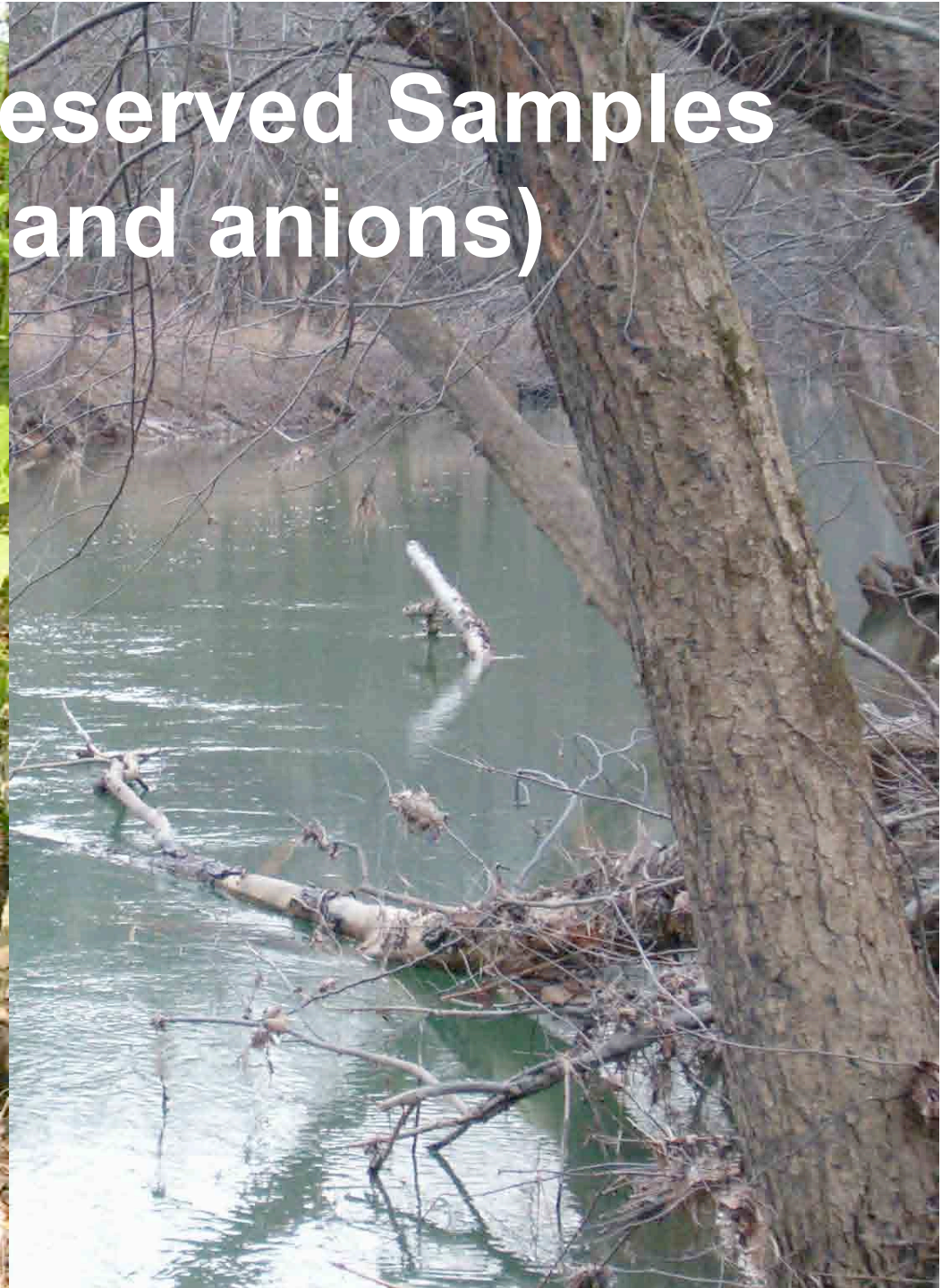
Parameter (mg/l)	Results
Total Alkalinity	2.5 - 15.4 times higher in NF sample
Phen. Alkalinity	39% higher in NF sample
Hardness	11 - 30% higher in NF sample
pH	<0.25 S.U.
SpC, uS/cm	1 - 8% difference (higher or lower) in NF vs. F
Sulfate	< 1.5 % difference
TSS	90 - 99% times higher in NF than F



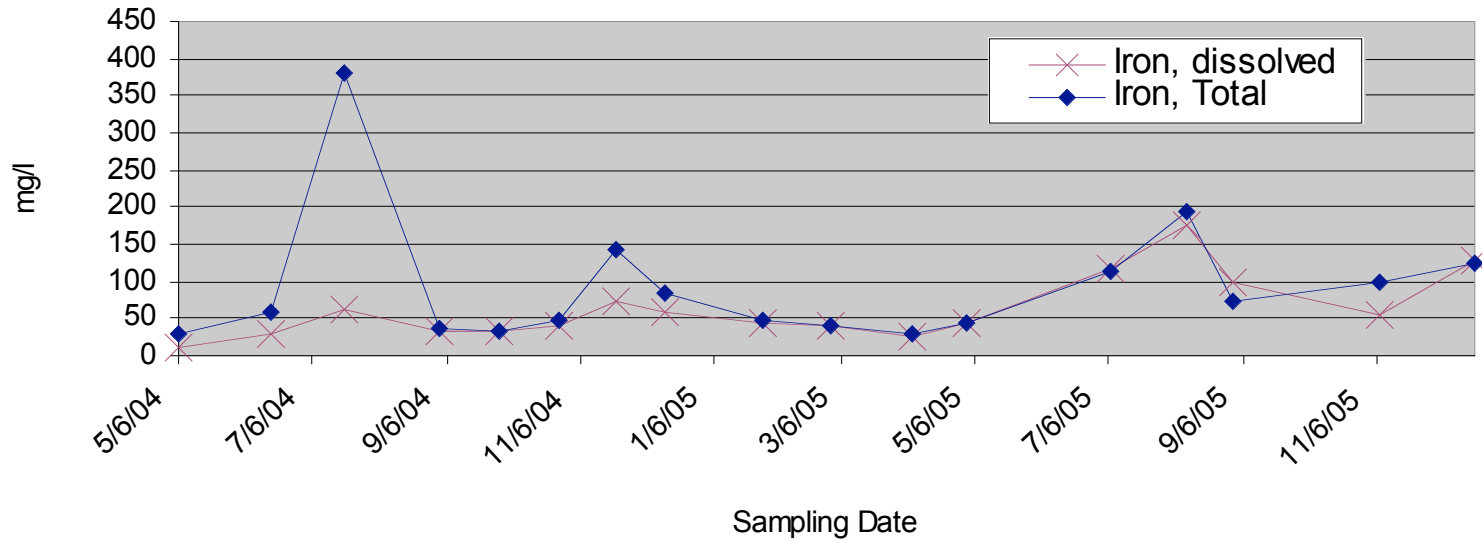
Carbondale II Doser Alkalinity Titration – 11/28/07

Alkalinity Titration	Results (mg/l)
Non filtered & non settled	420
Non filtered but settled	70
Filtered	50

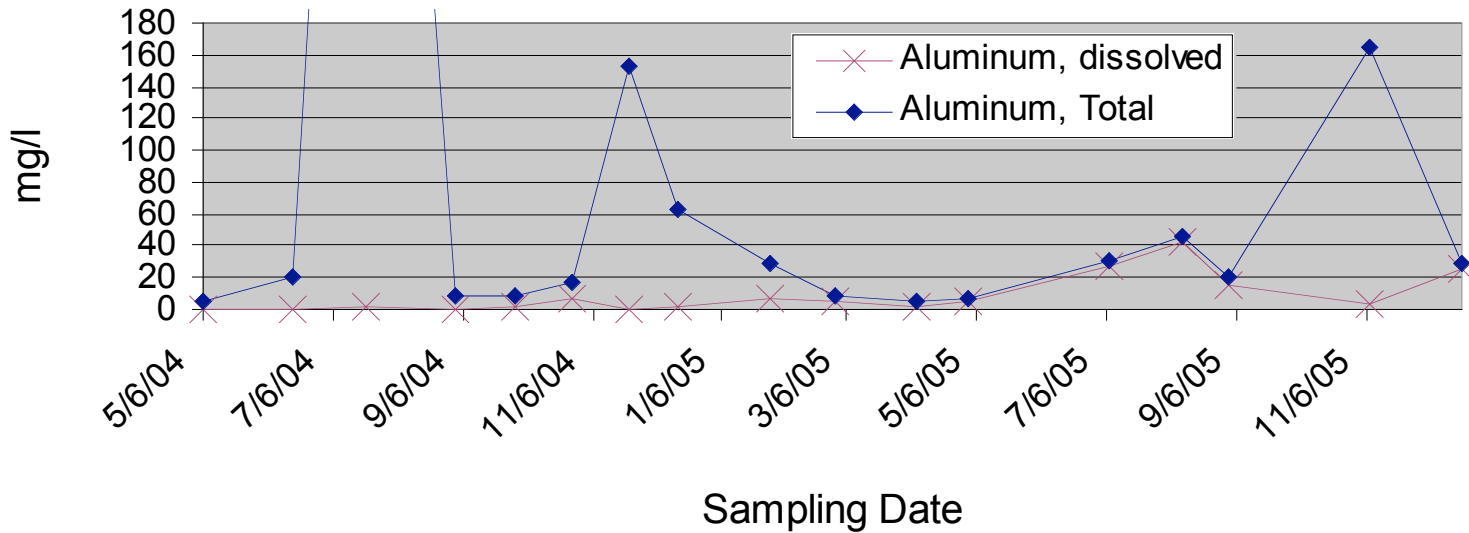
2. Filtering Preserved Samples (cations and anions)



Total vs. Dissolved Iron at Simmons Run - Cell 2



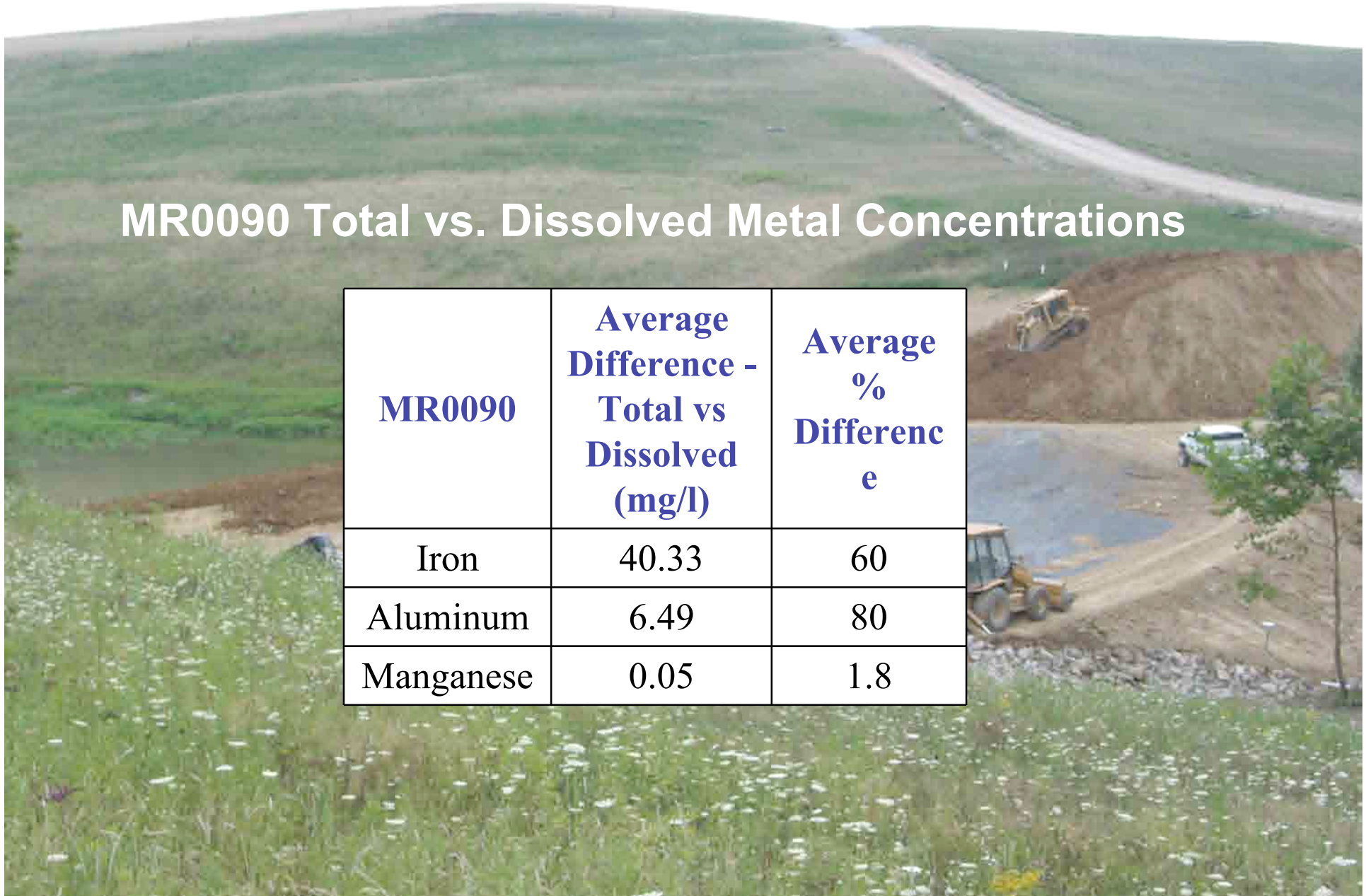
Total vs. Dissolved Aluminum at Simmons Run - Cell 2



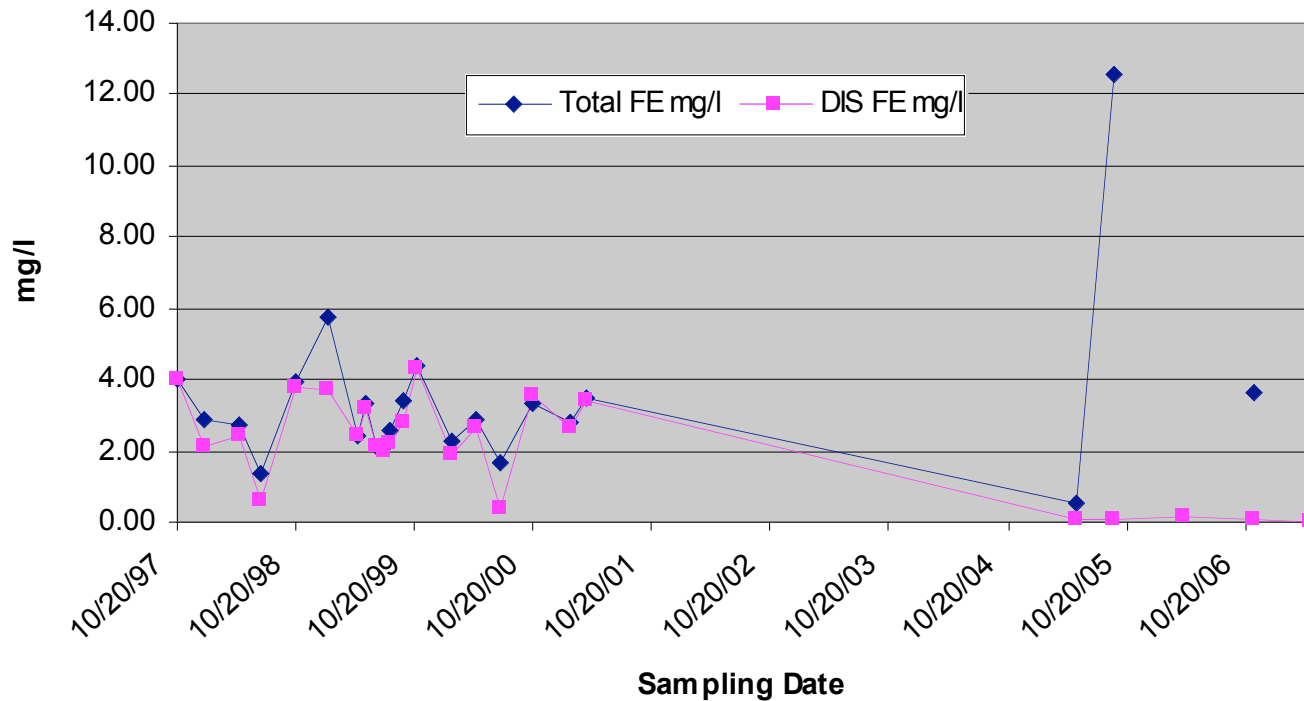
Mulga Run Steel Slag Leach Bed Tributary

MR0090 Total vs. Dissolved Metal Concentrations

MR0090	Average Difference - Total vs Dissolved (mg/l)	Average % Difference
Iron	40.33	60
Aluminum	6.49	80
Manganese	0.05	1.8



JH00500 LTM Site - Total and Dissolved Iron Concentrations



**Monday Creek LTM
Stream Sampling Sites**

Results of Comparisons

- Total alkalinity from unfiltered sample is drastically higher than from filtered sample downstream lime dosers
- Total & Dissolved metal (especially Fe & Al) concentrations vary much more downstream of AMD treatments than in stream samples
- Increase in difference between total & dissolved concentrations when pH is raised and metals convert to solid form