

Use of Tracer Injections to Locate and Quantify Pollution Loading



What is a Tracer



How and Why Tracers are Used

Results

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TRACER INJECTIONS

A process that uses the downstream dilution of an injected, inert salt to accurately calculate stream flow and when coordinated with water chemistry analyses (concentrations), pollutant loading can be calculated from specific sources.

Difference between concentrations and loading !



12 oz.



Keg



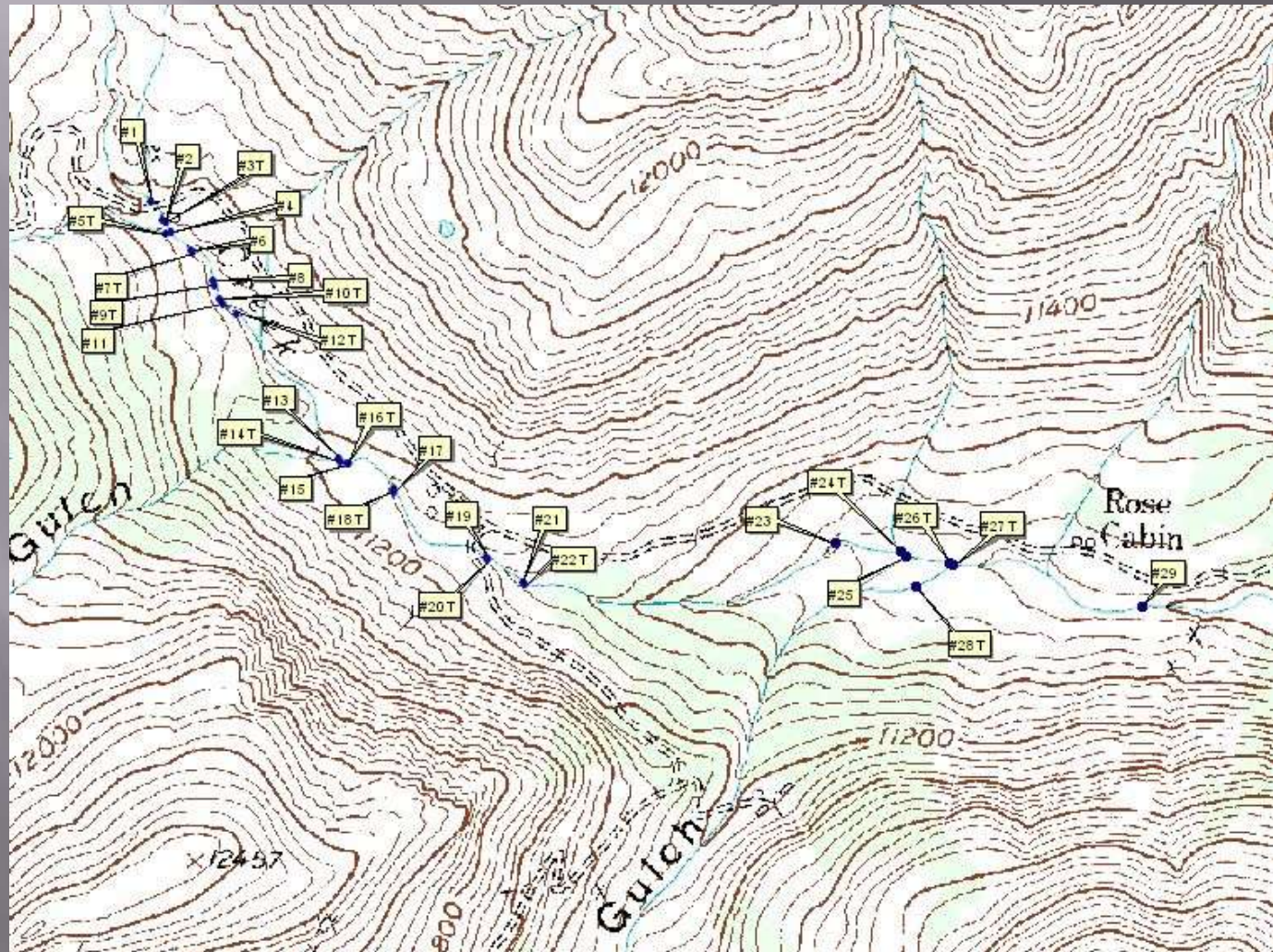
WHY USE TRACERS Vs. STANDARD METHODS

- **Too shallow**
- **Good cross sections hard to find**
- **Velocity distribution unknown**
- **Portion of flow in coarse substrate**
- **Numerous measurements for synoptic WQ**

Stream Reach Selection and Reconnaissance



Identify and Mark Sample Locations



REQUIRED CONDITIONS:

Must have constant or gaining reach, cannot have losing reach

Change in tracer concentration due solely to dilution (no reactions or unexpected sources)

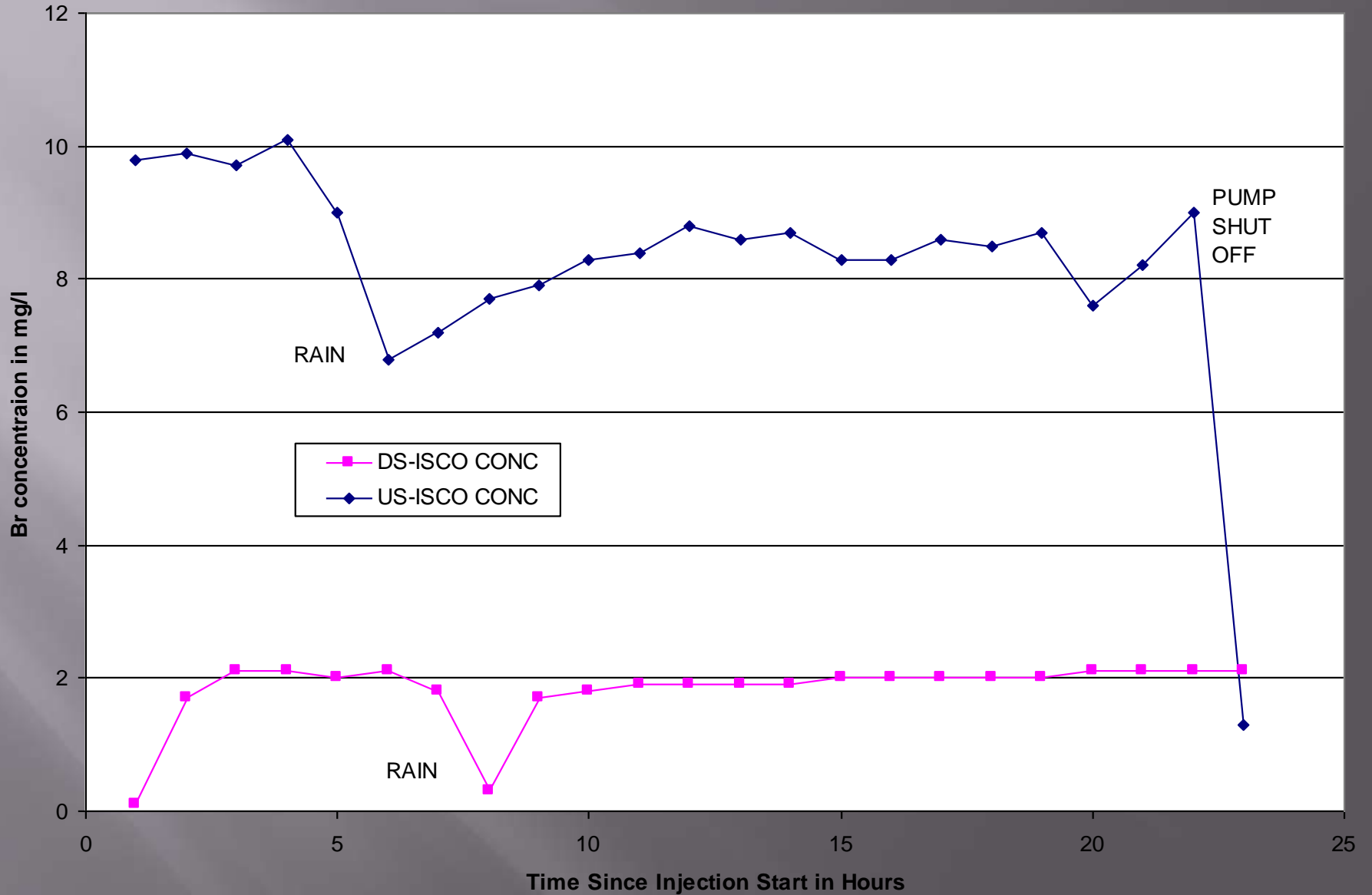
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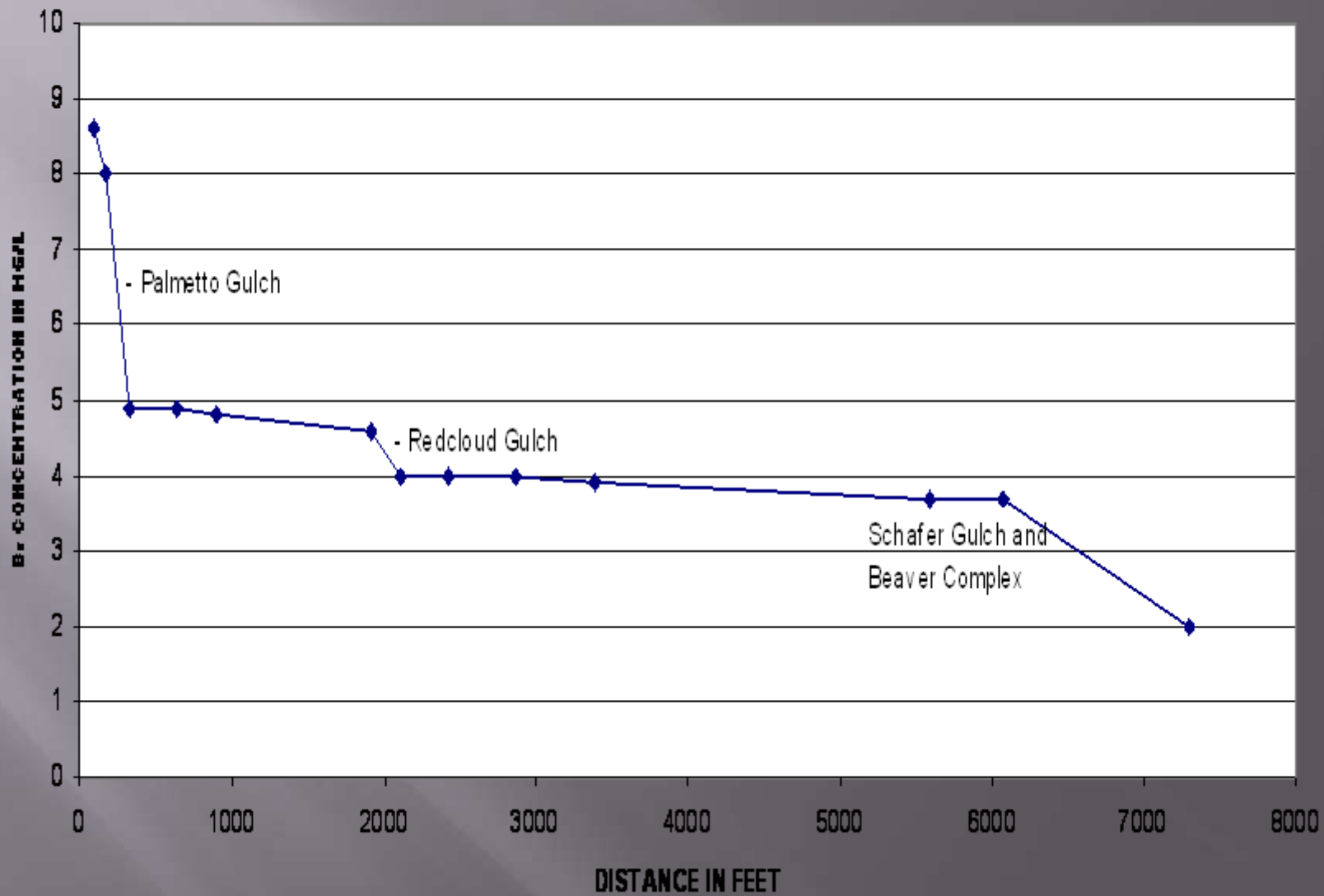
Henson Creek Br Concentrations at ISCO Sites



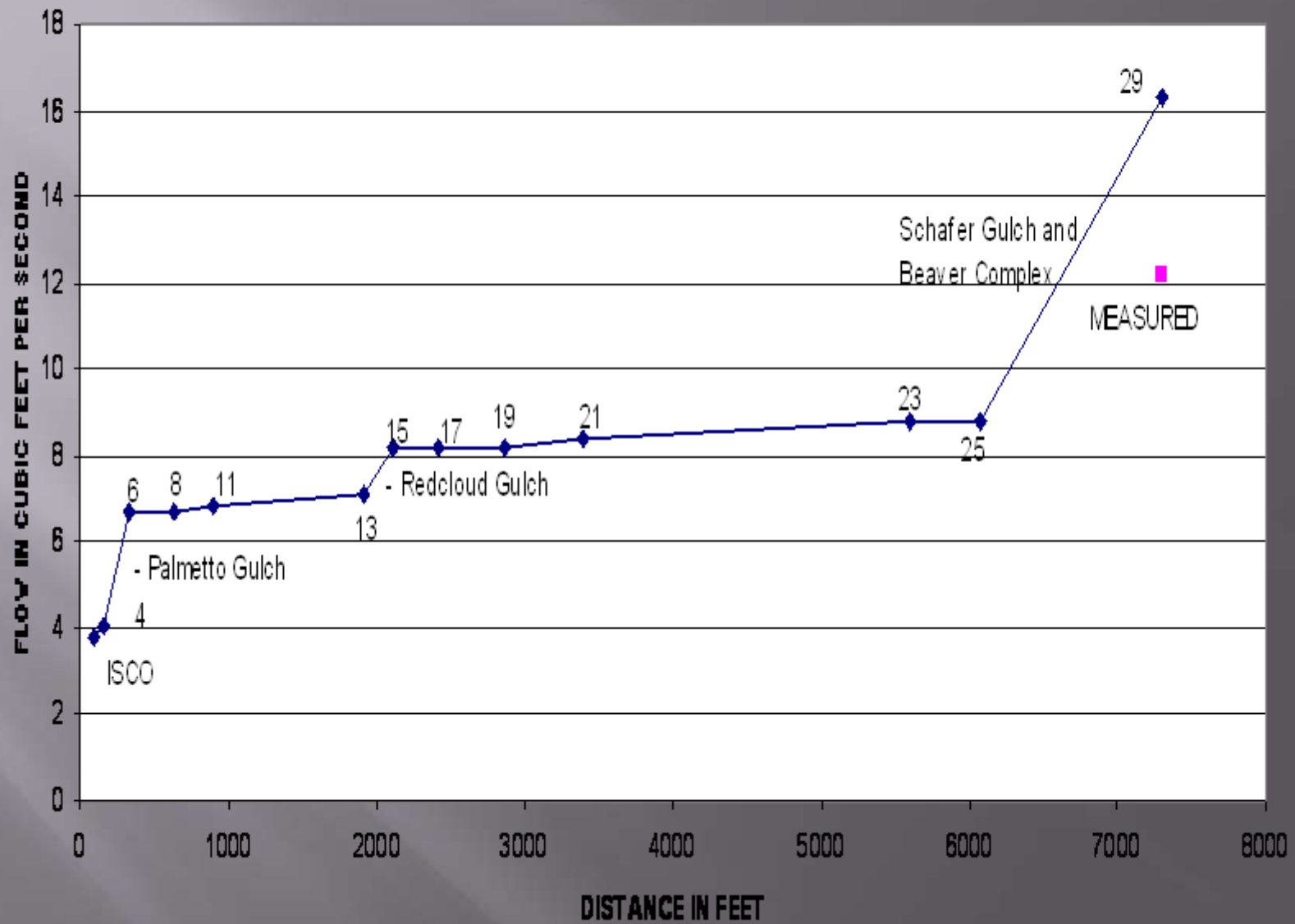




HENSON CREEK Br DILUTION



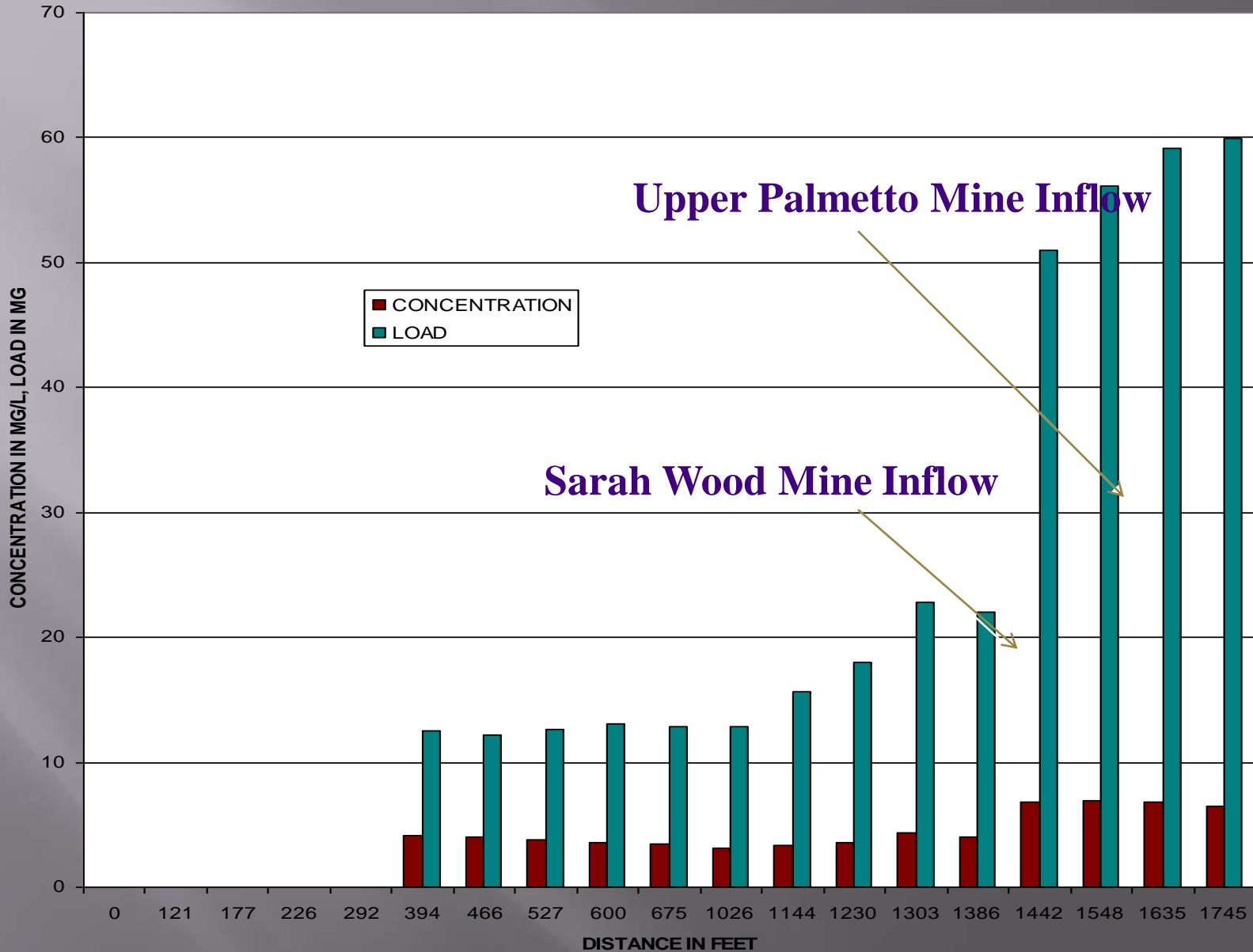
HENSON CREEK DISCHARGE



Upper Palmetto Mine



PALMETTO GULCH TOTAL ALUMINUM CONCENTRATION AND LOAD



THE END