

San Antonio Summer Seminar



Piloting for the Future

Scalable Answers = Economical Solutions

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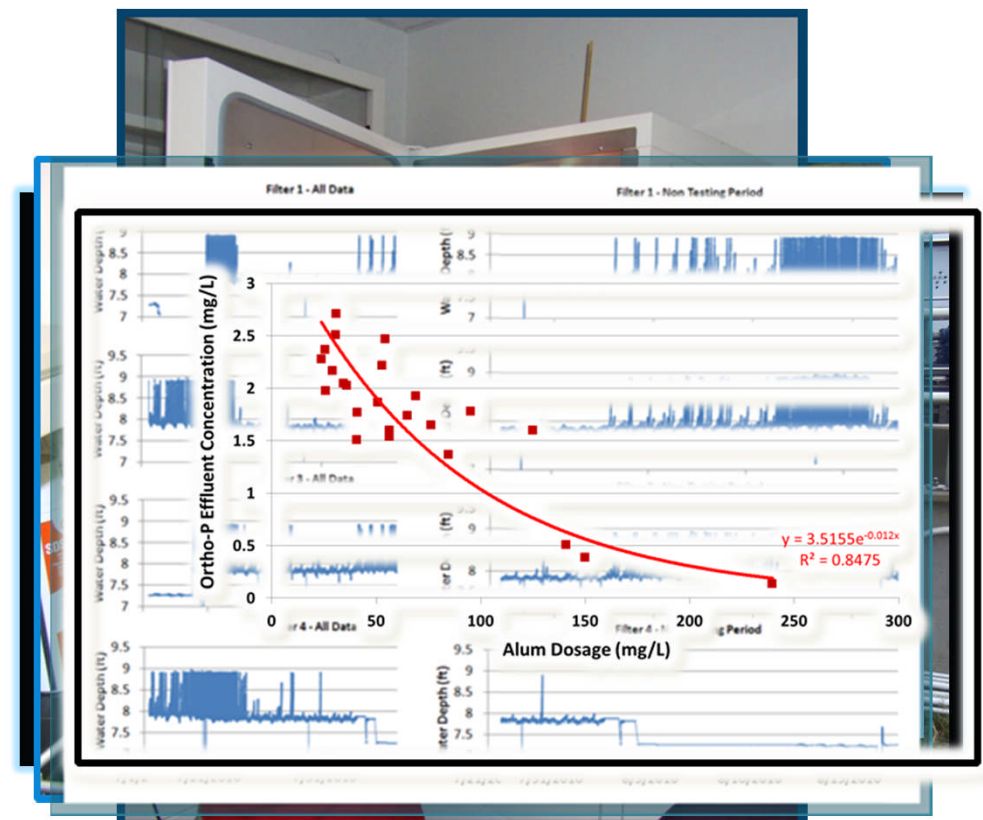


July 26, 2013

Piloting for the Future

Agenda

- ▶ Piloting Overview
- ▶ Jar Testing/Bench Scale
- ▶ Applying Scalable Data
- ▶ Project Applications
- ▶ Full Scale Piloting
- ▶ Implementation
- ▶ Forensic Value
- ▶ Piloting Determination & Leveraged Execution



Piloting Overview

Why Pilot?

- ▶ Information
 - ▶ Versatile
 - ▶ Experience
 - ▶ Technology
-

Most Common Road Block:

Cost

Jar Testing/Bench Scale

Testing Protocol

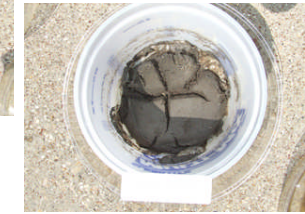
- ▶ Objective
- ▶ Sampling
- ▶ Analysis & Testing Methods
- ▶ Dosage Schedule
- ▶ Testing Schedule
- ▶ Analyze Data
- ▶ Objective Results



Project Applications

Chemical Addition for Enhanced Dewatering

- ▶ Odors
- ▶ Percent Solids



Results

- ▶ Application Point
- ▶ Chemical Dosage
- ▶ Chemical Costs



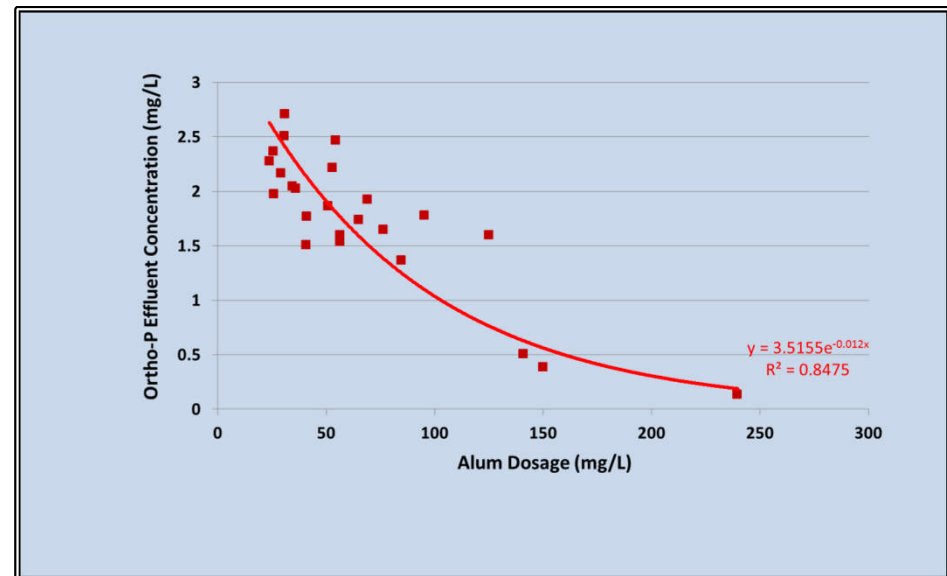
Project Applications

Chemical Addition for Phosphorus Removal

- ▶ Chemical Selection
- ▶ Application Points
- ▶ Dosage Rates

Results

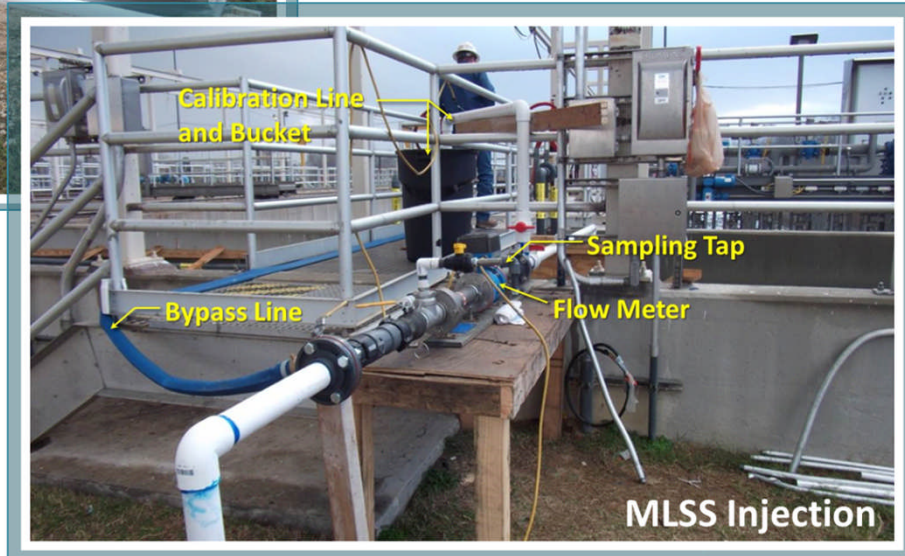
- ▶ Application Point
- ▶ Chemical Dosage
- ▶ Chemical Costs



Full Scale Pilot Testing

What triggers full scale piloting?

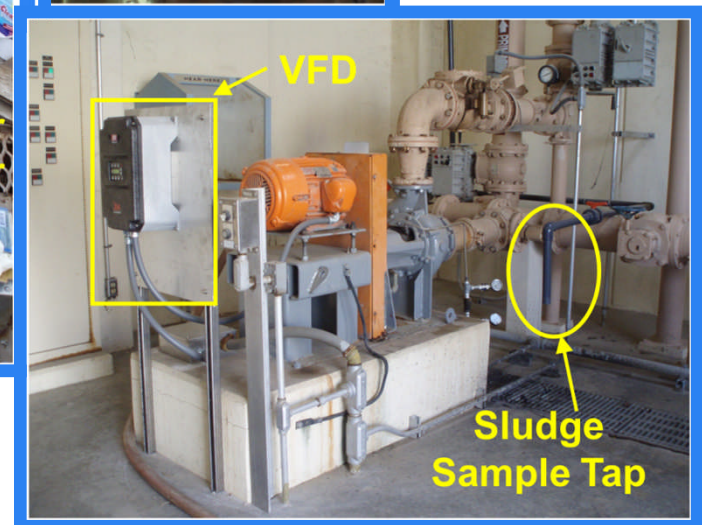
- ▶ Plant Impacts
 - Process
 - Equipment
- ▶ Plant Staff Integration
- ▶ Implementation Viability



Full Scale Implementation

Protocol Development

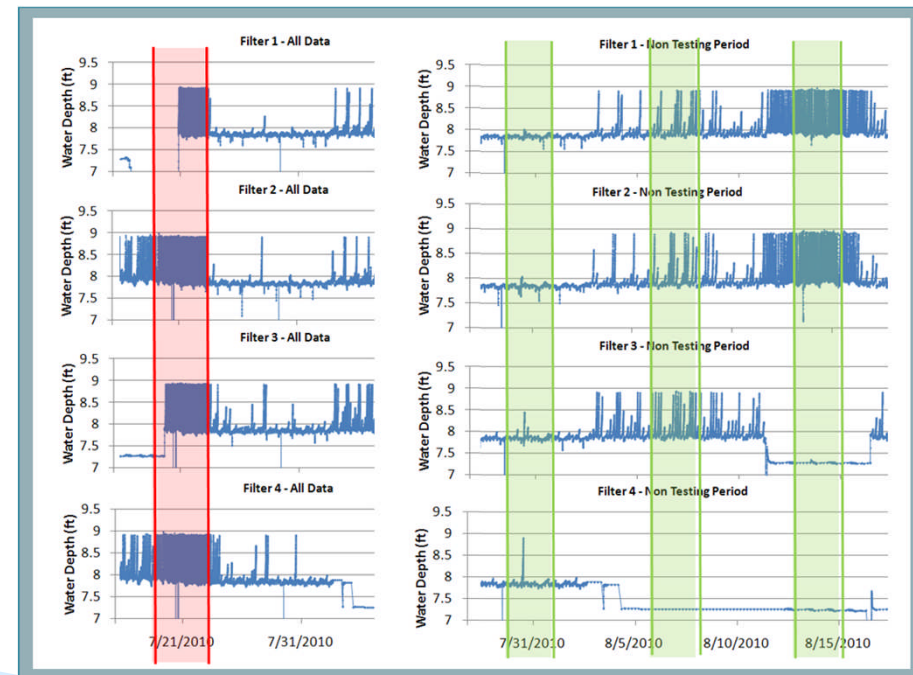
- ▶ Plant Operations Integration
 - Installation of Piping & Equipment
 - Process & Flow Monitoring
 - Safety Plan
 - Emergency Plan
- ▶ Laboratory Testing Coordination
- ▶ Piloting Schedule & Staffing



Piloting Applications

Chemical Phosphorus Polishing Impacts on Filters

- ▶ Filter Run Times
- ▶ Backwash Quality & Quantity
- ▶ Alternative Solutions



Piloting Determination & Leveraged Execution

Identify Piloting Need

- ▶ New Process Treatment
 - ▶ Large Capital Expenditure
 - ▶ New Technology
-

Information = Knowledge



Questions / Discussion

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