

# ALTOPAC™ ULTRAFILTRATION FOR REMOTE COMMUNITIES AND CAMPS PACKAGED SYSTEM DESIGN OFFERS FLEXIBLE AND RELIABLE SOLUTION



## Overview

The Young Life's Washington Family Ranch (YLWFR) is a summer camp in Central Oregon. Historically, the water supply to the facility consisted of a well water source with disinfection. Increasing and varied demand led to a need to augment the existing well source using a nearby pond. The pond is subject to algal blooms and high total organic carbon values of 7.7 mg/L. Membrane filtration with direct coagulant dosing was selected as the ideal technology to account for variance in feed water, to address seasonal changes in capacity, and to minimize maintenance demands for operators. Automated and reliable operation is a critical consideration, as plant operators attend to many responsibilities at the camp.

For this project, WesTech supplied two **AltaPac™** ultrafiltration units in an N+1 redundant configuration, an integral clean-in-place system, a PLC panel with complete controls, a chemical waste neutralization system, direct coagulant dosing equipment, and a 55 µm automated disc prefilter that is used to address filamentous algae in the pond source. An ultraviolet system is used for disinfection. Installation and commissioning were completed in 2013. ■

*Recipient of the 2019 Northwest Membrane Operators Association  
Outstanding Membrane Small Plant Award*

## RESULTS

**4 Log**

Credit for Giardia and  
Cryptosporidium

**>97.8%**

Ultrafiltration System Recovery

**>25 mg/L**

Direct Feed Coagulant Dose

## Project Summary

Young Life's  
Washington Family  
Ranch

**Location:**  
Antelope, Oregon

**Application:**  
Potable Water

**Process:**  
Ultrafiltration with Coagulant  
Addition

**Net Capacity:**  
200 gpm

**Design Flux:**  
62.5 gfd

## Highlights

- **Variable feed source with well and surface waters**
- **Flexible operation to accommodate seasonal demands**
- **Automated, remote operation**
- **Full-featured package system with redundancy and neutralization**
- **Membrane technology: PVDF, TIPS, Outside/In, 0.02 µm**