PROJECT SNAPSHOT

AQUA POINT
ADVANCED WASTEWATER TREATMENT SYSTEMS & SERVICES

## THE SOUTHWESTERN ENERGY (SWN) DAMASCUS CAMPUS

# Compressed Natural Gas (CNG) Fracturing Facility Removes Ammonia

October 6, 2016

### DESIGN CHARACTERISTICS

| | Influent | Effluent |
|---|---|---|
| DESIGN FLOW (GPD) | 50,000 | 50,000 |
| DESIGN TEMP (C) | 13 | – |
| BOD5 (mg/l) | 250 | < 10 |
| TSS (mg/l) | 250 | < 15 |
| TKN (mg/l) | 40 | – |
| AMMONIA?N (mg/l) | 35 | < 5 |
| OIL & GREASE (mg/l) | 150 | < 10 |
| DISSOLVED O2 (mg/l) | – | > 5 |
| FECAL (MPN/100ml) | – | < 200 |

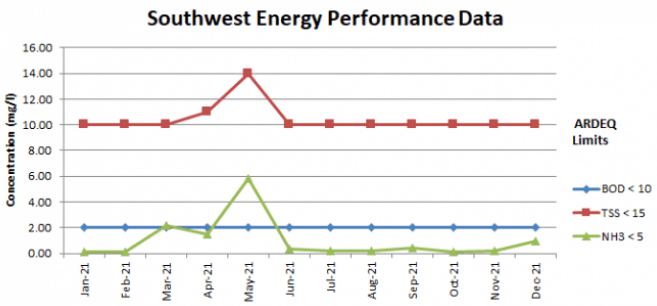
## OVERVIEW

Southwestern Energy's Damascus Campus is a compressed natural gas harvesting facility located in the Fayetteville shale region of central Arkansas.

When SWN built the facility in 2010 they needed a wastewater treatment facility to handle 50,000 gpd from a dormitory, cafeteria, laundry facility and truck washing station. The Arkansas Department of Environmental Quality (ADEQ) required that a wastewater treatment facility be designed and installed to comply with the state's stream discharge standards. High oil, grease and grit concentrations from the laundry and truck washing facilities required that multi?staged grease and grit traps be installed for pre?treatment at both cleaning operations.

The project engineer selected a packaged AquaPoint AquaCELL™ moving bed biofilm reactor (MBBR) treatment system for its proven nitrification performance capability, modularity and minimal day to day operation and maintenance requirements. Effluent from the biological process is polished through dual pressure sand filters and parallel UV disinfection units prior to re?aeration and ultimately discharge to a holding pond that overflows to a stream.

## PERFORMANCE DATA




- System Commissioned: February 2011
- Detectable Limit for BOD & TSS: 2 mg/l
- Data Source: Arkansas DEQ Records

| DATE | BOD5 (mg/l) | TSS (mg/l) | NH3 (mg/l) |
|---|---|---|---|
| JAN. 2021 | 2.00 | 10.00 | 0.10 |
| FEB. 2021 | 2.00 | 10.00 | 0.10 |
| MAR. 2021 | 2.00 | 10.00 | 2.20 |
| APR. 2021 | 2.00 | 11.00 | 1.50 |
| MAY 2021 | 2.00 | 14.00 | 5.80 |
| JUN. 2021 | 2.00 | 10.00 | 0.38 |
| JUL. 2021 | 2.00 | 10.00 | 0.17 |
| AUG. 2021 | 2.00 | 10.00 | 0.20 |
| SEP. 2021 | 2.00 | 10.00 | 0.40 |
| OCT. 2021 | 2.00 | 10.00 | 0.10 |
| NOV. 2021 | 2.00 | 10.00 | 0.16 |
| DEC. 2021 | 2.00 | 10.00 | 0.95 |
| **AVG.** | **2.00** | **10.42** | **1.00** |

## SYSTEM DIAGRAM