

State of Florida



Public Service Commission

CAPITAL CIRCLE OFFICE CENTER • 2540 SHUMARD OAK BOULEVARD
TALLAHASSEE, FLORIDA 32399-0850

-M-E-M-O-R-A-N-D-U-M-

DATE: November 12, 2015
TO: Carlotta S. Stauffer, Commission Clerk, Office of Commission Clerk
FROM: Clayton Lewis, US Engineering Specialist, Division of Engineering *CKL*
RE: Docket No. 140219-WU- Application for staff-assisted rate case in Polk County by *JB*
Alturas Utilities, L.L.C.

Please file the attached 2011 Tank Inspection and subsequent PCHD/DEP requests in the above mentioned Docket File.

Thank you.

6530057

RECEIVED
JAN 12 2012
ENVIRONMENTAL
ENGINEERING

**HYDROPNEUMATIC TANK
INSPECTION REPORT
FOR
THE ALTURAS WATER COMPANY**

DECEMBER 2011

**PREPARED BY
THE COLINAS GROUP, INC.
2031 E. EDGEWOOD DR. SUITE 5
LAKELAND, FL 33803
LB # 7934
For
CFDB, LLC
6039 CYPRESS GARDENS BLVD.
WINTER HAVEN, FL 33884**

TABLE OF CONTENTS

Background.....	1
Tank Information.....	1
Inspection methods and Procedures.....	1
Field Inspection.....	1
Engineering Analysis.....	2
Inspection Findings.....	2
Conclusions & Recommendations.....	3
Certifications.....	3
Pictures.....	4
Dimensions and Measurement Locations.....	7

TANK INSPECTION REPORT

BACKGROUND

The plant operator for **THE ALTURAS WATER COMPANY** contacted David Blount of Blount Utilities to perform an inspection of the hydropneumatic water storage tank which serves that park. This inspection is required by Florida Department of Environmental Protection Rule 62-555. The inspection was held on December 1, 2011. The inspectors were David Blount, Certified Water Plant Operator #A5611, and Stewart Blount

TANK INFORMATION

The tank is 22' in length and 5' in diameter. It rests on its side and is supported by three concrete cradles. The tank was installed in 2001 by the Dixie Tank Company. The plates are butt welded as are the torospherical ends. A 12" x 16" manway is located on the west end. The pressure type seal on the entrance is in good condition and was not replaced.

This is a 3,000 gallon steel tank.

INSPECTION METHODS AND PROCEDURES

The inspection was conducted in accordance with The American Water Works Association (AWWA) Manual M42 Appendix "C", "Inspecting and Repairing Steel Water Tanks, Standpipes, Reservoirs and Elevated Tanks" and The American Society of Mechanical Engineers (ASME) design standards.

FIELD INSPECTION

The following procedure was used in the inspection of the tank at Alturas Water Company.

- The tank was measured and the inside and outside were visually inspected for rust and deterioration. The cradles are in poor condition.
- Ultrasonic thickness measurements were taken at 24 points on the shell and 9 points on each end.
- The equipment used was a Reliability Direct TM8812 Ultrasonic Thickness Gauge.
- Photographs of the interior and exterior of the tank were taken and are made a portion of this report.

The minimum shell thickness of 24 readings is 0.268" and of the heads where 18 readings were taken was 0.326". The outside of the tank will need to be painted and the inside will have to be cleaned and recoated prior to the next inspection.

There is a neoprene cushion between the steel tank and the concrete cradles. The concrete cradles are deteriorating and need to be replaced within the next 30 months

ENGINEERING ANALYSIS:

A name plate noted that the tank was constructed by Dixie Tank Company in 2001. The allowable pressure calculations are based on ASME Code Section VIII. The design weld joint efficiency is not known thus the factor used is from the ASME code.

Shell:

P = pressure (psi)
T = minimum thickness of shell ~ 0.268 inches
S = allowable stress on the steel (15,000 psi)
E = efficiency of the joints (70%) (butt weld)
R = radius of tank ~ 30 inches

$$P = \frac{SET}{R + 0.6T} = \frac{(15,000)(.70)(0.268)}{30 + (0.6)(0.268)} = \frac{2,814}{30.16} = 93.5 \text{ psi}$$

Head:

P = pressure (psi)
T = minimum thickness of head ~ 0.326 inches
S = allowable stress on steel (psi)
E = efficiency of the joints (100%) (no welds)
D = diameter of tank ~ 60 inches

$$P = \frac{SET}{0.885D + 0.1T} = \frac{(15,000)(1)(0.326)}{0.885(60) + (0.1)(0.326)} = \frac{4,890}{53.13} = 92.0 \text{ psi}$$

Note: The code requires that the lesser of the above calculations be used as the maximum allowable pressure in the tank. Thus the tank may be used at a working pressure of 92 psi.

INSPECTION FINDINGS:

The exterior of the tank needs to be painted within the next 5 years. The inside will need to be cleaned and coated within the next 5 years. The supports are deteriorating and should be repaired in the next 30 months. The gasket around the manway was reused.

Alturas Water Company
Hydropneumatic Tank Inspection
December 15, 2011
Page 3

CONCLUSION – RECOMMENDATIONS:


- 1) Pressure relief valves should be set at 92 psi.
- 2) The tank will need maintenance prior to the next inspection. Paint the exterior and clean and coat the inside.
- 3) Replace or repair the cradles in the next two and one half years.

CERTIFICATIONS

We certify that the above comments are true and accurate to the best of our knowledge.



David Blount Water Plant Operator - A 5611

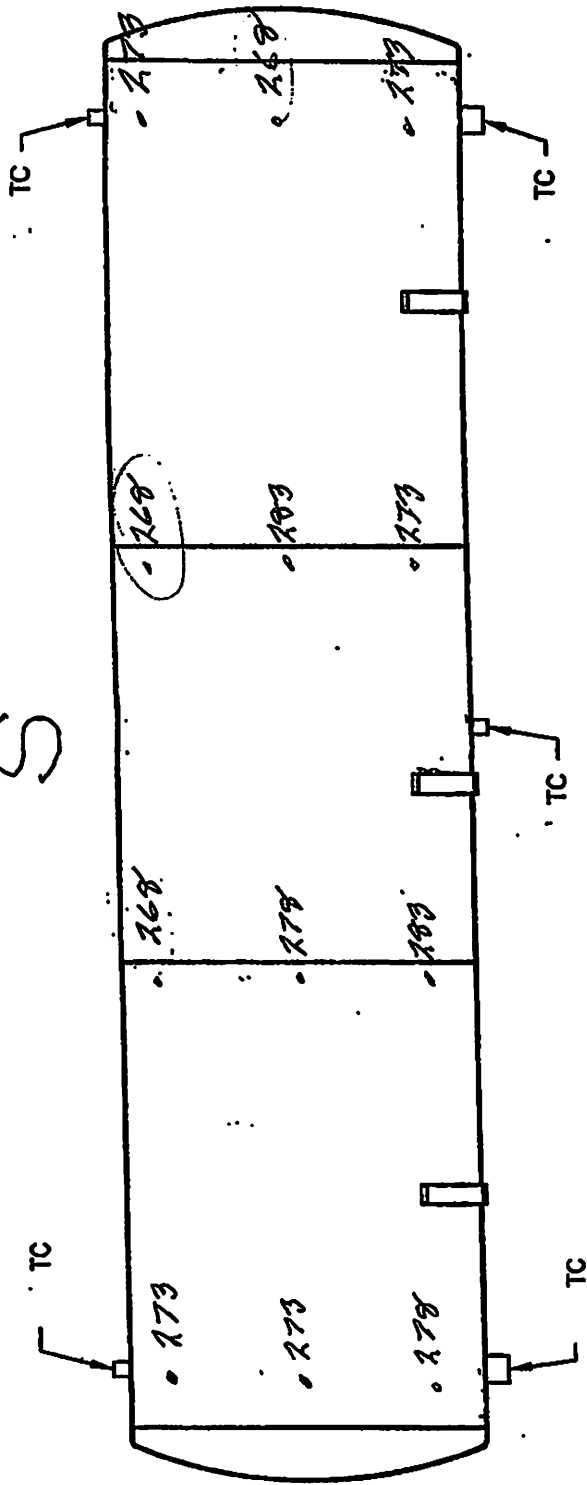


Charles S. Freed, P.E. 29022

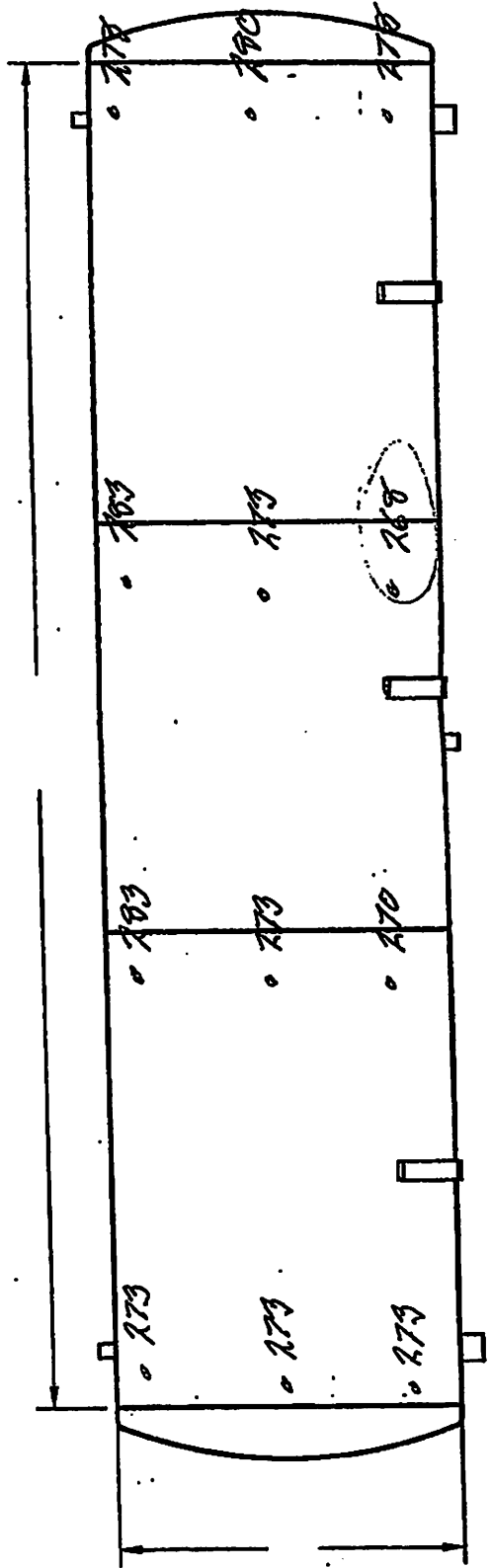
Thank you for permitting us to assist you with this important work. Should you have questions please call our office.

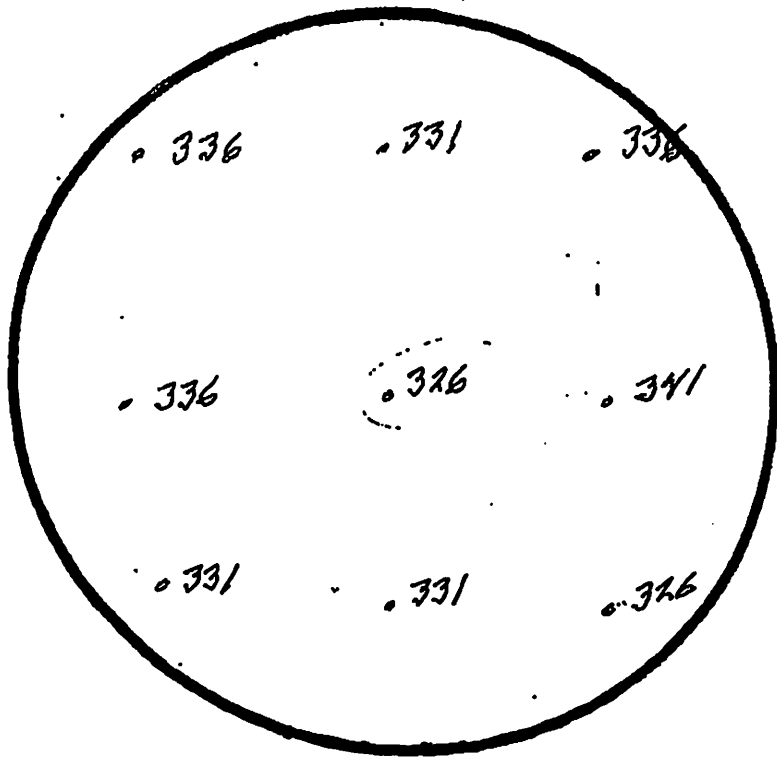
TANK DRAWINGS
AND
MEASUREMENT LOCATIONS

S

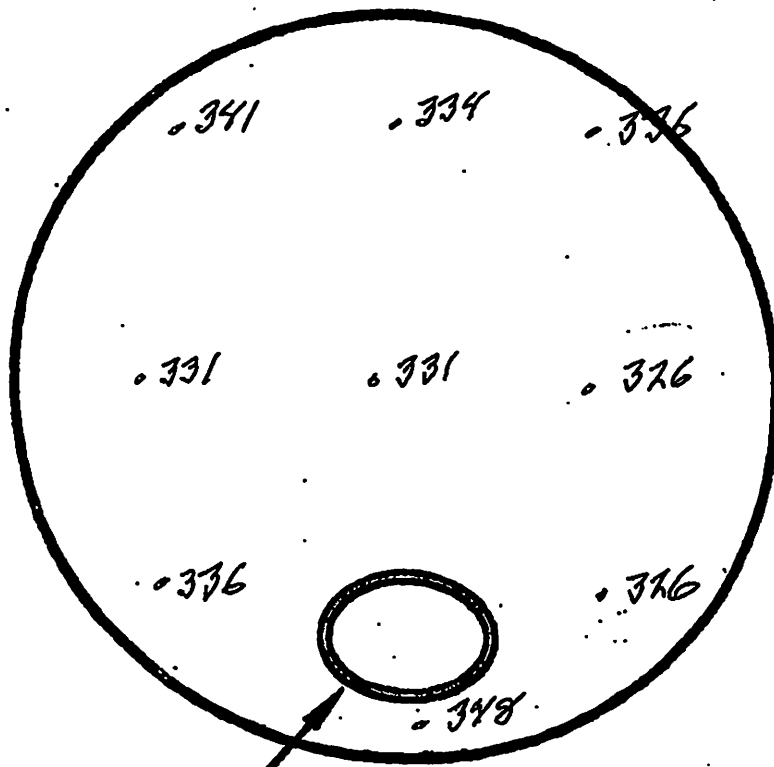


N





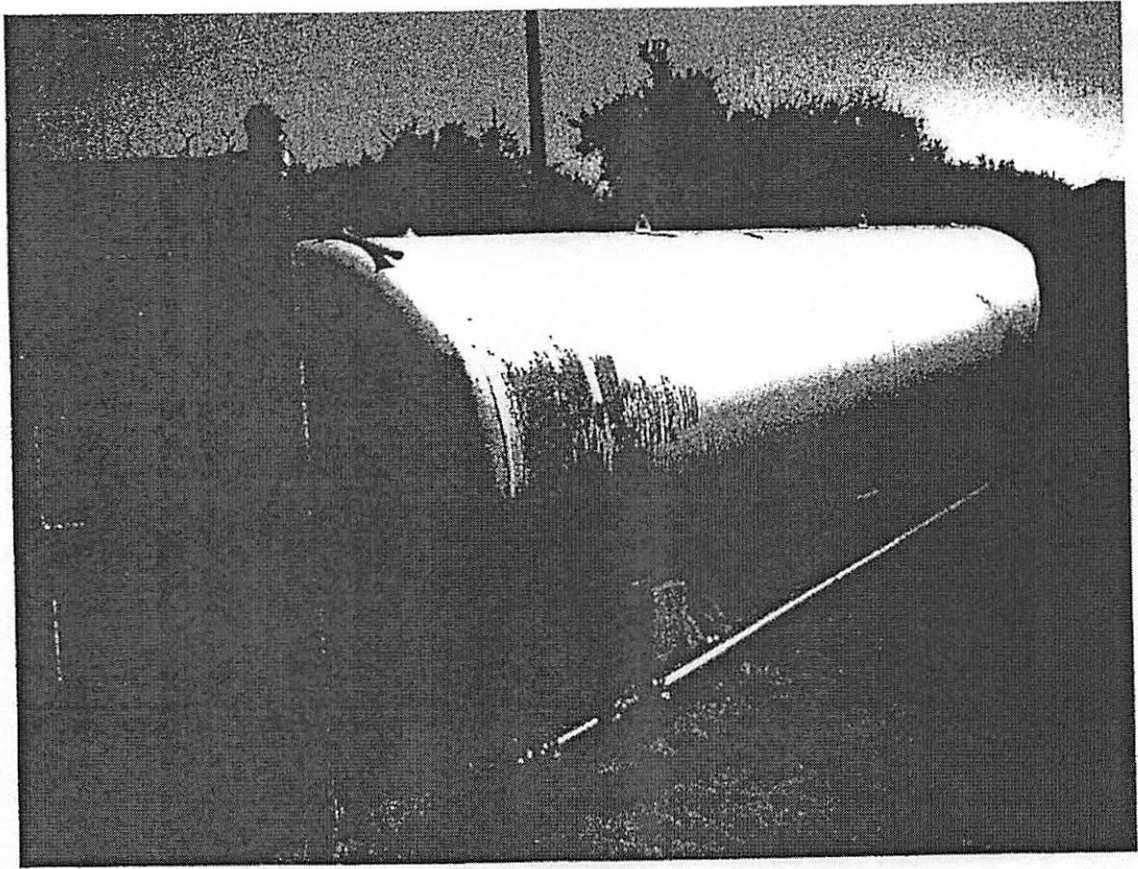
E

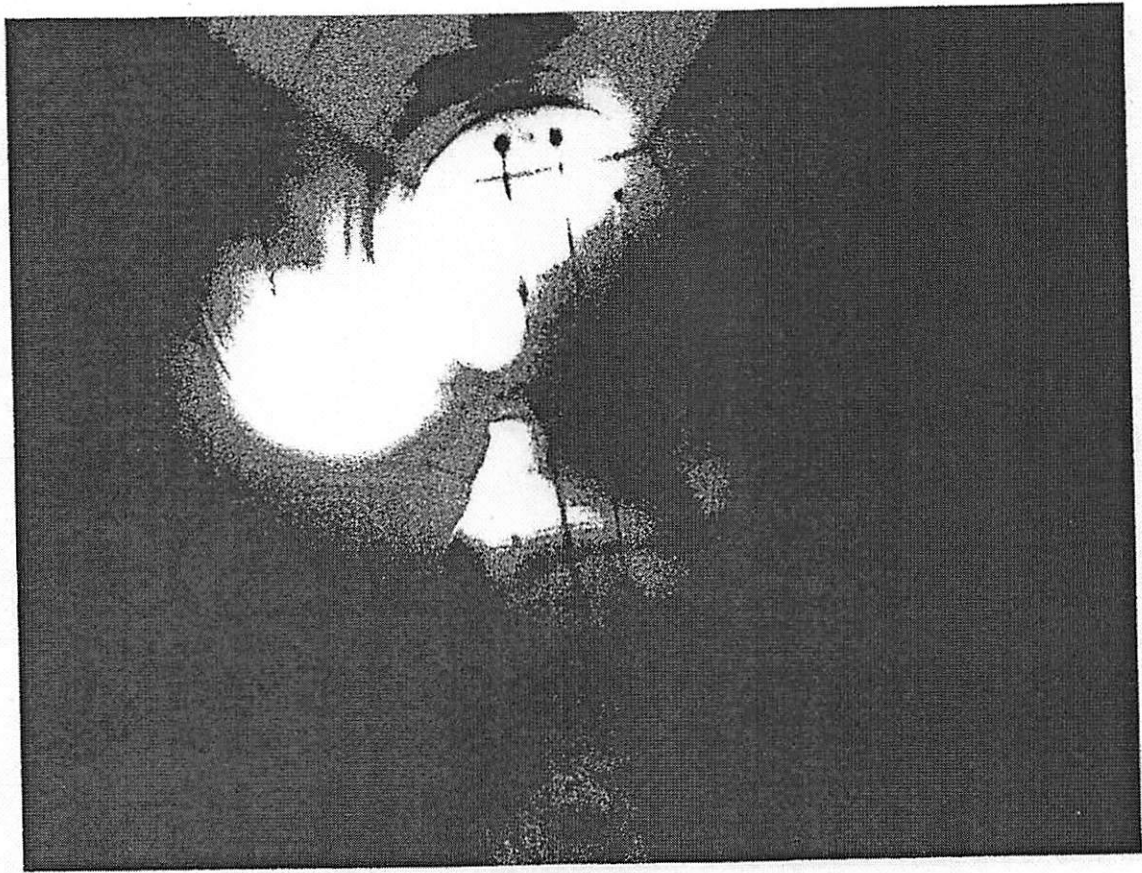


MANWAY

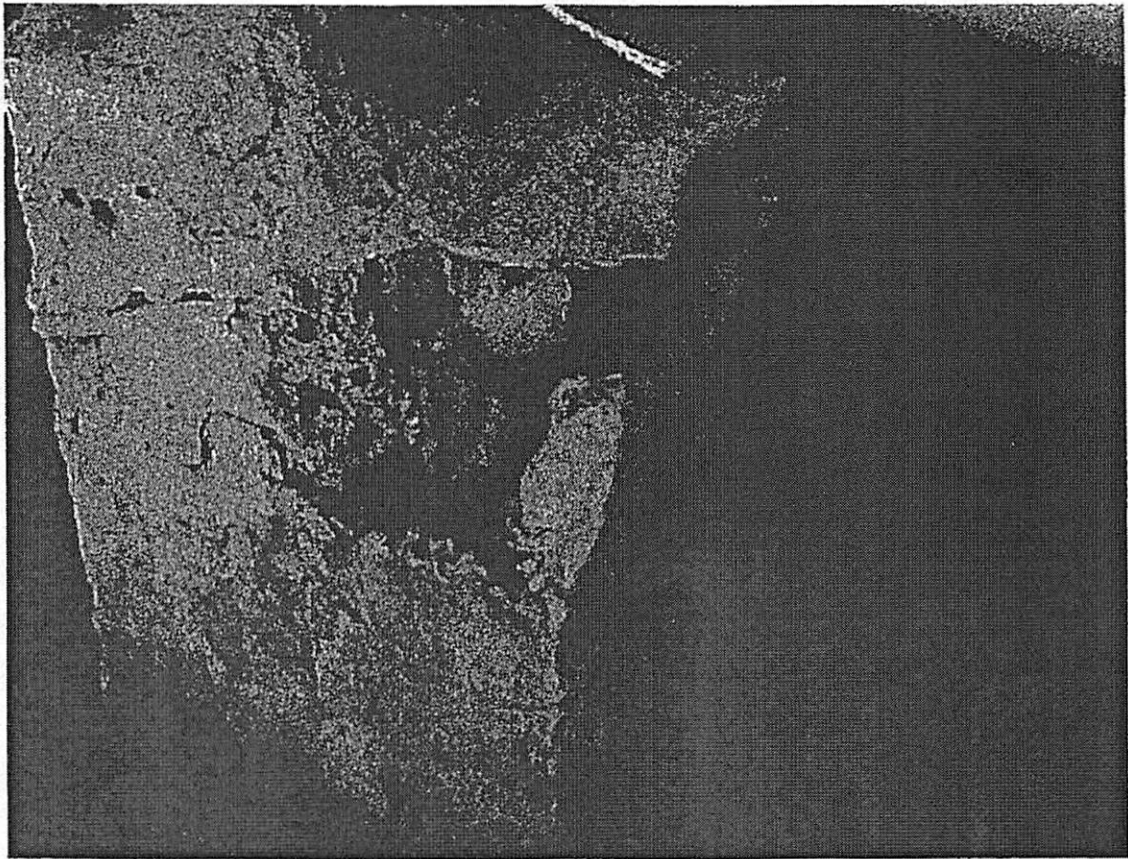
W

PICTURES











Rick Scott
Governor

H. Frank Farmer, Jr., M.D., Ph.D.
State Surgeon General

March 2, 2012

Alturas Utilities LLC
PO Box 10186
Brooksville, FL 34603

Hydropneumatic Tank Update Request

RE: Alturas Utilities Water System
PWS ID No. 6530057

Dear Public Water System Owner:

The purpose of this letter is to request updated information on your finished-drinking-water storage tank. A review of your hydropneumatic tank inspection report dated December 2011 indicates the following:

- Pressure relief valve should be set at 92 PSI.
- The tank will need maintenance prior to the next inspection. Paint the exterior and clean and coat the inside.
- Replace or repair the cradles in the next two and one half years.

Upon receipt of this letter please provide plan of action with corrective actions taken to date. Plan of action should include future maintenance scheduled for the tank. If you have any questions please contact (863) 519-8330 Ext. 12151.

Sincerely,

Digitally signed by Owen Devine
DN: cn=Owen Devine, o=Environmental Engineering
Division, ou=Polk County Health Department,
email=Owen_Devine@doh.state.fl.us, c=US
Date: 2012.03.02 15:41:06 -05'00'

Owen Devine
Environmental Specialist II

POLK COUNTY HEALTH DEPARTMENT

Environmental Engineering Division
2090 East Clower Street, Bartow, FL 33830-6741
Phone (863) 519-8300 FAX (863) 534-0245
www.mypolkchd.org

Daniel O. Haight, MD, FACP
Director

Hillory Register, Jr., MPH
Assistant Director

Page 2
Alturas Utilities LLC

Email copy to:

[Mike Smallridge] utilityconsultant@yahoo.com

[David Blount] dbwinterhaven@aol.com

Rick Scott
Governor



John H. Armstrong, M.D.
State Surgeon General

August 7, 2012

Alturas Utilities LLC
PO Box 10186
Brooksville, FL 34603

**Hydropneumatic Tank Update Request
SECOND NOTICE**

**RE: Alturas Utilities Water System
PWS ID No. 6530057**

Dear Public Water System Owner:

The purpose of this letter is to request updated information on your finished-drinking-water storage tank. A review of your hydropneumatic tank inspection report dated December 2011 indicates the following:

- Pressure relief valve should be set at 92 PSI.
- The tank will need maintenance prior to the next inspection. Paint the exterior and clean and coat the inside.
- Replace or repair the cradles in the next two and one half years.

Upon receipt of this letter please provide plan of action with corrective actions taken to date. Plan of action should include future maintenance scheduled for the tank. If you have any questions please contact (863) 519-8330 Ext. 12151.

Sincerely,
**Owen
Devine**
Owen Devine
Environmental Specialist II

Digitally signed by Owen Devine
DN: cn=Owen Devine, o=Environmental
Engineering, ou=Polk County Health
Department,
email=owen_devine@doh.state.fl.us,
c=US
Date: 2012.08.07 11:47:40 -0400

POLK COUNTY HEALTH DEPARTMENT

Environmental Engineering Division
2090 East Clower Street, Bartow, FL 33830-6741
Phone (863) 519-8300 FAX (863) 534-0245
www.mypolkchd.org

Daniel O. Haight, MD, FACP
Director

Hillory Register, Jr., MPH
Assistant Director

Page 2
Alturas Utilities LLC

Email copy to:

[Mike Smallridge] utilityconsultant@yahoo.com

[David Blount] dbwinterhaven@aol.com