



# TAR HEEL PIERING SYSTEMS, LLC

www.tarheelpiering.com

803-246-5480

nextel: 150\*63991\*1

Project: Hunter Construction, Inc., Spruce Pine, NC.  
Structural Support for a State Employees Credit Union  
Contractor: Tar Heel Piering Systems  
Classification: ASTM-1143 Compression Test  
Project Date: October 24th, 2008  
Helical Piers Used: (129) 8-10 Starters,  
Installed to an average depth of 20'  
Total Installation Time: 5 Days



**ECS CAROLINAS, LLP**  
Geotechnical \* Construction Materials \* Environmental

November 19, 2008

Mr. Larry Wittmer  
Tar Heel Piering Systems  
2879 Highway 160 West  
Fort Mill, South Carolina 29708

Re: Helical Pier Load Test Results  
State Employee Credit Union  
Spruce Pines, North Carolina  
ECS Project No. 31-1243

Dear Mr. Wittmer:

As requested, ECS has completed static axial compressive load test to evaluate an installed production helical pier within the footprint area of the State Employee Credit Union. Site visits and field testing activities were performed on Friday, October 24, 2008.

We understand that a new single-story State Employee Credit Union with associated parking and drive-through areas is currently under construction at the corner of North Carolina Highway 226 and Hollifield Street in Spruce Pines, North Carolina. We have been provided with a foundation plan (S1100) drawn by Obrien Atkins, dated May 28, 2008. The foundation plan shows 129 helical piers designed to be installed within the footings of the building. The helical piers are anticipated to be capable of supporting an allowable working load in compression of 30 kips. The helical pier was loaded to 200% of the anticipated allowable design load.

The static axial compressive load test was performed on pier #20 at the approximate location as indicated on the attached Load Test Location Diagram. The load test procedure consisted of loading an installed production helical pier with a designed 8 inch by 10 inch auger flight system and was advanced to approximately 11 feet deep. The helical pier was loaded with a 60 ton calibrated hydraulic jack against a steel reaction frame supported by one other production pier (#19) and 3 non-production piers. Each load increment during the loading cycle was maintained for at least 5 minutes, and the resulting vertical deflection of the helical pier was measured using a single independent dial gauge accurate to 0.001 inch.

The load test was performed in an area which consisted of residual micaceous silt overlying partially weathered rock based on the soil test borings provided in the geotechnical report dated November 23, 2005 by GeoTechnologies, Inc. The maximum measured vertical displacement from the top of the helical pier during the compressive load test was 1.145 inches, which occurred at the peak load of approximately 62.5 kips held for a total of 15 minutes.

If you have any questions concerning the findings or recommendations in this letter, please do not hesitate to contact us.







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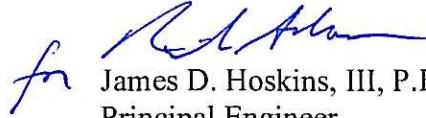
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*Helical Pier Load Test Results*  
*State Employee Credit Union*  
*Spruce Pines, North Carolina*  
*ECS Project No. 31-1243*

Respectfully,  
**ECS CAROLINAS, LLP** represented by;



Richard G. Adams, E.I.  
Project Engineer



James D. Hoskins, III, P.E.  
Principal Engineer



Scott W. Sawyer  
Assistant Project Manager

Attachments:      Load Test Location Diagram  
                         Load-Displacement Plot

**State Employee Credit Union  
Spruce Pines, North Carolina  
Project No: 31-1243**

## Helical Pier Load Test (load-displacement plot)

