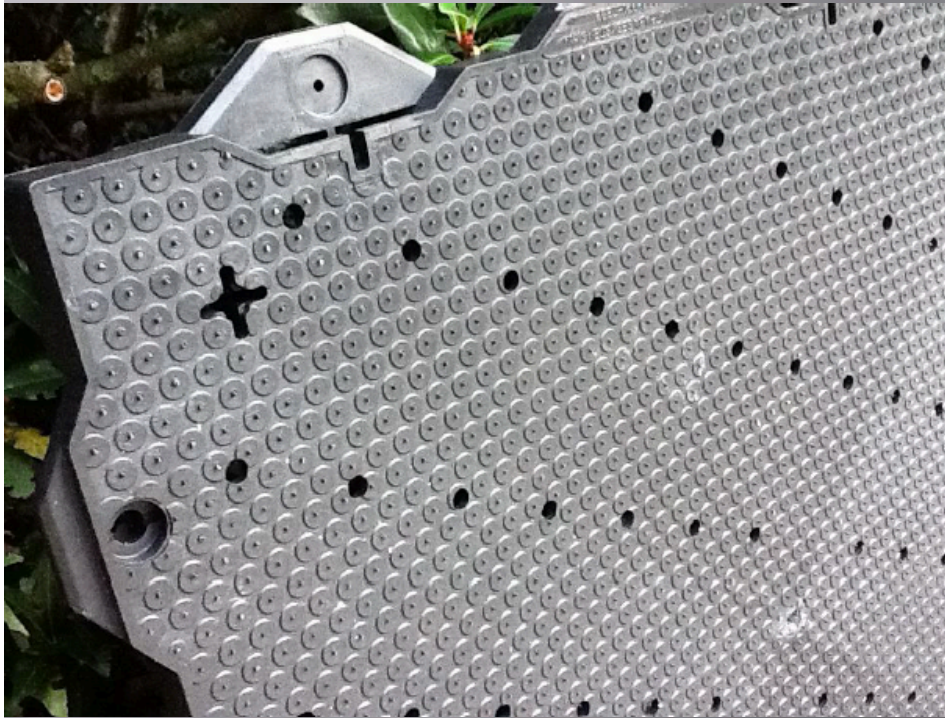


Purpose

- ▣ The program was designed to answer the question of the support capability of the UltraBaseSystems product under repeated loadings.
- ▣ The object of the program was to compare the support capability when compared with a 6 inch granular base, which is the standard support material for many fields
- ▣ A clayey sandy silt soil was used for this initial testing. Two levels of compaction were pursued including:
 - relatively soft condition and
 - Compaction to 95 percent of standard proctor density

Product Photos



Close Up Photo



Photo of One Full Panel

Test Program

- ▣ Two phases of testing are being performed:
- ▣ Initial phase with soft subgrade compacted to about 75% standard proctor density
- ▣ Second phase with subgrade compacted to 95% of standard Proctor density
- ▣ 100 load cycles applied with load approximating a wheel load from a vehicle

Test Program-Continued

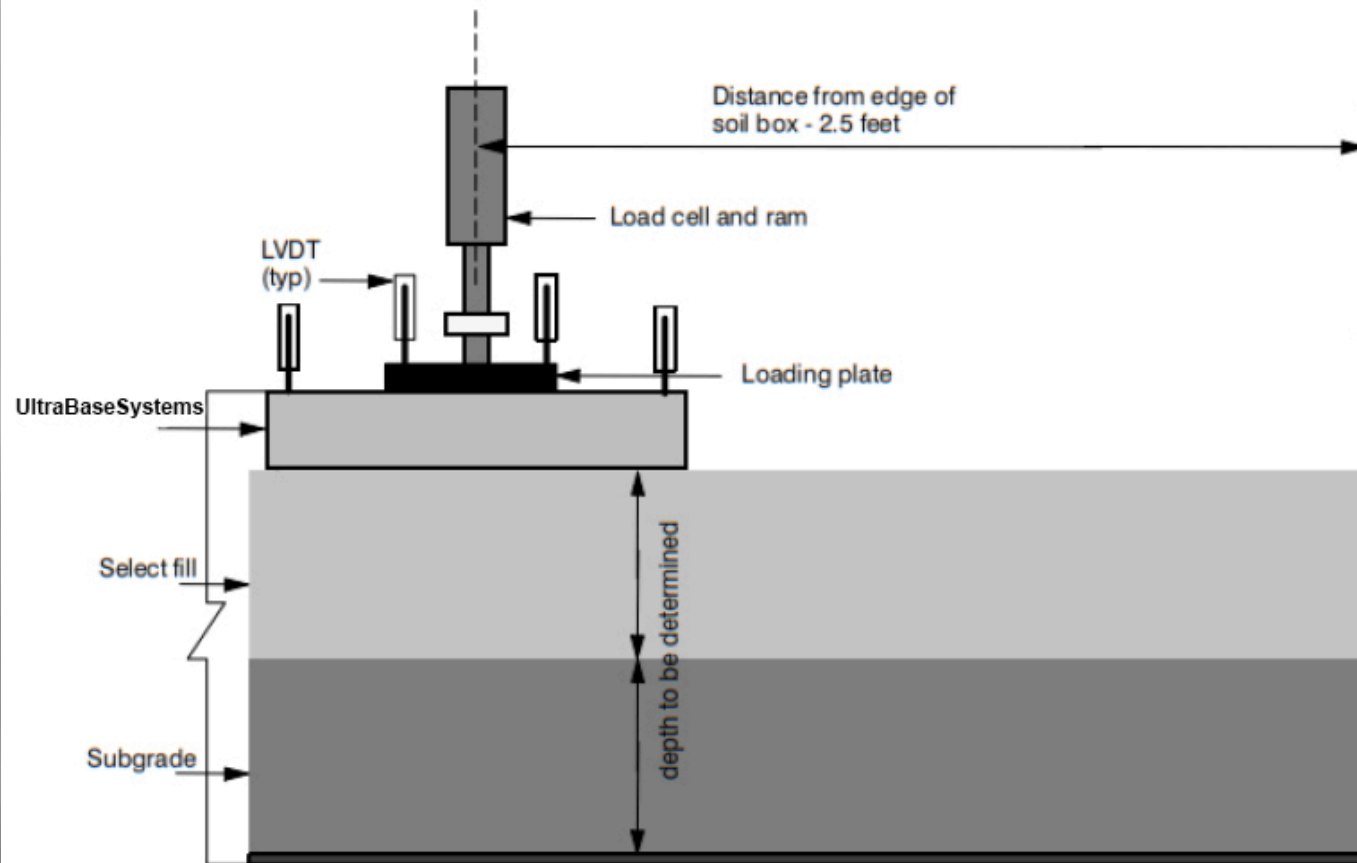
- ▣ Testing was performed at BGCT laboratories, in Kingston, Toronto, Canada.
- ▣ Soil gradation is shown
- ▣ Photo of the apparatus is shown.
- ▣ Load application apparatus is shown.
- ▣ Photo of the subgrade for the first test is shown on the following slide.

Schematic of Test Setup

UltraBaseSystems Testing

Project # NA

Series # BCGT NA



Bathurst, Clarabut Geotechnical Testing, Inc.

Test Program Frame



Test Program Load Applicator



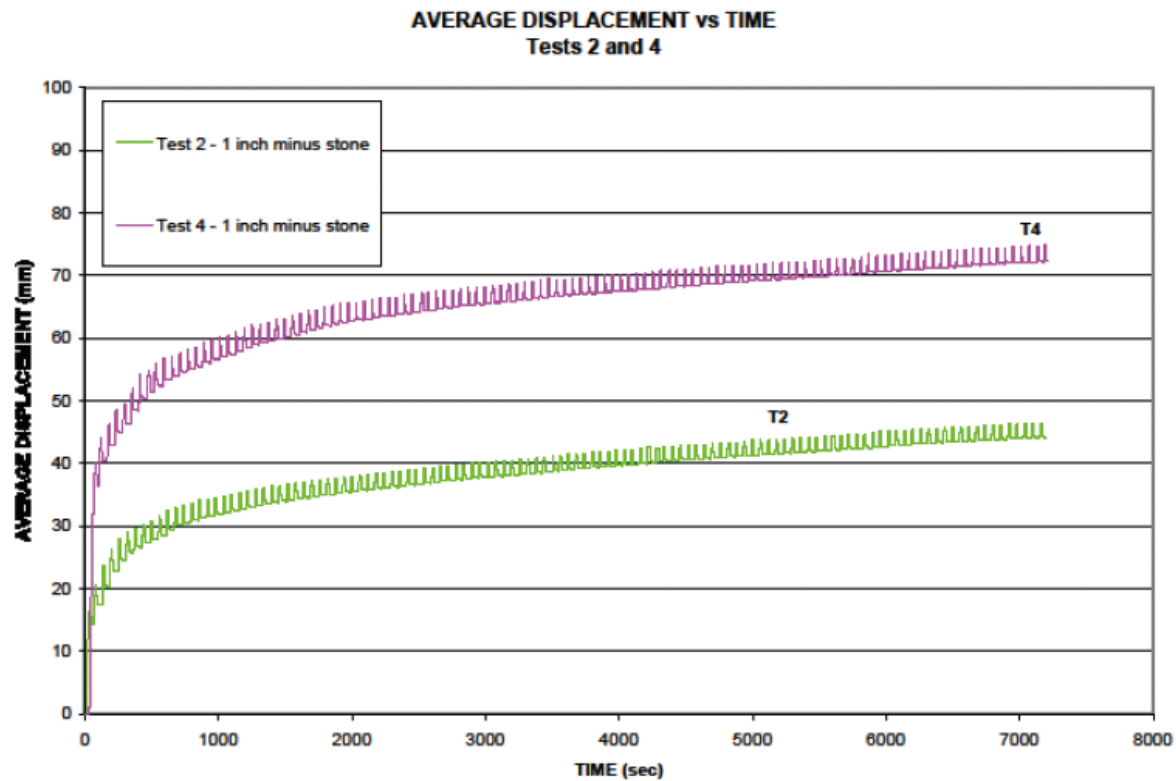
Subgrade Condition After Initial Testing



Results of Phase 1- Granular Base

Project 211034
BCGT Series 3137

1/30/2012



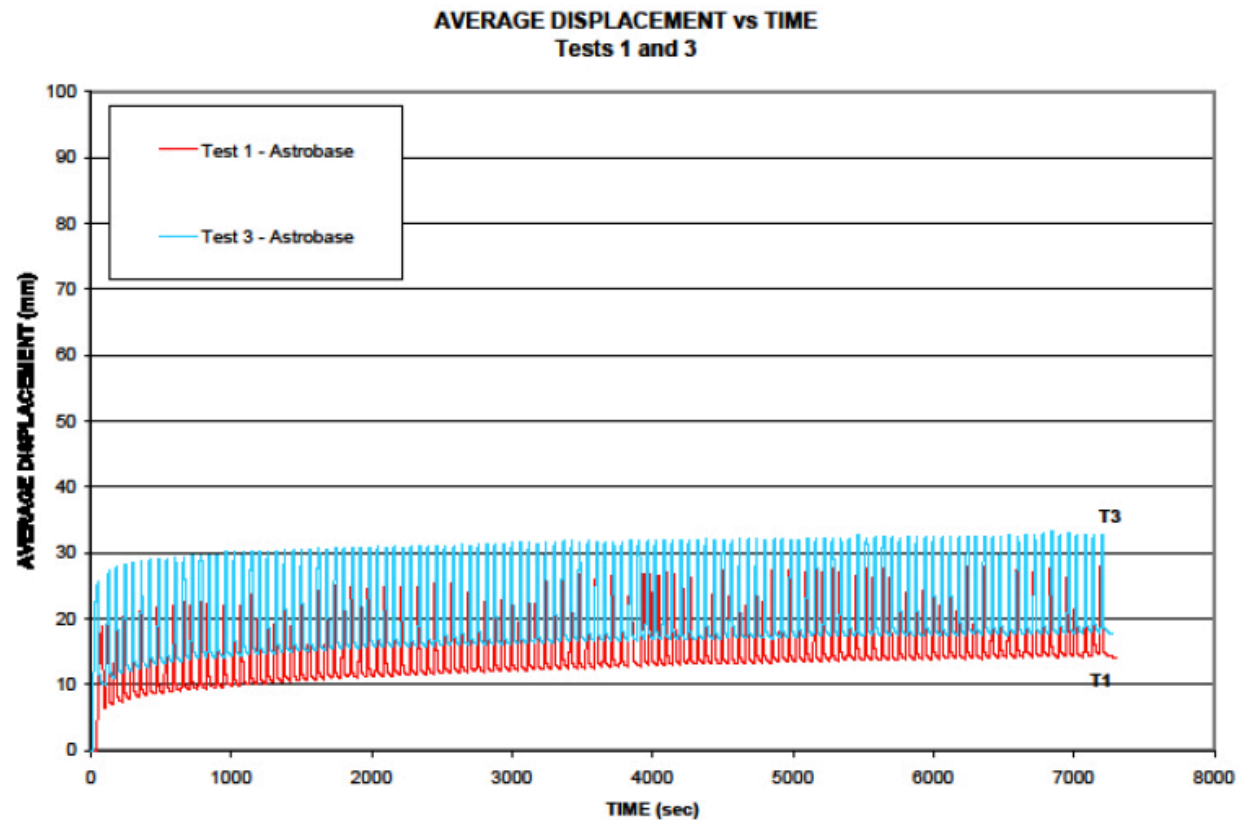
Bathurst, Clarabut Geotechnical Testing, Inc.

UltraBaseSystems Plate Loading

Results of Phase 1- UltraBaseSystems Soft Subgrade

Project 211034
BCGT Series 3137

1/30/2012



Bathurst, Clarabut Geotechnical Testing, Inc.

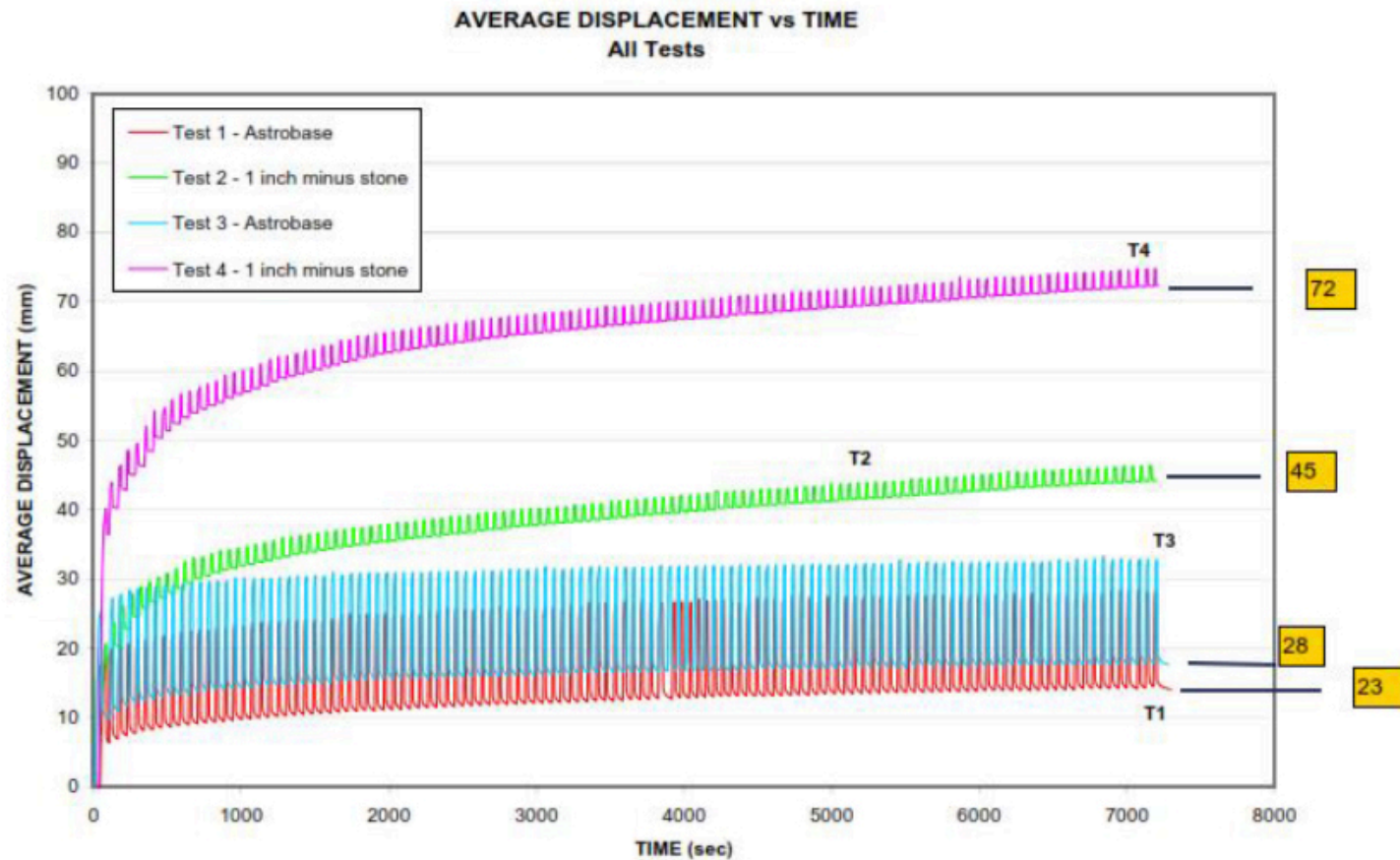
UltraBaseSystems Plate Loading

Results of 1st Phase-All Data

Project 211034
BCGT Series 3137

Phase I testing - Soft Subgrade

1/30/2012



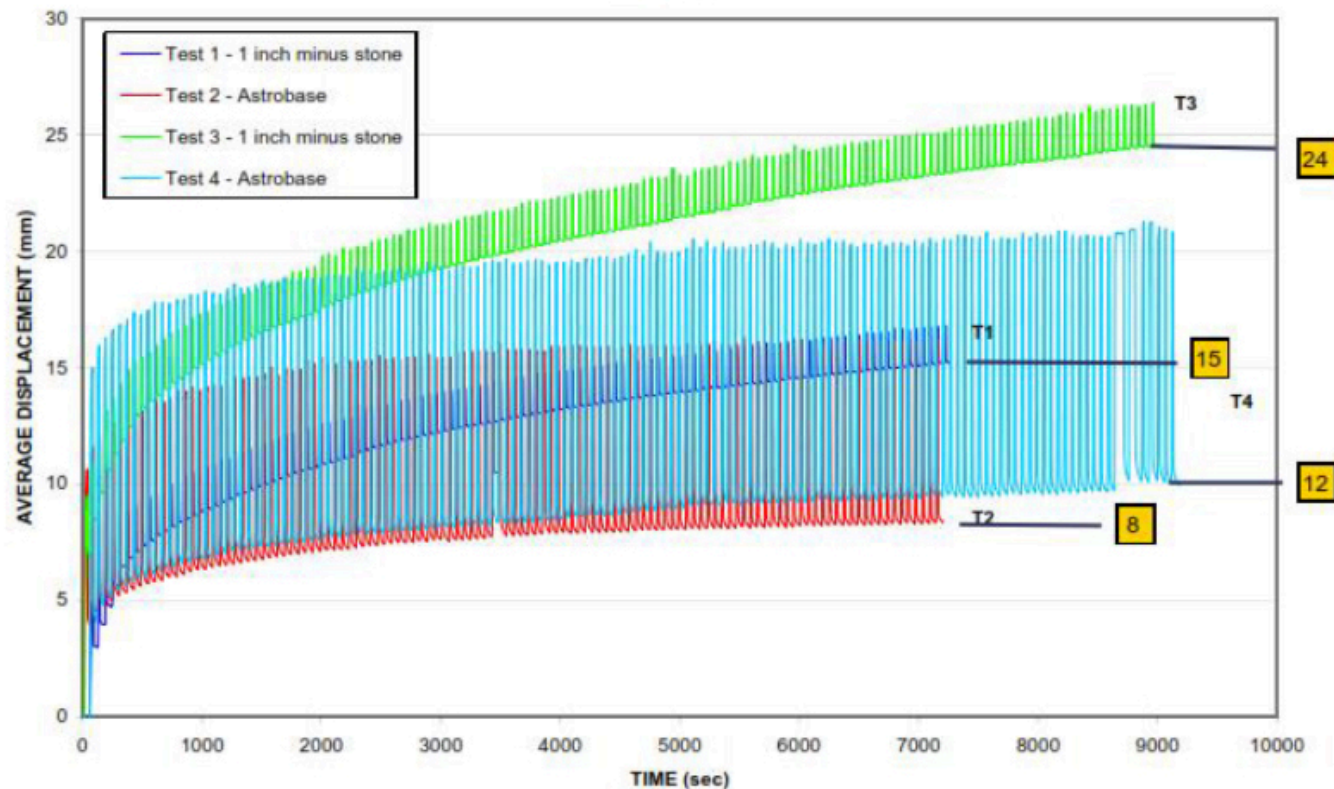
Results of 2nd Phase-All Data

Project 211044
BCGT Series 3161

2/9/2012

95% of Standard Proctor Compaction density

AVERAGE DISPLACEMENT vs TIME
All Tests



Summary of Results-All Data

- ▣ Using minimum deflection values the following are the results:
- ▣ Soft subgrade UltraBaseSystems yielded 38-50% of stone deflections, or less than half.
- ▣ Firm subgrade UltraBaseSystems yielded 50-53 % of stone deflections, or about half.