



# GRL NEWSLETTER

INFORMATION GATHERED BY  
THE ENGINEERS OF  
GOBLE RAUSCHE LIKINS  
AND ASSOCIATES, INC.

NUMBER 1

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## You Are Cordially Invited to Users Day 1986

Each year, PDA operators from around the world gather to share experiences and to gain new knowledge in their field.

Kungsbacka, Sweden is the 1986 setting for GRL's User's Day scheduled for June 11 through 13. Hosts for the event will be Goteborgs Betongpalar, GRL's European representative.

This is an opportunity to meet with international colleagues in a workshop atmosphere. Under the direction of Dr. George G. Goble, Dr. Frank Rausche, and Carl-John Gravare, different cases will be discussed and analyzed using PDA, CAPWAPC, and WEAP.

### You Can Help

Do you have interesting cases from your field?

User's Day planners would be very grateful if you could send the information in advance on a tape or diskette (IBM or MINC), along with a short description of soil, hammer, pile and other relevant data.

Send all material to: Carl-John Gravare  
Goteborgs Betongpalar AB  
Box 251  
43401 Kungsbacka 1  
SWEDEN

### Schedule of Events:

#### JUNE 11

1:00 - Registration at the  
7:00 Goteborgs Betongpalar office  
p.m. in Kungsbacka. A cocktail  
party will begin at 6:00.

#### JUNE 12

8:30 Workshop - Drs. Goble and  
a.m. Rausche will give a short  
presentation on recent developments at Pile Dynamics. Then groups of 4 to 6 people will solve given cases and have the opportunity to discuss the results with their instructors.

EVENING Excursion - A boat trip  
outside the harbor of  
Gothenburg will be arranged  
for all participants.

#### JUNE 13

8:30 Workshop - Small groups will  
a.m. continue to study cases under the supervision of the course directors. New developments in the field will be introduced.

### From the Editor

April, 1986

Dear Friend:

There is so much happening. The events come and go and are quickly forgotten although they may have been noteworthy or of "educational" value.

For this reason, we thought it worthwhile to send you a newsletter - maybe quarterly. We want to report noteworthy material, both from PDI and from GRL. New developments, successes and disappointments should be included. We'll attempt to be timely but that depends on our work load and we hope that remains high.

Maybe, as a sign of your appreciation you'll send us some material that we can include. Dynamic pile testing methods can still be developed further.

Shared experiences will make us all more successful.

Sincerely,

Frank Rausche

## Training Sessions-- in Three States

RECENT TRAINING SESSIONS  
KANSAS, UTAH AND WISCONSIN

Kansas, Utah and Wisconsin Departments of Transportation members recently were trained by GRL personnel in the use of the Pile Driving Analyzer.

The new measurement engineers were very enthusiastic about the PDA's capabilities and a large number of projects have been lined up for testing.

## Florida Project

# Howard Frankland Bridge is Dynamic Testing Site

GRL Engineer John Polder recently returned to Ohio after six weeks of dynamic testing for the new Howard Frankland Bridge in Tampa, Florida.

Eventually, piles at 19 different locations along the three mile long site will be dynamically tested, John reports.

The piles tested were constructed of prestressed concrete and varied in length from 45 to 125 feet. Pile sizes were 24" square and 30" square. Two single acting air/steam hammers were used -- a Vulcan 020 (60,000 ft-lbs.) and a Conmaco 300 (50,000 ft-lbs.).

The existing Howard Frankland Bridge, which spans Tampa Bay, connects Tampa and St. Petersburg via I-275. However, the bridge is too small to handle the ever-increasing flow of traffic.

The new bridge will be built just north of the existing bridge to carry westbound traffic.

## New Developments at GRL and PDI

### New CAPWAPC Features

The 1986 version of CAPWAPC is close to completion. New features include:

--A dashpot underneath the toe resistance model.

--Improved automatic prediction features.

--Direct input of PDA data files.

--Table of Extrema (Forces, Velocities, Energy, Displacement) along the pile length in output.

### Hammer Performance Analyzer

The PDI Hammer Performance Analyzer (HPA) is now in production and a number of units have been sold and/or leased.

The HPA uses radar to measure the ram velocity and to display it on a strip chart as a function of time. The results may be used for both hammer inspection and diagnostics of hammer problems.

GRL has successfully used the unit for open-end diesels as well as standard air hammers. In one case a closed-end diesel was fitted with a plastic top cover and a ram velocity measured.

Tests on SPT soil samples and Dynamic Compaction projects have also been completed.

### Saximeter II

Under the sponsorship of Pileco, Inc., Houston, Pile Dynamics has developed the Saximeter II.

The new Saximeter is much smarter than the original unit--it prints in either imperial or SI units. Output is Penetration, Number of Blows and results of one of the following:

- Blows/Minute
- Stroke of Open End Diesels
- Energy of Open End Diesels

The price has changed little and the new units are now in production, PDI reports.

### WEAP86 Developments

WEAP86 and related manuals have been completed and submitted to the sponsor, FHWA, for review.

During the last three months, GRL has been working exclusively with WEAP86 without any problems.

Estimated release time to the public is April 30, 1986. Please contact GRL computer specialist Amy Stroberg for details (including a list of differences between WEAP and WEAP86).

**DON'T SPLIT  
PILES!  
MEASURE  
YOUR STRESSES!**



## Tape/Slide Show Available

A tape/slide show has been produced as part of GRL's Hammer Performance Project. More than 280 slides illustrate the hammer inspection process.

A master copy of this show is available, either to view or to copy. Please contact the GRL office for price.

## HPA Project Reports Finalized

Hammer Performance Project final reports have been submitted to and accepted by the FHWA. The project consists of four volumes. A limited number of copies have been made.

An Inspection Manual contains approximately 300 data sheets, one for each hammer model. These sheets are not included in the copy but may be obtained for \$40 a set.

If you are interested in obtaining copies of the four volumes, please order them from us. If we get enough orders we shall make a limited printing available at \$75 a set.

## Goble Rausche Likins and Associates, Inc.

4535 emery industrial parkway

cleveland, ohio 44128

phone (216) 831-6131