

Our Clients

Our clients include owners of commercial and industrial facilities, engineering consultants, contractors, and public agencies. Among them are the following:

Aerojet General Corporation
Aetna Insurance Company
Alyeska Pipeline Service Co.
American Airlines
Ameron Concrete & Steel Pipes
S.J. Amoroso Construction
Arizona Highway Department
Atlantic Richfield Hanford Co.
Ball, Ball and Brosamer, Inc.
Berkeley Unified School District
Bethlehem Steel Corporation
Blackhawk Corporation
Browning-Ferris Industries
Calif. State Automobile Assn.
Calif. Water Service Co.
CalTrans
Carnation Milk Company
Chevron U.S.A., Inc.
City of Pasadena
Contra Costa Water District
Dan Caputo Company
Del Monte Corporation
Devcon Construction, Inc.
Dillingham Construction Co.
Dinwiddie Construction Co.
Disneyland
Dow Chemical Company
East Bay Municipal Utilities Dist.
E.I. DuPont de Nemours & Co.
Essex Realty
Foremost Foods
Freeport-McMoRan resource Ptrns.
General Electric Co.
General Motors Co.
Granite Construction Co.
Hewlett Packard Co.
The Home Depot
IBM Corporation
Intel Corporation
Irvine Land Management Co.
Jacobs Construction
Kaiser Aluminum and Chemical Co.
Kaiser Hospitals
Kaufman & Broad
Kiewit Pacific Company
Lawrence Livermore Laboratories

Liberty High School
Sebastopol School District
Lockheed Missiles & Space Co.
Long Beach Unified School Dist.
L.A. Dept Water & Power
MCM Construction Co.
Modern Continental
Morrison-Knudsen Co.
Nevada Highway Dept.
Nordic Industries
Novato Hospital
Oceaneering International, Inc
Homer J. Olsen Co.
Oregon Highway Dept.
Pacific Cement & Aggregates
Pacific Gas and Electric Co.
Perini Building Company
Philips Petroleum Co.
PK Contractors, Inc.
Plant Construction
Port of Los Angeles
Port of San Francisco
Public Service Co. of Colorado
Pulte Homes
Ragu Foods, Inc.
Ranger Pipelines
Riverside Cement Co.
Rudolf & Sletten, Inc.
San Francisco Int'l Airport
Santa Cruz Metropolitan Transit
Shell Oil Company
Shimmick Construction Co., Inc.
Standard Pacific Homes
Swinerton & Walberg
Tico Construction
Trans World Airlines
USS Posco
U.S. Army Corps of Engineers
U.S. Coast Guard
U.S. Navy
Alameda N.A.S.
Mare Island
Moffett Field
Pearl Harbor
Port Hueneme
U.S. Steel Corporation
Underground Construction Co.
United Airlines
Unocal
Vadnais Corp.
Vallejo Sanitation District
Washoe County, Nevada
West Coast Contractors, Inc.
Williams+Burrows, Inc.

Engineering Consultants

AGS, Inc.
Berlogar Geotechnical Consultants
Bromwell & Carrier, Inc.
Brown and Caldwell
CH2M Hill
Converse Consultants
Dames and Moore
Diaz Yourman & Associates
H.J. Degenkolb & Assoc.
DeLeuw, Cather & Co.
Earth Mechanics Inc.
GeoLabs, Inc.
Harding-Lawson & Assoc.
Haro, Kasunich & Associates
Harza
Jacobs Engineering
Kaiser Engineers
Kleinfelder, Inc.
Kennedy-Jenks Engineers
Krazan & Associates Inc.
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Parsons-Brinckerhoff-Quade-Douglas
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Wahler Associates
Western Technologies
Woodward-Clyde Consultants



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COMPACTION GROUTING

The Injection of grout into soil to achieve controlled displacement and densification of the surrounding soil mass.

For

- ▲ Densifying and strengthening foundation soils
- ▲ Controlled lifting of structures
- ▲ Mitigating settlements due to tunneling
- ▲ Preventing soil liquefaction
- ▲ Providing additional soil-strengthening benefits

The PRESSURE GROUT COMPANY

Compaction grouting is a specialized technique for in-situ densification of compactable soft or loose soils. A stiff grout is extruded into a soil mass to form an expanding bulb. Maintaining a controllable bulb of grout is the essence of this technique, as illustrated in [Figure 1](#).

Any soil capable of being mechanically compacted can be densified by compaction grouting. The extent and the intensity of soil densification depends on the injection point configurations, the depth of the injections, the grout mix, and the amount of grout injected. Compaction grouting is effective in most man-made fill, organic soil, sand, silt, peat, and most clays. The improvement of soil strength can be demonstrated by the Cone Penetration Testing Method before and after compaction, as shown in [Figure 2](#).

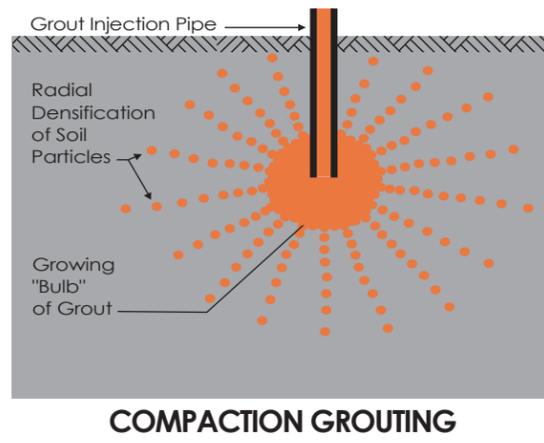


Figure 1

Applications

Compaction grouting is versatile: it lifts, levels, stabilizes, supports, fills, and densifies soil for new construction and existing structures, and it also reduces machinery vibration. The Pressure Grout Company has completed hundreds of successful projects involving compaction grouting for:

- ▲ Building Sites—Site improvement for structural support and prevention of soil liquefaction
- ▲ Buildings & Structures—Settlement mitigation, foundation stabilization, controlled lifting
- ▲ Machinery Pads—Controlled lifting and leveling, stabilization, vibration reduction
- ▲ Tunneling—Surface settlement prevention, heading stabilization
- ▲ Drilled Piers—Increased end bearing, lifting of settled piers, skin friction development
- ▲ Pipelines—Lifting to grade without excavation, restoration of deformed pipes
- ▲ Tiebacks — Anchor development

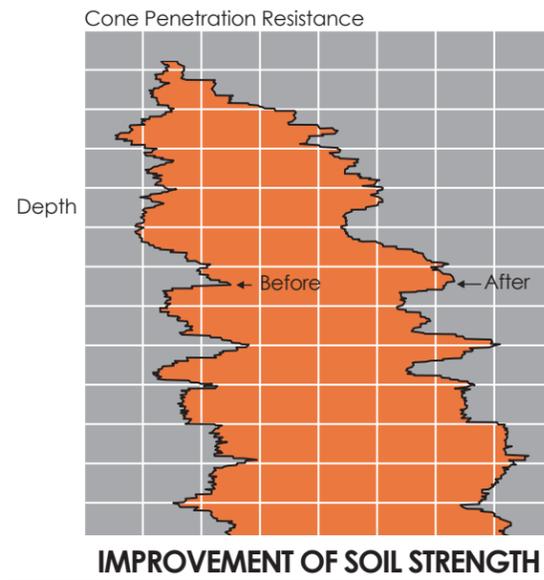


Figure 2

Hundreds of jobs have established that compaction grouting is an effective and economical method of compacting soils.

Foundation Soil Densification & Strengthening

Compaction grouting can provide an answer to the problem of differential settlement of structures. The versatility of the technique makes it the method of choice for soil densification in areas where access to the site with heavy equipment is difficult or where noise is a problem. Grout injection points can be angled to reach areas under a foundation that otherwise could not be reached, as shown in [Figure 3](#).

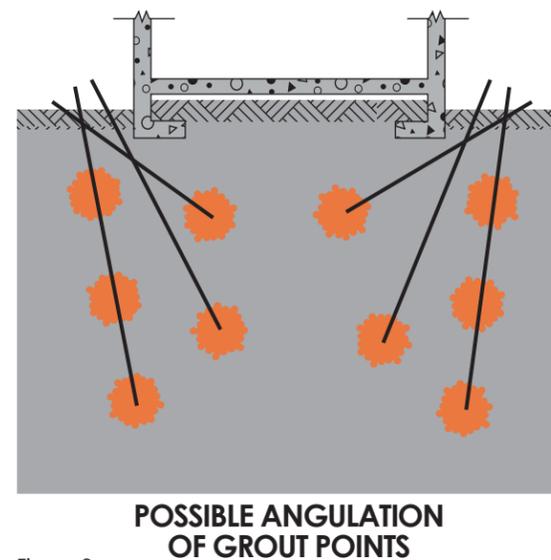


Figure 3

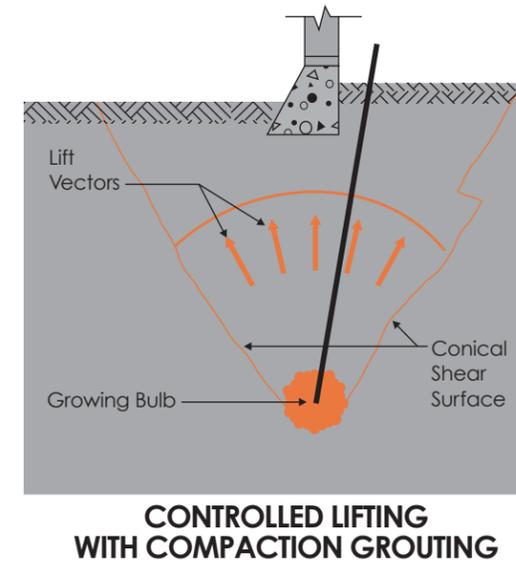


Figure 4

Controlled Lifting

Compaction grouting can be used effectively for the controlled lifting of foundations, slabs, and other structures. Lifting takes place when the pressure at the bulb exceeds the weight of overburden, structures, and the shear strength of the soil cone above it. At that point, the soil shears, and the grout pressure lifts the soil and the structure built upon it, as shown in [Figure 4](#).

By the careful use of this technique, entire structures can be lifted and leveled to precise specifications. Unlike other lifting or supporting techniques, compaction grouting supports structures and appurtenances on sound soil foundations.

Mitigation of Tunnel Settlement

Tunneling generally produces ground movements, which are manifested in the form of surface settlements or the loosening of adjacent soil and rock. Compaction grouting can be used for the prevention of surface settlement, for heading stabilization, and for remedial work in adjacent soil.

Prevention of Soil Liquefaction

Compaction grouting can be effective in reducing or eliminating the liquefaction potential in earthquake prone areas. For unimproved sites or for existing structures, the technique can be successfully employed to avoid soil liquefaction. For deep liquefiable soil layers, for inaccessible sites, or for sites where noise cannot be tolerated, compaction grouting is the primary choice for achieving soil densification without vibration or impact.

Materials & Equipment

Compaction grouting is accomplished by using a lean, thick grout mix of portland cement and silty sand. Natural sands with a range of 25 to 30% silts usually are used. The water content of the grout is

adjusted to maintain a slump (ASTM C-143) of 1 to 1.5 in., with a maximum of 2 in.

The Pressure Grout Company has designed and built much of the equipment it uses on compaction grouting assignments. This equipment, capable of achieving grouting pressures of up to 2000 psi, can be operated at distances several hundred feet from the injection site. The operation of The Pressure Grout Company at a job site is shown in [Figure 5](#).



Figure 5

The Pressure Grout Company

The Pressure Grout Company has extensive experience in all types of pressure grouting for site development, new construction, and the stabilization of existing structures, ranging from giant dams and highrise buildings to individual homes and buildings of all types. We work closely with owners, engineering firms, contractors, and public agencies throughout the United States. We

- ▲ Build, operate and maintain our own equipment
- ▲ Have one of the few research and development laboratories for grout materials and mixes
- ▲ Have a staff that includes engineers with extensive knowledge and experience in soils engineering
- ▲ Are licensed contractors and members of the Associated General Contractors and
- ▲ Have broad, in-depth grouting experience that extends over a period of more than 45 years.

We know and understand your problems, and welcome your inquiries:

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