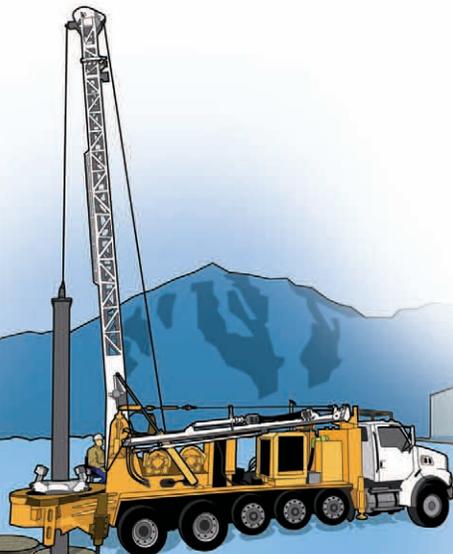


Environmental Applications

PATTERN DRILLING / SOIL REMEDIATION



PATTERN DRILLING

Torrent has been an industry leader in the development of pattern drilling, a highly efficient method of drilling remediation for sites with soil contamination. These are typically fuel service sites contaminated by leaking tanks or product lines.

Pattern drilling entails the systematic drilling, evaluation and replacement of contaminated soil with stabilized backfill. A cement slurry product is used for the stabilized backfill to provide substantial support for equipment and building activities, while allowing for excavation for foundation footings and utility trenches.

SIGNIFICANT ADVANTAGES

Utilizing pattern drilling, Torrent can complete a project in a matter of weeks versus years that may be required for other methods such as in-situ bioremediation, air sparging or vapor extraction. An added benefit of pattern drilling is that it provides for complete removal of contaminated soil. Other methods only provide partial treatment due to the complex nature of soils and the difficulty in determining pockets or hot spots requiring an increased level of treatment. This is a significant benefit to property owners and developers as pattern drilling allows for immediate construction on the site as soon as the work is complete.

IN-SITU TESTING

Torrent services include in-situ testing to determine actual boundaries of contamination as the remediation efforts proceed. This ensures that only the contaminated soil will be removed and consequently treated. Remediation methods that require mass excavation, on the other hand, remove contaminated soil mixed with uncontaminated soil, resulting in significantly higher treatment and disposal costs. In addition, Torrent can remove material as deep as 180 feet without the "benching" requirements of deep mass excavation equipment.

SOIL STABILIZATION

Pattern drilling is particularly effective in areas of tight access or potential site instability due to adjacent building structures or underground footings and obstruction. Through enhanced soil stabilizing techniques, the process has been successful in a variety of highly saturated soil conditions including large concentrations of coarse alluviums.

REGULATORY COMPLIANCE

The environmental specialists at Torrent have the field experience and technical expertise to handle a variety of remediation operations. Their knowledge of governmental regulations and guidelines, combined with real-world solutions, ensure a practical, cost-effective answer for site mitigation.

A Specialized Service of Torrent Resources

Please see reverse side for additional information

INDUSTRY SERVICES

Site Drainage Systems

- Stormwater Drywells
- French Drains
- Piping
- Drainage Appurtenances
- Pump Systems

Technical Analysis

- Design Review
- Percolation Testing
- Geologic Database
- ADEQ Drywell Registration

Recharge Systems

- Municipal/Private Recharge Wells
- Injection Wells & Galleries

Environmental Applications

- Pattern Drilling/Soil Remediation
- Drainage Rehabilitation
- Drywell Abandonments
- OSHA HAZMAT-Certified

Drainage Renovation

- Problem Assessment
- Site Redesign/Modification
- System Retrofit

Drainage Maintenance

- Preventive Maintenance
- Service Contracts
- Drywell Cleaning

TORRENT RESOURCES INCORPORATED

1509 East Elwood Street
Phoenix Arizona 85040-1391

phone 602-268-0785
fax 602-268-0820

California
661-947-9836

Nevada
702-366-1234

www.TorrentResources.com

AZ Lic. ROC070465 A,
ROC047067 B-4; ADWR 363

CA Lic. 528080 A, C-42, HAZ

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