



# PYRAMID

GEO-ENGINEERING & CONST.

*Professional Services*



Drilling Water Wells  
Geotechnical Investigations  
Construction Materials Testing  
Topographical Surveys  
Well Logging and Geophysics



PYRAMID  
Geo-Engineering & Construction  
Limited Enterprise

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## About Us:

**PYRAMID** Geo-Engineering & Construction Company established and registered at AISA (Afghanistan Investment Support Agency) in 24-July-2004 as the first professional Afghan Geo-Engineering Company.

During 14 years of experience Pyramid has developed into one of the Afghanistan's leading drilling, geotechnical and topography contractors offering an extensive range of specialist drilling services.

Our mission is to be the premier geotechnical, well drilling and survey company in Afghanistan. We are committed to meeting every challenge with the highest standards of excellence. Our solutions are built upon integrity and caring for our clients, while fulfilling the personal and professional needs of our team members. Our services are certified and accredited by ISO/IEC-17025:2005.

## Our Services:

- ~ Water Well Drilling.
- ~ Geotechnical Investigations.
- ~ Construction Materials Testing
- ~ Topographical Surveys
- ~ Geophysical Surveys.
- ~ Well Logging.
- ~ Supply and Installation of Submersible Pumps.



## Well Drilling:

PYRAMID Geo-Engineering & Construction Ltd. is one of the largest water well drilling contractors in Afghanistan. A fleet of 4 drill rigs of varying sizes and up to 600M vertical drilling capability insures that the company is prepared to meet practically any drilling challenge.

The year 2018 marked 14 years of our successful experience in Drilling Wells, Geotechnical Investigations and Topographical Surveys in Afghanistan.

Water wells for domestic and agriculture use are our main focus, and we have the knowledge, experience and equipment to help you get the most out of the ground that Mother Nature laid down. Our drillers have been called on to help with difficult drilling projects in Afghanistan.

### Areas Covered:

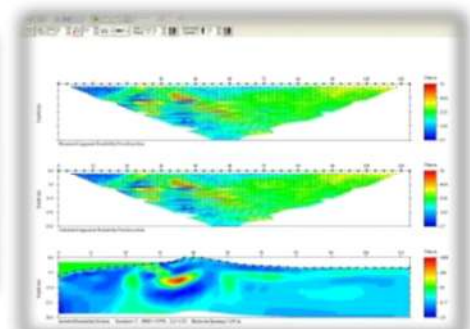
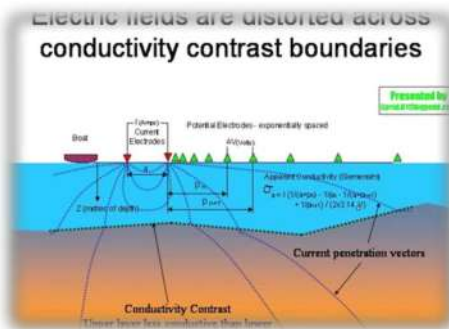
- ~ Drilling Water Wells for Domestic and Agriculture Use.
- ~ Geophysical Surveys & Feasibility Services for Water Wells.
- ~ Pumping Tests for Draw-down & Discharge.
- ~ Well Logs (SP, Resistivity & Gama).
- ~ Supply and Installation of Submersible Pumps.
- ~ Construction and Installation of Water Supply Systems.
- ~ Supply Well Materials.



## Geophysical Surveys:

Wise using conserves underground water resources. In other words extraction and using of groundwater like other natural resources require prospecting, exploration development, exploitation and sound management; otherwise, it may lead to the waste of time and resources.

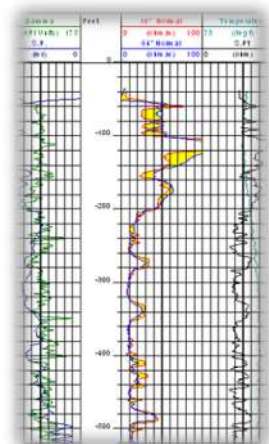
Geophysical Survey is a subsurface exploration electrical resistivity method performed on site before drilling operations to determine the depth of aquifer layers, thickness of ground layers, extend of layers and to estimate the depth of the well according to the aquifer locations.



## Bore Well Logging:

The well logging is very essential to determine the geological formations of the borehole and aquifer layers of ground. This helps in sealing the salty layers, selection and exact installation of screens in the well and getting more fresh and healthy water from the ground.

The log may be based either on visual inspection of samples brought to the surface called (*geological logs*) or on physical measurements made by electrical instruments lowered into the hole (*geophysical logs*). The types of instruments used in well logging are quite broad. The first logging measurements consist of basic electrical logs (resistivity) and spontaneous potential or self potential (SP) logs,



introduced by the Schlumberger brothers in the 1920's.

The geophysical logging can be performed in Single Point Resistance (SPR), Self Potential (SP), Natural Gamma and Normal Resistivity formats under the supervision of our professional geophysical engineers.



## Expert Drillers:

The Pyramid Company recognizes that the success of its operations rests largely on the drillers operating in the field. Pyramid has an experienced team of drillers, whose skills and knowledge ensure safe, efficient and productive field operations.



## Maintenance Staff:

The Company recognizes that the success of its operations also rests on its maintenance staff. The drilling equipment is maintained in excellent working order to reduce the risk of breakdowns in the field. Our maintenance staff are qualified mechanics and available to give immediate back up support to the drilling operations.



## Importance of Underground Waters & Protection:

Groundwater is one of Afghanistan's most valuable natural resources, which is not efficiently used, it is ignored like other natural resources, even though most provinces get their water from surface sources such as ditches, lakes and rivers, it is estimated that there is ten times as much fresh and high quality water below the land surface than in all the lakes and rivers combined. Groundwater is a far safer water source than surface water because it is protected by impermeable grounds like clay or rock, and is not so easily contaminated.

## Groundwater Protection, How?

Groundwater is one of the world's most important natural resources, yet most of us do little to protect it. The fact is, a great many of us rely on groundwater for drinking, domestic, agricultural and industrial uses. Our natural environment, such as streams, fish, and wildlife also depend on groundwater.



## How Can It Get Contaminated?

Groundwater is very susceptible to contamination, unless protected by a low permeability layer such as clay. Potential sources of contamination include:

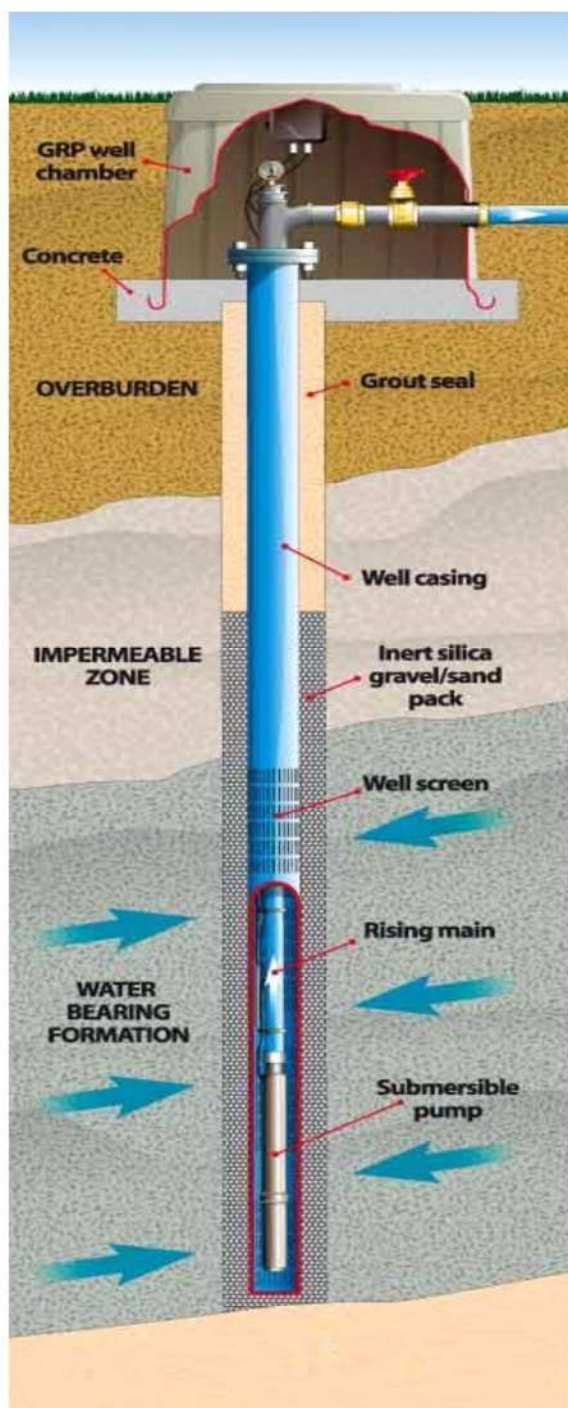
- ~ Malfunctioning household septic systems
- ~ Careless disposal of cleaners, oil and antifreeze
- ~ Improper application of fertilizers and pesticides
- ~ Leaks from oil and chemical storage tanks
- ~ Industrial leaks and spills
- ~ Improper animal manure storage
- ~ Landfills and garbage dumps



# How to be sure the water you drink is safe and clean?

Fortunately, there are many things you can do to start protecting your groundwater resource. The time to start is now!

Properly constructed water well is the best way to insure that the water you drink is safe and clean. Below is a sample of such well:



## A Properly Constructed Well Type:

During drilling operations, and in constructing the well itself, it is important to ensure that the aquifer—the underground store of water—does not become polluted.

To guard your water supply, we work to best industry practice. We take great care in the way we conduct our engineering work, and use only safe, non-toxic materials within the borehole.

After drilling to the required depth, the borehole is lined with a well screen and casing. Screens are precision cut to allow the full potential of the aquifer to be utilized. Screen design is engineered according to different ground types so that water entrance velocity is minimized—this means that any tendency to draw in sediment as water is being drawn is reduced.

The annulus around the screen is then packed with gravel or sand, acting as a filter.

Towards the top of the borehole, a grouted seal closes the drill hole to the pipe. This extends the full length of the 'overburden'—loosely described as soil or broken ground—down as far as the impermeable layer, to a minimum depth of 3m into a competent rock head.

Its purpose is to prevent surface water—which may be polluted by different causes, for example, animal faeces—entering the borehole.

Finally, a reliable stainless steel submersible pump, powered by electricity is lowered into the borehole, which brings water to the surface under pressure.

At this point, a water sample shall be taken for laboratory analysis.

## Geotechnical Investigations:

Geotechnical engineering is a difficult task and needs professional staff and experience; our geotechnical engineering services are low priced that appeals all the class and sections.

### Areas Covered:

- ~ Geotechnical Drillings in alluvial grounds and rocks.
- ~ Geotechnical Investigation for buildings, industrial development, dams, highways, tunnels and bridges.
- ~ Geotechnical Investigation for ports construction.
- ~ Construction materials investigation.
- ~ In situ testing for soil and rock mechanics investigations.
- ~ Geotechnical consulting.
- ~ In situ quality control during the construction phase.
- ~ Design for slope stability and support.
- ~ Geophysical investigations and cross-hole testing.
- ~ Rock slope stability and support.



**ISO 17025**  
ACCREDITED LABORATORY

## Construction Materials Testing Laboratory:

Our prime objective is to assist our clients in obtaining a quality constructed project that both satisfies the project plans and specifications.

Our construction materials testing laboratory was established in 2008. All the apparatus and equipments used for testing are purchased from well-known international companies like AIMIL-ELE-Control.

We offer a wide range of laboratory testing services including geotechnical tests like; Direct Shear Testing, Consolidation Testing, Unconfined Compression Test, Permeability Testing, as well as many other tests for rocks with comparative low prices.

### Areas Covered:

- ~ Soil Testing
- ~ Rock Testing
- ~ Aggregates Testing
- ~ Cement Testing
- ~ Concrete Testing



## Topography:

This Department within our company provides Topography/Topographical Mapping, Leveling, Implementation of Grading and Drainage Planning at any location of Afghanistan.

Pyramid Geo-Engineering & Construction Company is equipped with best technology of Surveying Instruments, and professional Survey Engineering teams.

### Survey Activities Include:

- ~ Topographical Survey
- ~ GPS Services
- ~ Site Assessment
- ~ Grading and Leveling
- ~ Cadastral Survey
- ~ Survey As-Built Plant & Facility
- ~ Measured Building Survey Stakeout



### Implementation & Site Grading Plan Activities Include:

- ~ Requirements for Successful Implementation
- ~ Obstacles to Implementation
- ~ Implementation Strategies
- ~ Planning and Surveying Requirements
- ~ The Grading Phase
- ~ Fill Construction and Compaction Control
- ~ Construction of Valley or "Daylight" Fills
- ~ Slope-Drainage Devices
- ~ Application of Water on the Slope Face through Irrigation
- ~ Placement of Rocks and Boulders



## Our Clients:

Generally work has consisted of drilling works for water wells, geotechnical, hydrological and environmental investigations and materials testing for many diverse civil and structural projects for national and international organizations and companies.

Below are some of our esteemed clients:

- ~ Afghan Government
- ~ USACE.
- ~ US DoS
- ~ JICA
- ~ Alokozy Group of Companies
- ~ GIZ
- ~ AWCC & ATN.
- ~ ROSHAN Telecom
- ~ DynCorp Int. Inc.
- ~ CONTRACK Int. Inc.
- ~ PAE
- ~ TIKA (Turkish Cooperation & Development Organization).
- ~ Embassies
- ~ Many Other Local and Int. Companies & Organizations.

For more information please visit our website  
[www.pyramid.com.af](http://www.pyramid.com.af) or contact us.



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