

# GEOMELETI



GEOTECHNICAL ENGINEERS & GEOLOGISTS





# COMPANY PROFILE

## GENERAL

GEOMELETI is a Consulting Engineering Company managed and operated by experienced engineers / geologists committed to the art and science of Geotechnical / Infrastructure engineering, always aiming in giving high quality, simple and cost-effective solutions to the projects undertaken.

GEOMELETI operates in accordance with and has been accredited in the following management systems:

- ISO 9001:2015 - Quality Management
- ISO 17001:2015 - Environmental Management
- BS OHSAS 18001:2007 - Occupational Health & Safety Management
- ELOT ISO/IEC 27001:2013 - IT - Information Security Management

The Company owns modern equipment including drilling-rigs, in situ and laboratory testing devices and with the use of specialized software, can give reliable, fast and economical design solutions to all Geotechnical Problems.

## OUR CLIENTS - COLLABORATIONS

GEOMELETI provides design, supervision and consulting services to the main organizations, managing infrastructure projects in Greece and abroad, such as:

- Greek Ministry of Public Works and Transportation,
- Greek Railways and Metro Authorities,
- Greek Highway Authorities,
- Infrastructure, Building and Industrial Contractors (Hochtief, AKTOR, GEK, TERNA, J&P, ABENGOA, etc)

Our collaborations also include major international engineering firms, such as, W.S. Atkins (UK), Faber-Maunsell (UK - USA), Hochtief (Germany), 3P (Austria), SSF and ISP (Germany), DBI International (Germany, Qatar), etc.

## MANAGEMENT

### **Petros Laskaratos:**

Geotechnical - Civil Engineer M.Sc, having more than 30 years of working experience in Geotechnical Engineering Projects, offered Consulting Services to the owners of the major highway authorities (Attiki Odos, Athens - Thessaloniki Highway, Egnatia Odos) in Greece, the Athens Metro and having an extensive experience in design of all types of infrastructure engineering projects, including building foundations, ground improvement, tunnels, bridges, dams, motorways, etc.

### **Tassos Katsoularis:**

Engineering Geologists, having more than 20 years of working experience in investigations, quality control and geological and geotechnical design for all types of infrastructure engineering projects, including buildings, tunnels, open-cuts, dams, bridges, motorways, railway lines, etc.

- Programming of Investigations
- Inspection of Geotechnical Works
- Interpretation of Investigation Results
- Sampling Boreholes: On-shore / off-shore
- Trial Pits
- Special Sampling Works
- In situ permeability Testing
- Standard Penetration Tests (S.P.T.)
- Plate Loading Testing
- Wagon Drillings
- Cone Penetrometer Testing
- Pressuremeter Testing
- Trial Embankments
- Borrow Areas Investigations
- Geophysical Investigations
- Physical Properties Laboratory Testing
- Engineering Properties Laboratory Testing
- Chemical Properties Laboratory Testing

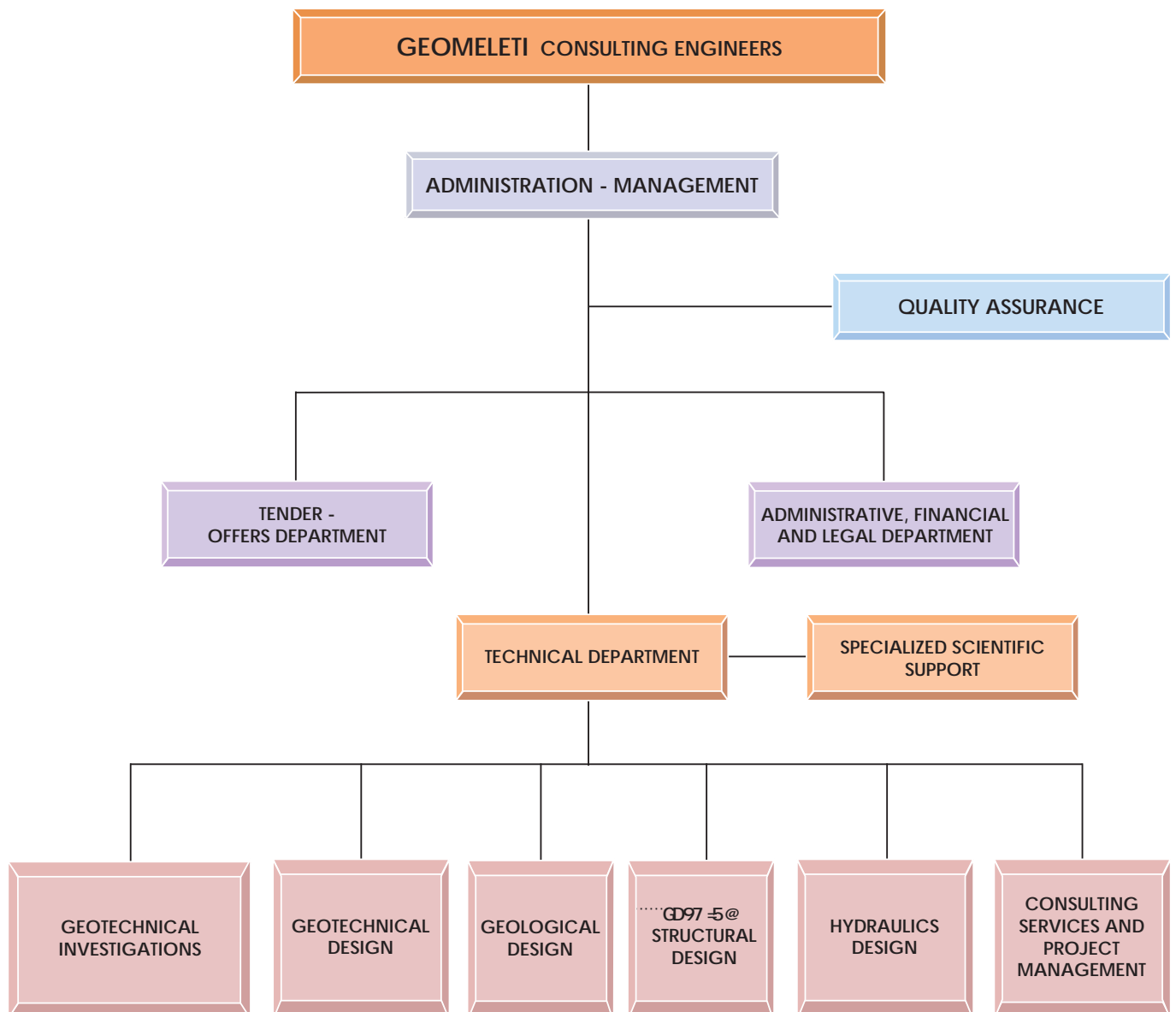
### GEOTECHNICAL INVESTIGATIONS

- Shallow - Deep Foundations
- Ground Improvement / Treatment
- Underpinning
- Dams - Hydraulic Projects
- Borrow Areas - Damping Sites
- Embankments
- Excavations
- Slopes and Landslides
- Geosynthetics (Design and Application)
- Retaining Structures
- Road / Airfield Pavements
- Tunnels - Underground structures
- Water Filtration and Drainage
- Port Structures / Offshore Geotechnics
- Instrumentation
- Landfills
- Bridges
- Industrial / Residential Buildings
- Ground Water Management

### GEOTECHNICAL ENGINEERING DESIGN

- Checking of Design
- Expert Evaluations
- Inspection of Geotechnical Works
- Material Quality Control
- Observation / Interpretation of Instruments
- Modification of Design During Construction
- Preparation of Tender Documents
- Evaluation of Contractors' Offers

### GEOTECHNICAL CONSULTING SERVICES



## SELECTED PROJECTS



EXPERIENCE IN

# BUILDINGS



Schools and University Complexes, Conference Complexes,  
Bank Complexes, Municipal Market Buildings, Plants,  
Railway Stations, Deep Retaining Structures and  
a large number of private Complexes and Shopping Centers.





## BUILDINGS

### KOSMOPOLIS PARK SHOPPING MALL, KOMOTINI CITY, THRACE PREFECTURE, GREECE

Client:  
REAL ESTATE DEVELOPMENT  
KOMOTINI S.A.

Geotechnical Investigation  
(Coring Boreholes and Trial Pits)  
and Geotechnical Foundation Design  
concerning a Complex of Buildings of  
10.000m<sup>2</sup> ground coverage with  
two basements and five floors at an  
environment of high ground water  
level.



### NEW OFFICE BUILDINGS AT PEIRAIUS STR., ATHENS, GREECE

Client:  
J & P DEVELOPMENT S.A.

Geotechnical Investigation and  
Geotechnical Foundation Design for  
a 5 Floor Office Building  
with 2 basements, of 9.000m<sup>2</sup> ground  
coverage in total.



### NATIONAL LIBRARY, PRAGUE, CZECH REPUBLIC

Client:  
J & P DEVELOPMENT S.A.

Geotechnical Foundation Design  
for a Building with  
ground coverage of 6200m<sup>2</sup>,  
total Height of 27m and  
total floor area of 63.000m<sup>2</sup>.





### **INDUSTRIAL COMPLEX OF LARKO S.A., GREECE**

Client:  
LARKO S.A. / E' TECHNIKI S.A.

Geotechnical Investigation  
and Geotechnical Shoring Design for  
retaining structures supporting  
industrial facilities.



### **PRINTING INDUSTRIAL COMPLEX OF D.O.L., VIOTIA MUNICIPALITY, GREECE**

Client:  
DOL S.A.

Geotechnical Investigation  
(Coring Boreholes and Trial Pits)  
and Geotechnical Foundation Design  
for an Industrial Complex of  
Buildings, with ground coverage  
of 25.000m<sup>2</sup>, including special  
foundation design of large and  
heavy machine complexes.  
Quality control services during  
construction of backfilling and  
excavations.



### **RESIDENTIAL COMPLEX OF BUILDINGS, CRAKOW, POLAND**

Client:  
W. S. ATKINS

Geotechnical Foundation Design  
for a Complex of Residential Building  
with ground coverage of 8.500m<sup>2</sup>,  
total Height of 24m and total floor area  
of 31.500m<sup>2</sup>, with three basements  
close to a river, with loose sand-gravel  
deposits.



## BUILDINGS

### NEW EXTENSION BUILDING OF ARCHAEOLOGICAL MUSEUM OF POLIGIROS, CHALKIDIKI, GREECE

Client:  
MINISTRY OF CULTURE

Geotechnical Investigations (Coring Boreholes) and Geotechnical Foundation Design for the new building of ~700m<sup>2</sup> of area coverage for the archaeological museum of Poligiros at Chalkidiki



### NEW BUILDINGS FOR THE RAILWAY STATION OF MEGARA, GREECE

Client:  
IONIOS S.A

Geotechnical Investigations (Coring Boreholes) and Foundation Design for two buildings of ~400m<sup>2</sup> of area coverage for the new Railway Station of Megara



### RESTORATION OF THE TECHNICAL SCHOOL AT EVRITANIA REGION, GREECE

Client  
MUNICIPALITY OF EVRITANIA

Geotechnical Investigations (Coring Boreholes and Trial Pits) and Geotechnical Foundation Design for the restoration of the Technical School Building of Karpenisi





**XATZIKONSTA FOUNDATION,  
ATHENS, GREECE**

Client:  
NIKOLAOS LEMPESIS, Civil Engineer

Geotechnical Investigations  
(Coring Boreholes and Trial Pits),  
Geotechnical Foundation Design.



**PREFECTURE OFFICE BUILDINGS  
AT TRIKALA, GREECE**

Client:  
J&P – AVAX S.A.

Geotechnical Investigations  
(Coring Boreholes and Trial Pits) and  
Geotechnical Foundation Design  
for a building complex having 3 floors,  
1 basement and 3.450m<sup>2</sup> ground  
coverage.



**NEW BUILDINGS FOR THE LOGISTICS  
CENTER OF JUMBO S.A. IN  
INOFFITA, VIOTIA, GREECE**

Client:  
JUMBO S.A.

Geotechnical Investigations  
(Coring Boreholes and Trial Pits) and  
Geotechnical Foundation Design  
for two buildings for the logistics center  
in Inoffita, Viotia Prefecture .



## ALDI LOGISTIC CENTER AT THE GREATER PATRAS AREA (GOMOSTO), GREECE

Geotechnical Investigations  
(Coring Boreholes and Trial Pits)  
for the ALDI logistics center  
with ~54000m<sup>2</sup> ground coverage.



Geotechnical Investigations  
(Coring Boreholes and Trial Pits) and  
Geotechnical Foundation Design.



Geotechnical Investigations (Coring Boreholes and Trial Pits) and Geotechnical Foundation Design for industrial building with ~5000m<sup>2</sup> ground coverage.  
Special Foundation Design for Heavy Machinery.

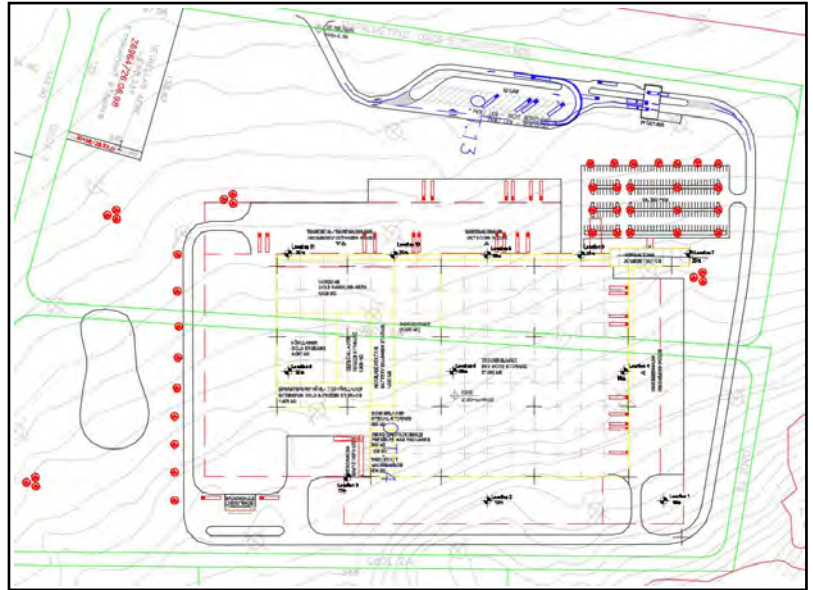




## ALDI LOGISTIC CENTER IN THE INDUSTRIAL ZONE OF LARISSA

Client:  
ALDI LOGISTICS

Geotechnical Investigations (with Coring Boreholes) for a logistics building complex, Geotechnical Foundation Design.



## RESIDENCE COMPLEX IN MAROUSI ATHENS, GREECE

Client:  
J & P DEVELOPMENT S.A

Geotechnical Investigations (Coring Boreholes) and Foundation Design for a new residence complex having seven stories buildings with two basements in Marousi area.



## NEW TRAINING CENTER OF OLYMPIAKOS PIRAEUS FC, RENTI AREA, ATTICA, GREECE

Client:  
DEKATHLON S.A

Geotechnical Investigations (Coring Boreholes and Trial Pits) and Foundation Design for three new buildings of ~2600m<sup>2</sup> of area coverage and two football fields with approximate dimensions 104 X 66m for the training center of Olympiakos Piraeus F.C.





EXPERIENCE IN

# RETAINING STRUCTURES - UNDERPINNING



Investigation, Design and Consulting Services during Construction.



## RETAINING STRUCTURES - UNDERPINNING

**"KARELIAS INDUSTRY",  
KALAMATA CITY AREA,  
PELOPONNESE, GREECE**

Client:  
KARELIAS S.A.

Geotechnical Investigation  
(Coring Boreholes inside  
Buildings) and Geotechnical  
Design of micro-pile support  
system for underpinning nine  
Buildings of the "Karelias"  
Industry.



**TECHNICAL COLLEGE, KARPENHSI,  
EVKITANIA MUNICIPALITY,  
GREECE**

Client:  
EVKITANIA MUNICIPALITY

Geotechnical Investigation  
(Coring Boreholes) and  
Geotechnical Design of pile  
support system for underpinning  
Buildings of the Technical  
College.





### NEW SHOPPING MALL CENTER AT LARISSA RAILWAY STATION AREA, ATHENS, GREECE

Client:  
KAROYZOS CONSTRUCTION S.A.

Geotechnical Design of  
the Temporary Retaining  
Structure consisting of a  
21.5m Deep Anchored Piled  
Retaining Wall, designed  
for the construction of a 5  
floor underground parking -  
garage.



### "TIMAGENIS" BUILDING AT PIRAEUS PREFECTURE, GREECE

Client:  
TIMAGENIS S.A.

Geotechnical Investigation and  
Geotechnical Shoring Design for a 10m  
Deep Anchored Piled Retaining  
Wall, excavated Under  
Existing Old Masonry Building.



# RETAINING STRUCTURES - UNDERPINNING

## GREEN LINE METRO, DOHA, QATAR

Client:  
SSF Ingenieure AG / QATAR RAIL S.A.

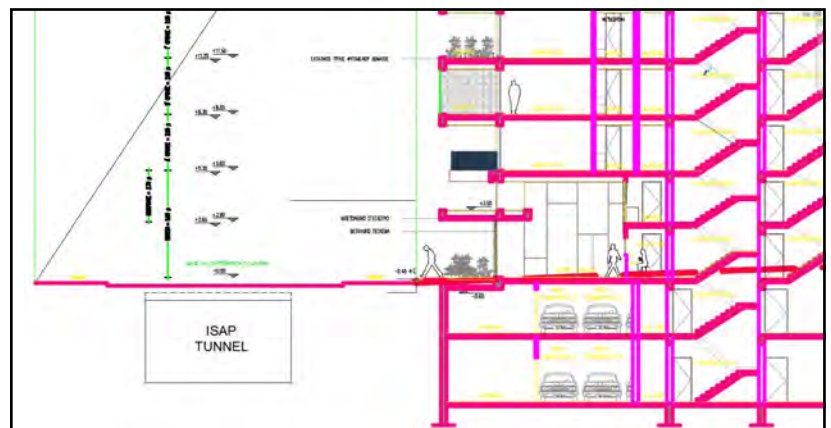
Retaining Structure Design for six (6) cut and cover Metro Stations with pilewalls and / or temporary prestressed anchors, supporting open cut excavations. Retaining depth was from 20m to 40m.



## MULTIFLOOR BUILDING AT THE CROSSING OF SEPTEMBER 3RD AND EPIROU, ATHENS, GREECE

Client:  
GEORGIOU AND CO

Geotechnical Shoring Design for the excavation of a 2 floor basement building at a close distance to the Line 1 Metro Tunnel (ISAP TUNNEL).



## MYSTRAS EUPHORIA RESORT, PELOPONNESE, GREECE

Client:  
EVOIKOS S.A.

Geotechnical Investigations (Coring Boreholes), Geotechnical Foundation Design for multiple buildings, Design of Deep Retaining Structures and Monitoring during construction.





### NEW OFFICE BUILDING COMPLEX OF "DIMAND S.A." AT SINGROU AND LAGUMITZI INTERSECTION, PIRAEUS, GREECE

Client:  
PANTERRA S.A.

- Geotechnical Investigations (coring boreholes).
- Geotechnical Foundation Design for the construction of a multi-story office building with four basements (16 – 17m in depth).
- Shoring Design for 5000m<sup>2</sup> retained vertical slopes.
- Monitoring during construction.

Temporary retaining system consists of reinforced Ø800 concrete piles with 4 rows of prestressed anchors, steel piles 2U350 with 2 rows of prestressed anchors, steel struts CHS610/16 and CHS610/12.5 with maximum length 19m, horizontal steel girders 2HEB450 and reinforced concrete pilecap.





EXPERIENCE IN

# ROAD DESIGN



Highways and provincial roads of approximately 320 km in length, with 80 high open-cuts, 60 embankments (including Reinforced by Geosynthetic Materials Embankments), Pavement Design, etc.



**"TIRIA" JUNCTION AND  
SECONDARY ROADS,  
SECTION 1.2.2.  
EGNATIA ODOS, N. GREECE**

Client:  
EGNATIA ODOS S.A.

Inspection and Interpretation  
of Geotechnical Investigations,  
Final Geotechnical Design of  
10Km of Highway with Open  
Cuts ( $H_{max}=22 - 35m$ ) and  
Embankments ( $H_{max}=10-15m$ ).



**KORINTHOS-PATRAS-PYRGOS  
MOTORWAY,  
SECTION: KIATO-DERVENI,  
PELOPONNESE, GREECE**

Client:  
OLYMPIA JV (HOCHTIEF-AKTOR J/V)

Geotechnical Investigations with  
4000m of Boreholes for the needs  
of the Geotechnical Design of  
21 Main Line Bridges and Overbridges  
( $L=25-120m$ ), Cut & Cover ( $L=160m$ ),  
Lane Cover ( $L=110m$ ), 40 Large Box  
Culverts, 30 High Embankments,  
17 Open Cuts and 62 Retaining Walls.

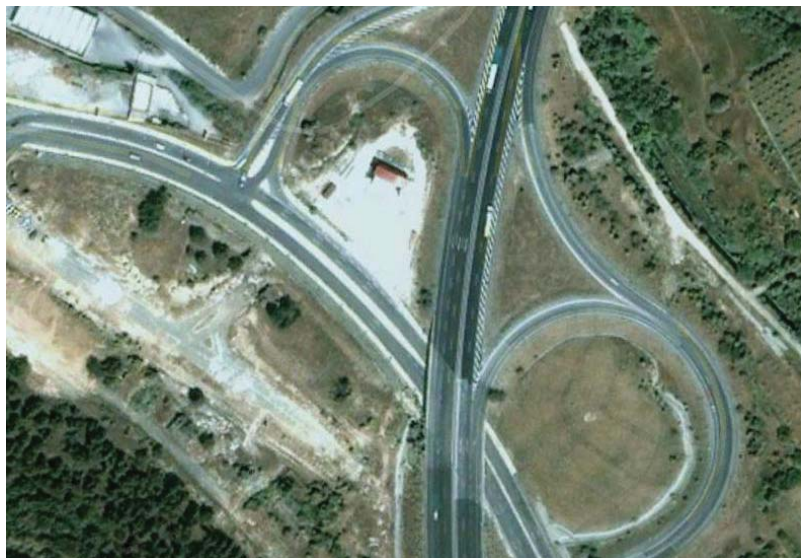
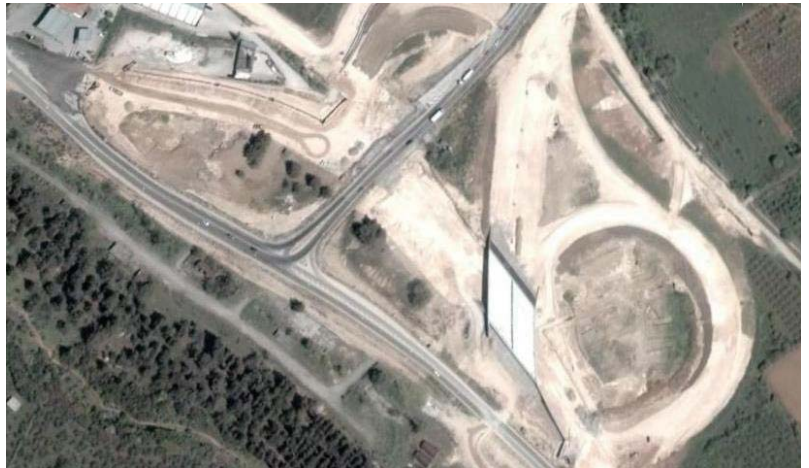




### **"VERIA CITY" JUNCTION SECTION 5.3. EGNATIA ODOS, GREECE**

Client:  
EGNATIA ODOS S.A.

Inspection and Interpretation of Geotechnical Investigations, Final Geotechnical Design of the Junction, including 2 Single Span Bridges, 4 Embankments ( $L=250-550m$ ), and 2.5Km of Road Design.



### **OLD NATIONAL HIGHWAY ATHENS-THIVES, SECTION: MANDRA-ERITHRES GREECE**

Client:  
ATTIKI PREFECTURE

Geotechnical Investigations with Coring Boreholes and Trial pits for the Geotechnical Design of 4 Embankments ( $H_{max}=11-22m$ ,  $L=60-200m$ ), 5 Open Cuts ( $H_{max}=10-30m$ ,  $L=140-540m$ ), 2 Single Span Bridges ( $L=15-20m$ ), 1 Cut & Cover ( $L=120m$ ), 5 Large Box Culverts and 17.5Km of Road Design.



EXPERIENCE IN

# BRIDGES

110 Road and Railway Overpasses / Underpasses and  
30 Long Bridges (River Crossings, Valley Bridges), etc.





## BRIDGES

### DESIGN OF BRIDGES, IN SECTION 6 OF EGNATIA ODOS, MACEDONIA PREFECTURE, GREECE

Client:  
EGNATIA ODOS S.A.

Supervision and evaluation of geotechnical investigations, Final Geotechnical Design of three Main Line Bridges. Design of special retaining structures for reducing settlements on existing structures due to embankment construction.



### BRIDGE CROSSING STRIMONAS RIVER, SECTION 60.2.2, EGNATIA ODOS, MACEDONIA PREFECTURE, GREECE

Client:  
EGNATIA ODOS S.A.

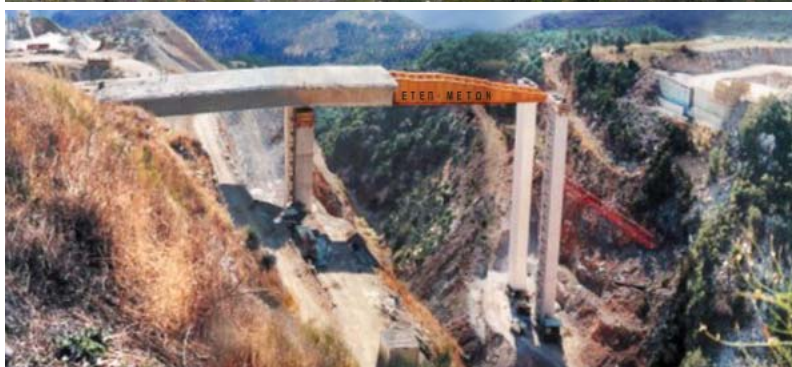
Final-Stage Geotechnical Design of the Bridge crossing Strimonas River ( $L_{total}=475m$ ) with 13 Spans ( $L=42-43m$ ). Ground improvement of the loose foundation soil with vibro-replacement method.



### ATHENS - SALONICA NEW HIGHWAY, SECTION A. THEODOROI - ALMIROS (CH. 261+000 - CH. 286+000), THESSALY, GREECE

Client:  
MINISTRY OF PUBLIC WORKS /  
METON-ETEP JV

Inspection and Evaluation of Geotechnical Investigations, Geotechnical Design of two Valley Bridges ( $L=180-250m$  in length) and 20 Road Bridges ( $L=25-150m$  in length) along a 25km long section of the motorway. Foundation of Bridges was mainly on piles 20 - 40m in length.





**VALLEY-BRIDGE CROSSING  
VENETICOS RIVER,  
SECTION 4.1.3s, EGNATIA ODOS,  
MACEDONIA PREFECTURE,  
GREECE**

Client:  
EGNATIA ODOS S.A./FABERMAUNSEL S.A.

Inspection and Interpretation  
of Geotechnical Investigations,  
Final Stage Geotechnical  
Design of the Bridge Branches  
1A ( $L_{1A}=531\text{m}$ ) and 1D  
( $L_{1D}=636\text{m}$ ). Branch 1A was  
designed with 5 Spans  
(85.6m - 120m), while branch 1D  
was designed with 6 Spans (75  
- 120m). Foundation of the piers  
(70m high) was made by shafts  
and bored piles.



**KOSKARAGA RIVER BRIDGE  
PELOPONNESE, GREECE**

Client:  
PELOPONNISOS REGION / KYROMITIS S.A.

Geotechnical Investigation,  
Geotechnical Design of a  
Valleybridge. Special design  
for filling Karstic Voids by  
Grouting Techniques.



EXPERIENCE IN

# UNDERGROUND STRUCTURES



Railway/Road Tunnels, Cut and Covers and Large Conduits.

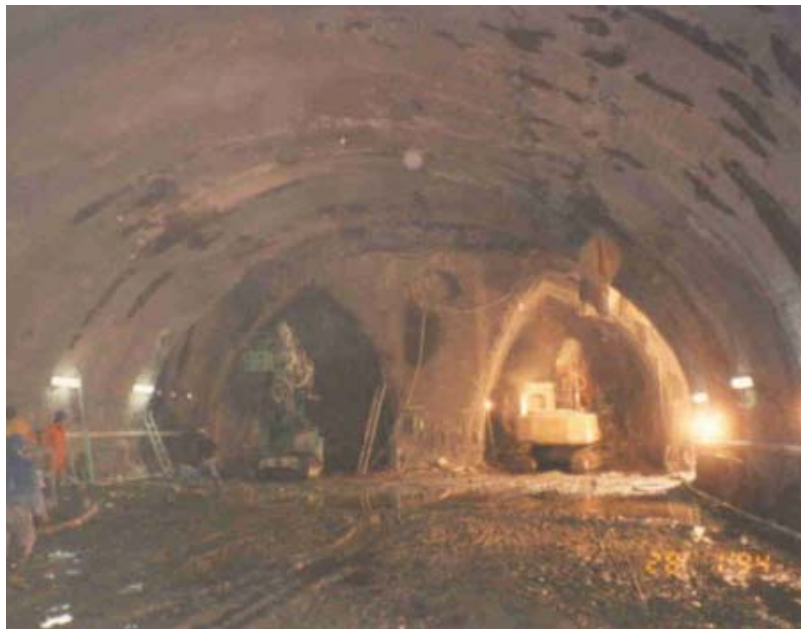




### ATHENS METRO

Client:  
ATTIKO METRO S.A.

Geotechnical Consulting Services, consisting of the management of the Athens Metro owner Geotechnical Department for Lines 2 and 3 of the Metro (25km underground lines, 21 stations, depot and other auxiliary structures).



## UNDERGROUND STRUCTURES

### NEW HIGH SPEED RAILWAY LINE ATHENS - KORINTHOS - PATRAS, "AIGIO" AREA TUNNEL PELOPONNESE, GREECE

Client:  
ERGOSE S.A. / WS ATKINS S.A.

Geotechnical Investigation with  
Coring Boreholes and Pre-Final  
Geotechnical Design of the  
main Tunnel (L=3,5Km),  
2 Cut & Covers and  
3 Escape Tunnels (L=250-350m).



### NORTH PELOPONNESE OLYMPIA ODOS MOTORWAY GREECE

Client:  
HOCHTIEF-AKTOR J/V

Geotechnical Investigation  
with Coring Boreholes and  
Geotechnical Design of  
Cut & Cover (L=160m)  
at Ch. 29 + 900.



### DOHA METRO, QATAR

Client:  
DEUTSCHE BAHN INTERNATIONAL /  
QATAR RAIL

Geotechnical & Tunneling Services  
for Tender Preparation  
for the Doha Metro,  
50Km of Double Tube Tunnel,  
25 Stations and other auxiliary  
Structures.





EXPERIENCE IN

# RAILWAY PROJECTS

More than 10 Railway Stations and  
several hundred kilometers of railway line.





## RAILWAY PROJECTS

### RECONSTRUCTION OF AT GRADE METRO RAILWAY LINE, ATHENS

Client:  
ISAP S.A.

Geotechnical Investigations with 600m of Coring Boreholes along a 25.5km of existing railway line and geotechnical design of the railway track foundation.





### RECONSTRUCTION OF SOFADES - KARDITSA - TRIKALA - KALABAKA RAILWAY LINE, THESSALY, GREECE

Client:  
ERGOSE S.A.

Geotechnical investigations, design  
and material quality control for the  
railway track foundation of 60 km of  
Railway Line.





EXPERIENCE IN

# HYDRAULIC WORKS

DAMS, RESERVOIRS, etc.

17 Dams, 20 Reservoirs, 14 Irrigation/Sewage  
Networks and Pump-houses.



### **"EGARES" RESERVOIR, NAXOS ISLAND, GREECE**

Client:  
MINISTRY OF AGRICULTURE

Geotechnical Consulting Services and Quality Control during the construction of the reservoir, 20m in height and 150m long and 600.000m<sup>3</sup> in volume.



### **"PANAGIOTIKO" DAM IN MAGNISIA MUNICIPALITY, THESSALY, GREECE**

Client:  
MINISTRY OF AGRICULTURE

Final Geotechnical Design of a rock-fill Dam, 40m in height, 150m long and 2.500.000m<sup>3</sup> in volume with an up-stream concrete slab.



### **"DESKATI" DAM OF GREVENA CITY AREA, MACEDONIA PREFECTURE, GREECE**

Client:  
MUNICIPALITY OF DESKATI

Geotechnical Design of an earth Fill Dam, 26m in height, 280m long and 1.000.000m<sup>3</sup> in volume.





### **"KATO PITSA" RESERVOIR, PELOPONESSE PREFECTURE, GREECE**

Client:  
MUNICIPALITY OF KORINTHIA

Consulting Services - Quality Control  
during construction of the Reservoir,  
15m in height, 120m long and  
315.000m<sup>3</sup> in volume.



### **"ERESSOS" DAM, LESVOS ISLAND, GREECE**

Client:  
MINISTRY OF AGRICULTURE

Consulting Services during  
construction of a Dam, 30m in  
height, 350m long and 2.750.000m<sup>3</sup> in  
volume.



### **"KORIS GEFIRI" DAM, CHIOS ISLAND, GREECE**

Client:  
MINISTRY OF AGRICULTURE

Consulting Services - Quality Control  
during construction of an R.C.C.  
Dam, 37m in height, 120m long and  
3.000.000 m<sup>3</sup> in volume.



EXPERIENCE IN

# AIRPORTS, PORTS/ OFF-SHORE STRUCTURES



2 Airports, 15 Port Structures and Participation in the Design of 2 Oil Platforms.





## AIRPORTS, PORT/OFF-SHORE STRUCTURES

### IKARIA ISLAND AIRPORT, GREECE

Client:  
MINISTRY OF TRANSPORTATION

Geotechnical Investigation with  
Coring Boreholes and Geotechnical  
Design of new airfield pavement,  
extension of the existing and design  
of the new open cuts of the airport  
area.



### "ARISTOTELIS" KASTORIA AIRPORT, MACEDONIA PREFECTURE, GREECE

Client:  
MINISTRY OF TRANSPORTATION

Geotechnical Investigation with  
Coring Boreholes, Trial Pits and Coring  
Sampling of the existing pavement,  
as well as Geotechnical Design  
of the new airport pavement and  
extension of the existing one.



### IMPROVEMENT AND EXTENSION OF EXISTING HARBOR FACILITIES SIFNOS ISLAND, GREECE

Client:  
KYKLADES PREFECTURE

Geotechnical Investigation with  
off-shore Boreholes and  
Geotechnical Design of the  
Foundation Conditions of the new  
Port Facilities.



### IMPROVEMENT AND EXTENSION OF EXISTING HARBOR FACILITIES SYROS ISLAND, GREECE

Client:  
KYKLADES PREFECTURE

Geotechnical Investigation with  
off-shore Boreholes and  
Geotechnical Design of the  
Foundation Conditions of the new  
Port Facilities.





EXPERIENCE IN

# RENEWABLE ENERGY PROJECTS

Wind Farms, Solar Power Plants, Hydropower Stations,  
Photovoltaic Parks.



**WIND FARM AT  
"VOSKERO" AREA,  
HERAKLIO PREFECTURE,  
CRETE ISLAND, GREECE**

Client:  
DOMIKI KRITIS S.A.

Geotechnical Investigation and  
Geotechnical Foundation Design  
for a wind farm consisting of 7 Wind  
Turbines, (50m high).



**"AG. IOANNIS" WIND FARM,  
LASITHI AREA,  
CRETE ISLAND, GREECE**

Client:  
PLASTIKA KRITIS S.A.

Geotechnical Investigation and  
Geotechnical Foundation Design  
for a wind farm consisting of 9 Wind  
Turbines, (47m high).





## RENEWABLE ENERGY PROJECTS

### 17MW WIND FARM OF SIDIROKASTRO AREA, MACEDONIA PREFECTURE, GREECE

Client:  
AIOLIKI SIDIROKASTROU S.A.

Geotechnical Investigation and Geotechnical Foundation Design for a wind farm consisting of 20 Wind Turbines, (55m high).



### WIND FARM AT MARMARI AREA, EVIA ISLAND, GREECE

Client:  
IBY ITA S.A.

Geotechnical Investigation and Geotechnical Foundation Design for a wind farm consisting of 13 Wind Turbines, (35-50m high).



### SOLAR THERMAL POWER PLANT OF 25 MW MUNICIPALITY OF LEFKI, CRETE ISLAND, GREECE

Client:  
ABENGOA SOLAR

Geotechnical, Geological and Geophysical Investigation. Preliminary Foundation Design of a 200m high Power Tower and 5 Industrial Building Complexes.



EXPERIENCE IN

# GEOSYNTHETIC APPLICATIONS



Design of various structures incorporating all modern-technology geosynthetic materials (geogrids, geotextiles, geomembranes, etc).





## GEOSYNTHETIC APPLICATIONS

### CONSTRUCTION OF RESERVOIR IN GREENHOUSE INSTALLATION AT DRAMA CITY AREA, THRACE PREFECTURE, GREECE

Client:  
LINKCHART HELLAS S.A.

Geotechnical Design, Inspection  
and Consulting Services during  
construction of the reservoir required  
for the 100.000m<sup>2</sup> Greenhouse  
with special geotextiles and  
geomembranes.



### REINFORCED EMBANKMENT AT CH. 247+880 OF THE NEW ATHENS - THESSALONIKI MOTORWAY, THESSALY, GREECE

Client:  
MINISTRY OF PUBLIC WORKS /  
THESSALIKI S.A.

Geotechnical Design and  
Dimensioning of a reinforced  
embankment (length=150m,  
height=15m) with geogrids.



### RESTORATION OF SXISTOS LANDFILL AREA, GREATER ATHENS AREA

Client:  
MINISTRY OF PUBLIC WORKS /  
PRISMA DOMI S.A.

Geotechnical Design and  
Dimensioning of the protection  
measures at the western slope area  
of the landfill by special geotextiles,  
geomembranes and geogrids in  
order to restore the landfill.



### IKARIA ISLAND RESERVOIR GREECE

Client:  
MINISTRY OF AGRICULTURE

Consulting Services during  
the construction of Ikaria  
reservoir, including application  
of geomembrane/geotextile  
waterproofing system.  
Volume of the reservoir is 150.000m<sup>3</sup>.



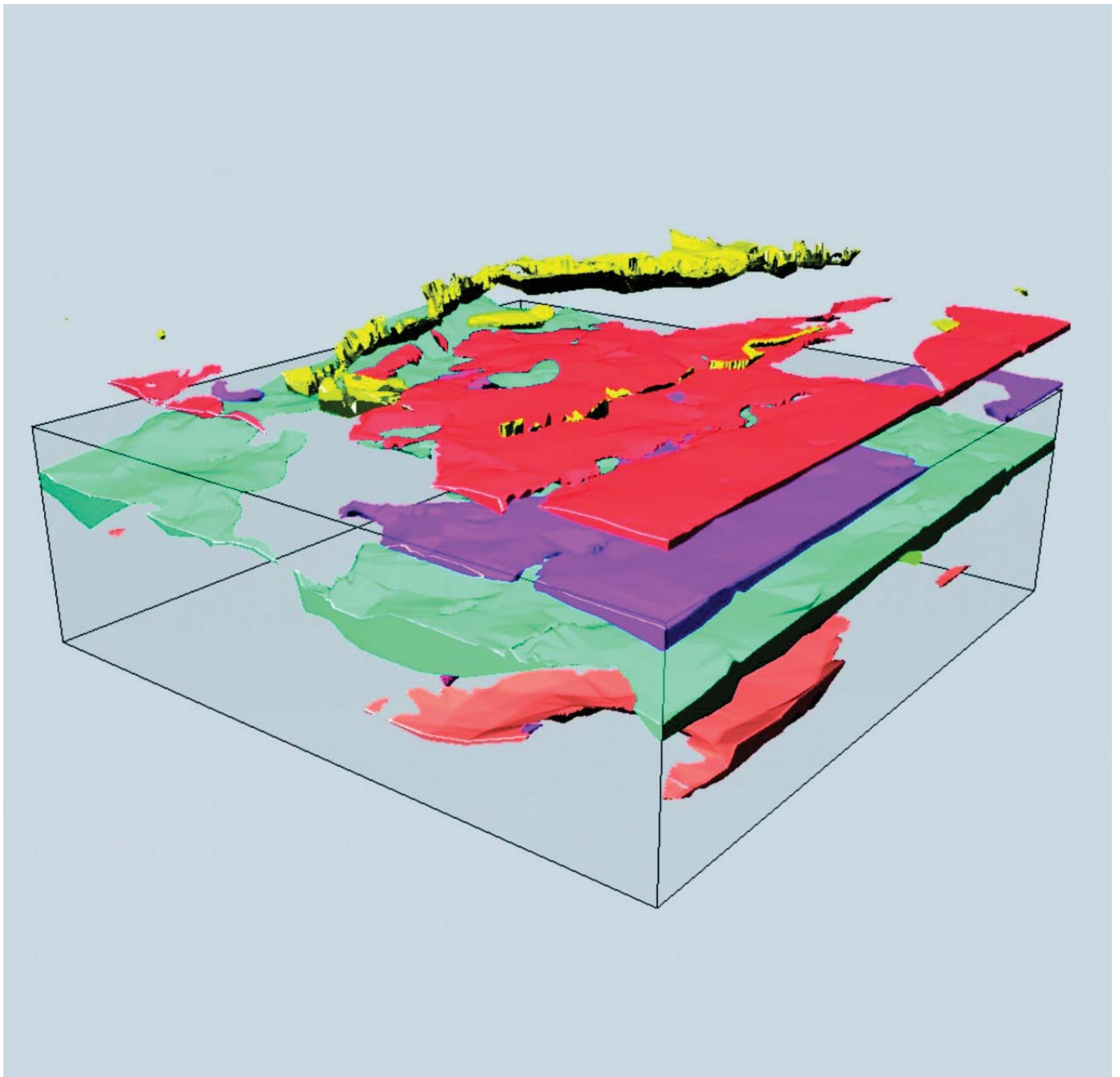


EXPERIENCE IN

# GROUND WATER MANAGEMENT



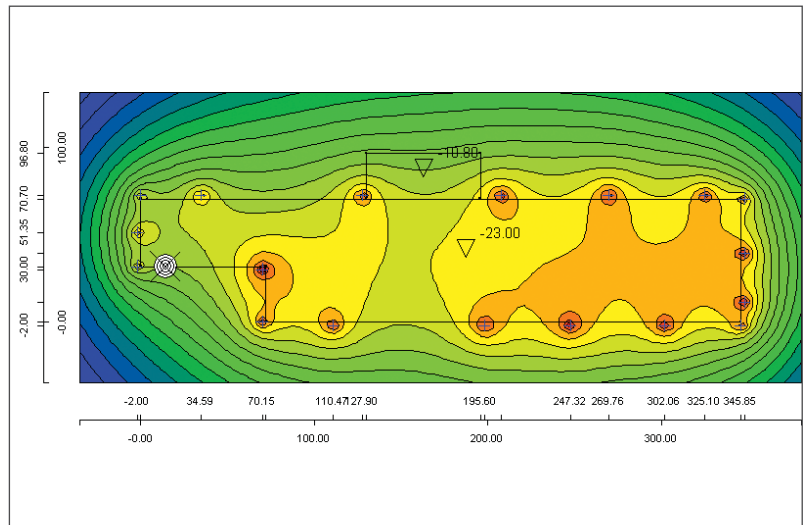
Geological - Hydrogeological Studies, 3-D Modeling,  
Well Testing and Development, Dewatering Design,  
Desalination Systems, Geochemical Analyses, GIS Applications.



## DEWATERING DESIGN OF EDUCATION CITY STATION, DOHA METRO (Pre-Tendering stage)

Client:  
SSF Ingenieure S.A.

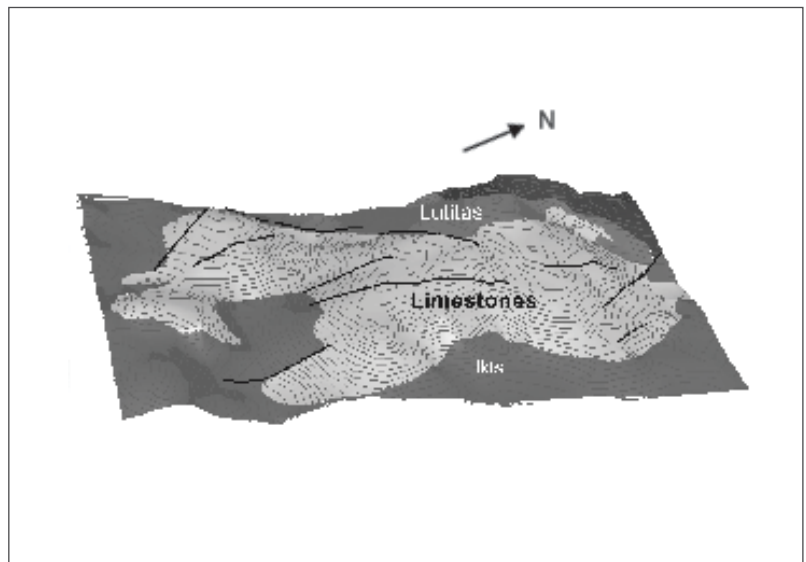
Assessment of the Geological & Hydrogeological data, Calculations, Modelling & Design of the Dewatering System of the Station.



## HYDROGEOLOGICAL STUDY FOR THE PROTECTION OF THE GROUND WATER AQUIFER SYSTEM EL COLORADO AREA, EL SALVADOR

Client:  
EL SALVADOR CEMENT INTUSTRY

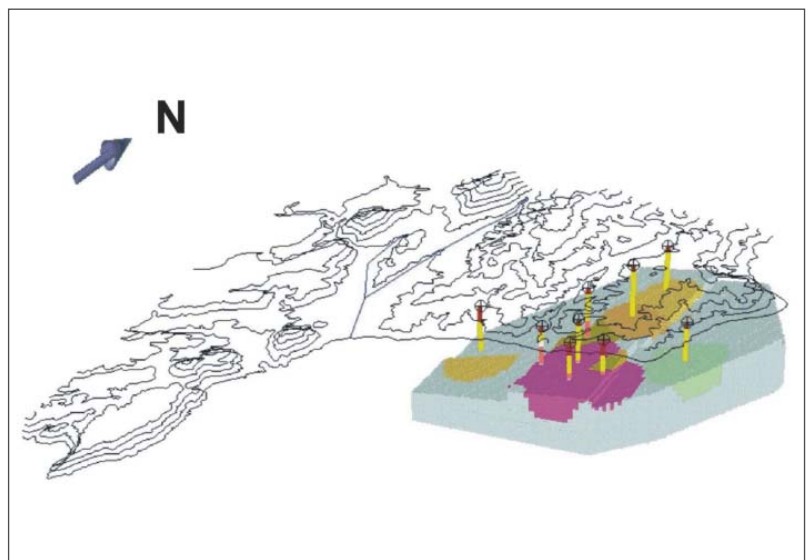
Geological & Hydrogeological Study, Geochemical Analyses of the Ground Water System, 3-D Modelling.



## ARTIFICIAL RECHARGE OF KARSTIC GROUND WATER USING 3-D MODELLING, ENIPEAS RIVER BASIN, THESSALY, GREECE

Client:  
THESSALY PREFECTURE

Geological & Hydrogeological Model, Ground Water Model using 3-D CAD techniques for the delineation of the aquifer geometry.



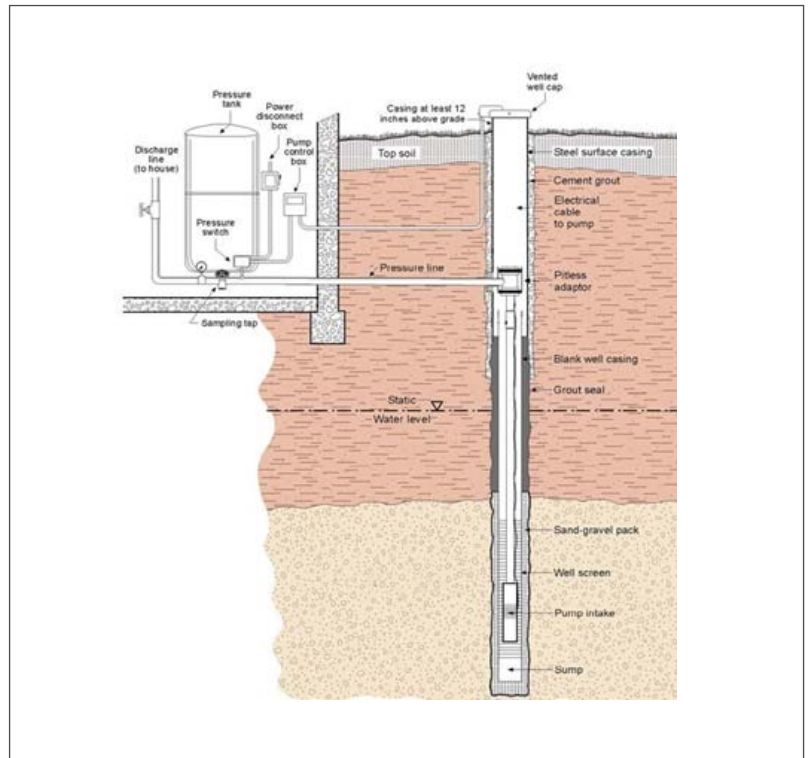


## GROUND WATER MANAGEMENT

### WELL REHABILITATION AND DEVELOPMENT AT 10 WELL FIELDS, NORTH THESSALY BASIN, GREECE

Client:  
THESSALY PREFECTURE

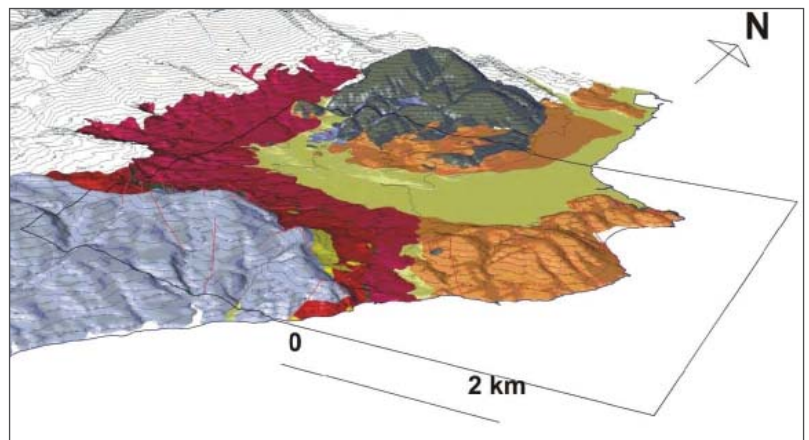
Data Collection, Field Observation, Pumping Tests, 3-D Ground Water Model for each Well Field, Well Development Studies.



### GEOCHEMICAL ANALYSIS MODEL AT THE KAVALA REGION GEOTHERMAL FIELD, MACEDONIA, GREECE

Client:  
MACEDONIA PREFECTURE

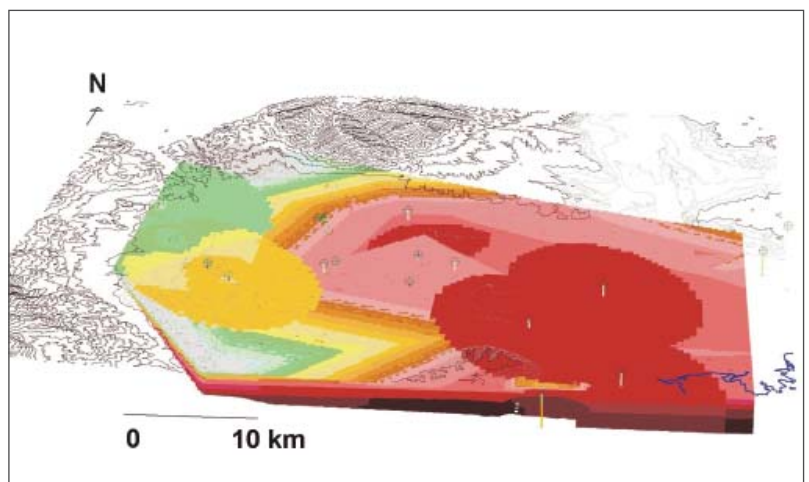
Geological Study, Geochemical Analyses, 3-D Modelling of the chemical elements scattering.



### HYDROGEOLOGICAL STUDY FOR THE WATER SUPPLY OF THE INDUSTRIAL ZONE OF PATRAS, GREECE

Client:  
HELLENIC BANK FOR THE INDUSTRIAL DEVELOPMENT (ETVA S.A.)

Geological & Hydrogeological Study, Artificial Recharge Study, Well Exploration, Pumping Tests, 3-D Modelling.

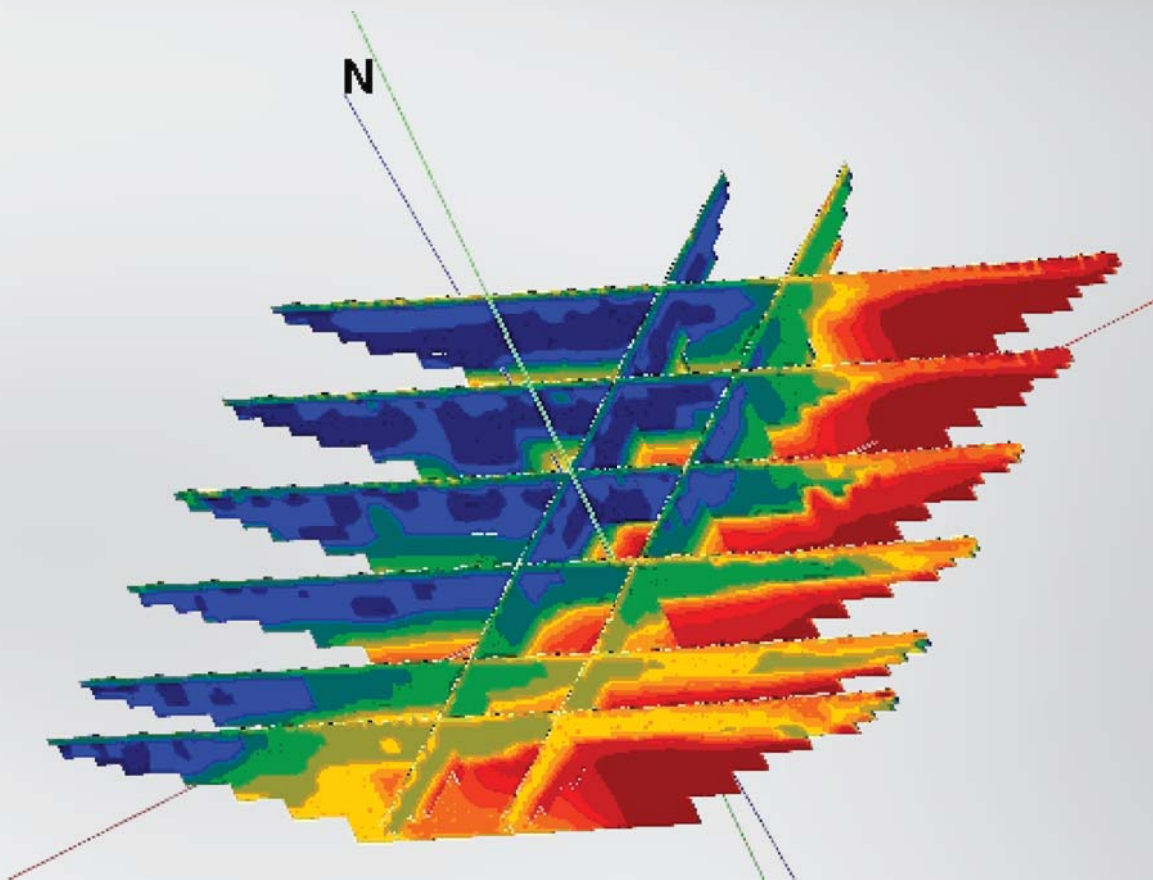


EXPERIENCE IN

# G E O P H Y S I C A L I N V E S T I G A T I O N S



Karsts - Cavities - Sinkholes - Fracture Zones,  
Utilities - Buried Structures,  
Reinforcement - Voids of Concrete,  
Seismic/Dynamic Properties of Subgrade Materials,  
Unexploded Ordnances (UXO's), Marine - Hydrographic Services  
Environmental Applications, Parameters for Grounding Design





# GEOPHYSICAL INVESTIGATIONS

## KARSTS - CAVITIES - SINKHOLES - GROUND WATER TABLE - FRACTURE ZONES

Project:  
"KTENIAS", TRIPOLIS GREATER AREA,  
PELOPONNESSE, GREECE

### Scope:

- Detection of cavities-karsts, sinkholes and fracture zones with non-destructive geophysical methods

### Geophysical Methods:

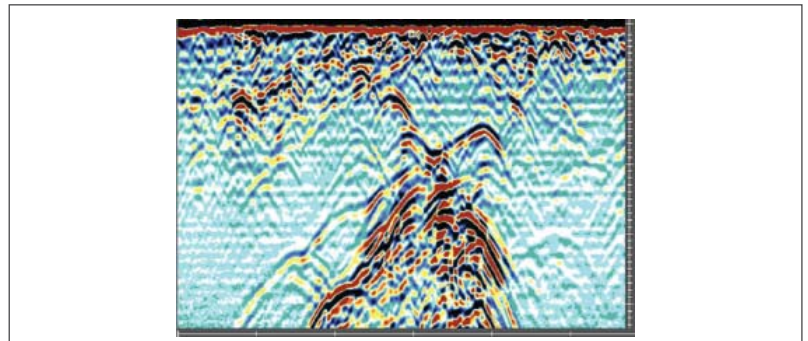
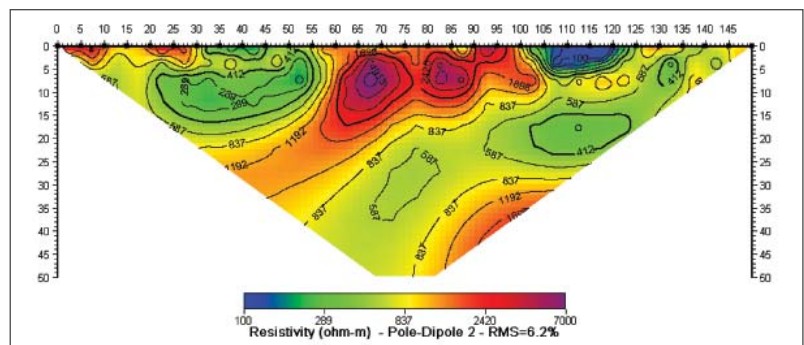
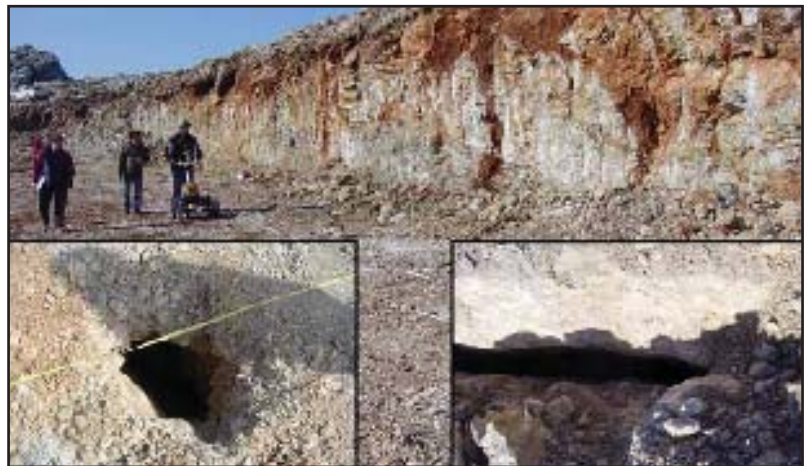
- Ground Penetrating Radar (GPR)
- Electrical Resistivity Tomography (ERT)

### Geophysical Equipment:

- Mala Geoscience GPR (ProEx Control Unit, shielded antennas of 500, 250 MHz and unshielded of 100, 50 & 25 MHz central frequency, XV11 monitor, Trimble RTK GPS)
- Terrameter LS 16 channel resistivity meter, multicore cables, electrodes

### Depth Range:

- 0 - 15m (GPR Method)
- 0 - 80m (ERT Method)



## THESSALONIKI METRO, GREECE

Project:  
THESSALONIKI METRO, GREECE

### Scope:

- Detection of buried structures (water pipes, cables, sewer pipes, ancient remains, etc.), along the Metro Alignment using non-destructive methods

### Geophysical Methods:

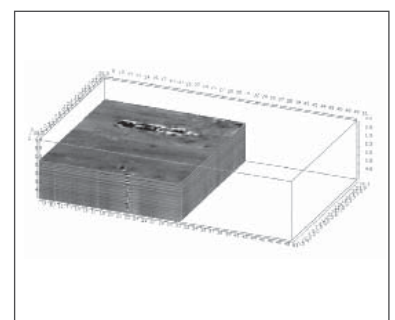
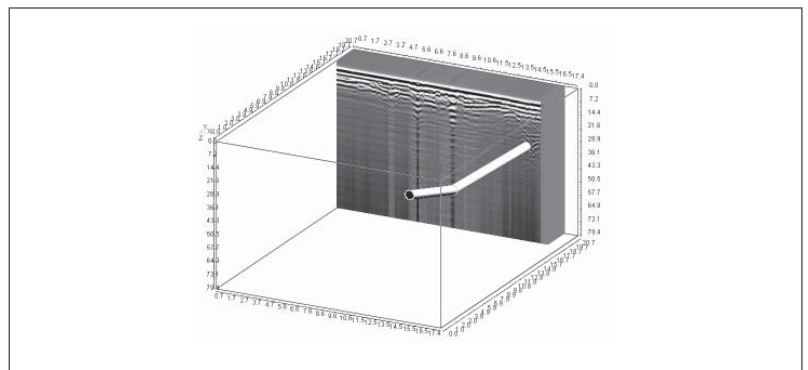
- Ground Penetrating Radar (GPR)

### Geophysical Equipment:

- Mala Geoscience GPR (ProEx Control Unit, shielded antennas of 500, 250 MHz, 1.6 GHz central frequency, XV11 monitor, Trimble RTK GPS)

### Depth Range:

- 0 - 6m



## SEISMIC/DYNAMIC PROPERTIES OF SUBGRADE MATERIAL

Project:  
DESIGN OF "ASOPOS" EARTH DAM,  
GREECE

### Scope:

- Detection of the dynamic elastic parameters of the subgrade materials in the foundation area for the a-seismic design of the dam (80m high)

### Geophysical Methods:

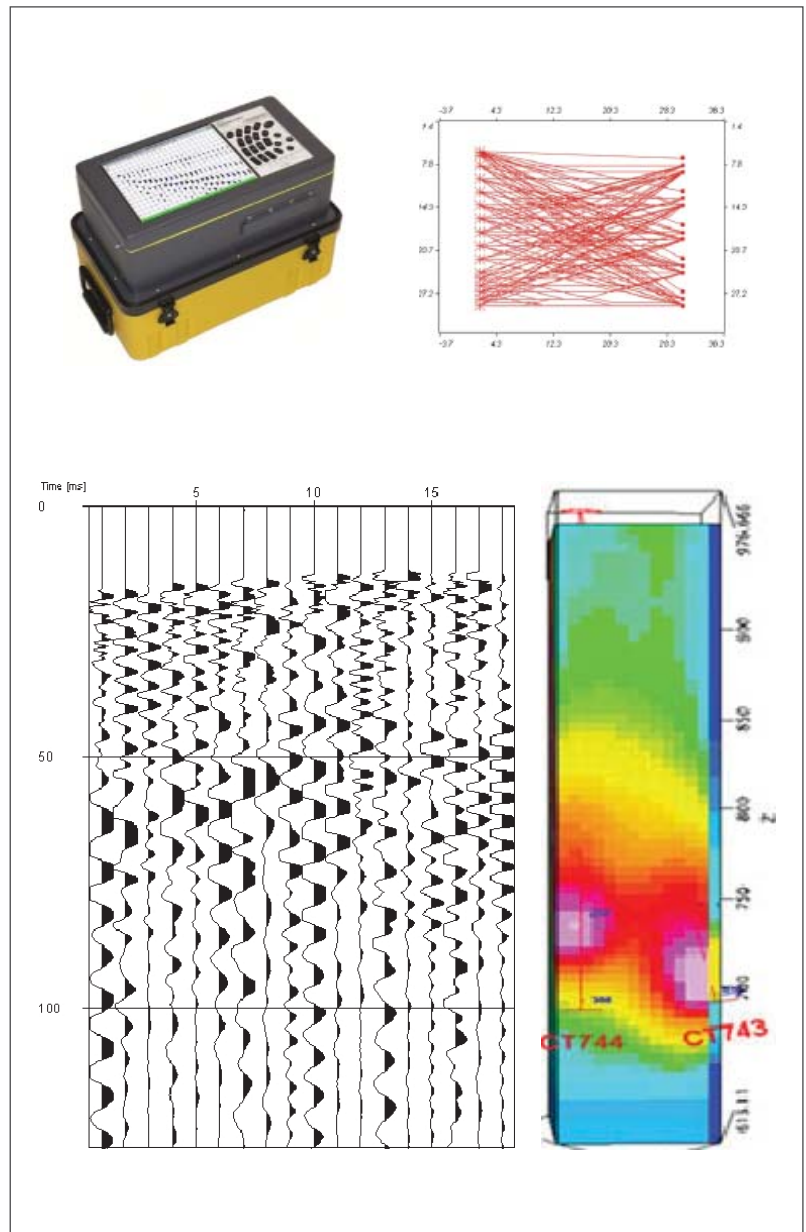
- Seismic Tomography (CSL Method)

### Geophysical Equipment:

- Digital Seismic recorder with 24 channels of GEOMETRICS Company, model SMARTSEIS, with sampling ability of 32 ms.
- Mechanical seismic source, automatic, with applicability within the borehole. Type MH 60 of company VIBROMETRIC OY.
- Wooden beam for the production of S-waves in the multi-offset VSP method.
- Chain of eight (8) tri-axial geophones, with 5 meters spacing between geophones and ability to attach them to the walls of the borehole.
- Control Box for controlling the seismic source. Control Box for controlling the geophones. Laptop to control the data quality and their preliminary processing.

### Depth Range:

- 0 - 100m



## ENVIRONMENTAL APPLICATIONS - GROUNDING DESIGN

Project:  
PETROLINA FACILITIES, CYPRUS

### Scope:

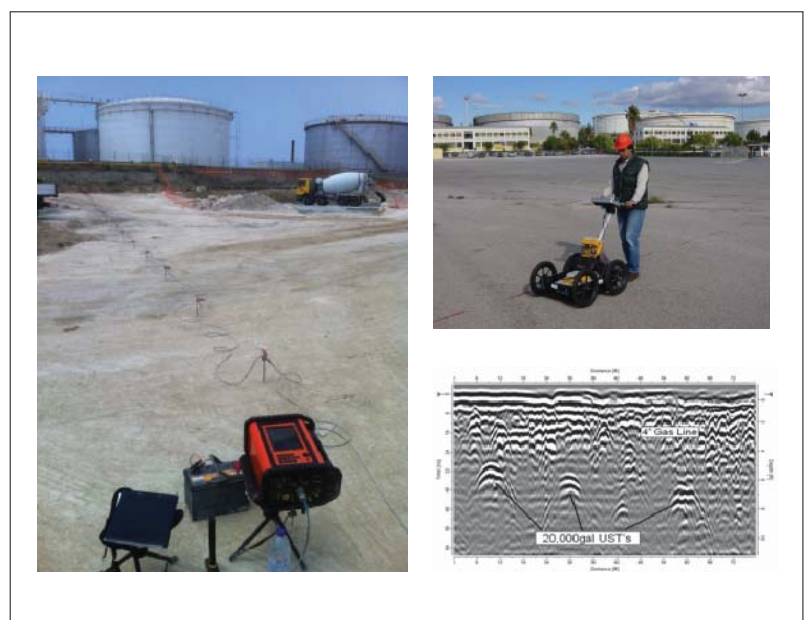
- Hazardous waste mapping, underground storage tanks (UST), Resistivity definition for Grounding Design

### Geophysical Methods:

- GPR
- ERT

### Geophysical Equipment:

- Mala Geoscience GPR
- Terrameter LS 16 channel resistivity meter, multicore cables, electrodes





EXPERIENCE IN

# GEOTECHNICAL INVESTIGATIONS



More than 30.000m of coring boreholes, both on-shore and off-shore  
with in-situ and laboratory testing for more than 500 different projects.



GEOMELETI has the capability and experience to execute a wide range of field and laboratory testing / investigations.

Our experience includes execution of more than 30.000m of coring boreholes, both on-shore and off-shore, for more than 500 different projects, with corresponding laboratory testing and evaluation of their results. For these projects programming and inspection of the works were included in our scope.



*On-Shore Boreholes*



*Off-Shore Boreholes*



*Wagon-Drilling*



# GEOTECHNICAL INVESTIGATIONS



Laboratory Testing



*Trial Excavation*



*Pressuremeter Testing*



*Rock Sampling*



*Soil Sampling*



