## 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, is staffed with experienced Engineers and Engineering Geologists and managed by P. Laskaratos, V. Sotiropoulos and T. Katsoularis, having extensive experience respectively, among others, in all aspects of Geotechnical / Infrastructure Engineering (Railway Projects, Hydraulic works, Road and Bridge design, Building foundation design, Tunnels, Slope design etc).

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), Hocthief (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.

#### Vassilis Sotiropoulos:

Geotechnical - Chemical Engineer having more than 45 years of experience in field and laboratory testing, quality control, application of goesynthetics and geotechnical design of infrastructure engineering projects including dams, embankments, pavements, landfills, 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.



#### **OFFERED SERVICES**

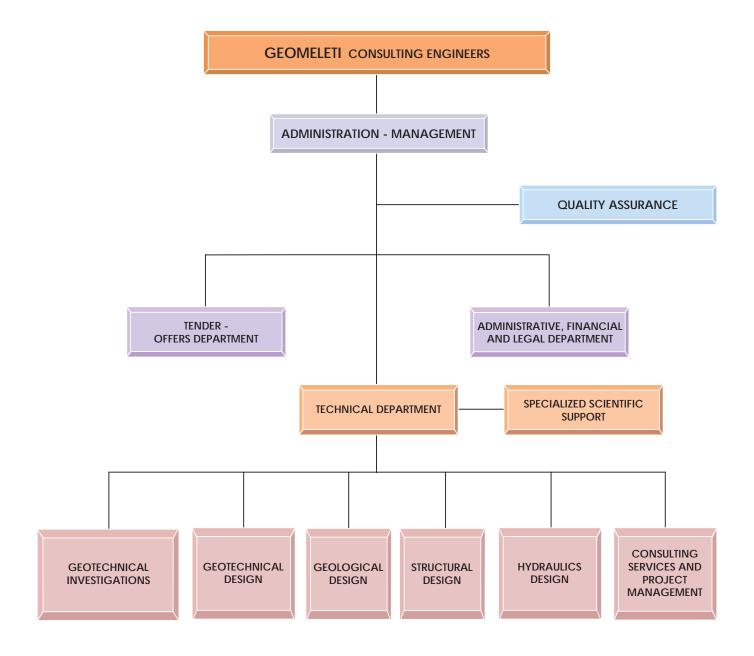
- Programming of Investigations
- Inspection of Geotechnical Works
- Interpretation of Investigation Results
- Sampling Boreholes: On-shore / off-shore
- Trial Pits
- Special Sampling Works
- In situ permeability Testing
- Standard Penetration Tests (S.P.T.)
- Plate Loading Testing
- Wagon Drillings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

### GEOTECHNICAL ENGINEERING DESIGN

## GEOTECHNICAL CONSULTING SERVICES





SELECTED PROJECTS

## 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.





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

Client:

REAL ESTATE DEVELOPMENT KOMOTINI S.A.

Geotechnical Investigation with Coring Boreholes and Trial Pits and Geotechnical Design of Buildings of a Shopping Mall at Komotini City.

It is a Complex of Buildings of 10.000m² ground coverage with two basements and five floors at an environment of high ground water level.



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

Client:

J & P DEVELOPMENT

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



#### NATIONAL LIBRARY, PRAGUE, CHECH REPUBLIC

Client:

J & P DEVELOPMENT

Geotechnical 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>.



#### **BUILDINGS**

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

Client:

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

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



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

Client: DOL S.A.

Geotechnical Investigation with Coring Boreholes and Trial Pits and Geotechnical Design for an Industrial Complex of Buildings, with ground coverage of 25.000m², 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 Design for a Complex of Residential Building with ground coverage of 8.500m², total Height of 24m and total floor area of 31.500m², with three basements close to a river, with loose sand-gravel deposits.



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





#### TECHNICAL COLLEGE, KARPENHSI, EVRITANIA MUNICIPALITY, GREECE

Client: EVRITANIA MUNICIPALITY

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





#### **RETAINING STRUCTURES - UNDERPINNING**

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

Client: KAROYZOS CONSTRUCTION S.A.

Geotechnical Design for 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 Design for a 10m Deep Anchored Piled Retaining Wall, designed to Retain 2 Basements, excavated Under Existing Old Masonry Building.





## 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 ( $H_{\rm max}$ =22 - 35m) and Embankments ( $H_{\rm max}$ =10-15m).





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

OLYMPIA JV (HOCTHIEF-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.



#### **ROAD DESIGN**

## "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<sub>max</sub>=11-22m, L=60-200m), 5 Open Cuts (H<sub>max</sub>=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.



## 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<sub>total</sub>=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 ( $L_{1A}$ =531m) and 1D ( $L_{1D}$ =636m). 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.

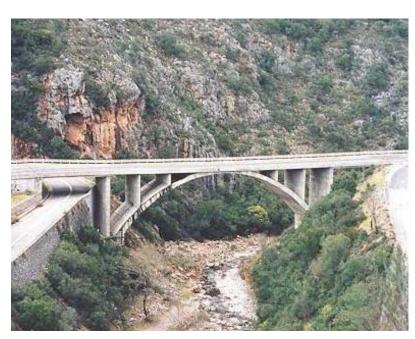




#### KOSKARAGA RIVER BRIDGE PELOPONNESE, GREECE

Client: PELOPONNISOS REGION / KYROMITIS S.A.

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



## UNDERGROUND GEOMELETI STRUCTURES



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



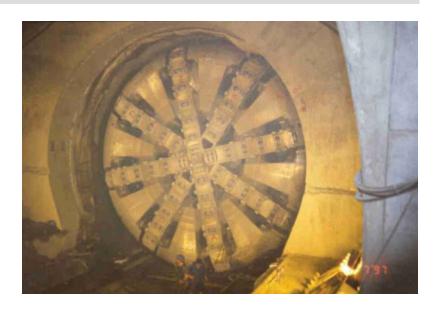


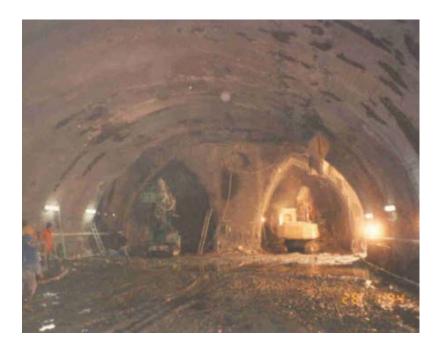
#### **UNDERGROUND STRUCTURES**

#### **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).





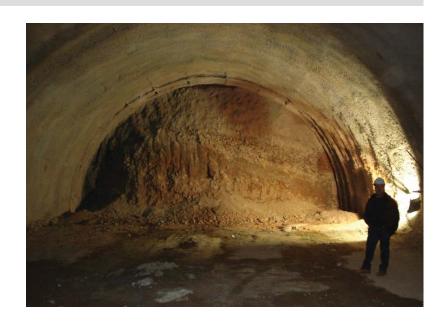


#### **UNDERGROUND STRUCTURES**

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: HOCTHIEF-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.



## RAILWAY PROJECTS



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



#### **RAILWAY PROJECTS**

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

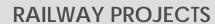
Client: ISAP S.A.

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.







## 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 2.500.000m³ 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.



#### **HYDRAULIC WORKS**

#### "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.



## 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.





#### AIRPORTS, PORT/OFF-SHORE STRUCTURES

## 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.





## RENEWABLE ENERGY PROJECTS



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





#### RENEWABLE ENERGY PROJECTS

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.



## GEOSYNTHETIC GEOMELETI 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.









#### **GEOSYNTHETIC APPLICATIONS**

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 PUPLIC 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.

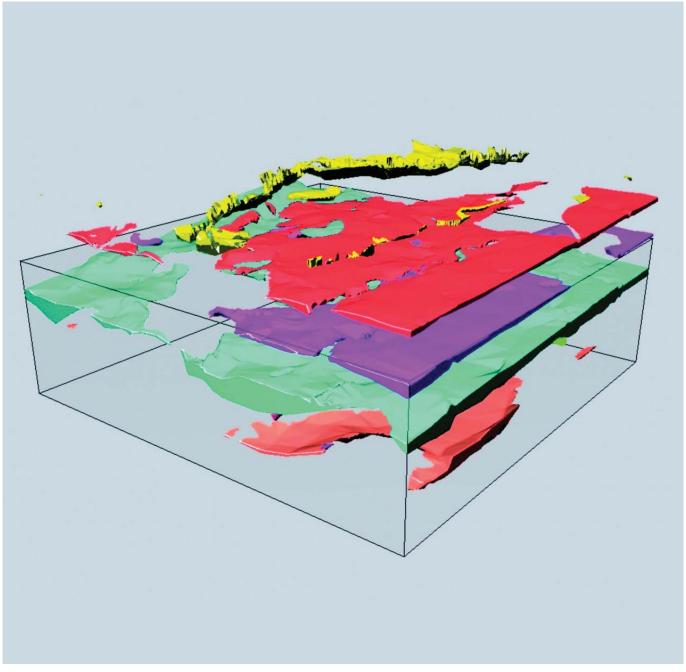
Volume of the reservoir is 150.000m<sup>3</sup>.



## GROUND WATER MANAGEMENT



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





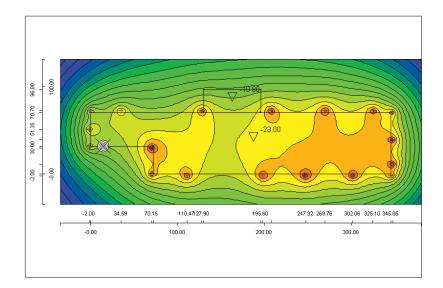
#### **GROUND WATER MANAGEMENT**

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.

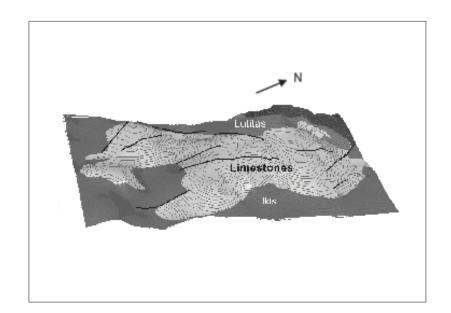


HYDROGEOLOGICAL STUDY FOR THE PROTECTION OF THE GROUND WATER AQUIFER SYSTEM EL COLORADO AREA, EL SALVADOR

Client:

EL SALVADOR CEMENT INTUSTRY

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

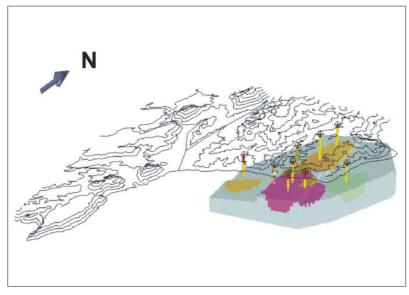


ARTIFICIAL RECHARGE OF KARSTIC GROUND WATER USING 3-D MODELLING, ENIPEAS RIVER BASIN, THESSALY, GREECE

Client:

THESSALY PREFECTURE

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



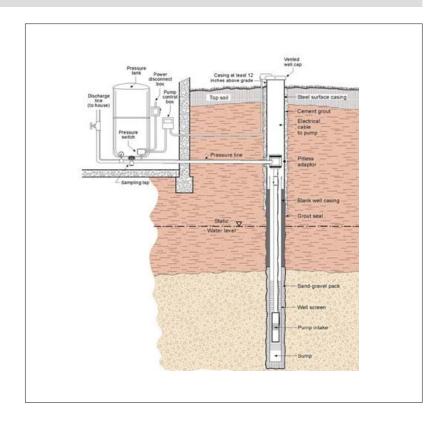
#### **GROUND WATER MANAGEMENT**

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.

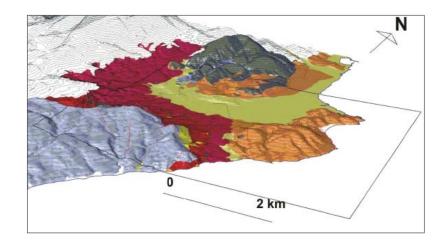


#### GEOCHEMICAL ANALYSIS MODEL AT THE KAVALA REGION GEOTHERMAL FIELD, MACEDONIA, GREECE

Client:

MACEDONIA PREFECTURE

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

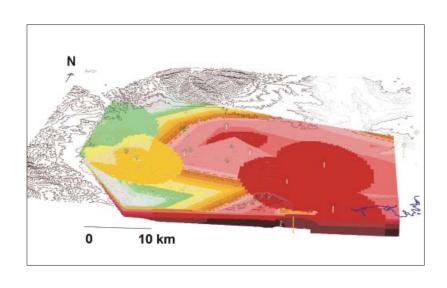


#### HYDROGEOLOGICAL STUDY FOR THE WATER SUPPLY OF THE INDUSTRIAL ZONE OF PATRAS, GREECE

Client:

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

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





## GEOPHYSICAL INVESTIGATIONS

Karsts - Cavities - Sinkholes - Fracture Zones,

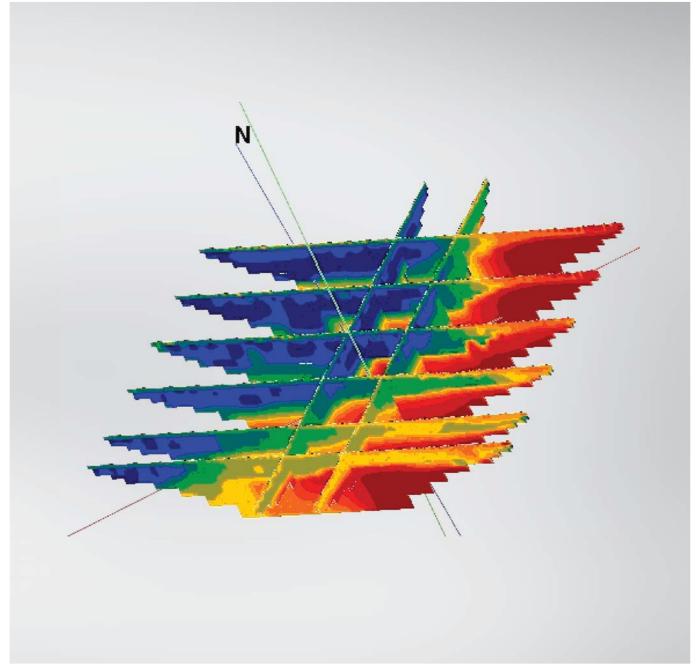
Utilities - Buried Structures,

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, PELOPONESSE, 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)

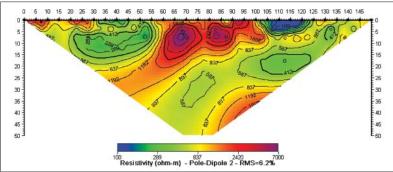
#### **Geophysical Equipment:**

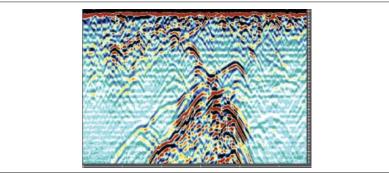
- Mala Geoscience GPR (ProEx Control Unit, shielded antennas of 500, 250 MHz and unshielded of 100, 50 & 25 MHz central frequency, XV11 monitor, Trimple RTK GPS)
- Terrameter LS 16 channel resistivity meter, multicore cables, electrodes

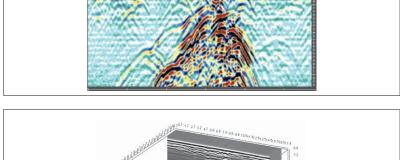
#### Depth Range:

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

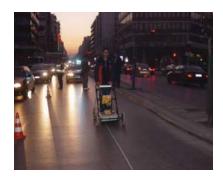


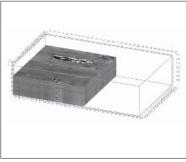






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#### THESSALONIKI METRO, GREECE

#### 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, Trimple RTK GPS)

#### Depth Range:

- 0 - 6m



#### **GEOPHYSICAL INVESTIGATIONS**

#### 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

PETROLINA FACILITIES, CYPRUS

#### Scope:

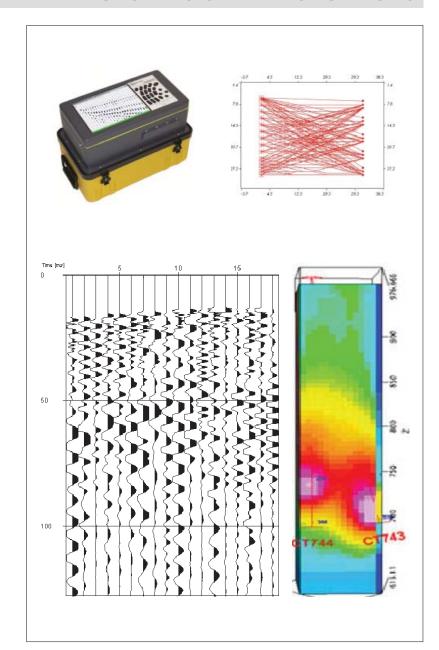
- Hazardous waste mapping, underground storage tanks (UST), Resistivity definition for Grounding Design

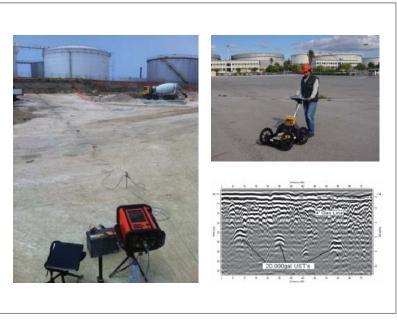
#### **Geophysical Methods:**

- GPR ERT

#### **Geophysical Equipment:**

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





## GEOTECHNICAL GEOMELETI 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.





#### **GEOTECHNICAL INVESTIGATIONS**

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 offshore, 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



#### **GEOTECHNICAL INVESTIGATIONS**



Trial Excavation





Pressuremeter Testing



Rock Sampling



Soil Sampling

