ALPHA GEOSCIENCE (K)LTD

Company Profile

www.alphageoscience.co.ke

About Us

Alpha Geoscience Kenya Ltd is a private company registered under the Kenya Companies Act (Cap. 486)and qualified water resourses contructor (lisence no. WD/WC/2780) with its headquarters in Mombasa. We have ventured in water and environmental services which include Hydro geological and Geophysical site investigation, Environmental and Social Impact Assessment (ESIA), Geotechnical investigation works and borehole services. We have a team of geologists, geophysicists, Lead experts and Environmental engineers with a wealth of experience in conducting water and environmental services in both Kenya and abroad. Our performance is timely based with quality being our main concern. Based on the client's business needs and financial status, we offer advice so that we can meet their expectations.

We provide solutions that help you to:

- Increase productivity
- Increase customer satisfaction
- Develop and promote your Business/Organization
- Reduce the operating cost

Vision

Our vision is to provide professional, cost effective and quality water and environment services.

Mission

To provide effective water and environmental services by building a strong, team-based relationship with our clients, providing a safe and empowering workplace for our employees, adhering to the highest standards, continually striving for excellence, and developing innovative solutions to deliver optimal performance.

Values

- Integrity
- Transparency
- Customer Focused
- Quality performance
- Ownership

Our Services

Geophysical and Hydro Geological Survey.

- Geological & Geophyisical survey for evaluation and assessement of availability of road/construction aggregate for proposed quarry sites.
- Ground water survey (Assessment of groundwater resources in an area to advice on the viability of drilling a production borehole that can be used to supply water) Upon conducting the hydro geological survey, we do a follow-up to ensure that the client has been issued with the Pre requisite drilling permit by WRMA.
- Geophysical logging (Recording and analyzing different properties of a borehole by lowering probes that collect continuous or point data that is physically displayed as a geophysical log)

Borehole Drilling and Services

- Assessment of base-line conditions prior to drilling
- Borehole drilling and development
- Geophysical logging
- Monitoring of post –drilling conditions
- Borehole rehabilitation
- Test pumping services
- Installation of pumps
- Installation of ground water monitoring devices

Environmental & Social Impact Assessment & Environmental Audit.

The purpose of the ESIA is to assess and predict potential adverse social and environmental impacts and to develop suitable mitigation measures, which are documented in an Environmental and Social Management Plan (ESMP). Alpha Geoscience (K) Ltd has highly qualified and competent lead experts and environmental engineers
who offer qualitative assessment. Upon conducting the Environmental Impact Assessment, we do a follow-up to ensure that the client has been issued with the Pre requisite license by NEMA

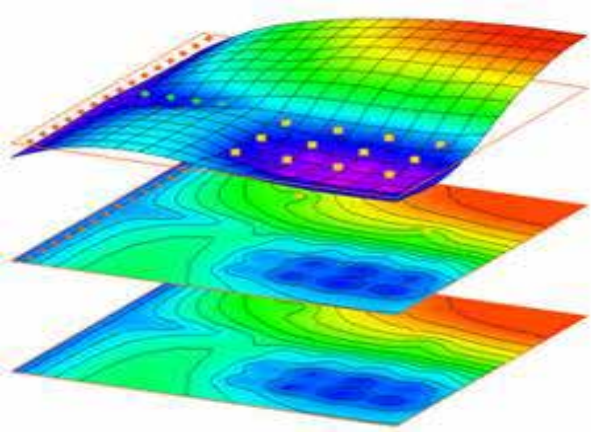
Geographical information system(GIS) & remote sensing

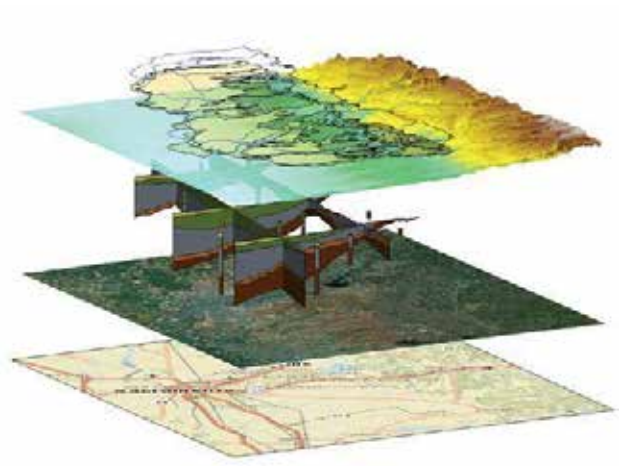
- Use of GIS techniques to store, arrange,retrieve, classify, manipulate, analyze & present huge spatial data & information in a simple manner & application of remote sensing as an essential tool for groundwater studies especially for extended and complex systems.

Borehole Camera inspection to offer quick and comparatively inexpesive way to inspect, investigate and verivy the downhole conditions at depths not easily reachable by other means.

Ground Water Modelling

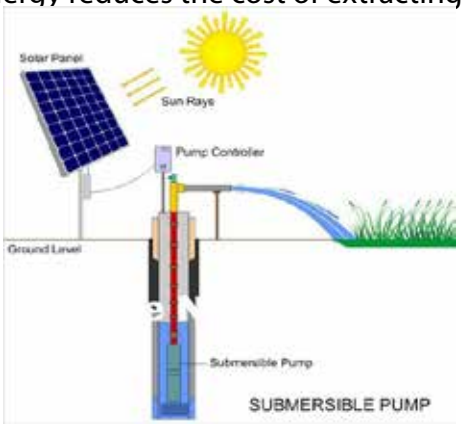
A groundwater model provides a quantitative framework for synthesizing field information and for conceptualizing hydrogeologic processes. We utilize the latest public domain modelling tools including SWAT, HEC-RAS, HEC-GeoRAS, HEC-HMS, HEC-GeoHMS, HEC-ResSim, WEAP, EPANET among other open tools. We also develop in-house PYTHON and R programming for customized modelling according to project needs. We also ensure maximum sustainability of the developed models and study results for our clients avoiding licensing issues while working with most up to date technologies. Fields of modelling expertise cover catchment hydrology, river hydrodynamics, groundwater, water quality, erosion, sediment transport, ecological modelling and climate change data downscaling.





Solar pumping system

Solar technology installed in water wells to provide rennewable power to boreholes. The solar energy reduces the cost of extracting water.



Civil works and fabrication

construction of water tower to support water tanks and solar structure - solar panels.

WATER BILLING SYSTEM

We provide all services to equip any city/organization to Install, manage and utilize an end-to-end metered Water Billing Infrastructure.

METERING INFRASTRUCTURE

Proper installation and management of smart/mechanical water meters and LoRaWAN network gate-ways for communication.

ANALYTICS AND POLICY

Augmentation System Services related to gathering data streams from smart meters / sensors and analysis of that data on real time basis to provide intelligence and anomaly detections. Using machine learning to understand patterns to predict events like pipe bursts before they happen.

Geotechnical Investigation Works

Alpha Geoscience (K) Ltd uses scientific methods to assess the soil, rock and groundwater conditions prior to the design and construction phases of developments projects. The Protocols and Standards adhered to during these Investigations are in line with the British Standard (BS 5930:1999), code of practice for site investigations, to ensure that reliable, consistent, qualitative and quantitative results are always obtained.

We are familiar with multiple investigative techniques ranging from geophysics to rotary core drilling to in-situ testing and test pitting, each with their own site-specific application and associated soil and rock laboratory testing.
Specialist services include, but are not limited to, the following types of investigations;

Large Structures:
Deep foundation investigations for large structures such as Multi-storey Buildings, Power Stations, Dams, Bridges, Power Lines, Shopping Centre's and buildings with multiple basement levels.

Stability Investigations:
Stability investigations for sites underlain by Soluble Rock. Final Report makes recommendations on the suitability of the site for a proposed structure, based on the results from the Test Pitting, Geophysical and slope stability analysis phases of the investigation.

Bulk Water Supply Systems:
Deep foundation investigations for the various infrastructural units forming part of bulk water supply systems such as Waste Water Treatment Works, Reservoirs, Elevated Water Tanks, Pump Stations and sub-surface pipe lines; with the associated calculations required for detailed designs such as lateral earth pressures and bearing capacity.

Equipment - Water well drilling

PRD SPEED STAR (SPIDER)

Specifications

- Drilling depth – maximum of 365m
- Hole diameter range 165mm - 305mm
- Pull up force 10,000 kgf
- Mud pump (PRD 150): Discharge 477 - 915 lpm
  Maimum pressure 35 - 18 kg/cm^2
  Stroke - 6” (152mm)
  Linear size - 6” (152mm)

ROCKBUSTER R100

Specifications

- Drilling depth – maximum of 150m
- Hole diameter - maximum of 254mm
- Drill motor: Single speed 0-135rpms, 900ft-lbs (1220Nm) Max Torque
- Push Down: 10,000 lbs (@100rpms)
- Pull Back: 12,000 lbs (static) 12ft stroke
- Top Drive Water Swivel, 2” Side Inlet, 600 psi, Mayhew Junior Pin
- Mud Pump: Centrifugal 3” suction X 2” discharge impeller, up to 35psi and 250gpm, circulation Bypass

PAT DRILL 301

Specifications

- Drilling depth – 150m
- Hole diameter 165mm
- Mud pump (TAKI): Discharge 600 lpm
  Total Head 30 mtr
  Input Speed - 1450 rpm
  Engine Power - 10HP
  Delivery Size - 65mm
  Suction Size - 75mm

Project photos

Drilling in progress at umoja borehole for client Mr. joseph Ngaruiya Mbua,

Pumping test after successful drilling and striking water in umoja innercore area

Pumping test after successful drilling and striking water in Githurai 45

Drilling in progress at Mugumoini Thika area borehole for client Mrs. Lucy Mugo,

Drilling in progress at Githurai 45 borehole for client Mr. Peter Mwangi Waweru

Hydrogeological Survey in Mikindani

Drilling in progress within Majoreni area of Kwale County

Successfully stroke a potential aquifer in Chigombero area of Kwale County

Drilling within Ukunda area of Kwale County

Hydrogeological survey within Rabai area of Kilifi County

Commissioning of community project in Kwale County

Mud drilling in progress within Mikindani area

Mud drilling in progress using the potable PAT 301 Rig in Majoreni area of Kwale County

Successfully striked a potential aquifer within TEZO area of Kilifi County.

Hydrogeological survey in progress within Voi area of Taita Taveta County

Water well drilling

Communnity project Majoreni - Kwale county

Drilling in Progress in Tana River

successfuly striked a potential Aquifer

Installation of 10" Casings and screens

Mamba- Kwale County

Ganda - Malindi - Kilifi County

Mwapala- Kwale County

Sheep & Goat - Kwale County

Vipingo Kilifi county

Bura anani - Tana river county

Monitoring of water quality during drilling

Fastening the bottom cap

Cleaning gravel pack before insertion in the borehole

ODA - Tana River County

Majoreni - Kwale county

Geo physical survey

Kombani - Kwale County

Mkunguni - Kwale County

Changoto - Kilifi County

Ruai - Nairobi County

Mja na Heri - Kilifi County

Marafa- Kilifi County

Ogango - Nyamira County

Tiwi- Kwale County

Subira - Kwale County

Tiwi - Kwale County

Nyali - Mombasa County

Field meeting with client in - Tana river County

Mariakani - Kwale County

Mtsanganatifu - Kwale County

Mivumoni - Kwale County

Maderte - Tana river County

Geo technical investigation

Excavation of trial pit - Mombasa county

Geo technical drilling - Kericho county

DCPT - Test - Mombasa County

Geo technical investigation

Standard Penetration Test

Coring in progress

Dynamic Cone Penetration Test

Geo technical investigation

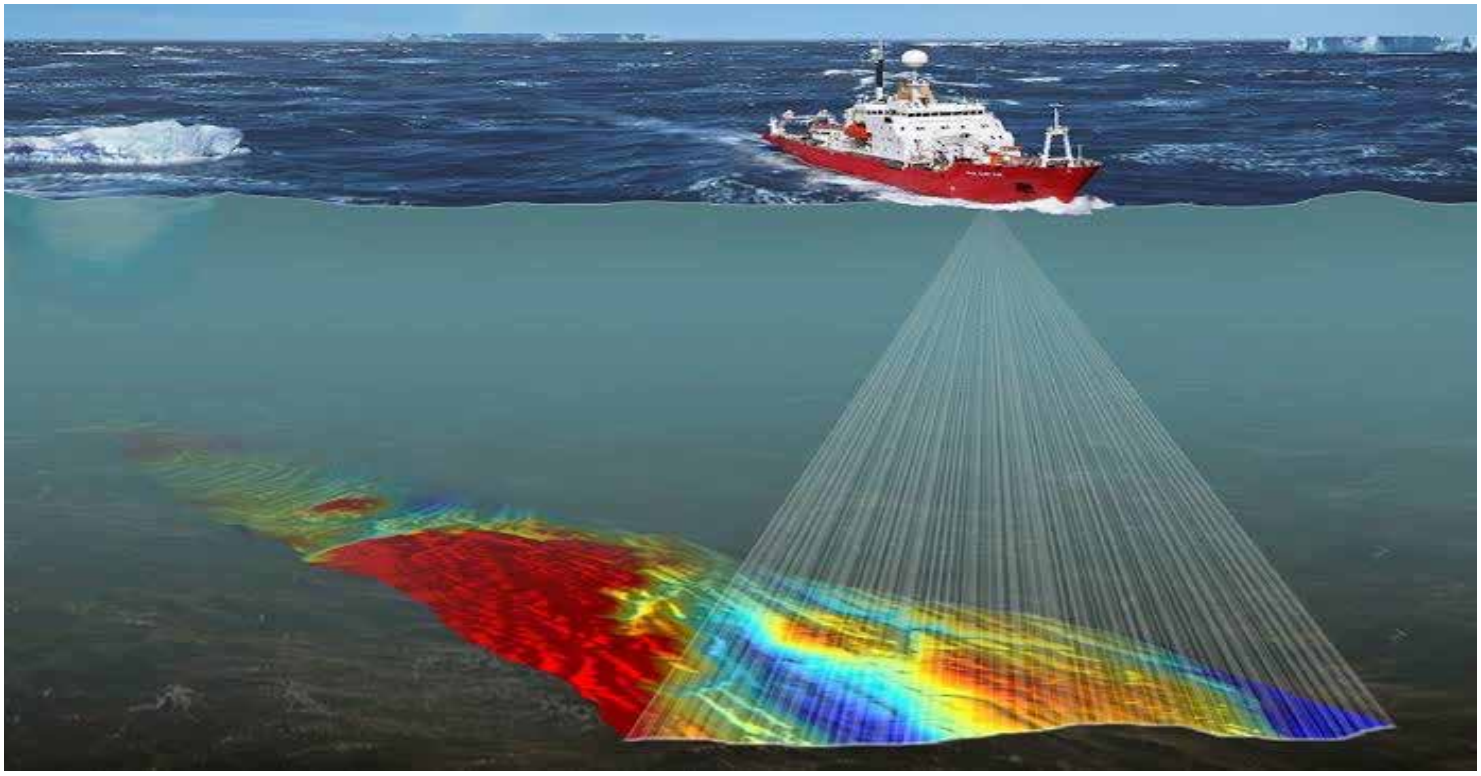
Soil investigation in progress

Core sample boxes

Bathymetric Survey

Bathymetric surveys are type of hydrographic survey which map out the details of under water terrain illustrating the depth and land that lies beneath water body. Data can be collected for a variety of water bodies including rivers, lakes and oceans using sonar technology or other specialized instruments. Resulting data can be used to create detailed maps of under water features which are usefull for a variety of application such as: navigation, resource mapping and environmental studies.

Bathymetric Survey / Hydrographic Survey in progress in Mombasa



Topographical Survey

Topographic survey gathers data about the natural and man-made features of the land, as well as its terrain. Permanent features such as buildings, fences, trees and streams accurately define the ground and its boundaries.

Topographic survey in progress

Boundary survey in progress

Geo tehnical Investigation

Pile Intergrity Test

Rebound / Schmidt Hammer Test

ALPHA GEOSCIENCE Kenya Ltd

Contacts

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