LIFE SHIELD
FOR WATER

دراسات . أبحاث . استشارات

Studies. Research . Consultations

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About Us

AquaShield Consulting is a premier consulting firm specializing in groundwater and surface water solutions. With a team of highly experienced engineers, hydrologists, and environmental scientists, we are committed to delivering innovative and sustainable water management strategies. Our mission is to address the complex challenges associated with water resources and provide comprehensive solutions that ensure the availability, quality, and sustainability of water for communities, industries, and ecosystems.

At **AquaShield** Consulting, we believe in the power of advanced technology and scientific expertise to tackle the most pressing water issues. Our services encompass a wide range of areas, including water resource management, hydrological modeling, groundwater assessment, surface water analysis, and integrated water solutions. We work closely with our clients to understand their unique needs and deliver tailored solutions that exceed expectations.

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Why Choose Us

- **Expertise and Experience:**

Our team consists of top-tier professionals with extensive experience in water resources management. We bring a wealth of knowledge and technical expertise to every project, ensuring that our solutions are both effective and efficient.

- **Innovative Solutions:**

At **AquaShield** Consulting, we are dedicated to staying at the forefront of technological advancements in the water industry. We leverage cutting-edge tools and methodologies to develop innovativesolutions that address the specific challenges faced by our clients.

- **Comprehensive Services:**

We offer a full spectrum of consulting services, from initial assessment and planning to implementation and monitoring. Our holistic approach ensures that all aspects of water management are addressed, providing our clients with integrated and sustainable solutions .

- **Client-Centered Approach:**

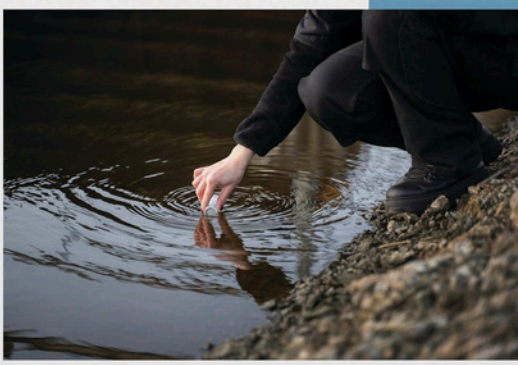
Our clients are at the heart of everything we do. We take the time to understand their goals, challenges, and constraints, and we work collaboratively to develop solutions that are customized to their needs. Our commitment to client satisfaction drives us to deliver exceptional service and results.

- **Sustainability Focus:**

We are deeply committed to promoting sustainable water management practices. Our solutions are designed to not only meet immediate needs but also to ensure the long-term viability and health of water resources for future generations.

- **Proven Track Record:**

Over the years, we have successfully completed numerous projects for a diverse range of clients, including government agencies, private companies, and non-profit organizations.
Our proven track record of success speaks to our ability to deliver high-quality, reliable, and impactful solution.



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Corporate Strategy

AquaShield Consulting is dedicated to establishing itself as a leader in the field of water resource management by focusing on the following strategic pillars:

Innovation and Technology Leadership

- Investment in R&D:

Continuously invest in research and development to stay ahead of technological advancements and provide cutting-edge solutions.

- Partnerships with Tech Firms:

Collaborate with leading technology companies to integrate the latest tools and software in our projects.

- Client-Centric Approach.
- Tailored Solutions:

Develop customized solutions that address the specific needs and challenges of each client.

- Enhanced Client Engagement:

Implement feedback loops and regular touchpoints to ensure ongoing client satisfaction and project alignment.

- Sustainability and Environmental Stewardship
- Green Practices:

Promote and implement environmentally sustainable practices in all our projects.

- Community Impact:

Engage with local communities to ensure our solutions support the long-term health and availability of water resources.

- Market Expansion and Diversification.
- Geographic Expansion:

Expand our presence into new geographic markets to reach a broader client base.

- Service Diversification:

Broaden our service offerings to include emerging areas such as climate change adaptation and water security.

- Operational Excellence
- Efficiency Improvements:

Streamline internal processes to enhance efficiency and reduce operational costs.

• Quality Assurance: Maintain rigorous quality control measures to ensure the highest standards in project delivery.

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Operational Model

AquaShield Consulting operates with a structured and efficient operational model designed to deliver high-quality services and solutions:

- Integrated Project Management
- Dedicated Project Teams:

Assign specialized teams to each project, consisting of experts in engineering, hydrology, environmental science, and project management.

- Project Lifecycle Management:

Follow a structured project lifecycle from initial consultation through to project completion, ensuring thorough planning, execution, and review.

- Collaborative Approach
- Interdisciplinary Collaboration:

Foster collaboration among diverse teams to leverage cross-functional expertise.

- Client Collaboration:

Work closely with clients throughout the project to ensure alignment with their goals and expectations.

- Technological Infrastructure.
- Advanced Tools:

Utilize the latest software and analytical tools for hydrological modeling, data analysis, and project management.

- Data-Driven Insights:

Implement data collection and analysis to inform decision-making and optimize solutions.

- Quality and Compliance
- Regulatory Adherence:

Ensure all projects comply with relevant local, national, and international regulations and standards.

- Quality Control Processes:

Implement stringent quality control processes at every stage of the project to maintain high standards.

- Sustainability Integration
- Eco-Friendly Practices:

Integrate sustainable practices into all operations, from office management to fieldwork.

- Resource Conservation:

Focus on solutions that promote the conservation and efficient use of water resources.

- Continuous Improvement
- Training and Development:

Invest in ongoing training and professional development for our team members to keep their skills and knowledge up-to-date.

- Feedback Mechanisms: Implement systems for capturing and acting on feedback from clients and team members to continuously improve our services and operations.

Our services

1. HYDROGEOLOGY
2. HYDROLOGY
3. WATER SUPPLY AND TREATMENT
4. CONSTRUCTIONS

HYDROGEOLOGY

- Groundwater Exploration and Assessment:
conducting surveys and investigations to identify potential groundwater sources. This includes geophysical surveys, drilling and installation of monitoring wells, aquifer testing, and data collection to assess the quantity and quality of groundwater resources.

- Groundwater Modeling and Simulation:
using computer modeling techniques to simulate and predict groundwater flow and contaminant transport. We develop numerical models based on hydrogeological data to understand the behavior of groundwater systems and support decision-making for resource management and remediation.

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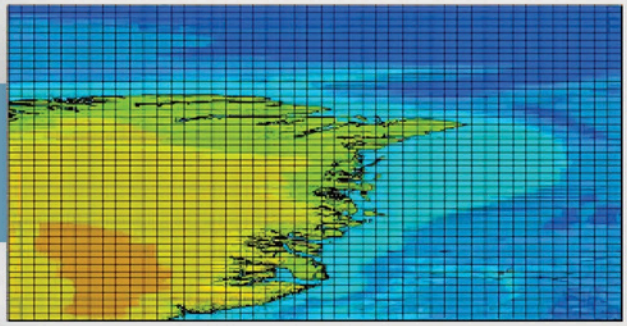
Our services

- Groundwater Monitoring and Management:
establishing and managing groundwater monitoring networks to track changes in groundwater levels, water quality parameters, and the response of aquifers to pumping or other activities. We also provide expertise in sustainable groundwater management, including the development of groundwater management plans and the implementation of conservation measures.

- Hydrochemical Analysis:
performing hydrochemical analysis of groundwater samples to evaluate water quality parameters, assess contamination risks, and identify potential sources of pollution. We also conduct water quality modeling and provide recommendations for water treatment or remediation.

- Dewatering System Design and Modeling:
site conditions and design an appropriate dewatering system tailored to the specific project requirements.
This includes determining the optimal type of dewatering method to be employed, such as well points, deep wells, sump pumps, or open ditches.



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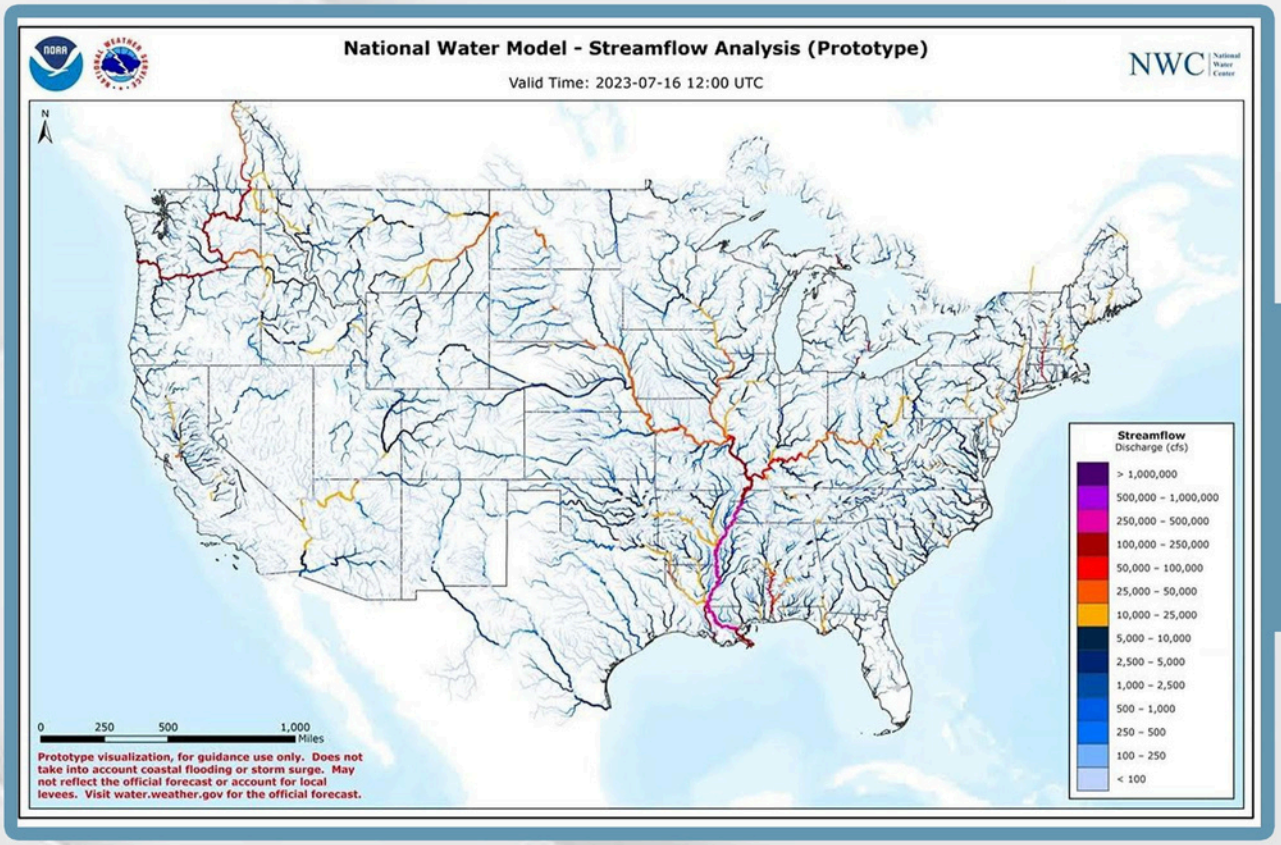
Our services

HYDROLOGY

- Meteorological Assessment:
analyzing rainfall patterns, evaporation rates, stream flow data, and other hydrological factors to assess water quantity and variability.

- Water Flow Analysis and Modeling:
use hydrological modeling and analysis techniques to simulate and predict water flow patterns in rivers, streams, and other water bodies. They develop computer models that consider factors such as precipitation, runoff, and groundwater interactions to understand the behavior of water systems and support water resource planning and management.



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Our services

- Flood Risk Assessment and Management:
expertise in assessing and managing flood risks. We conduct flood risk assessments, develop floodplain maps, analyze historical flood data, and use hydraulic modeling to predict potential flood scenarios. We also assist in designing flood control measures and developing flood management plans.

- Climate Change Adaptation:
helping clients adapt to the impacts of climate change on water resources.
We assess vulnerability to climate change, develop adaptation strategies, and incorporate climate change projections into water resource planning and management.

WATER SUPPLY AND TREATMENT

- Water Treatment System Design and Construction:
designing and constructing water treatment systems tailored to the specific needs of our clients.This includes selecting appropriate treatment processes (e.g., filtration, disinfection, chemical treatment) to remove contaminants, improve water quality, and ensure compliance with regulatory standards.

- Water Distribution System Design and Construction:
We plan the network layout, size pipelines, and install pumps, valves, and other necessary infrastructure to ensure reliable and efficient water delivery.

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Our services

- Water Quality Monitoring and Testing:
performing regular monitoring and testing of water quality at various stages, including raw water sources , during treatment processes, and in the distribution system. They conduct chemical, physical, and microbiological analyses to ensure that water meets quality standards and is safe for consumption.

CONSTRUCTIONS

- Well Drilling and Installation:
Construction companies can specialize in drilling and installing wells for water supply and groundwater monitoring purposes. They have expertise in selecting drilling sites, drilling techniques, well casing installation, and well development to ensure optimal performance and water yield.

- Pumping Station Construction:
Construction companies are involved in the construction of pumping stations, which are essential for water supply systems.
They install pumps, motors, control systems, and associated infrastructure to facilitate the efficient movement of water from source to destination.

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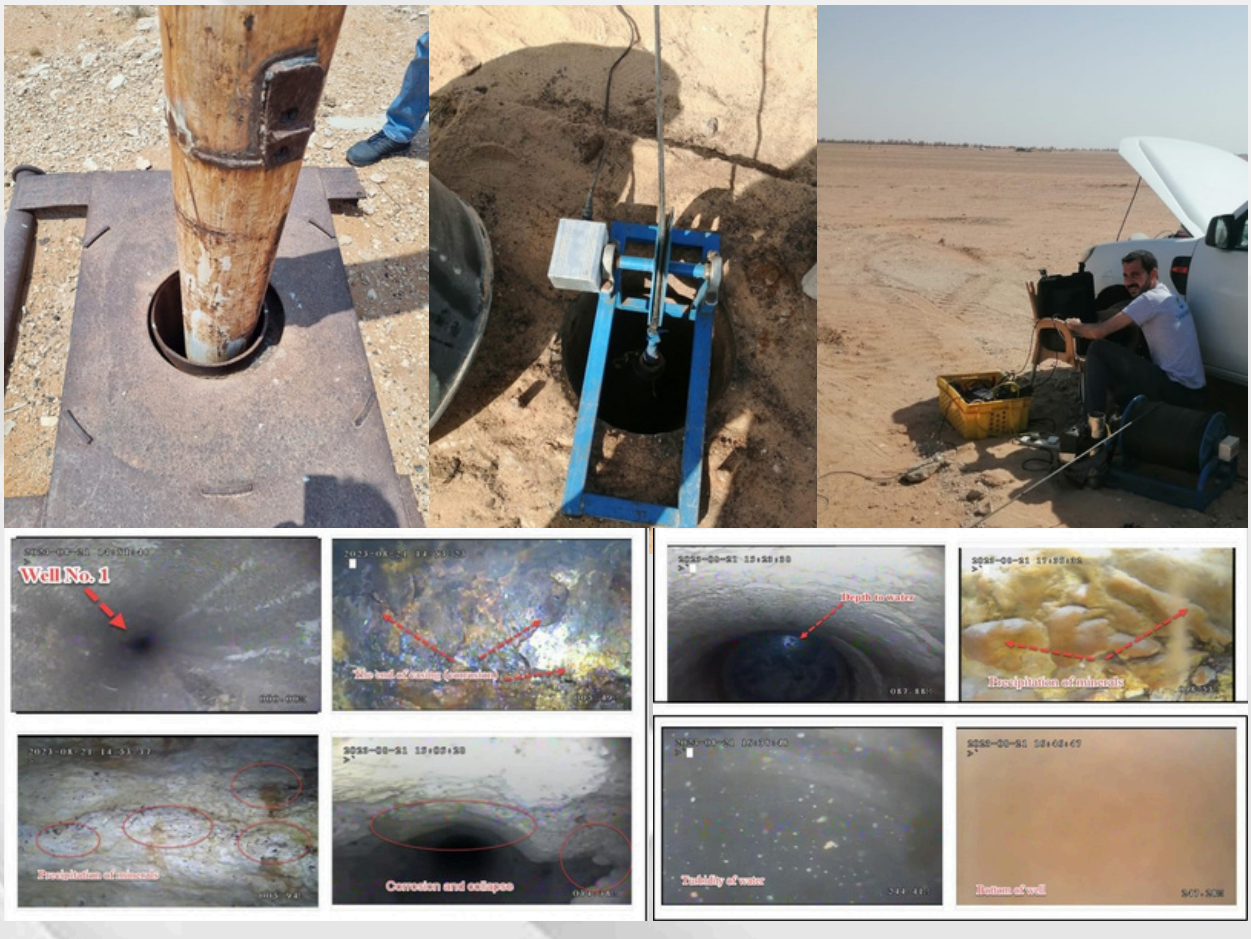
1- Groundwater Management for Golf Co. in Saudi Arabia) Dirab Area- Shamal area) 11 wells

-Location: Riyadh
- Client: Golf Saudi Co.
- Scope: Comprehensive groundwater assessment and management plan and borehole camera inspection.
- Highlights:

- Conducted extensive hydrogeological surveys to map groundwater resources.
- Developed a sustainable groundwater extraction plan to support the city's growing water demands.
- Implemented advanced monitoring systems to track groundwater levels and quality.

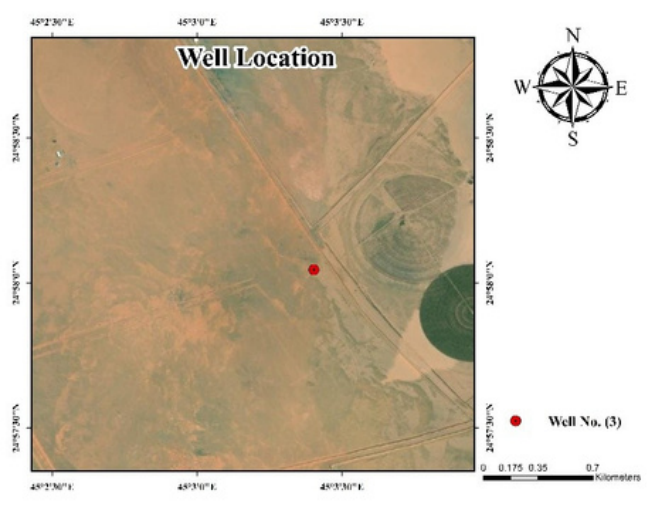
Designed and executed groundwater recharge projects to replenish aquifers.

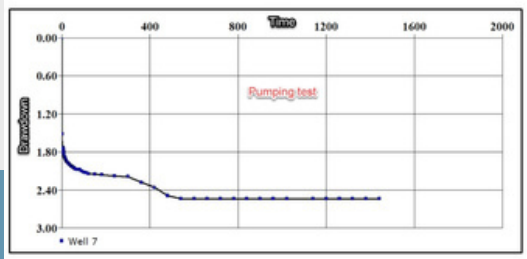


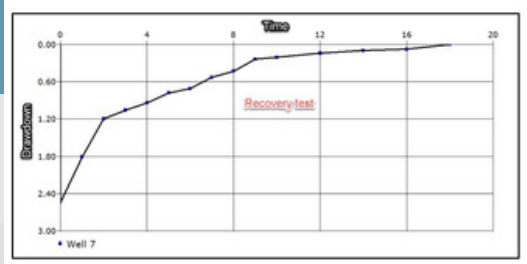
2- Project: Pumping Test and Borehole Camera Inspection in Shaqra Area (6 wells)

-Location: Shaqra Area. in Saudi Arabia
-**Client**: Public Investment Fund Corporation
-**Scope:** The scope of the project includes conducting detailed pumping tests and high-resolution borehole camera inspections in the Shaqra area. The pumping tests aim to evaluate the aquifer's capacity, yield, and hydraulic properties by measuring water levels, discharge rates, and recovery rates. The borehole camera inspections focus on assessing the condition of the boreholes, identifying structural issues, blockages, and sediment accumulation. The project will provide data-driven recommendations for sustainable groundwater extraction and necessary maintenance to enhance borehole performance and integrity.
-**Highlights:**

- Comprehensive Groundwater Assessment: Conducted detailed pumping tests to evaluate the aquifer's capacity, yield, and hydraulic properties.
- Borehole Condition Evaluation: Utilized high-resolution borehole cameras to inspect and document the condition of boreholes, identifying any structural issues.
- Sustainable Water Management: Provided data-driven recommendations for optimal water extraction rates to ensure long-term sustainability.
- Enhanced Borehole Performance: Identified necessary maintenance and remediation work to improve borehole integrity and efficiency.



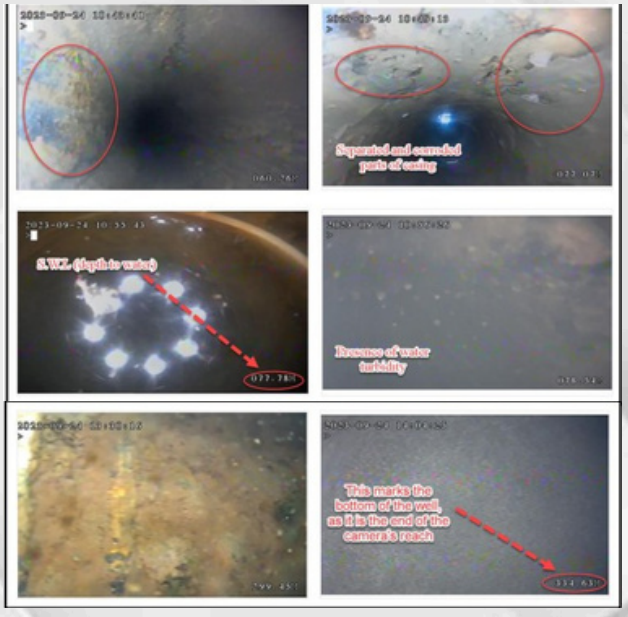




3- Project: Borehole Camera Inspection and Pump Replacement for Water Pipe at Al-Bustan Village (3wells)

-Location: Riyadh, in Saudi Arabia.
-Client: at Al-Bustan Village.
-Scope: The project involves conducting high-resolution borehole camera inspections to assessand document the condition of boreholes in Al-Bustan Village, identifying structural issues, blockages, and sediment accumulation. Additionally, the project includes replacing existing water pumps to enhance the efficiency and reliability of the water supply system.
These activities aim to ensure a consistent and sustainable water supply for the village, addressing both immediate and long-term needs.
Highlights:

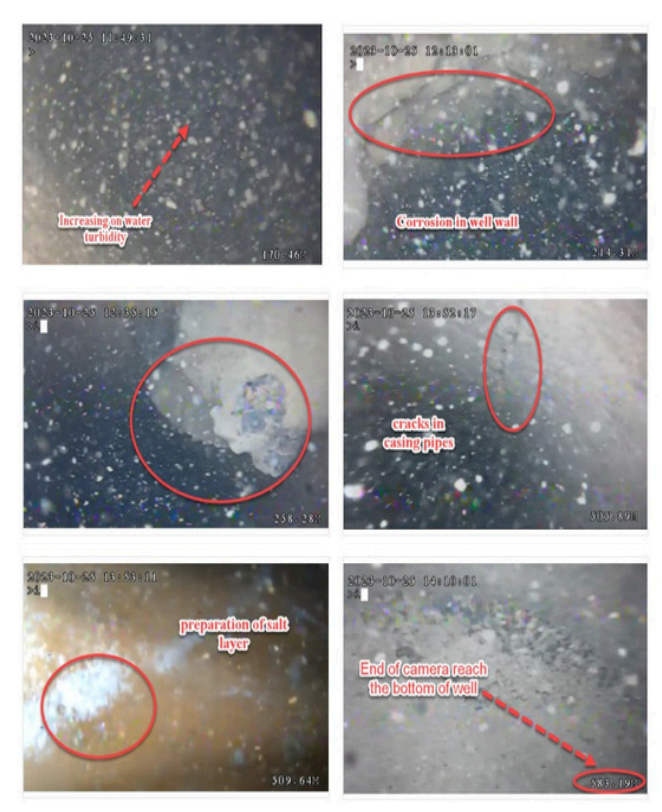
- Borehole Condition Evaluation: Utilized high-resolution borehole cameras to inspect and document the condition of boreholes, identifying any structural issues.
- Pump Replacement: Upgraded and replaced existing water pumps to ensure efficient water delivery through the village's water pipes.
- Enhanced Water Supply System: Improved the performance and reliability of the water supply system in Al-Bustan Village.



4- Project: Borehole Camera Inspection for Aramco Company (one well)

-Location: Tabouk Area
-Client: Aramco Company, in Saudi Arabia.
-Scope: The project involves conducting high-resolution borehole camera inspections for Aramco Company in the Tabouk area. These inspections will assess and document the condition of boreholes, identifying structural issues, blockages, and sediment accumulation. The resulting detailed reports will include recommendations for maintenance and remediation work, aiming to enhance borehole integrity and performance.
-Highlights:

- Detailed Borehole Inspection: Utilized high-resolution borehole cameras to inspect and document the condition of boreholes in the Tabouk area.
- Structural Assessment: Identified structural issues, blockages, and sediment accumulation within the boreholes.
- Enhanced Maintenance Planning: Provided detailed reports and recommendations for necessary maintenance and remediation work to improve borehole performance.



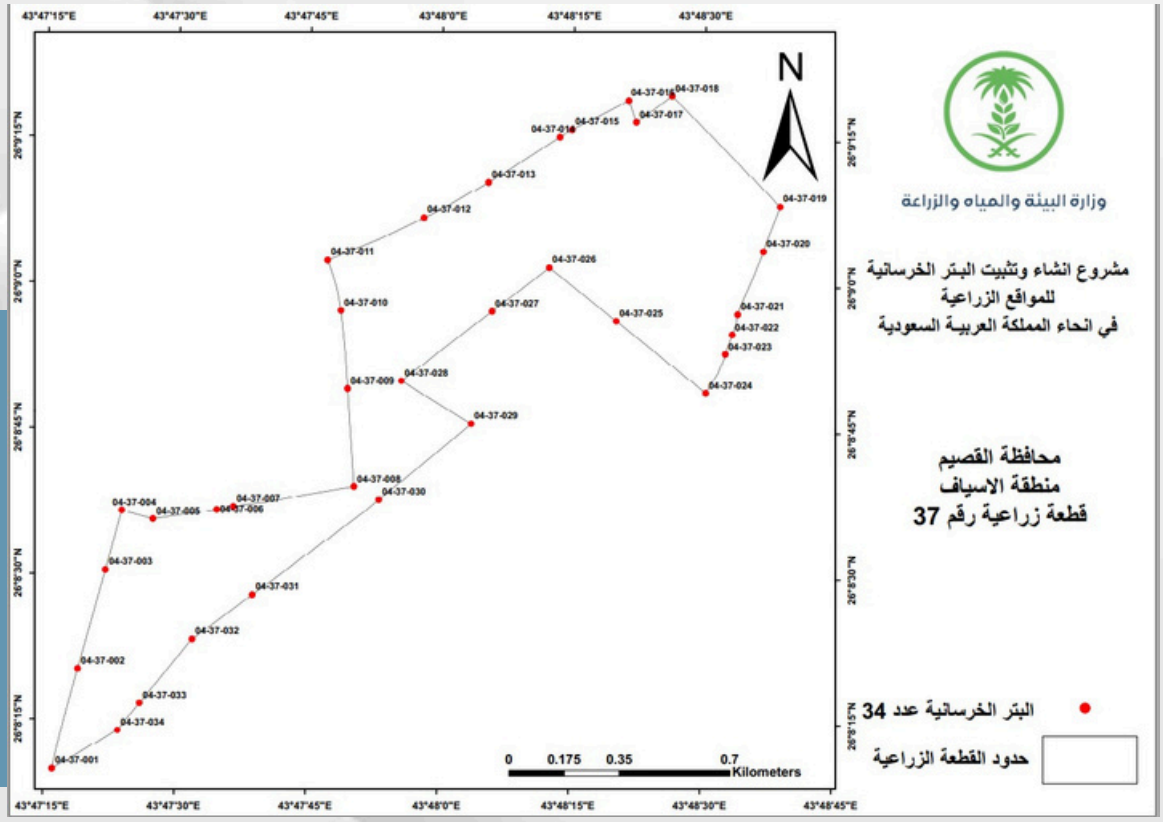
5- Project: Creating and Installing Concrete Pieces for Agricultural Sites (Qasim Area) Location: Qasim Area

-Client: Sahab Al Ofoq Company, in Saudi Arabia.

-Scope: The project involves drawing and plotting coordinate points on maps to ensure precise installation of concrete pieces in various agricultural sites across the Kingdom. This includes creating durable concrete structures and installing them in designated locations as per the mapped coordinates. The project aims to enhance agricultural infrastructure and support diverse agricultural practices in multiple regions.

-Highlights:

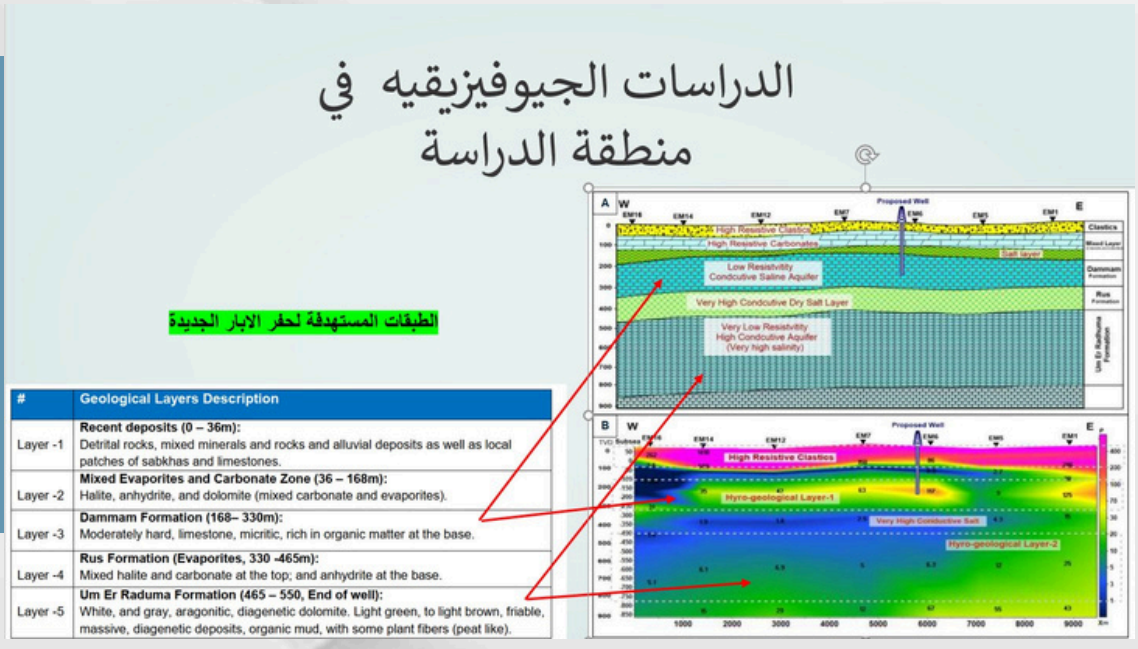
- Comprehensive Mapping: Drawing and plotting coordinate points on maps for precise installation of concrete pieces in agricultural sites.
- Concrete Installation: Creating and installing durable concrete pieces tailored to the specific needs of each agricultural site.
- Geographic Diversity: Implementing solutions across various regions of the Kingdom, addressing diverse agricultural requirements.



6- Project: Assessment of Groundwater aquifer Potential in the Rub' al Khali Region

-Location: Rub' al Khali, Saudi Arabia
-Client: Jadwa Company
-Scope: The project involves conducting a comprehensive assessment of groundwater reservoir potential in the Rub' al Khali
region. This includes mapping and analyzing hydrogeological data to identify viable groundwater sources. The study
aims to support sustainable water resource management and enhance water availability for various applications,
including agriculture, industry, and urban development.
-Highlights:

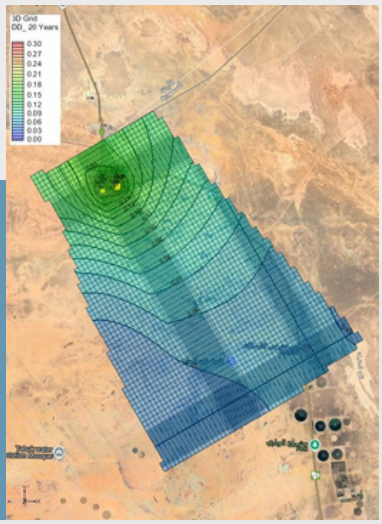
- Hydrogeological Mapping: Conducting detailed surveys and mapping groundwater reservoirs to determine their potential and recharge capabilities.
- Data Collection & Analysis: Utilizing advanced geophysical and hydrological techniques to assess groundwater availability and quality.
- Strategic Planning: Providing insights for sustainable water extraction and management to support long- term development in the region.



7- Project: Rehabilitation and Development of STP and Irrigation Network

-Location: Halat Ammar Border Crossing, Tabuk, Saudi Arabia
-Main Contractor: Fahad Madi Almejwal
-Scope: The project involves the rehabilitation and upgrading of the Sewage Treatment Plant (STP) and the irrigation network at Halat Ammar Border Crossing. It aims to enhance wastewater treatment efficiency, optimize water reuse, and improve irrigation management while ensuring environmental sustainability. Additionally, the project includes an assessment of the sustainability of groundwater wells in the area and the potential impact of the treatment plant on groundwater resources.
-Highlights:

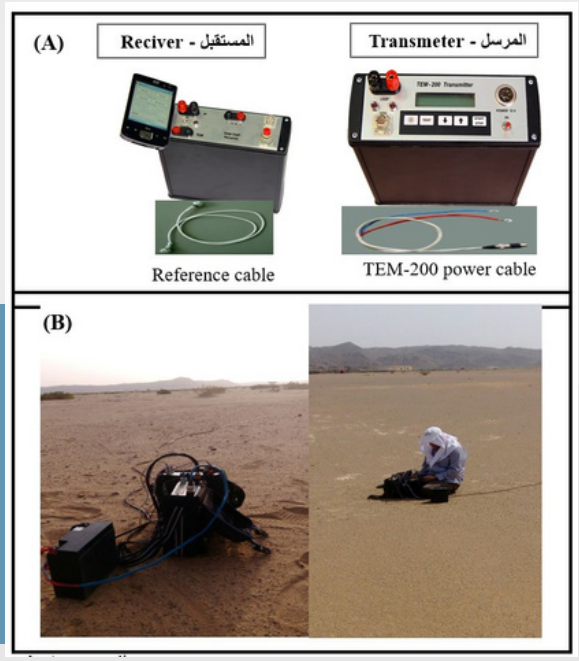
- STP Rehabilitation: Upgrading treatment processes to improve efficiency, ensure compliance with environmental regulations, and enhance water quality for reuse.
- Irrigation Network Development: Improving water distribution systems to ensure efficient irrigation and water conservation.
- Groundwater Sustainability: Assessing the impact of the STP on groundwater wells and implementing measures to maintain sustainable groundwater levels.
- Environmental Sustainability: Integrating eco-friendly solutions to maximize wastewater reuse and support sustainable water resource management in the region.



8- Project: Geophysical Study at the Royal Guard Site – Riyadh

-Client: Nestlé
-Location: Royal Guard Site, Al-Nasiriya District, Riyadh, Saudi Arabia
-Scope: The project involved conducting a geophysical study at the Royal Guard site in Al-Nasiriya, Riyadh. The objective was to assess subsurface conditions using Time Domain Electromagnetic (TDEM) methods. Given the limited available space, the study was focused on two specific locations, where six electromagnetic soundings were conducted.
-Highlights:

- Site Inspection & Data Collection: A field team visited the site to perform the required geophysical study.
- TDEM Survey: Utilized Time Domain Electromagnetic (TDEM) techniques to analyze subsurfacecharacteristics.
- Optimized Study Approach: Due to space constraints, the survey was strategically concentrated in two key locations with six electromagnetic soundings.
- Subsurface Assessment: Provided insights into underground conditions to support site development and decision-making.



9- Project: Vannamei Shrimp Farming

- Location: Ismailia, Egypt - Client: Canal Company for Fish Production
- Scope: The project aims to establish a sustainable Vannamei shrimp farming operation in Ismailia, Egypt. The initiative focuses on creating optimal pond environments, ensuring high water quality, and supporting efficient shrimp growth to maximize yield. Key components of the project include soil and water testing, overseeing feeding operations, and constructing essential infrastructure.
-Highlights:

- Soil Testing for Ponds: Conducting thorough soil assessments to prevent water leakage and ensure the integrity of shrimp ponds.
- Water Quality Testing: Regular monitoring of water parameters to maintain suitable conditions for shrimp health and growth. Feeding Supervision: Overseeing feeding practices to optimize nutrition and promote healthy shrimp development.
- Well Drilling: Constructing wells to provide essential services such as water supply for pond management.
- Pond Excavation: Excavating and preparing ponds designed specifically for Vannamei shrimp farming.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10- Project: Establishment of Smart Agriculture Systems, Greenhouses, Net Houses, and Aquaponics/Hydroponics Systems

Location: Qatar Client: Al-Murouj Al-Khadraa Agricultural Company Scope: The project focuses on implementing advanced smart agriculture solutions to enhance productivity and sustainability in Qatar. It includes the establishment of protected greenhouses, net houses, hydroponic and aquaponic systems to optimize resource efficiency, improve crop yield, and support sustainable agricultural practices. Highlights: Smart Agriculture Implementation: Integrating automated monitoring and control systems for climate, irrigation, and nutrient management. Protected Greenhouses: Establishing modern greenhouses to enhance crop production by controlling environmental factors. Net Houses: Constructing shaded net houses to protect crops from extreme weather conditions while maintaining ventilation. Hydroponic Systems: Implementing soil-less farming techniques to maximize water efficiency and ensure high-yield crop production. Aquaponics Systems: Combining aquaculture with hydroponics to create a sustainable ecosystem for fish and plant production. Sustainability & Efficiency: Utilizing innovative agricultural technologies to optimize water and energy use, supporting Qatar's food security initiatives.


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