

Differentiation Through Technology and Services

Schlumberger Water Services (SWS) provides a complete range of cost-effective water exploration, utilization and optimization solutions for public, and private sectors.

Working as an integral part of your team, or as technology providers, we offer several scalable solutions to meet your business needs.

With over two decades of environmental experience, our teams of professionals are ready to assist you in all aspects of your water and groundwater resource projects.

Applied Technologies:

- Diver-NETZ*
- Hydro GeoAnayst*
- Visual MODFLOW Premium*
- Aquifer Test*
- AquaChem*

Visit us on the web at:
www.water.slb.com

Site Water Management

Strategies for optimising water usage



Site water management through integrated technologies

Highlights:

- Efficient water use in water-scarce and water-positive sites
- Effluent disposal strategies that last the entire lifetime of your operations
- Expertise in a wide range of disciplines supports an integrated approach for complete end-to-end site water management solutions
- Wide range of the most up-to-date technologies: instrumentation, software, test analysis, and data management

Background

SWS provides expertise in the practical aspects of water supply, conveyance, efficient water use, and effluent disposal, as integrated services for site water management across the mining and oil industries. Many field stations, camps, and workshops typically have either too much or too little water. We help our clients implement innovative approaches and technologies to deal with their specific water management issues.

Water supply

Establishing a camp or field station requires a thorough evaluation of water resources available to meet the demand in the short and long term. Our team has experience in water resource evaluation, assessment, and development of plans for supply. We consider:

- Demand for different types of water
- Potential sources of water
- Sustainability of water resources
- Permission to abstract water
- Water supply optimisation
- Environmental impacts of abstraction
- Leakage detection
- Dual reticulation for multiple sources
- Rain water harvesting
- Storm water collection

Solutions Spotlight: Site Water Management

Efficient water use

Whether a site has too much or too little water, efficient water use is essential. In water-scarce sites, the demand needs to be managed to ensure the supply is sufficient. In water-positive sites, disposal of surplus water needs to be considered to avoid flooding, contamination of potable supplies, or costly and unnecessary treatment of water. We consider:

- Water quality matched to water use
- Appropriate water treatment
- Consumptiveness
- Site water balance
- Water-saving devices (especially on water-scarce sites)
- Optimisation of water use
- Supply-demand balance and storage

Effluent disposal

Disposing of water in the desert can be a problem. Obvious, quick-fix solutions can be detrimental in the medium to long-term, with consequences for sanitary protection of wells and water sources, causing environmental pollution and spreading diseases. Our team

has experience in risk assessment and we consider the entire lifetime of your operations and develop management plans to suit. We consider:

- Potential for recycling (treatment or lower-grade use)
- Different types of effluent
- Optimisation of treatment and disposal
- Sustainability of on-site disposal
- Sanitary protection
- Health impacts
- Environmental impact and protection

The benefits

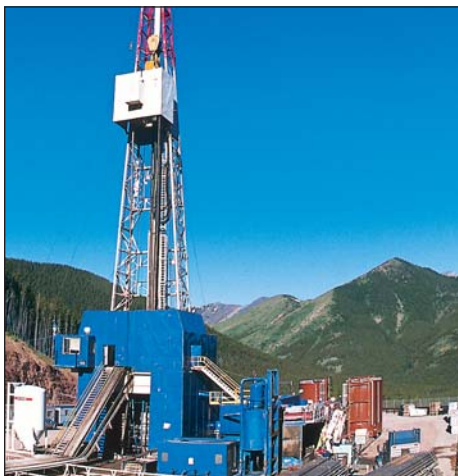
The investment in assessing and implementing approaches and technologies yields benefits throughout the lifetime of a site, starting from initial site set. Benefits include:

- Save money
- Comply with legislation and regulations
- Reduce environmental impact
- Reduce operational disturbance
- Enhance working environment
- Maintain QHSE standards
- Good publicity

An integrated approach

We take an integrated approach to our work and can provide expertise in a wide range of disciplines including hydrogeology, water chemistry, engineering, modelling, and instrumentation technologies. Combining these skills allows us to choose from a range of methodologies to provide an integrated approach to site water management including:

- Hydraulic auditing
- Water balances (probabilistic modelling)
- Data collection and management
- Hydrological and hydrogeological investigations
- Geophysical surveys
- Environmental risk assessment
- Optimisation of water use for water-limited sites
- Disposal strategies for water-positive sites
- Development of site data management systems



Providing site-wide management and solutions



Constant monitoring through advanced instrumentation



Pumping water discharge