

Sharrcem Facts

Sustainable Groundwater Management in Sharrcem

Introduction

Titan Group's voluntary commitment towards Governance and Sustainability Principles, through the International initiatives of UN Global Compact, GRI and the World Business Council for Sustainable Development (WBCS-CSI), has been confirmed in the location of Sharrcem operations by commissioning a full Hydro Geological Study of the greater Hani Elezit area.

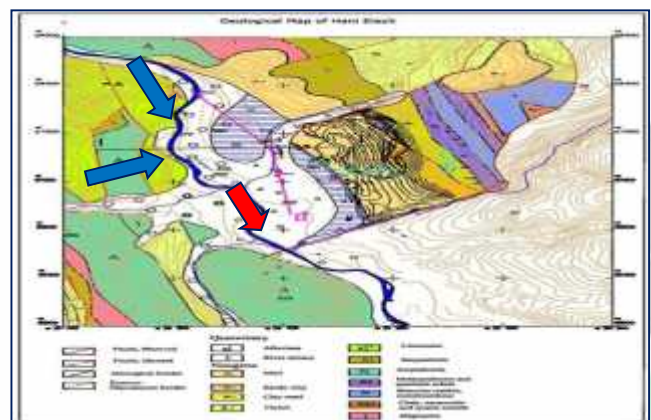
Scope of the Hydro-geological Study

- Assessment of hydro-geological/hydrological conditions in the greater area (Hani Elezit, Plant, Dimce Quarry, Lepenci River).
- Evaluation of the hydraulic characteristics of the aquifer(s) and water wells in Sharrcem
- Radius of influence during pumping from Sharrcem water wells
- Optimization of sustainable groundwater management by Sharrcem
- Final findings and sustainable management of ground water

Methodology

Field work: Complete cycle of tests pumping conducted in June and November 2012: continuous pumping (24-120 hours) at a constant rate in wells Nr. 2, Nr. 4 and Nr. 5, water level measurements (drawdown, recovery) in pumping and also observation wells (Nr. 1 and Nr. 3), water sampling and chemical analysis.

The complete calculations showed an aquifer, with a capacity of approximately 1.4 million m³/year in the water basin in the greater Hani Elezit and Dimce areas. Industrial water needs of the plant scarcely reach 12%, which safely preserves the ground water level for the long term.



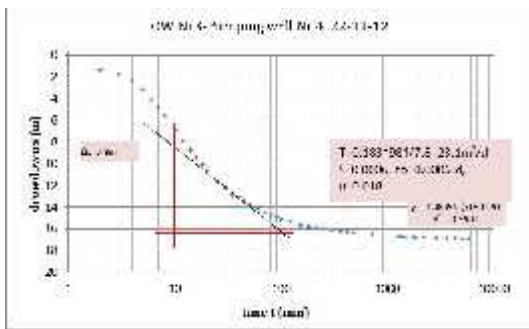
Ground water flow: Inflow  Outflow 



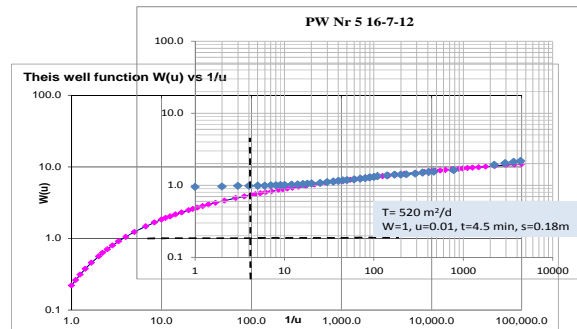
14 Location of water wells inside Sharrcem Plant

For the sustainable management of the water resources in the greater area in the long-term, the intake capacity limits have been set for wells Nr.4 and Nr.5, while wells Nr.2 and Nr. 2 shall be used for sanitary reasons and irrigation only.

Having conducted the pumping tests, the hydro geological model of the Hani I Elezit region has been completed. From now on, it is essential for the sustainable management of groundwater, to keep monitoring the level and chemical analysis of the aquifer in order to collect systematic data on hydraulic and hydro-geological parameters, as part of overall Water Management according to the Environmental Management System ISO



1st Program of Pumping Tests – Evaluation of results



2nd Program of Pumping Tests – Evaluation of results

The plant consumes water for different purposes as: Process water, water for mechanical cooling (cross circuit system), water for environmental purposes; potable water (for drinking, clean, hygiene, etc.).

The Sharrcem plant operates very efficiently in water consumption in a closed system. The total water consumption for cement production in 2013 was 210 l/ ton of cement.

SHARRCEM

TITAN Group Company



Group Corporate Values



INTEGRITY



KNOW-HOW

VALUE TO CUSTOMER



DELIVERING RESULTS

CONTINUOUS SELF-IMPROVEMENT



CORPORATE SOCIAL RESPONSIBILITY