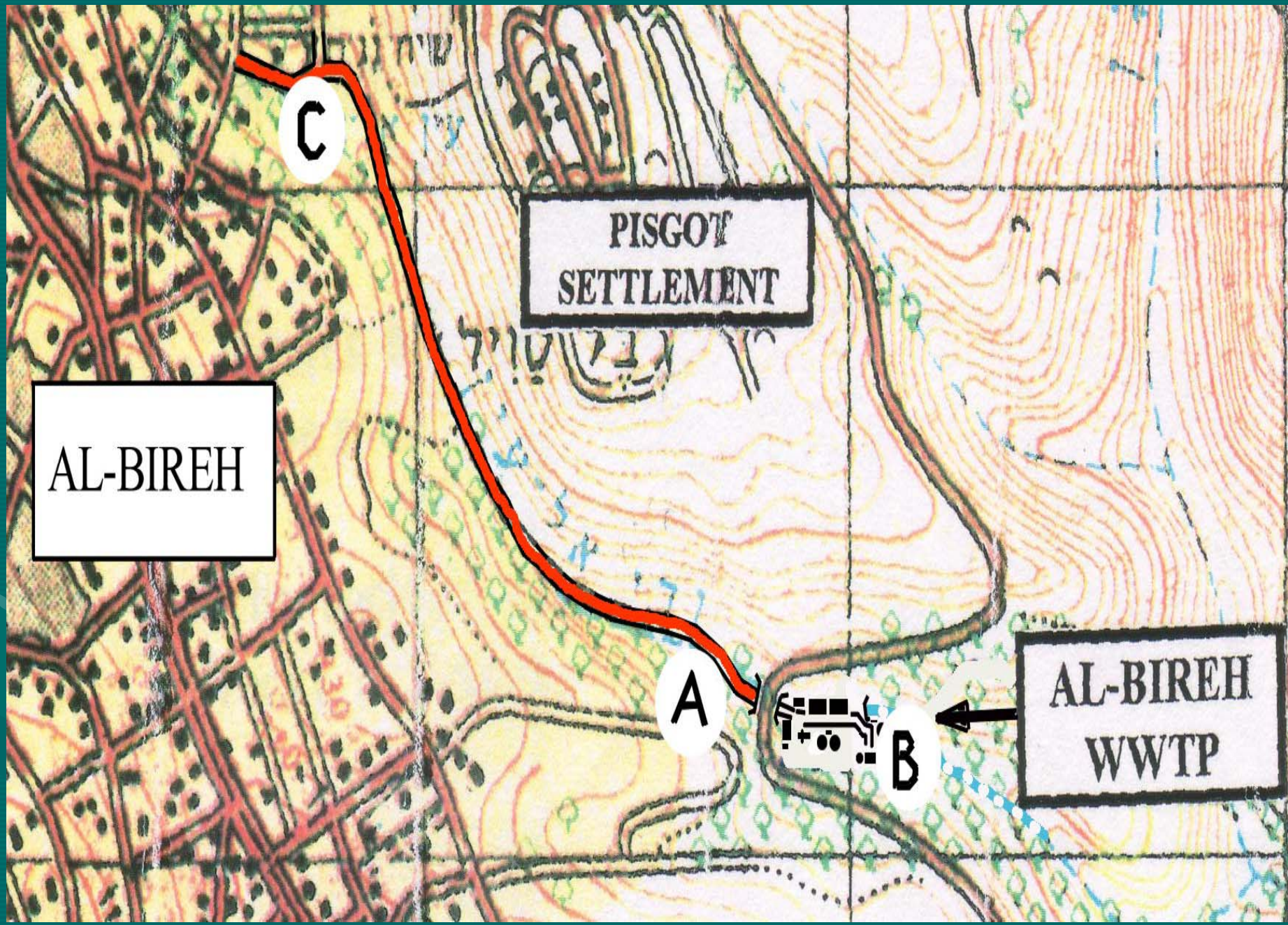
PALESTINIAN WASTEWATER GAINED EXPERIENCE

Al Bireh Experience: The most successful WW experience in Palestine

The WWTP is located 2 km. east of the city covering an area of 22000m^2 including reserve area.

The original design was a high rated activated sludge and trickling filters and anaerobic sludge digestion.

Due to financial and operation constrains an alternative of extended aeration process was chosen.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WWTP

The original design was a high rated activated sludge tanks and trickling filters and anaerobic sludge digestion for the sludge treatment.

Due to financial investment and operation constrains an alternative of extended aeration process was chosen.

Process Description

Mechanical treatment followed by extended aeration with simultaneous aerobic sludge stabilization and sludge drying by built filter press.

Overall goal of Al Bireh WWTP is the sound wastewater collection, treatment and disposal in order to reduce hygienic, and environmental risks and to protect and to save the scarce water resources in Palestine

Screen unit: two automatic screen units with spacing of 15mm, it is cleaned automatically by a PLC-controlled fork system based on water level measurements by ultrasonic measurement device, a third manual screen is used in emergency situations.

Aeration tanks:

Two rectangular aeration tanks of (6950 m^3 each), equipped with four submersible mixers and three mammoth rotors for oxygen supply. In case more oxygen is needed, the second or third mammoth rotor will be switched on, or the effluent weir will be raised

Sedimentation tanks: two circular sedimentation tanks with 24m diameter, average depth of 3.9m. The clear water is discharged by a circular weir into the stainless steel effluent fume and transported for final disinfection by ultraviolet system. From these tanks excess and return sludge are pumped respectively to the gravity thickener and to the aeration tank

Sludge Dewatering :

Two belt filter presses including their accessories like the feeding P.S, the polymer dosing station and the respective PLC control. We try to achieve 20% of dry solid substance. Polymers for dewatering are added. The sludge cake is discharged by conveyors and disposed in containers

The effluent is one of the best in the middle east. The ATV standards of preventive maintenance is applied.

Effluent quality:

BOD_5 < 14 mg / L

SS < 22 mg / L

The plant construction and design was financed by the German Government via KfW and GTZ. Intensive training of the operation staff took place in Germany prior of starting up. Training by Passavant took place on site during and after construction of plant.


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Thank You