

Pelayos drinking water treatment plant

IN SERVICE SINCE

- October 2016

WATER SOURCE

- San Juan reservoir

TREATMENT CAPACITY

- Maximum flow: 332 l/s

WATER TREATMENT

STAGES OF THE PROCESS

- Incoming connection
- Sieving
- Raw water tank
- Preoxidation - aeration
- Initial pH adjustment
- Coagulation
- Ultrafiltration
- Intermediate ozonisation
- Filtering on activated carbon
- Final pH adjustment
- Disinfection

REAGENTS USED

- Chlorine dioxide
- Potassium permanganate
- Powdered activated carbon
- Sodium hydroxide
- Aluminium polychloride / aluminium sulphate
- Ozone
- Chlorine gas
- Ammonia
- Sodium chlorite
- Hydrochloric acid
- Citric acid



- Bisulphite
- Sodium hypochlorite

RELEVANT TECHNICAL DATA

- Ultrafiltration 1 data and characteristics:
 - Six tanks with a unit useful capacity of 34.26 m³ and a average permeate flow of 290-324 l/s
 - Three cassettes per tank, with 64 membrane modules per cassette
 - The membranes shall be of porous fibre type with a rated pore size of 0.04 microns
 - The percentage of recovery shall be of 80-88 %

- Ultrafiltration 2 data and characteristics:
 - Three tanks with a unit useful capacity of 23 m³ and a average permeate flow of 54-184 l/s
 - Two cassettes per tank, with 56 membrane modules per cassette
 - The membranes shall be of porous fibre type with a rated pore size of 0.04 microns
 - The percentage of recovery shall be of 80-88%

TREATED WATER TRANSPORT CHANNEL

- It supplies the Pelayos de la Presa tank

SLUDGE TREATMENT

TREATMENT CAPACITY

- Maximum capacity of the floats: 84 m³/h

STAGES OF THE PROCESS

- Equalisation
- Flotation
- Mechanical dewatering (centrifuges)
- Silo storage

RELEVANT TECHNICAL DATA

- Number and characteristics of the thickeners:
 - Two floats with a surface load of 3.50 kg/m²/h and a maximum capacity of 42 m³/h each
- Number and characteristics of the centrifuges:
 - Two centrifuges with a maximum capacity of 14 m³/h

FINAL SLUDGE DRYNESS

- 15-20%

