

Visiting the mineral water production factory and waste water treatment plant

A Scientific trip
Soran University (SUN)



By KHADIJEH MIRZA

This scientific trip is arranged by SUN's
Engineering faculty, Chemical Engineering Department (CHED)

Abstract

We started our trip from Soran University to Bekhal Valley in Rawanduz at 9:30 am. First, we went to the mineral water factory (Kani Company). The students were divided into two groups of 18 people, and the factory manager explained how to make mineral water. Procedures included the manufacture of 180ml and 250ml plastic bottles, filtration of natural water, disinfection of bottles, filling bottles with mineral water, and packaging. Then, we went to Beikhal waste water treatment plant. The manager explained the water purification process. In the first stage, water is drawn into the enclosure by five pumps, and chlorine and aluminum sulfate are added to the water in the flash mixer for better disinfection and cleaning. In the second step, solid materials are settled in two clarifiers and separated from water. In the third step, for better cleaning, the water is passed through the filter and finally chlorine is added to the water and sent to the residential areas by pump.

پوخته

گهشتهكهمان له زانكۆى سوران بۆ دۆلى بىخال و رواندز له كاتژمێر 9:30 سەر لهبەیانى رۆژى سێشەممە رێكهوتى 1/11/2022 دەستى پێكرد، سەرمتای گهشته زانستیهكهمان ئاشنا بوون بوو به کارگهى ئاوى كانزایى كانى له بىخال، قوتابیان به سەر دوو گروپهوه دابهش بوون و له لایهن بهریۆمهبرى کۆمپانیایهكه تهواوى زانیارییهكان بۆ قوتابیان خراوه پروو ههس له سەرمتای دروستکردنى بوتلێ ئاو تاكو کۆتای هاتنى پرۆسهكه، پاشان باس له پاشماوهى ئاو و كههرستهكانى تری بهفیرۆچوو کرا، بۆ ئهوهى پاشماوه به فیرۆچوومكان كهترین زیانیان ههیهت به چهند فلتەریك تێپهردهبن.

ملخص

بدأت رحلتنا من جامعة سوران إلى وادي بىخال ورواندز الساعة 9:30 صباحاً يوم الثلاثاء 1/11/2022 وكانت بداية رحلتنا العلمية للتعرف على مصنع المياه المعدنية في بىخال وقدم مدير الشركة جميع المعلومات إلى الطلاب من بداية عمل زجاجات المياه إلى نهاية العملية، ثم تحدثوا عن إهدار المياه ومخلفات أخرى، بحيث يكون للمخلفات أقل ضرر يمر عبر عدة فلاتر.



Miss Khadijeh Mirza (B.Sc., M.Sc.) is an Assistant Lecturer in the Department of Chemical Engineering (DCHE). She earned a B.Sc. in Chemical Engineering with a minor in the Petrochemical Topic, as well as a Master's degree from the same department in Transport Phenomena from Urmia University of Technology in Iran. Environmentally friendly industrial processes, waste management, equipment design, and modelling are among Khadijeh's research interests.

About Soran University

[Soran University \(SUN\)](#) is located in the city of Soran, which is about a two-hour drive north-east of [Erbil](#) (Arbil, Hewlér), the capital of the [Kurdistan Region](#) of Iraq (KRIQ). The city is flanked by the famous Korek, Zozik, Henderén, and Biradost mountains. The medieval mountain village of [Rewandiz](#) ([Rawanduz](#), [رەواندز](#)) is a stone-cast away, and the two cities share this lovely, harmonious upland. While waiting for its green, environmentally friendly building to be erected on a hilltop overlooking the cities of Soran and Rewandiz, its existing city campus has been meticulously set out to accommodate the lovely natural landscape. The new campus will be the first of its type, being walkable, balanced, powered by renewable energy, and compliant with all international environmental regulations. There are 5 Faculties in [SUN](#); [Faculty of Arts](#) (FAAR), [Faculty of Science](#) (FSCN), [Faculty of Education](#) (FEDU), [Faculty of Law](#), Political Science, and Management (FLAW/PSM), and [Faculty of Engineering](#) (FENG). Also, there is SUN research centre. Moreover, at SUN, there is a Language Center. SUN signed many Memoranda of Understandings (MoU) with many International Universities,

How to get here

Soran University (SUN) is located in the heart of the city of Soran. The main city campus is easily found on Google Maps for direction.