

5.2 Environmental monitoring of the application of ESMP

The support of the environmentalist expert comes under the terms of reference of the contract of technical assistance. The expert's intervention consists in ensuring the application of the Environmental and Social Management Plan (ESMP) established during the study phase, in line with the commitments made by ONEE within the framework of the project.

To this end, a mission of the environmentalist expert was carried out during the last quarter of 2018 (November 26th to 28th) on two sites that are in the works phase, namely the AL Aroui WWTP and the Targuist WWTP. During the mission, meetings were held with contractors and companies responsible for the work. Recommendations have been made to the companies concerned for the improvement of certain environmental and / or social aspects.

Non-compliance sheets have been drawn up and technical assistance technicians have been asked to follow the correction of anomalies and report it to the environmental expert. The results of the monitoring of the removal of the anomalies were integrated into the report of the mission.

During the month of December 2018, the report of the environmental monitoring mission was prepared and sent to DAEV for validation.

3.7.1 Summary of the finalized version of the environmental monitoring report

The mission of environmental monitoring of the liquid sanitation works falls within the services of the contract of the Technical Assistance for the monitoring and the control of the works Project.

The purpose of this mission is to control and monitor the application of all the necessary mitigation measures that are prescribed in the environmental impact assessment, and which will have to be implemented during the project in order to eliminate or mitigate negative environmental and social impacts.

The field visits were organized from 26 to 28 November 2018 for the two active sites, these are the centers: **Targuist** and **El Aroui**.

This environmental monitoring mission mainly includes monitoring the implementation of the mitigation measures established in the framework of the prior environmental documents (EIA - Environmental impact assessment, HESP - Health and environment safety plan, HSHP - Health and safety hygiene plan) for the various centers, by carrying out the following tasks :

- Visit of the project sites
- Monitoring the implementation of mitigation measures
- Discussion, awareness and recommendations for companies
- Establishment of non-compliance sheets (observation of anomalies)
- Establishment of environmental monitoring mission reports

Center of Targuist

EXAMINATION OF DOCUMENTS

Environmental Impact Study

The Extension Project of the WWTP of the city of Targuist has been the subject of an environmental impact study according to the regulations in force.

This study was conducted by Egis Water under Contract No. 706/DAE/2015, and has been validated by the Regional EIA Committee and a new environmental acceptability has been granted to the project with the new consistency after change of natural lagoons process at aerated lagoons.

Environmental and social considerations of JICA

Environmental provisions from pre-project documents, including the results of EIA and HESP, JICA's environmental requirements are considered in this project.

Tender documentation file (TDF)

The tender documentation file contains the environmental requirements to be taken into account by the company responsible for carrying out the extension work of the WWTP. These are mitigation measures from the EIA and the HESP.

Health and safety hygiene plan HSHP

The Medleau and SNTRO group of companies presented a plan for health and safety hygiene environment plan HSHP, this document was validated by the Technical Assistance and supported by a sheet of control of the mitigation measures applied in the form of checklist, this sheet is filled in periodically by the Technical Assistance technician and the representative of the company.

ENVIRONMENTAL MONITORING OF THE CONSTRUCTION SITE

The construction site visit was conducted by the Technical Assistance / Project Management Environment Expert in the presence of the Technical Assistance / Project Management monitoring technician and company representatives.

This visit was initiated by awareness session of the representatives of the companies (works supervisor and environment manager) on the negative impacts of the project in the implementation phase as well as the importance of the application of mitigation measures for these impacts. compliance with hygiene and safety rules, in particular with maintaining the partial operation of the WWTP.

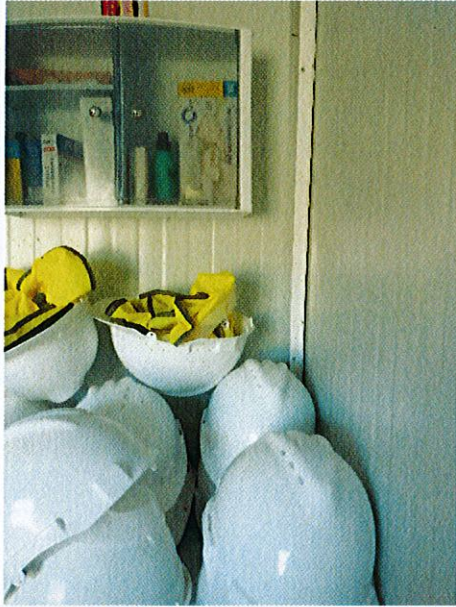
Observations

The site installation is carried out inside the fence of the WWTP, the components of the site installation carried out by the company have certain anomalies, which have been communicated to the company to be solved, in particular:

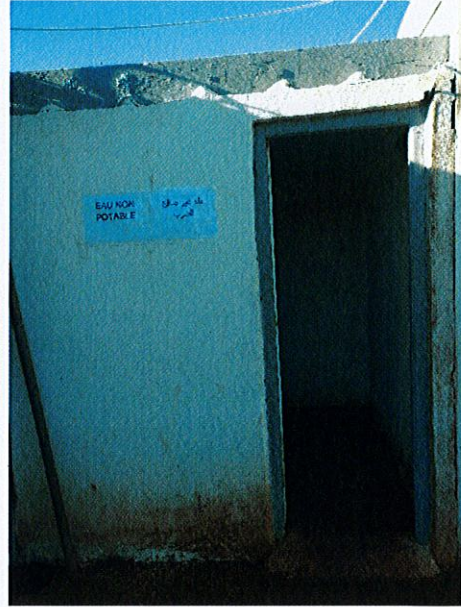
Organize the storage of polluting products: Provide a sealed concrete platform under shelter, and a container of absorbent material (sand, shovel).

Ensure the control of the watertightness of the existing basins and foresee the possible repairs in consultation with the Technical Assistance and ONEE Water branch.

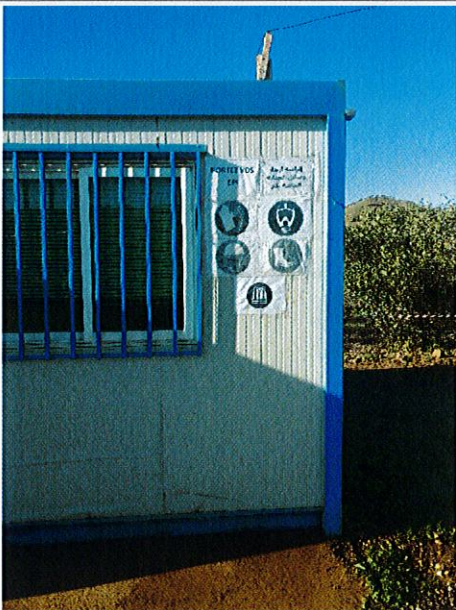
Maintain the installed by-pass system to ensure partial operation of the WWTP in parallel with the cleaning operations of existing basins.



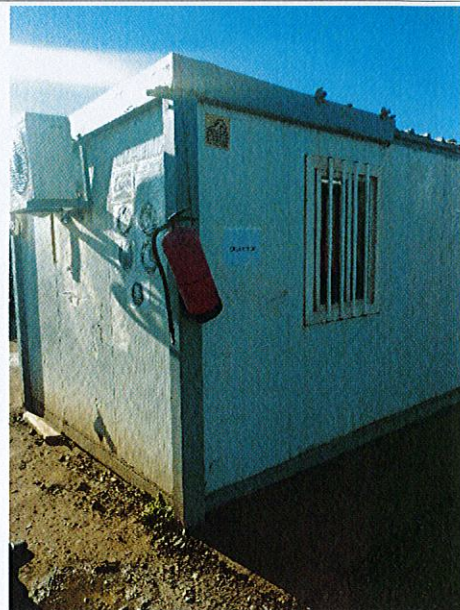
Pharmacy box, EPI



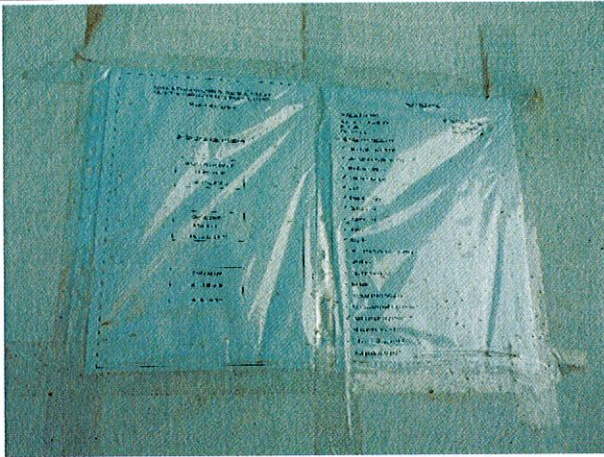
Toilets



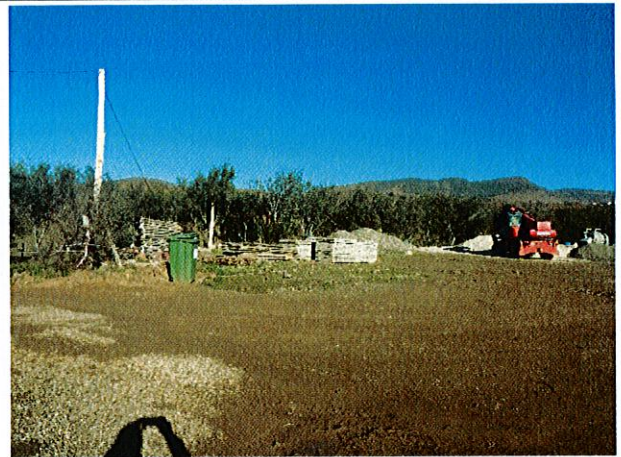
Display of safety instructions



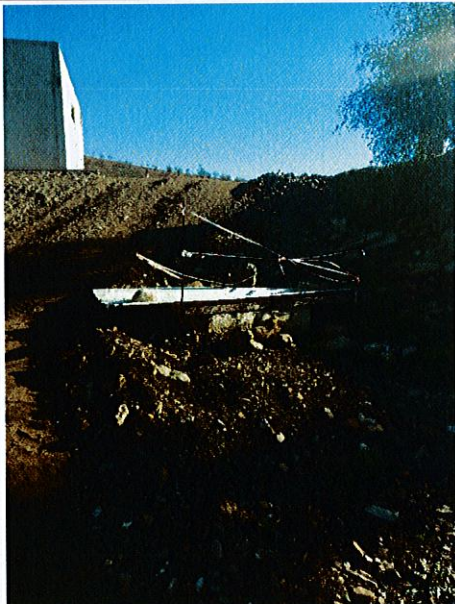
Positioning of a fire extinguisher



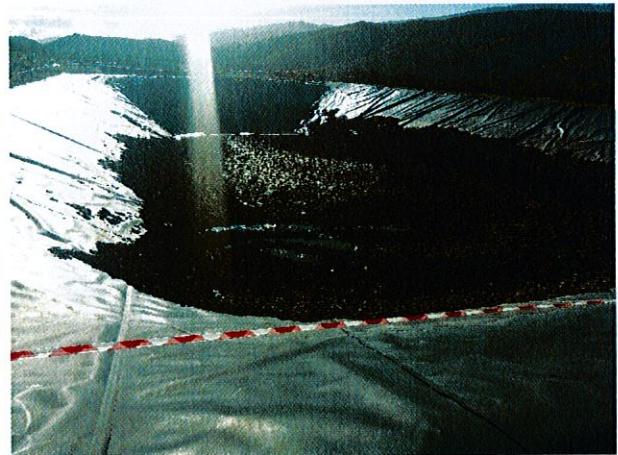
Display of useful contacts and actions to take in the event of an accident



Organization of the worksite depot



A well located upstream of basins can be used for monitoring



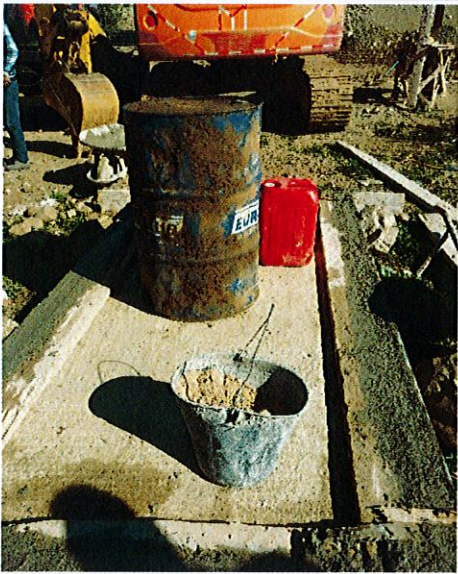
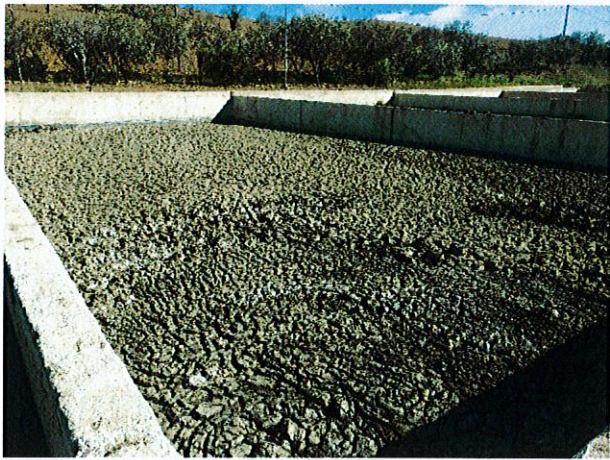

Anaerobic basins during cleaning



Basin maintained in operation



Completed sedimentation basins

| | |
|---|--|
|  |  |
| <p><i>Immediate rehabilitation of the pollutant storage platform and installation of a sand container</i></p> | <p><i>Sludge drying</i></p> |
|  | |
| <p><i>Storage area</i></p> | |

Monitoring of indicators "Noise and dust"

The Targuist WWTP is located far from the population, the works are limited inside this WWTP, the negative effects related to the release of noise and dust are therefore low, moreover, the company respects the schedules of work and water the pathways to further reduce sound effects and dust.

Actions carried out by the company :

The company was aware of the anomalies raised; some deficiencies were corrected during the day.

The company has responded favorably to the remarks of the environmental expert, notably the realization of a waterproof concrete platform for the cans of lubricating oils, and has respected the considerations related to:

The possible repair of the deterioration of the existing geomembrane in consultation with the Technical Assistance and ONEE Water branch

Maintaining the partial operation of the WWTP in consultation with the Technical Assistance and ONEE Water branch.

Center of Al Aroui

EXAMINATION OF DOCUMENTS

Environmental Impact Study

The Extension Project of the WWTP of the city of Al Aroui is the subject of an environmental impact study according to the regulations in force.

This study was conducted by CID under Contract No. 203 / DAE / 2013, and has been validated by the Regional EIA Committee, and environmental acceptability has been granted to the project.

Environmental and social considerations of JICA

Environmental provisions from pre-project documents, including the results of EIA and HESP, JICA's environmental requirements are considered in this project.

Tender documentation file (TDF)

The tender documentation file contains the environmental requirements to be taken into account by the company responsible for carrying out the extension work at the Al Aroui WWTP. These are mitigation measures from the EIA and the HESP.

Health and safety hygiene plan HSHP

The group of companies SNTM and WATER Plus presented a plan of health and safety hygiene environment HSHP, this document was validated by the Technical Assistance and supported by a sheet of control of the mitigation measures applied in form checklist, this sheet is filled in periodically by the Technical assistance technician and the company representative.

ENVIRONMENTAL MONITORING OF THE CONSTRUCTION SITE

The construction site visit was conducted by the Technical Assistance / Project Management Environment Expert in the presence of the Technical Assistance / Project Management monitoring technician and company representatives.

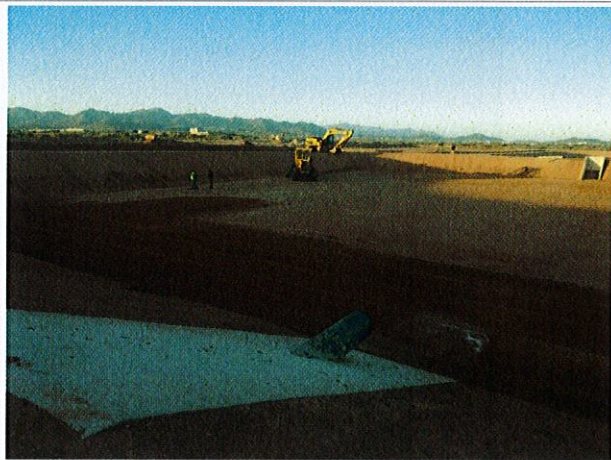
This visit was initiated by awareness session of the representatives of the companies (works supervisor and environment manager) on the negative impacts of the project in the implementation phase as well as the importance of the application of mitigation measures for these impacts. compliance with hygiene and safety rules, in particular with maintaining the partial operation of the WWTP.

A. Observations

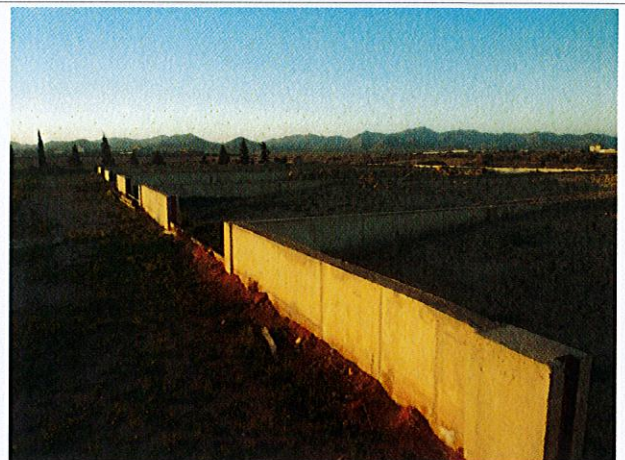
The site installation is carried out inside the fence of the WWTP, the components of the site installation carried out by the company have some anomalies, which have been communicated to the company to be solved, especially the organization of storage of polluting products (fuels, lubricating oils).

The platform built to the right of the storage area is not sufficient, in order to avoid the risk of spilling fuel and lubricating oils, for this purpose it has been decided to provide an extension of this sealed

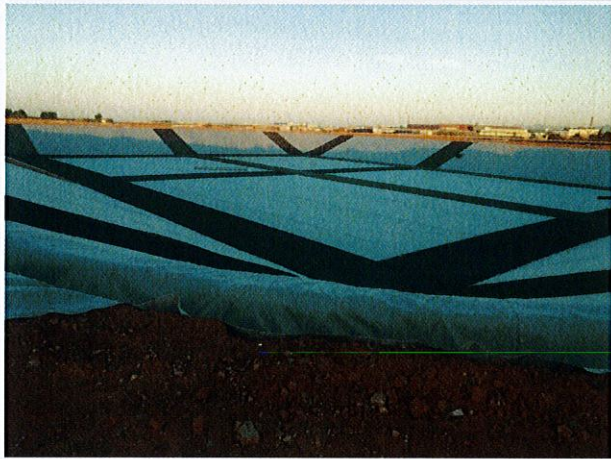
concrete platform and set up a container containing absorbent materials (sand), a shovel and a container for the recovery of contaminated materials.



Basins management



Sludge drying at drying beds



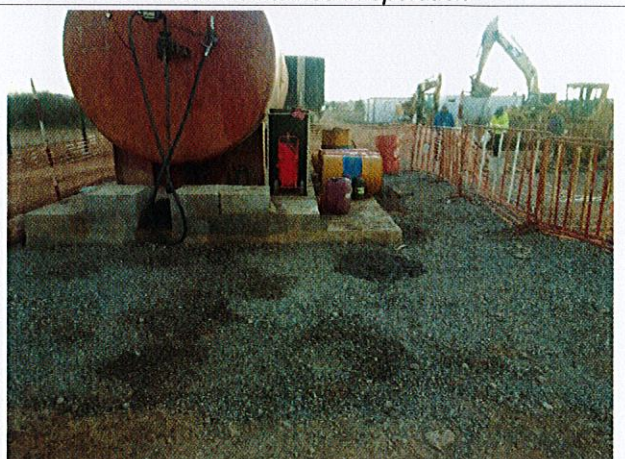
Installation of geotextile and degassing geogrid



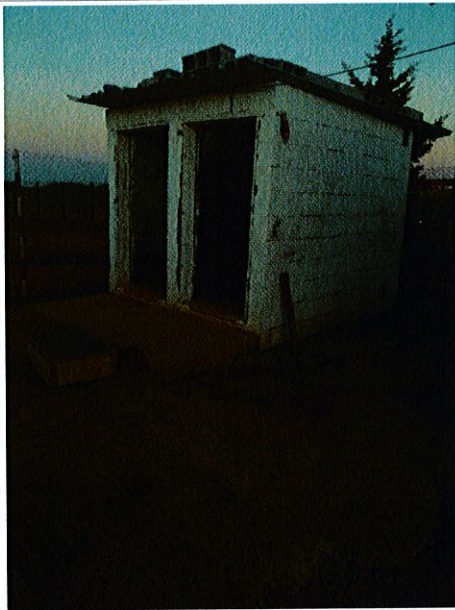
Basin maintained in operation



Display of safety instructions



Tank storage of fuel and lubricating oils (to be improved)



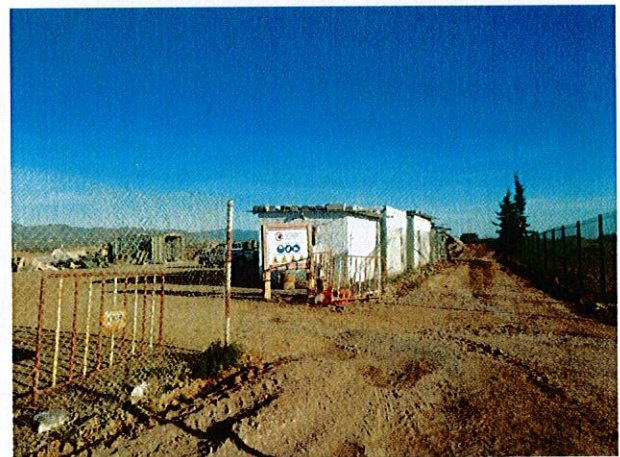
Workers' toilet



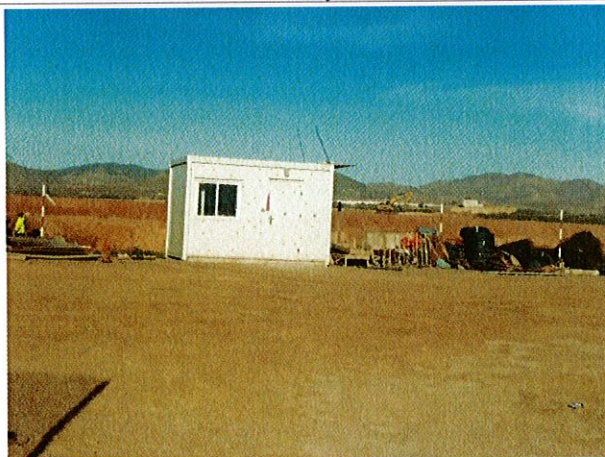
drinking water supply



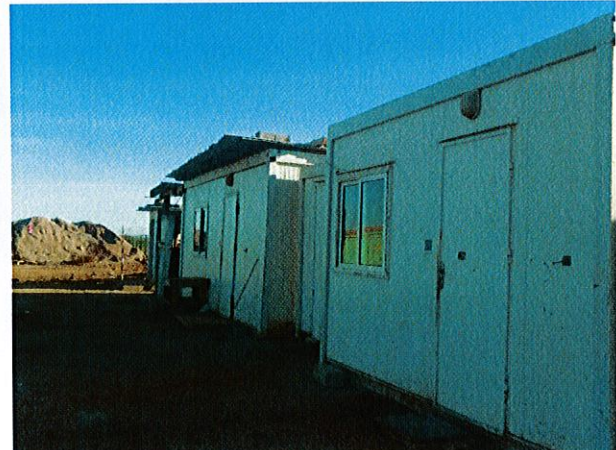
Pharmacy box



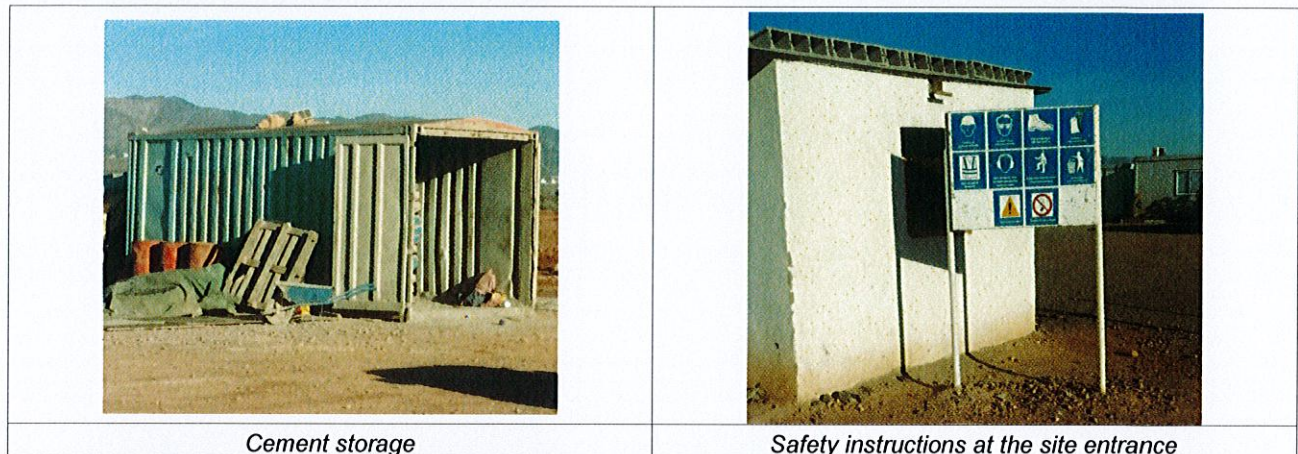
Access to the site installation



Office of the company



Changing room for the workers



B. Monitoring of indicators "Noise and dust"

The Al Aroui WWTP is located far from the population, the works are limited inside this WWTP, the negative effects related to the release of noise and dust are therefore low, moreover, the company respects the schedules of work and water the pathways to further reduce sound effects and dust.

C. Actions carried out by the company

The company responded favorably to the remarks of the environmental expert, including the storage of the lubricating oil cans on the concrete platform.

Conclusion

During the environmental monitoring visits, the worksites were in different phases of completion.

For all the sites visited, we note that the mitigation measures recommended by EIA and HESP are applied.

The site facilities are located within the premises of the WWTPs.

Work is limited inside the WWTPs, which are far from the population, the negative effects related to the release of noise and dust are therefore low, on the other hand, the companies respect the working hours and water the access roads to mitigate the sound effects and the dust.

Companies respond favorably to the recommendations of the environmental expert.