

Kayseri Metropolitan Municipality Medical Waste Disposal

Disposal of medical wastes of health institutions within the province of Kayseri within the scope of the municipality in our Sterilization system

Izmir Bergama Municipality Medical Waste Disposal

Disposal of medical wastes of health institutions located in the municipality's influence area in our Sterilization system

Izmir Gaziemir Radioactive Site Cleanup in cooperation with the Turkish Atomic Energy Agency (TAEK)

The cleaning of the contamination caused by the melting of isotope sticks from the Nuclear Power Plant, which contains high radiation and located at 11 different points within an area of 84.000 m² in Izmir Gaziemir district, was carried out in cooperation with TAEK.

Radioactive wastes were detected by scanning an area of 84.000 m², firstly they were sorted through the crushing-screening process, and then they were transferred to the storage area are being packaged and armored. Heavy metals in the area have been cleaned by reducing them below the dangerous limit in international standards. This process was applied to approximately 100,000 m³ of waste.

90% of the 84.000 m² area containing high radiation has been cleaned. The amount of radiation in the field was reduced from 10,000 ms in the first measurements to 60 ms.

During the process, operations such as detection studies in different areas, scattering on the field, dose detection with detectors, crushing into material in the crusher, dose measurement using different detectors were carried out..

Project Duration: 5 years (2014)

Project Cost: \$5,000,000 (five million dollars)

South Star Oil Production San. A.Ş - Batman

1: Washing, aeration and removal of chemicals from the soil of chemical impurities formed during oil exploration well drilling in Batman oil region

2:Creation of inactive pool dam, filtering of crude oil products that cause contamination by spilling and splashing to the environment during oil extraction in the Batman oil region, digging and transporting the resulting contamination soil, transportation, partial removal of surface oil and pitch waste aQer washing with hot water and hydrogen peroxide, filtering, storage, disposal;

resting and draining the remaining soil, then transporting the soil to the redemation field, performing field sedimentation with bacteria, laying the soil on the field under nep temperature control and completing the REDEMATION with ventilation, and completing the field improvement by moving it back to the oil fields.

3: Cleaning and disposal of contamination pollution of vehicles, tankers, equipment in the Batman oil field area, storage

Project cost: 4.6 million usd

BOTAS- Adana

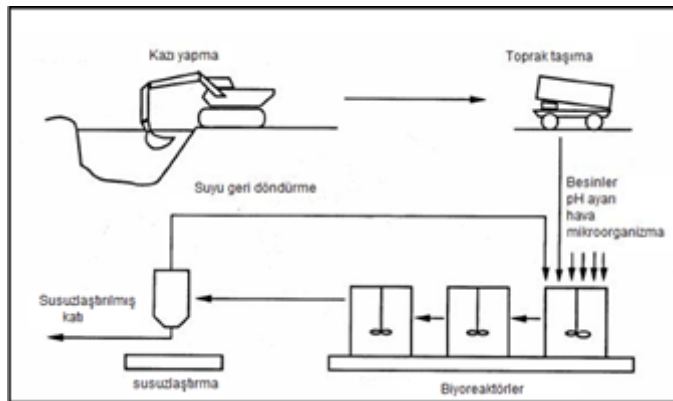
Cleaning of petroleum-based pollution arising from the Kirkuk - Ceyhan oil line in the Adana-Ceyhan region has been carried out. Crude oil wastes generated in the soil and pools of the field in the Ceyhan region were processed on-site and disposal operations were carried out.

Physical and chemical cleaning of the contamination that occurs during oil transportation and refining in the field, collecting, filtering, and eliminating the contaminated waste

Excavation of the soils contaminated by the pollution caused by the pipelines within the refinery area and in the BOTAS responsibility area due to factors such as puncture and cracking, transporting the contaminated soil to the disposal site as hazardous waste, pre-cleaning the incoming contaminated soil with pressurized hot water centrifugation, and then filtering, filtering and disposal of the resulting wastes, which are cleaned by the redemation method and released to the nature again.

Aqueous Phase Process (Bioreactors)

Bioreactors are the most important type of ex situ technique. Bioreactor technique, in which environmental conditions can be taken under control, is the best option in the rehabilitation of durable and toxic polluted soils by bioremediation. The removal rate of pollutants depends on the degrading abilities of active microorganisms in the system. These reactors are classified as batch, semi-continuous and continuous. Batch reactors are generally preferred.



Aqueous phase process.

Project Duration: 10 Years

Project Cost: \$8,000,000 (eight million dollars)

Black Sea Thermal Power Plant - Silopi / Şırnak

In order to collect fuel-oil wastes originating from the power plant operation, to transport and dispose of fuel-oil contaminated wastes resulting from cleaning of floors and vehicles, to prevent soil pollution in case of pollution that may occur again, both waste disposal was ensured and pollution due to hazardous waste generated in the field was eliminated.

Diyarbakir Metropolitan Municipality

Petroleum-based wastes (diesel, fuel oil, waste motor oil, etc.) originating from the machinery supply and waste water facilities within the body of DISKI (Diyarbakir General Directorate of Water Works), including 12 district municipalities and the metropolitan municipality itself, which are within the scope of the Metropolitan Municipality, are determined. disposed of by categorizing contaminated packaging and metals.

On the other hand, in the supply areas, soil contamination has been made superficially and its improvement has been achieved.

Project Duration: 1 Year

Izmir Metropolitan Municipality

o İzmir General Directorate of Water and Sewage (İZSU)

Petroleum-based wastes (diesel, fuel oil, waste motor oil, etc.) originating from machinery supply and waste water facilities formed within the body of İzmir Water and Sewerage General Directorate (İZSU) were identified, and contaminated packaging and metals were categorized at 80 different points, and sober management was carried out.

o İZBETON

With similar methods, the management of hazardous wastes generated as a result of the company's working area was carried out in the Izmir Metropolitan Municipality İZBETON company.

Project Duration: 2 Year

Deniz AUkları

Caused by port operations and caused by cargo ships berthing at ports such as Aliğa Port, Turkish Republic State Railways (TCDD), Alsancak Port, Çandarlı Port, Çeşme Port, Ege Gübre, PETKİM, İzmir Demir Çelik, Habaş Port, Nempont located in the Izmir Bay. dry and liquid hazardous wastes were collected by the licensed RAYDA Waste Collection Ship belonging to our company TURANLAR A.Ş, within the scope of Marpol, and disposal operations were carried out.

North Atlantic Treaty Organization (NATO)

Carrying out the disposal operations of dry and liquid hazardous wastes generated by warships belonging to the member countries of the North Atlantic Treaty Organization (NATO).

International Dance No: 519953331

Republic of Turkey State Railways (T.C.D.D.)

The management of hazardous and non-hazardous wastes caused by the port operation in the İzmir Alsancak region, which belongs to the State Railways, has been ensured. All kinds of hazardous and non-hazardous wastes generated by Cruz and cargo ships approaching the port were disposed of by transport. In addition, spoiled grains, foods and goods that do not comply with the standards, originating from export and import in the port operation, were disposed of by our company.

Project Duration: 6 Year

General Directorate of State Hydraulic Works (DSI)

Contaminated hazardous wastes (diesel, fuel oil, waste motor oil, etc.) were detected at the construction sites in the dam area within the body of DSI, and they were disposed of by categorizing the contaminated packaging and metals.

Turkish Petroleum Inc.

Contaminated soil, sand, gravel, metal and packaging wastes from oil drilling wells belonging to Turkish Petroleum Corporation were taken from the region by licensed vehicles and disposed of by expert teams of disposal facilities.

. creation of inactive pool dam, filtering, excavation of the resulting contamination soil, transportation, partial removal of surface oil and pitch waste aQer washing with hot water and hydrogen peroxide, filtering, storage, disposal of crude oil products that spill into the environment and cause contamination by splashing;

resting and draining the remaining soil, then transporting the soil to the redemation field, performing field sedimentation with bacteria, laying the soil on the field under nep temperature control and completing the REDEMATION with ventilation, and completing the field improvement by moving it back to the oil fields.

Project Duration: 2 years (2012 -2014)

Project Cost: \$17,000,000 (seventeen million dollars)

Karsiyaka Municipality

Hazardous wastes such as chemical, petroleum-derived liquid wastes and waste filters, contaminated ragweed, waste oil, waste oily metals, waste plastic, end-of-life tires are identified and disposed of, including all areas within the impact area of Karşıyaka Municipality and the municipality itself. has been done.

Project Duration: 1 Year

Project Cost: \$ 1,000,000 (one million dollars)

Forest Management

Management of the wastes generated as a result of the rehabilitation and afforestation works due to forest fires in the Aegean region operation directorate of the General Directorate of Forestry. In addition, petro-derived liquid wastes created by the General Directorate of Forestry, Hazardous Solid Wastes categorized in the annex of the 'Waste Management Regulation' With the solid wastes in the codes contaminated with hazardous wastes and the wastes coded in the non-hazardous waste category (oily filters, air filters, oily plastic hydraulic hoses, oily plastic drums, oily cans, oily straws, packaging wastes), cleaning of fuel tanks to increase energy efficiency in

Project Duration: 2 Years

AKSA Energy

Dismantling of power plants in the Siirt region belonging to Aksa Energy A.Ş.

1 Cleaning of contamination of petroleum products formed in the power plant

During the power plant usage period and dismantling, the petroleum products that spill into the environment and cause contamination by splashing, creating a waste pool dam, filtering, physical and chemical cleaning of the resulting contamination areas, excavation of the remaining contaminated area and soil, transportation, partial removal and filtering of surface oil and pitch waste aQer hot water and hydrogen peroxide washing storage disposal ;

resting and draining the remaining soil, then transporting the soil to the redemation field, performing field sedimentation with bacteria, laying the soil on the field under nep temperature control and completing the REDEMATION with ventilation, and completing the field improvement by moving it back to the oil fields.

Removal, storage and disposal of asbestos and dust pollution formed during 2 usage periods

Measuring, packaging, and storing of radioactive pollution formed during 3 usage periods and sending to TAEK

Project Duration: 17 years (2000 - 2017)

Şırnak-İdil Thermal Power Plant Dismantling

Dismantling of power plants located in İdil district of Şırnak

1 Cleaning of contamination of petroleum products formed in the power plant

During the power plant usage period and dismantling, the petroleum products that spill into the environment and cause contamination by splashing, creating a waste pool dam, filtering, physical and chemical cleaning of the resulting contamination areas, excavation of the remaining contaminated area and soil, transportation, partial removal and filtering of surface oil and pitch waste aQer hot water and hydrogen peroxide washing storage disposal ;

resting and draining the remaining soil, then transporting the soil to the redemation field, performing field sedimentation with bacteria, laying the soil on the field under nep temperature control and completing the REDEMATION with ventilation, and completing the field improvement by moving it back to the oil fields.

Removal, storage and disposal of asbestos and dust pollution formed during 2 usage periods

Measuring, packaging, and storing of radioactive pollution formed during 3 usage periods and sending to TAEK

AQer the dismantling, it was ensured that the area was cleaned from petroleum-based wastes, and the area was transformed into a green area by making ground improvements.

Project Duration: 2014-

Mardin Kiziltepe Thermal Power Plant Dismantling

Dismantling and cleaning of the power plants in the Kiziltepe district of Mardin from petroleum-based wastes aQer the dismantling, ground improvement and conversion of the region to green areas were ensured.

CİNER ENERGY

In the thermal power plant of Ciner Energy, located in the Şırnak – Silopi region, the construction of ash pools and the creation of a sealed membrane floor were carried out. In addition to the construction of the ash pond, the ash ponds that were previously used and filled were rehabilitated and refurbished, and the hazardous and non-hazardous wastes in the field were separated and disposed of.

Project Duration: 2017-

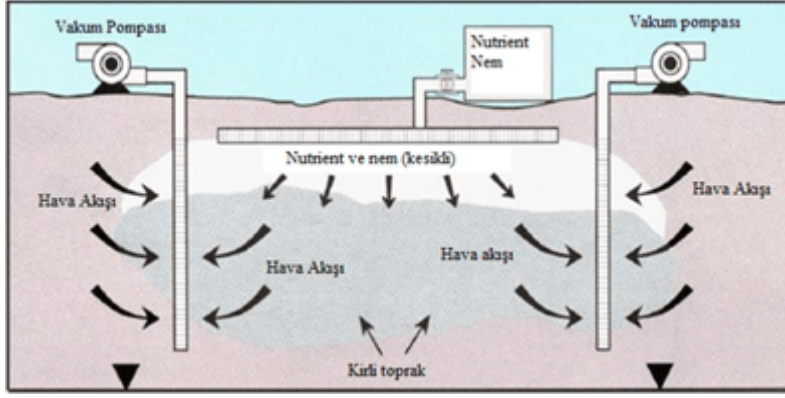
Project Cost: \$10 million (ten million dollars)

Municipality of Bornova

Chemical, petroleum-derived liquid wastes and waste filters, contaminated ragweed, waste oils, waste oily metals, waste plastic-derived wastes and metals in the hazardous / non-hazardous waste storage area in the Atatürk Mahallesi area, which is within the Municipality Influence, are separated and transferred to Turanlar A.Ş. Recycling processes were carried out at the recycling facilities of the company.

AQer the cleaning of hazardous petroleum-derived wastes, bioremediation work is carried out in the field where the wastes are located. According to this method, the area is cleaned by changing the environmental conditions in order to encourage the growth of microorganisms and reduce the target pollutants.

- **Bioventing (Contaminant treatment in unsaturated soil by air injection)**



In this method, atmospheric air is supplied to the soil above the water table in the unsaturated layer in special pipes to provide the necessary oxygen to the microorganisms. In this method, biodegradation is carried out by microorganisms in the soil. In addition to helping the biodegradation of the air or O₂ injected into the ground, it also has the function of carrying the volatile organic substances and CO₂ to the surface with the air flow. It is known that this system can be successfully applied in the treatment of soils contaminated with petroleum hydrocarbons, chlorinated solvents, some pesticides, plant protectors and other organic chemicals.

The reason for the application of this method is that the landfill is a fixed area and the bitumen and asphalt contaminants formed during the road dismantling are transported to this area.

Project Duration: 1 Year

Project Cost: \$ 1,000,000 (one million dollars)

Cigli Municipality

Hazardous wastes such as chemical, petroleum-derived liquid wastes and waste filters, contaminated ragweed, waste oil, waste oily metals, waste plastic, end-of-life tires are detected and disposed of, including all areas within the area of influence of Çiğli Municipality and the municipality itself. has been done.

Project Duration: 3 years

Project Cost: \$2,000,000 (two million dollars)