



**MOC PETROLEUM
RECYCLING COMPANY**

MOC Petroleum Recycling is an EJS company (Egyptian Joint Stock Company)

Established by a group of national industrialists The company's activity includes –

But not limited to the following

- General supplies
- General trading and distribution (Biodiesel and petrochemical)
- Import, export and commercial Agencies
- General, specialized, and integrated contracting
- Land and sea freight-forwarding services, and stevedoring
- Commercial brokerage
- Manufactures for petroleum recycling of waste liquid and solid material through deferent type of Methods. Like (Thermal desorption, water and oil separation mechanical system , Vacuum distillation , pyrolysis etc. ...)
- Soil Remediation with deferent Remediation Technologies (Ex-situ Remediation, In – situ Remediation, Groundwater Remediation)
- Offsite Soil Treatment Facility
- Water Treatment
- Environmental Plant
- Petroleum services which are supplementary to drilling and exploration operations
- Extension and interconnection of production and transmission lines for Refineries

INTRODUCTION



- Trade intermediary
- Provide support service for petroleum drilling and exploration process
- Drilling of water wells and shallow wells necessary for the purposes of oil
- Construction / civil works complementary to drilling and maintenance process
- Treatment of surface from deposits
- Service related to dropping of wrapping pipes and tubes productions
- Petroleum exploration
- Petroleum consultant
- Fuel filling station
- Steel factories

OUR VISION

**Our current and future vision is to support the industry sector in all its forms,
Whether the heavy or the medium industries, in addition to the small industries as well.
This could be done by providing modern production lines, industrial equipment, consultancy,
Trainings, and economical feasibility studies for the current factory owners,
And also for those who are willing to start working in the medium and small industries field.
This field is essentially important in line with the developmental state policies
In enhancing and developing that vital industry sector in Egypt, as it assists in creating millions
Of new job opportunities for the youth, and also in pushing-forward the
Manufacture and export wheel, which form one of the Egyptian economy pillars.
With regards to our great experience in the industry field, and because of all the obstacles
And difficulties we have faced and managed to solve over the previous years,
We have dedicated a huge part of our efforts to provide the suitable technical
And technological solutions through modern applications.
These applications will be available for the first time in Egypt to support the national industry
Which is the pillar of the Egyptian economy, so that our products can be able to compete in the
Global markets with their high quality and reasonable price. Therefore,
our beloved Egypt will rise to industrially and economically developed countries rank.**

OUR SERVICES

Economic consulting

**We provide to our client access to a worldwide investment and distribution network and real service
Through our experienced staff of professionals, we guarantee high quality service .**



**Each and every one of our employee represents the spirit of our company and actually aware of how
Limitless Moc Petroleum Recycling groups potential energy .**



OUR SERVICES

Drilling equipment and Oil Pumps Maintenance Services:

Water Well Drilling and shallow wells necessary for the purposes of oil
Services related to dropping off wrapping pipes and tubes production
Construction / Civil works complementary to the drilling and maintenances
Processes treatment of surfaces from deposits



OUR SERVICES

Contaminated site Management :

Environmental site assessment (ESA)

- Remedial investigation and Feasibility Study (R/FS)
- Remedial Design (RD)
- Remedial Action (RA)



OUR SERVICES

Environmental Consulting

We provides various environmental consulting services like
Environmental risk assessment
Environmental due Diligence assessment
Environmental Health and safety Audi

1- Remediation Technologies
Ex. Situ Remediation

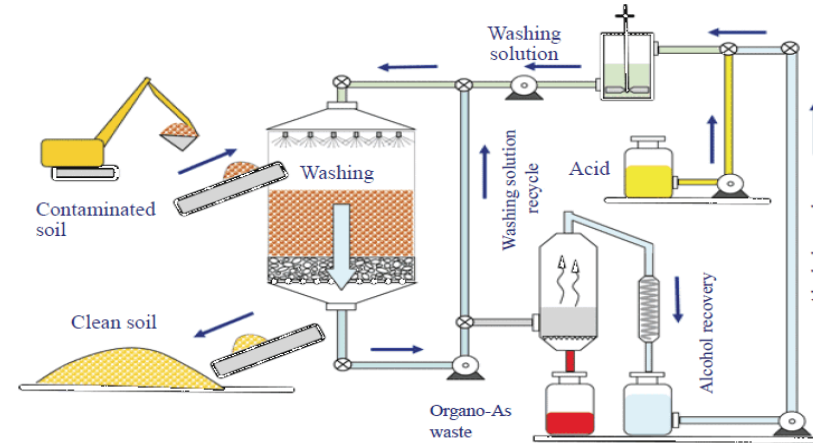


Figure 18: Soil washing.

-Soil Washing

Contaminants are separated from the soil in an aqueous –
based system with a basis
Leaching agent, surfactant pH adjustment,
or chelating agent that help removing organics and heavy metals.

Contaminants : SVOCs , Fuel , heavy metals , and selected VOCs and pesticides

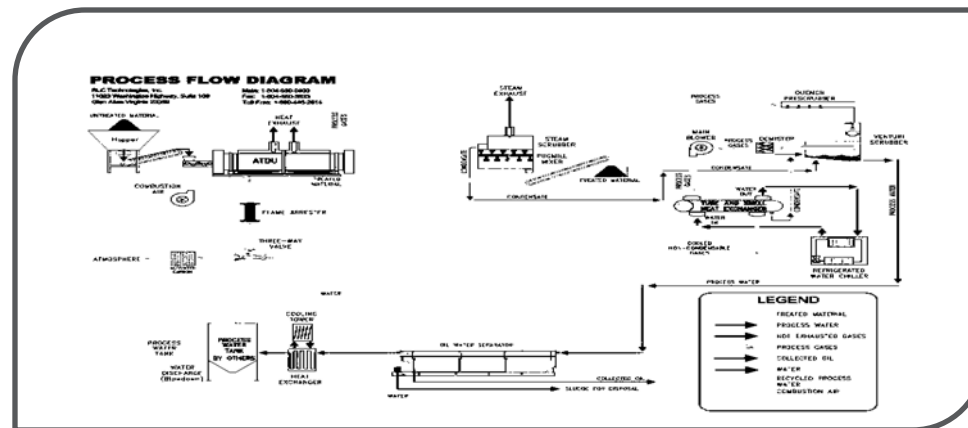
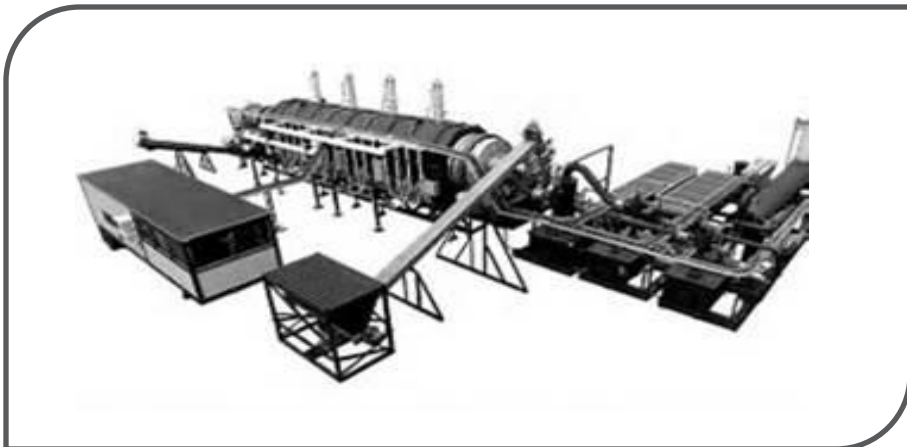
OUR SERVICES

Thermal Desorption

Thermal treatment means the destruction or removal of contaminants through exposure to high temperature in treatment cells or combustion Chamber

direct or indirect fire

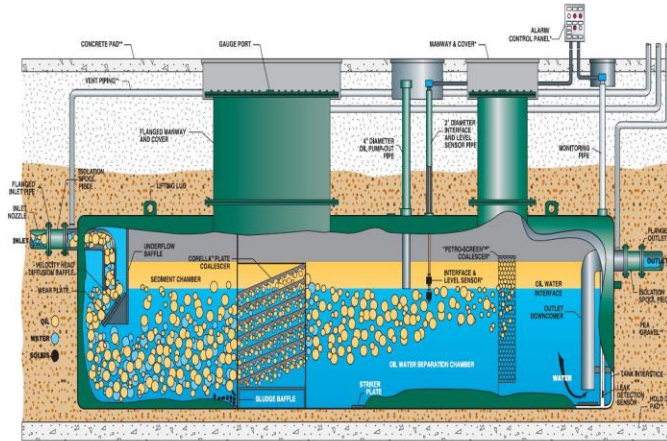
contaminants : SVOCs, PAHs, and pesticides , no halogenated VOCs and fuel .



OUR SERVICES

- Water, Oil Mechanical separation :

Oil water separators can efficiently aid in the removal of gasoline, diesel fuel, crude oil , Vegetable oil and almost any type of oil that is heavier than water. The effluent from oil / water separators is typically Discharged to either a sanitary sewer system or a storm sewer. Properly designed, installed, and operated, oily water separators provide a treatment system for handling oily waste water that prevents the entry of unacceptable levels of contamination to a storm sewer or sanitary sewer system.



OUR SERVICES

-Land farming

That contaminated media is applied into lined beds and Periodically turned over or tilled to aerate the waste .

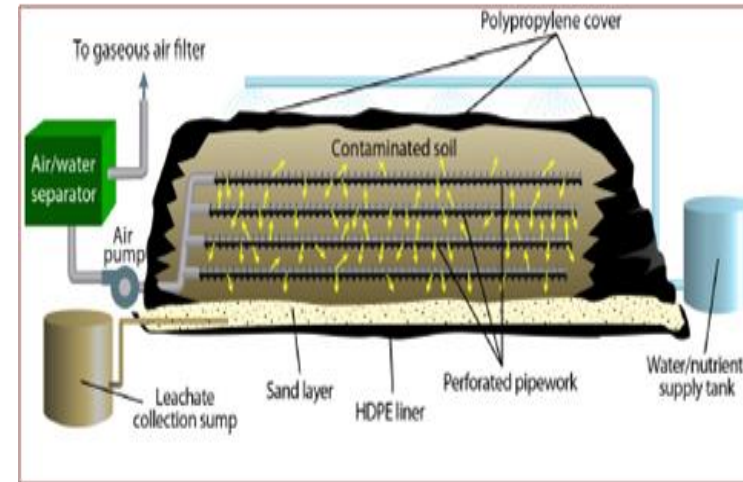
Contaminates : diesel fuel , JP-5 , oily sludge, PCP, creosote and certain pesticides .

In. Situ Remediation

- Electro kinetic Separation

The electro kinetic remediation process removes metals and Organic contaminants From low permeability soil , mud , sludge , And marine dredging using electrochemical and electro kinetic

Contaminants: heavy metals , anions ,and polar organics



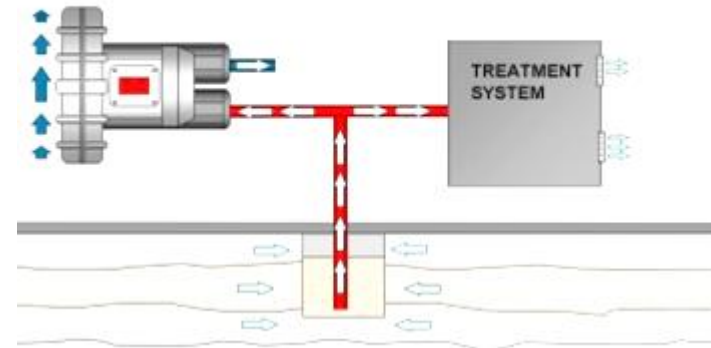
OUR SERVICES

Soil Vapor extraction (SVE)

SVE is used to remediate unsaturated zone soil .

A vacuum is applied to the soil to induce the controlled flow of air and
Remove volatile and some semi volatile organic contaminants.

Soil Vapor Extraction



OUR SERVICES

Bioventing

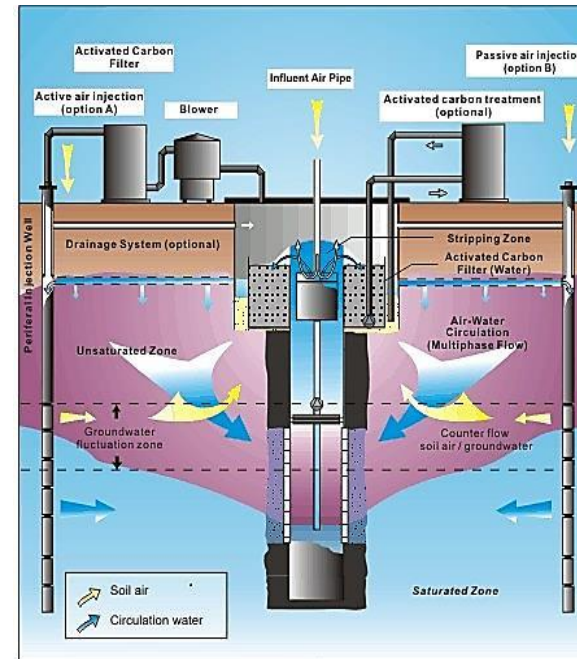
Bioventing is a technology that stimulates the natural in situ biodegradation of any aerobically degradable compounds

In soil by providing oxygen to existing soil microorganism

Contaminants : petroleum hydrocarbons ,
non chlorinated solvents , some pesticides ,
wood preservatives , and other organic chemicals

soil Flushing

Water , at times supplemented with surfactants



OUR SERVICES

- Chemical Oxidation

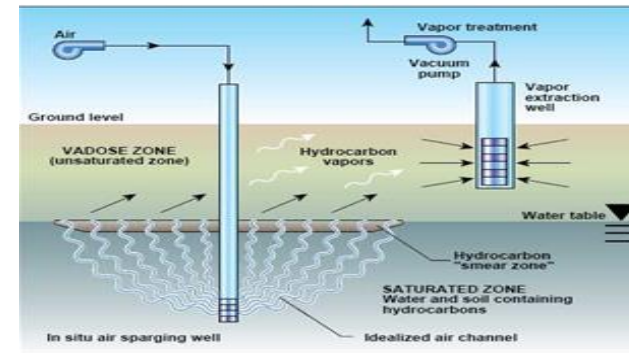
Chemical oxidation uses oxidants and typically involves reduction/oxidation reactions that chemically convert hazardous compounds to nonhazardous or less toxic compounds
Contaminants : fuel , solvents , pesticides



Groundwater Remediation

Pump and Treat

Contaminated groundwater extracted from the subsurface by pumping is treated before it is discharged
Contaminants : fuel , solvents , and pesticides



OUR SERVICES

AIR sparging

1-Injected air traverses horizontally and vertically in channels through the soil column ,
Creating an underground stripper that removes contaminants by volatilization .

Contaminants : VOCs , and fuels .

Permeable Reactive Barrier (PRB)

PRB is a wall created below ground to clean up contaminated groundwater . The reactive materials that make up
The wall either trap harmful contaminants or make them less harmful.

Contaminants : chlorinated solvent , other organics , metals , inorganics , and radio nuclides .

2- Recycling the waste solid and liquid petroleum products

for waste (plastic, tire , rubber , sludge , engine oil)

OUR SERVICES

Welding is a fabrication process that joins materials, usually metals or thermoplastics, by using high heat to melt the parts together and allowing them to cool, causing fusion. Welding is distinct from lower temperature metal-joining techniques such as brazing and soldering, which do not melt the base metal. Many different energy sources can be used for welding, including a gas flame (chemical), an electric arc (electrical), a laser, an electron beam, friction, and ultrasound. While often an industrial process



OUR MACHINE LINE PRODUCTS

Steel-drawer

XY-C800XY-C1200

It could be applied to cut all kinds of rubber blocks and strips. It is good for cutting rubber tire, rail tire, rubber strips etc.(650-1200 Tire)



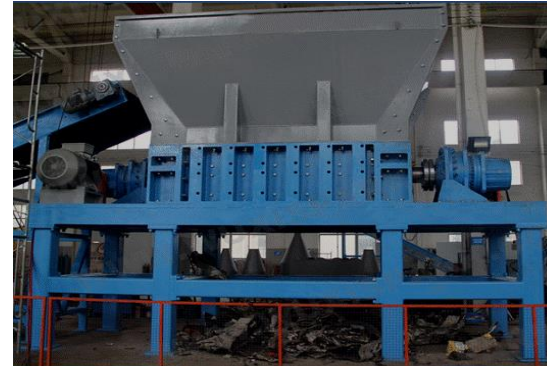
Shredder

Crusher

XY-SH800

XY-SH1200

At the room temperature, put the tire or large plastics of rubber into the press directly, which can then be **crushed to 1-8 cm pieces**



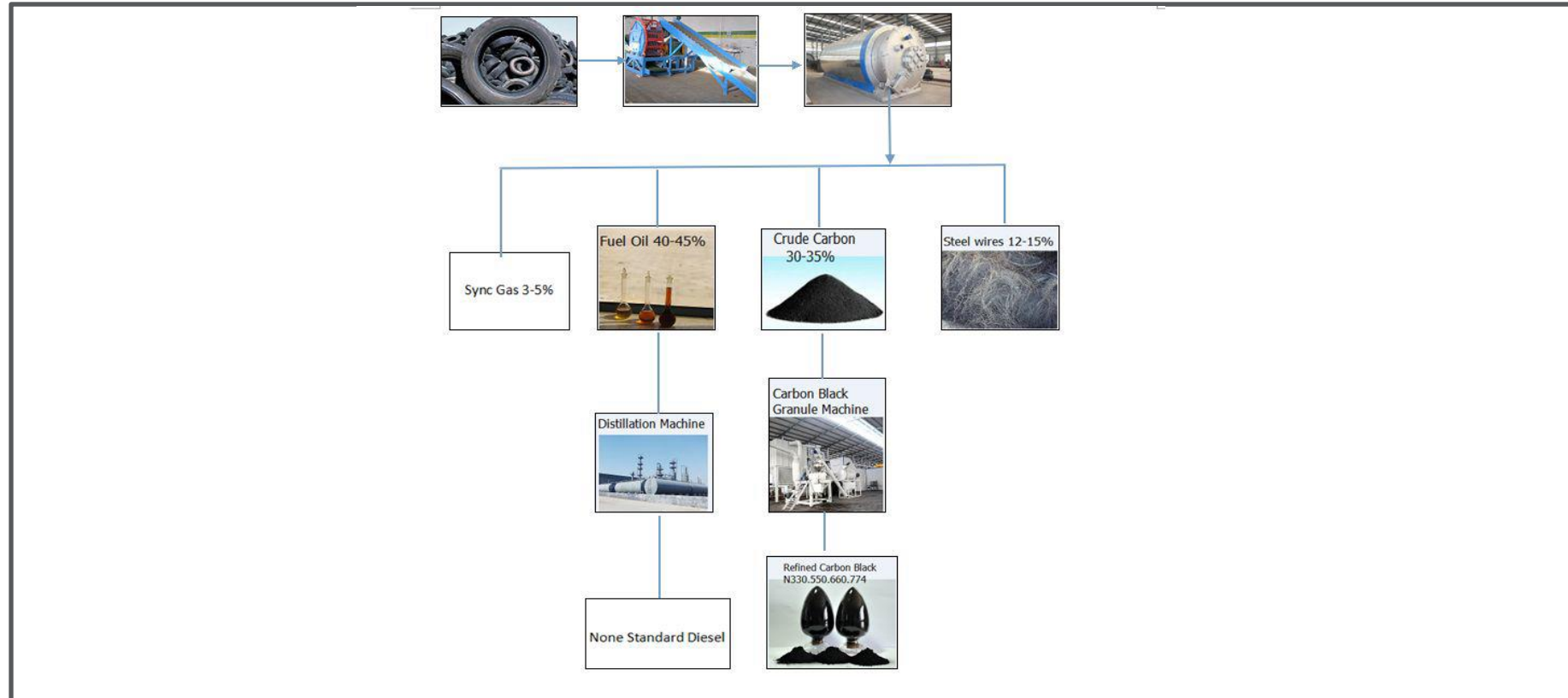
OUR MACHINE LINE PRODUCT

**Whole Tire
Crusher and screening
XY-SH800
XY-SH1200**

At the room temperature, put the tire or large plastics of rubber into the press directly, which can then be crushed to 1-8 cm pieces.



WORKING DIAGRAM



OUR PYROLYSIS MACHINES INTRODUCTION AND PROPOSAL

We are professional institute in the recycling and utilization of waste resources (waste plastics, waste rubber). We are professional institute in the recycling and utilization of waste resources (waste plastics, rubber, tires and waste engine oil).

Now, our company have agency holds several items which are China national patents related with the involved our technology and equipment's.

According to the actual situation in every country and district, we developed series of machine for waste tires, rubber and plastic which includes about 5 tons and 10 tons capacity daily on batch systems, and the fully continuous pyrolysis systems with daily capacity from 10~30Mt. also 5 – 10 MT/H . Here introduced only on the batch systems.

2- oil output :

With waste dry and pure steel tire

Ex : tire oil : 40-50 %

steel wires : 12-15 %

Carbon black : 30\35 %

Sync gas : 3: 5%.

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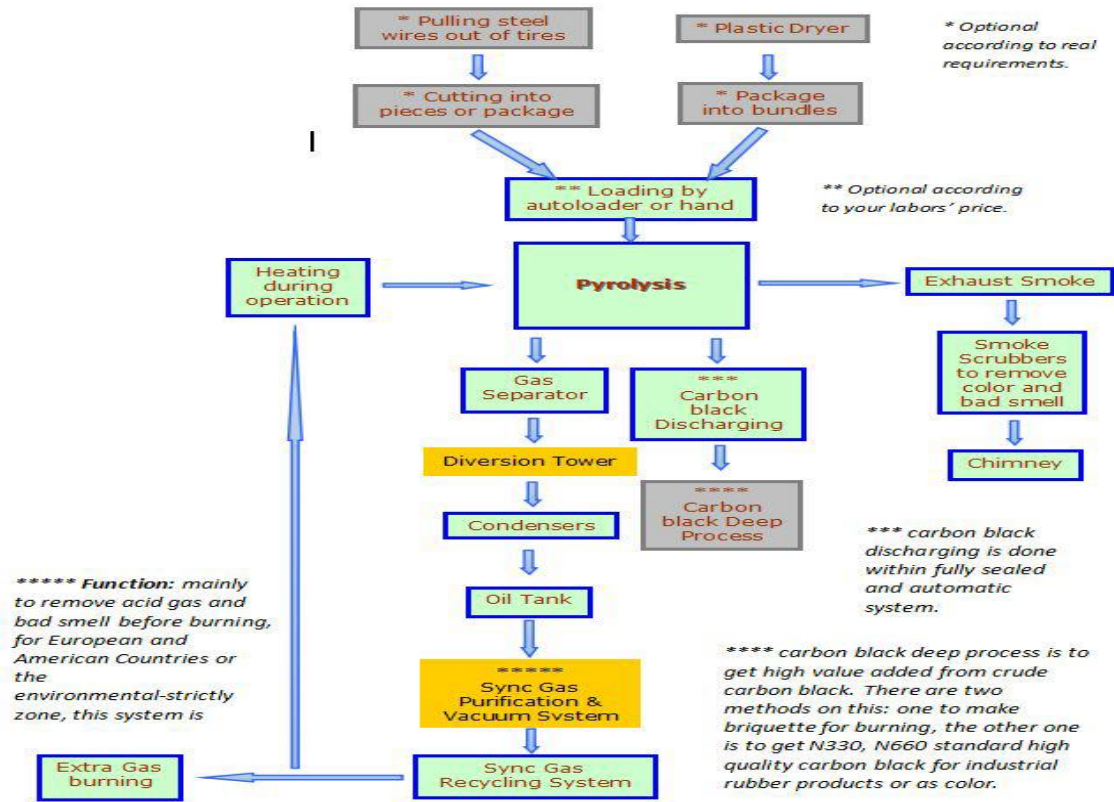
Sync gas : 3: 5%



IF THE RAW MATERIALS ARE PLASTIC OR OTHERS , PLEASE REFER TO THE FOLLOWING OIL OUTPUT

Item	Picture	Raw Materials	Output	Item	Picture	Raw Materials	Output
轮胎 Tyres		钢丝（汽车）胎 Steel Tyres	40%—45%	生活垃圾 Life Garbage		纯净（塑料袋） Pure (Plastic bags)	≈ 50%
		尼龙（汽车）胎 Nylon Tyres	≈ 40%			编织袋、手提袋 Weaves & Handbags	≈ 60%
		自行车胎等 Tyres of Bikes etc.	≈ 35%		含水杂料 (Wet Mixture)	≈ 15%	
塑料 Plastics		HDPE	≥ 70%	鞋底 Soles		运动鞋底 Sports Shoes Soles	27%—33%
		LDPE	30—50%				黑橡胶 Black Rubber Soles
	PVC	20—30%				牛筋底 Gum-rubber outsoles	≈ 45%
		ABS 工程塑料	≈ 40%	其他 Others		普通橡胶管 Usual Rubber Tubes	≈ 30%
纸浆料 Paper Mixture (Plastic from the Mixture)		粗料 Rough Material	≈ 15%			地毯料 Carpets	≈ 35%
		水洗料 Washing Material	23%—26%			铝箔纸 Aluminum Foil	≈ 30%
		机头料 PE Material	≈ 70%			车玻璃压条 Car glass bead	≈ 50%
电缆皮 Cable Skin		PE 交联电缆皮 PE Cable Skin	≈ 85%			饮料瓶盖 PP) Beverage Bottle	≈ 50%
		PVC 电缆皮 PVC Cable Skin	≈ 25%				
		纯橡胶电缆皮 Rubber Cable Skin	≈ 35%				
		电话线 Telephone Cable Line	≈ 50%				

FLOW DIAGRAM



PROCESS

- A. Open the reactor door, load the materials (tires, plastics, rubber, etc.) into the reactor automatically or by hand, and close the reactor door, tighten strongly.**
- B. Turn on the motors, begin firing with fuel (wood, coal, char, carbon black, oil or gas), the temperature of the reactor increases gradually, and when temperature increases up to about 200°C, gas separator temperature about 120°C, vapor comes out first, and then sync gas generated gradually.**
- C. Most of the Sync gas will liquefied into oil when flowing through the condensers which is cooled by the circling water and stored in the oil tanks.**
- D. There still small quantity of sync gas cannot be liquefied due to its characteristics, this part of gas will be recycled back to the (Sync gas purification system, in which most part of the Acid content then flow into) burning room, and burned as fuel to support the operation. If the sync gas too much to be burned, the extra gas will be burned in the extra gas burning room.**
- E. The smoke after burning (of sync gas and all other fuels) will be purified in the smoke scrubbers, the acid contents and the ash will be removed and then into atmosphere finally.**
- F. When the heating finished, after about 5 hours natural cooling, the carbon black (some people call it as char) will be automatically discharged into the carbon black storage tanks. (And then steel wires pulled out of reactor if steel wires exists).**

The Parameter of the fuel oil after pyrolysis
Parameter of the fuel oil after pyrolysis:

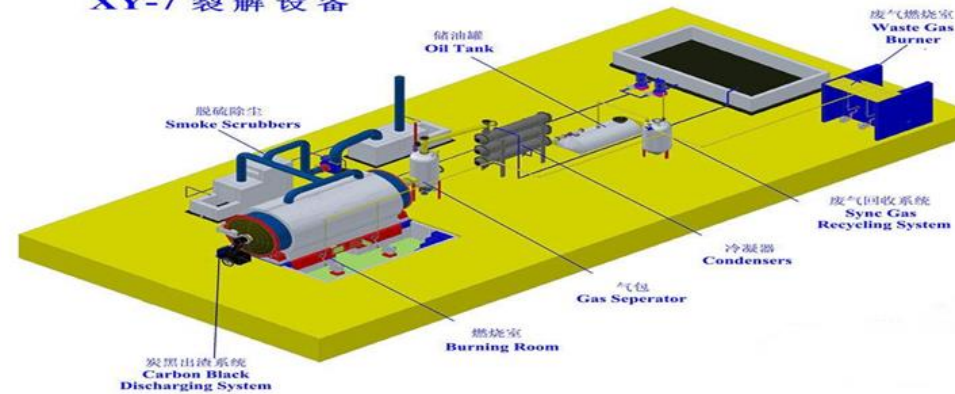
No. Project Tire oil Plastic Oil

- 1 Water content 3% - 5%**
- 2 Sulfur content $\leq 0.3\%$ $\leq 0.5\%$**
- 3 Density 0.86-0.94 0.84-0.94**
- 4 Certain number 30 30**
- 5 Combustion value 9500 9000**
- 6 Asphalt 0.5% 0.5%**
- 7 Ash 1%**
- 8 Impurity 1%- 3% /**
- 9 Solidifying point 10°C 10°C**
- 10 Flash point 30~40°C 20~35°C**



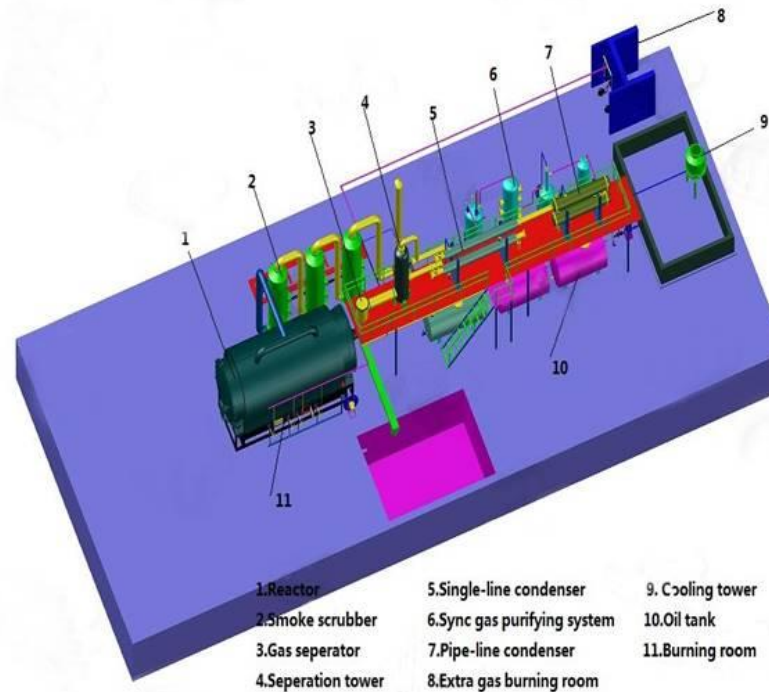
XY-7 / XY-8 Commix tract fuel oil from kinds of scrap rubber, tire, plastic through pyrolysis, separating the on design It is applied to crude carbon black and steel wires.

XY-7 Pyrolysis Plant
XY-7 裂解设备



XY-8 Integrated design

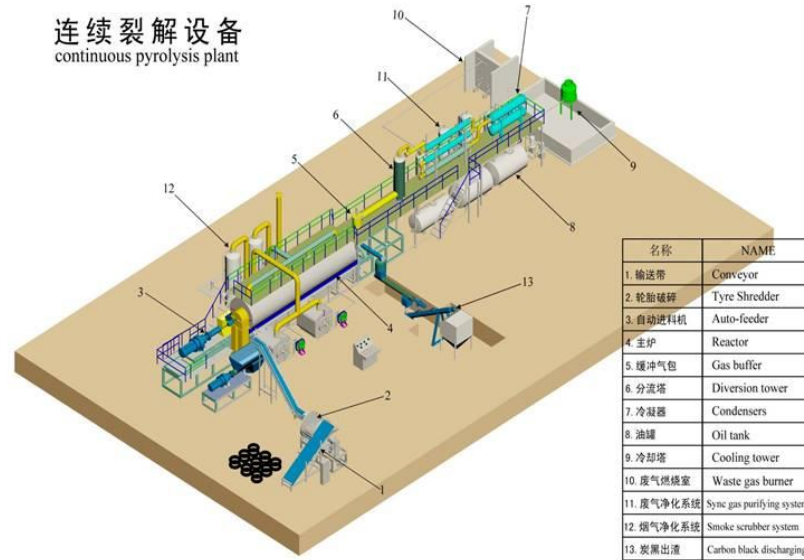
have more strict environmental requirements than the developing countries we have made greater improvements on our exhausting emission system based on our condensation of XY-7 that we have developed our XY-8 pyrolysis plant to Europe and other developed countries. Matched base, no foundation, more convenient installation, with



XY-9- full automatic continuous process

Fully automatic and continuous process with advanced technology and large capacity, no need fuel during the process to convert waste into wealth, with high quality end products

连续裂解设备
continuous pyrolysis plant



PROPOSAL

Continuous Vacuum Distillation Plant XY-9

We are a professional institute in the recycling and utilization of waste resource (waste plastics, waste rubber, tires and waste engine oil)

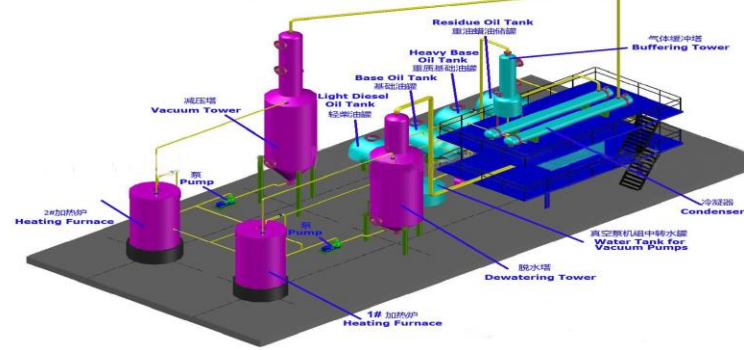
On Waste plastics, city garbage, scrap tires, we developed series of machine for disposing scrap tire and plastic that includes 5~10MT daily capacity on batch systems,

1 0~15MT systems of semi-continuous systems, 10~30mT daily capacity fully continuous, automatic systems accordingly.

For the crude oil, used engine oil, pyrolysis fuel oil, we developed 3~6Mt batch systems and 20~300Mt continuous systems for the distillation and refining.

Besides, we developed related tires/plastics shredding machines, carbon black deep-process machines to help customers complete solution on the waste in a clean, dust/pollution free ways

XY-9 Continuous Vacuum Distillation Plant
XY-9 连续减压蒸馏设备



COMPANY AGENCY PRODUCT

CARNES



FORK LIFT



COMPANY AGENCY PRODUCTS

1- Machinery

- Bricks Machine

Supply, installation and maintenance of all types of machinery industry of clay bricks and cement with different sizes and capacities



Loader



Marble Cutter



shredder



stirrup Bender

Water well ring



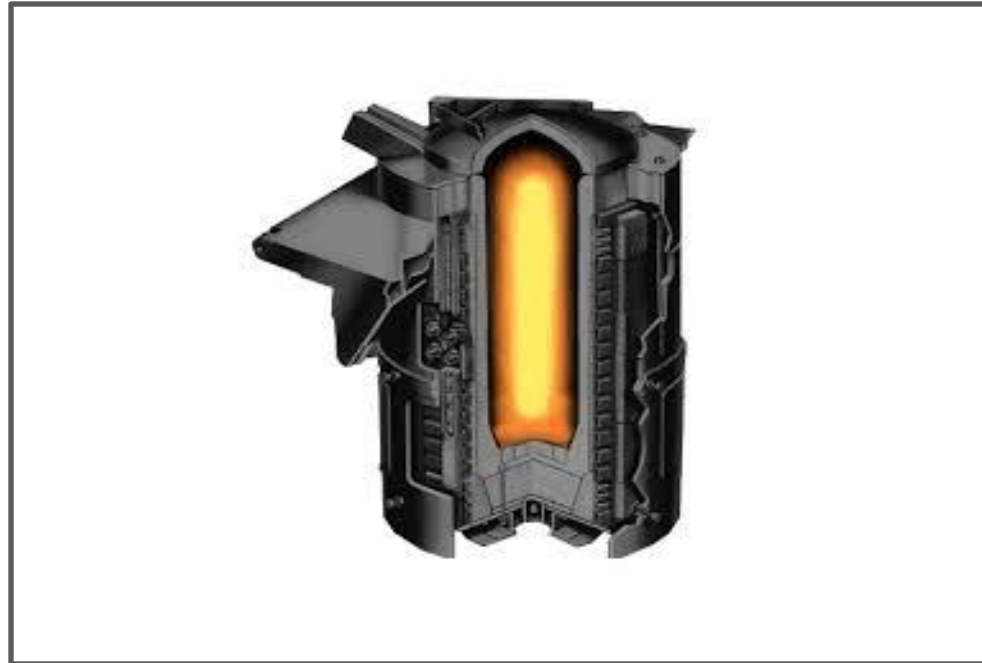
sandwich panel machine



paper cement bag machine line

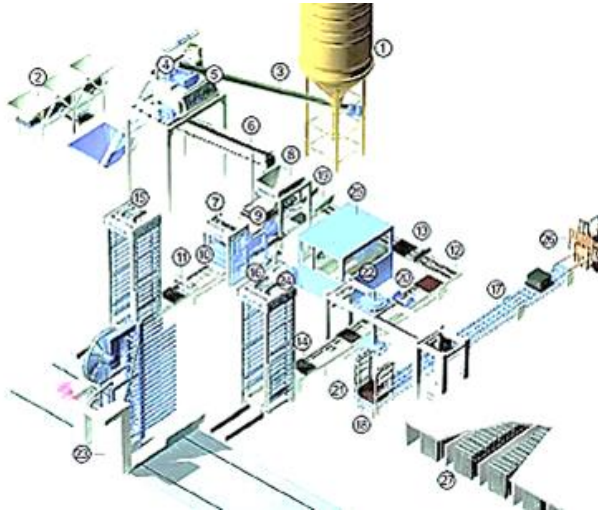


induction furnace

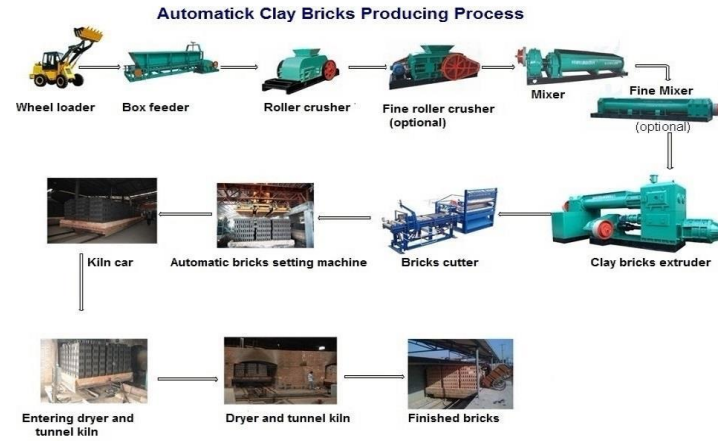


PRODUCTION LINE

Cement bricks production line

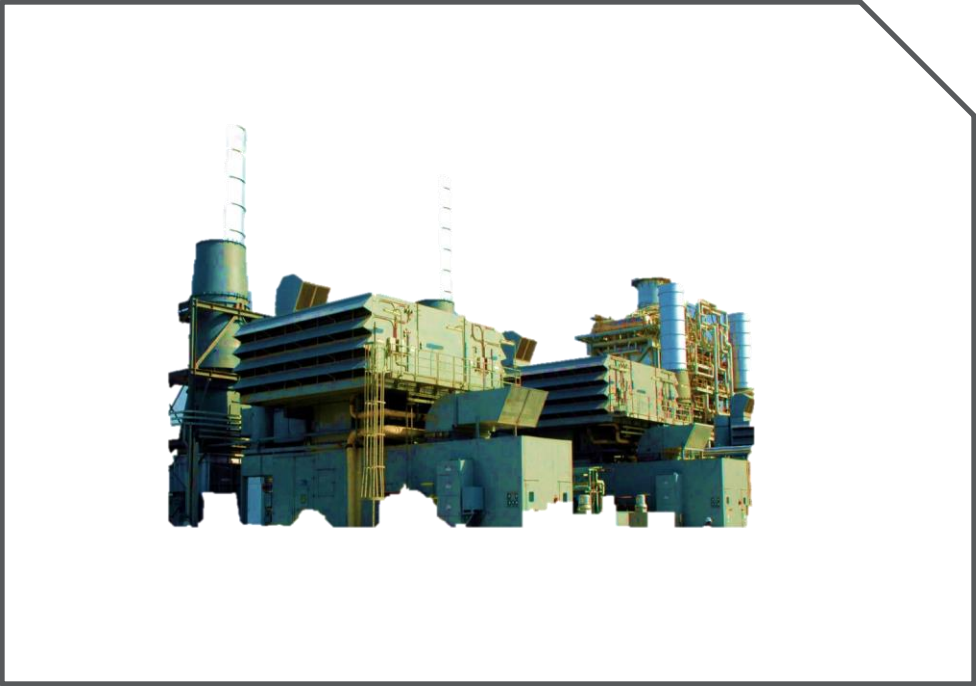


clay bricks production process



ELECTRICAL

Energy station



electrical products



PETROLEUM PRODUCTS



STORAGE SILOS



DRILLING SECTOR



Kelly Bar



Casing



Pup joint



Sucker rod



Drill pipe



Heavy Weight Drill Pipe

WE CAN PROVIDE OUR CLIENTS WITH :

1-Biodiesel (sunflower oil – soybean oil – Rapeseed oil)

2-Chemical Products (Ammonium Nitrate - Butyl Rubber – Methanol – NPK – Paraffin - UAN Solution – UREA)

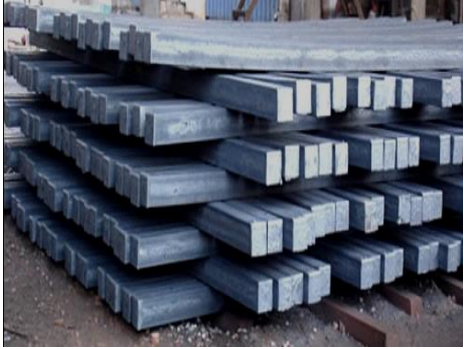
3- Mineral Resources

(Alumina Ball - Alumina Powder – Aluminum - Cadmium - Coal - Copper Cathode - Copper Powder - Copper Sulfate - Ferro Titanium

Lead Ingot - Nickel Ingot – Sodium Hydroxide Flakes – Sulpher – Super Pure Copper – Tin Ingot – Titanium Dioxide – Zinc Ingot –Zinc Oxide)

ALL TYPE OF STEEL SHAPES

Steel billet



steel coil



steel role



TYPE OF STEEL SHAPES



ALL TYPES AND SIZE OF SEAMLESS PIPS



**We can provide our clients all steel type (carbon steel – Alloy steel – stainless steel – Tool Steel)
with all sizes**

**Cement Clinker – Steam Coal – Pet Cock al as our clients specifications -
Waste tire Shredded 10cm,5 cm, 2 cm , and 1-0.3 cm also we can provide our clients granulate
or fine grade**

**9- Petroleum Products
(Crude oil - Base Oil SN 150/300/500 – Diesel fuel D6/D2 – Gas oil – Bitumen – Bituminous –
WEO -**

**TPO –PPO – Marine Fuel
Gasoline octane 87 – LNG – LPG – Mazut M100 - NPK)**

**Drilling strings
Import and supply all the equipment and spare parts for drilling machines, the highest quality
specifications and
lowest prices - guarantee - safety - quality – providing)**

OUR CLIENTS & COLLABORATORS



OUR CLIENTS & COLLABORATORS



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