



**CHINA UNIVERSITY**  
of  
**PETROLEUM, BEIJING**

***One Year's Progress  
in the Chinese Oil  
Shale Business***

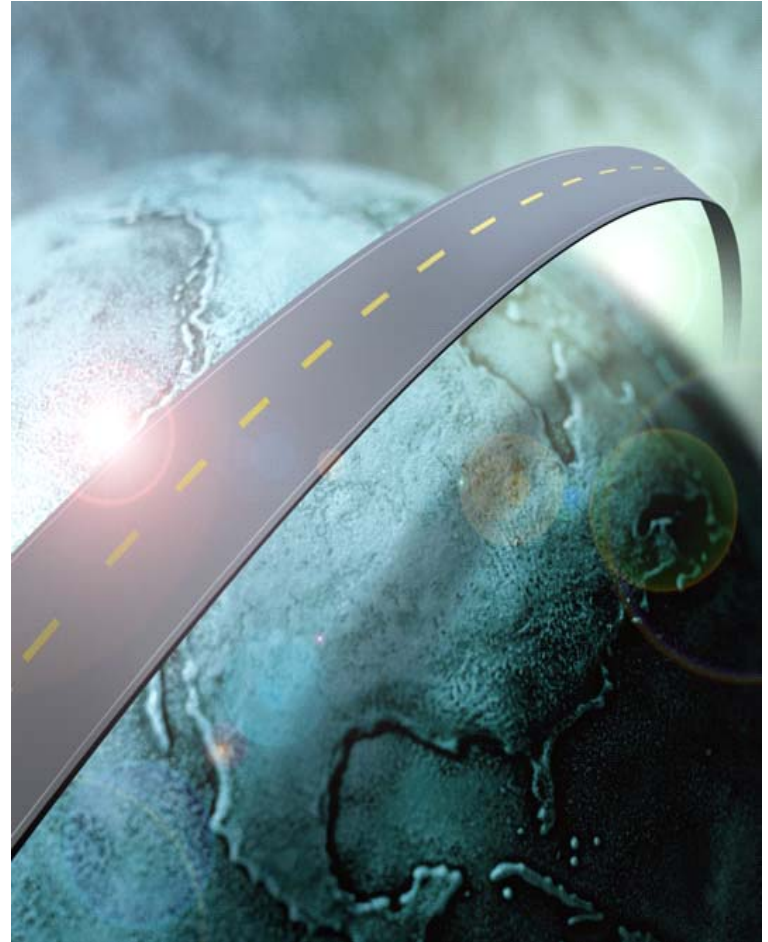
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# Preface:

## Mr.Chairman, Ladies and Gentlemen:

- Thanks to Colorado School of Mines, last year the 26th Oil Shale Symposium promoted the oil shale activities of the world.
- Now one year has passed, comes the 27th Oil Shale Symposium; it is my pleasure to attend this meeting and to inform you of one year's progress in the Chinese oil shale business.





# Reserves and Resources:

- Chinese oil shale proven reserves accounts for 32 billion tons.
- Chinese oil shale resources is estimated to be 600 billion tons
- Now in many provinces, governmental organizations and private companies are exploring oil shale
- ★ The China Bureau of Geological Survey is promoting the survey of oil shale





# Fushun Mining Group Co. (I)

- In 2006, Fushun mining Group Co. produced **240,000t** shale oil.
- In 2007, Fushun will produce **300,000 t** shale oil, with the addition of 40 new Fushun retorts, into the existing 140 retorts (each with 100t oil shale/day capacity).
- Now the selling cost of shale oil reaches **3,500 yuan/t**; greater economic and social benefits have been made.







# Fushun Mining Group Co. (II)

- Fushun is importing one ATP retort for processing particulate oil shale, with the daily capacity of 6,000t oil shale.
- ATP technology is not so mature;
  - three years ago, when the first ATP retort was shut down in Australia, its longest operating cycle only reaches 50%;
  - Fushun must spend much time and effort to make it run well.





# Fushun Mining Group Co. (III)



Fushun is expanding its shale ash use.



A production line with a dry method rotating furnace for preparing shale ash cement clinker was set up to produce 700 t/day of clinker, and 300,000t of cement yearly.

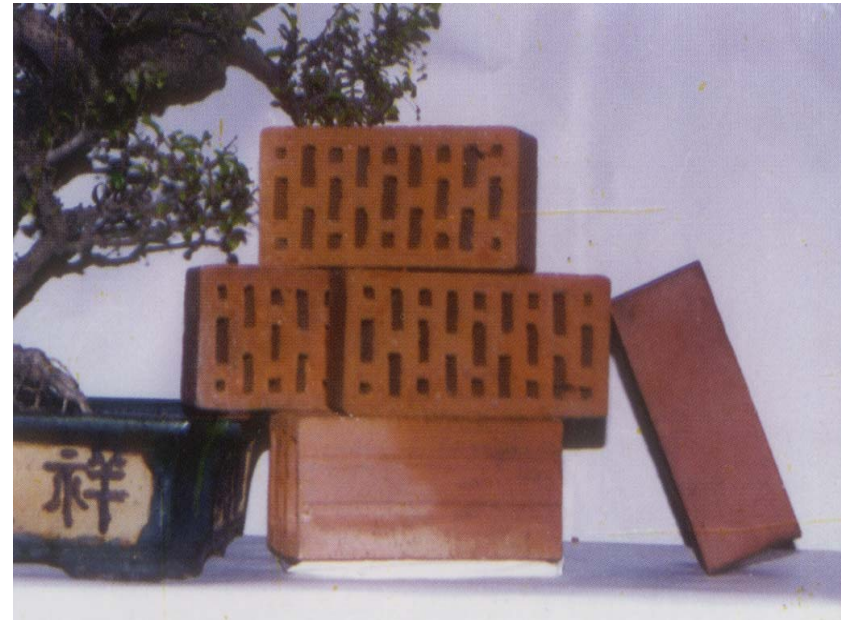


More than 100,000 t shale ash can be consumed for cement production.



# Fushun Mining Group Co. (IV)

- A brick factory using oil shale and shale ash for producing construction brick with a yearly capacity of 60 million bricks was set up in 2004. It has been operated with good economic and social benefits.
- In 2007, it is planned to build another factory with the yearly production of 180 million bricks, due to local demands.



Bricks from Shale Ash



# Oil Shale Business in Huadian(I)

## In Huadian, Jilin Province

The  
capacity  
of 12  
MW

Three sets of fluidized bed  
oil shale combustion units

65t/h,  
equipped  
with  
generators

Processing  
300,000 t oil  
shale  
annually





# Oil Shale Business in Huadian(II)

## In Huadian



Five private small companies produce a total of 30,000 t shale oil each year

Using Fushun retorting technology



The private companies earn much money, but the environmental impact is serious



# Huadian oil shale business(III)

- China Power Investment Company and Jilin Energy Company , as main investors, cooperating with Jilin Province are conducting a large project,

for retorting 2 million t oil shale yearly in Huadian

producing  
200,000 t shale oil

shale char for power

shale ash for  
producing cement

The total investment accounts for more than 1 billion Chinese yuan.



# Wang Qing County oil shale retorting

◆ In Wang Qing County, Jilin Province, a private company set up 10 Fushun retorts, and produced 15,000 t shale oil in 2006.

◆ Wang Qin oil shale is open pit mined, with the oil content of 8%.

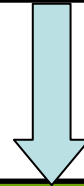
◆ The company earns money, but the environmental problem has to be solved.



# Other Local Related Business



Maoming, Guangdong Province is planning to build a large oil shale power plant,



but has to be approved by China National Development Commission



Zhan County, Heinan Province, is planning to build an oil shale retorting plant to produce shale oil.



# Petrochina (CNPC)



In 2006, CNPC , the Chinese biggest oil company established a new department , "New Source of Energy", for dealing with oil shale, tar sands, biofuels.



Langfeng branch research institute under CNPC also began oil shale research.



Da Qing Oil Company also becomes involved in oil shale exploration and use.





# China National Coal Company

- China National Coal Company is supporting Harbin Coal Chemical Co. to conduct a pilot test of oil shale fluidized bed retorting (24 t/h).
- China National Coal Company with Heilongjiang Coal Chemical Company is exploring for oil shale




# China University of Petroleum


- ★ China University of Petroleum is continuing its oil shale analysis, evaluation, and development; has made contracts with domestic and foreign companies, such as with an Indian private company, for oil shale analysis, and evaluation.





# China National Oil Shale Association

 **The China National Oil Shale Association was established in 2005.**

 **In 2006, an annual meeting sponsored by Fushun Mining Group Co. was held with great achievement**



中国石油大学 (北京)

China University of Petroleum

Wish this year's Symposium  
will get greater achievement

Thank YOU !