INTERNATIONAL TRAINING WORKSHOP ON FULLY MECHANIZED COAL MINING TECHNOLOGY

8-28 September 2013

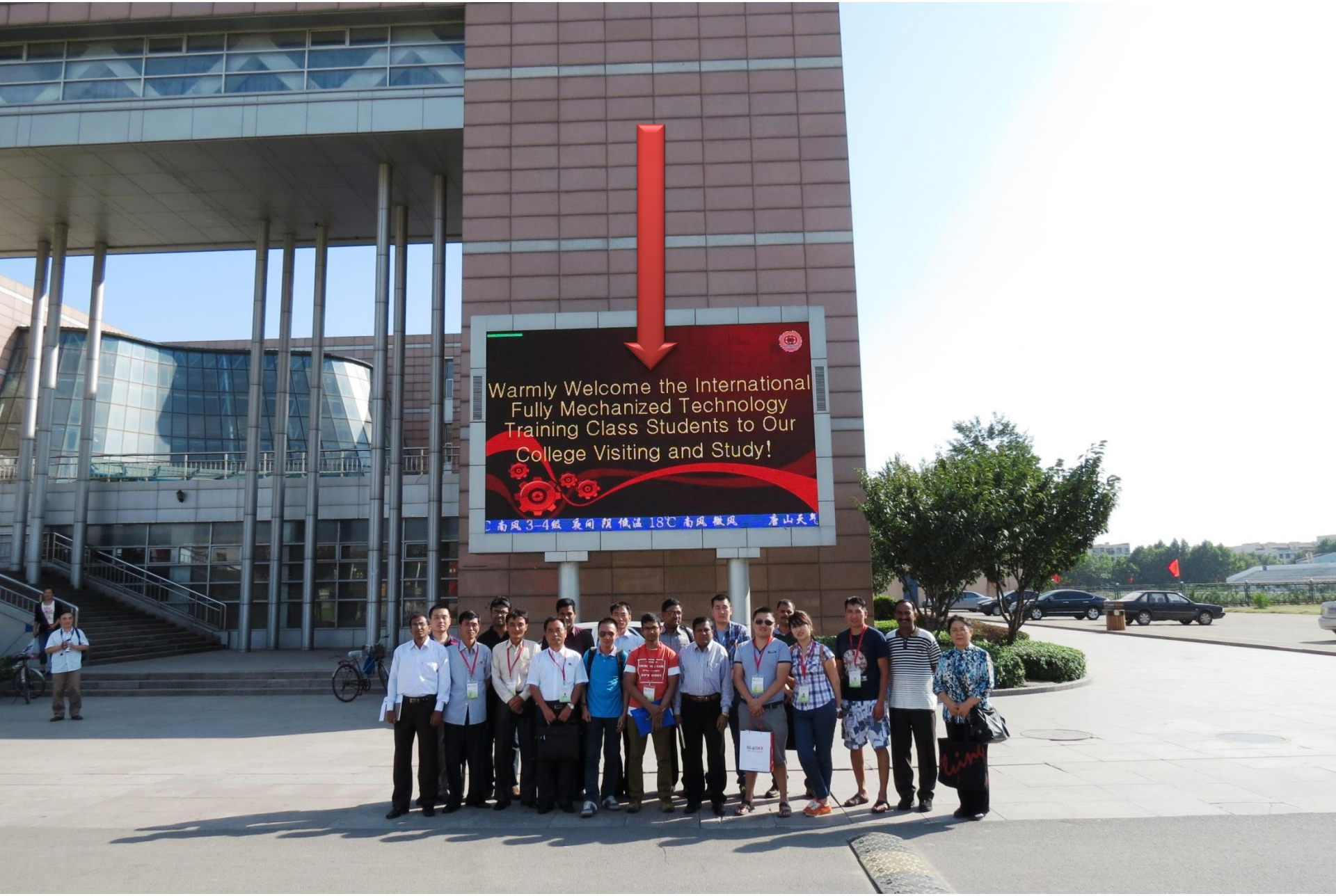

Warmly Welcome the International
Fully Mechanized Technology
Training Class Students to Our
College Visiting and Study!

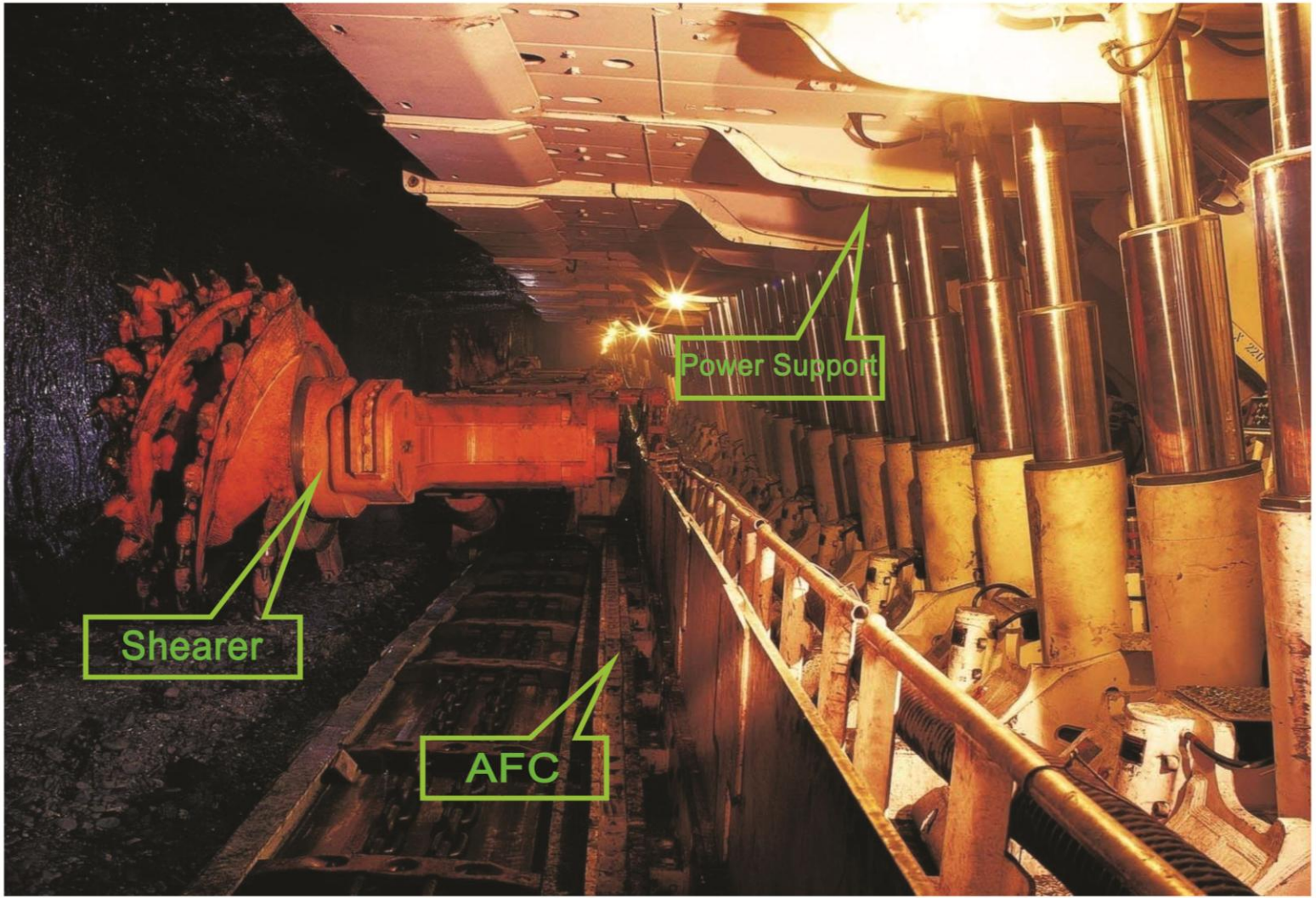
Fig. 1 Distribution of Coal Resource in China

Qianjiaying Coal Mine of Kailuan Group

Guqiao coal mine of Huainan Mining Group

Underground roadway

Fully Mechanized Working Face


Power Support
Shearer
AFC

Kailuan's Mining History and Development

I Kailuan's Summary

Kailuan Group was firstly built in 1878, and has 135 years' mining history, which is called the headwater of China's mining industry and the cradle of China northern industry. Now it has become a trans-regional, trans-national, inter-trade, and cross-ownership large-scale enterprise group. Its business scope includes: coal production, coal preparation, coal chemical, modern logistics, power plant, equipment manufacture, culture-oriented travel, financial service, energy saving and environmental protection, construction, building material and chemical. Coal production base mainly distributes in Hebei (Tangshan, Zhangjiakou, Chengde), Shanxi province, Inner Mongolia and Xinjiang autonomous region. Some collieries as Songjiaying in Tangshan, Dacheng in Langfang, and Gething in Canada are under construction. Coal chemical base spreads throughout Jingtang port, Qianan and chengde, other three chemical plants are building .

Kailuan comprises 43 branch companies, 61 subsidiary companies, and one public company by the end of 2012.

Total assets 64.5 billion yuan; employees in payroll 73669;

Raw coal production output 83.54Mt; fine coal output 20.06Mt;

Business income 175.7 billion Yuan; income from non coal accounts for 80%

In 2012, Kailuan has entered in world's top 500 companies (490th), listed the 75th place in China's top companies and the 6th place in top 100 China coal enterprise.

Kailuan Group has become a super-sized group company, including coal production, coal preparation, coal chemical, modern logistics, power generation, equipment manufacture, culture-oriented travel, financial service, energy saving and environmental protection, construction, building material and chemical.

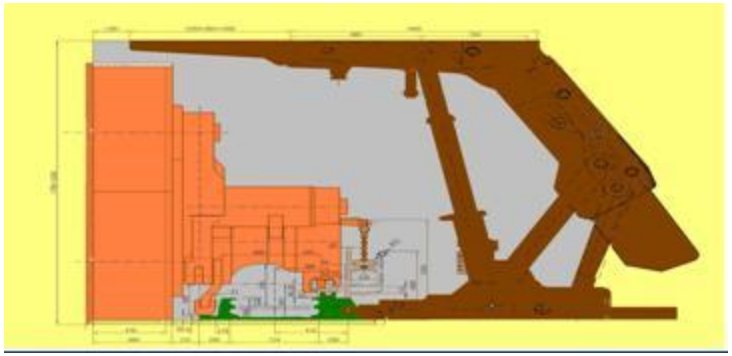
Kailuan Group's coal production focuses on the five main areas, that are situated in Tangshan Hebei, Yuzhou in zhangjiakou city Hebei province, Eerduosi in Inner Mogolia, Yili and Zhundong in Xinjiang, Jiexiu in Shanxi province, and Gething in Canada.

Evolution of Coal-winning Method in Kailuan

- Original coal mining
- Chock falling method
- Drill and blasting mining
- Conventional mechanical mining
- High-grade conventional mechanical mining
- Fully mechanized mining

Fully Mechanized Mining

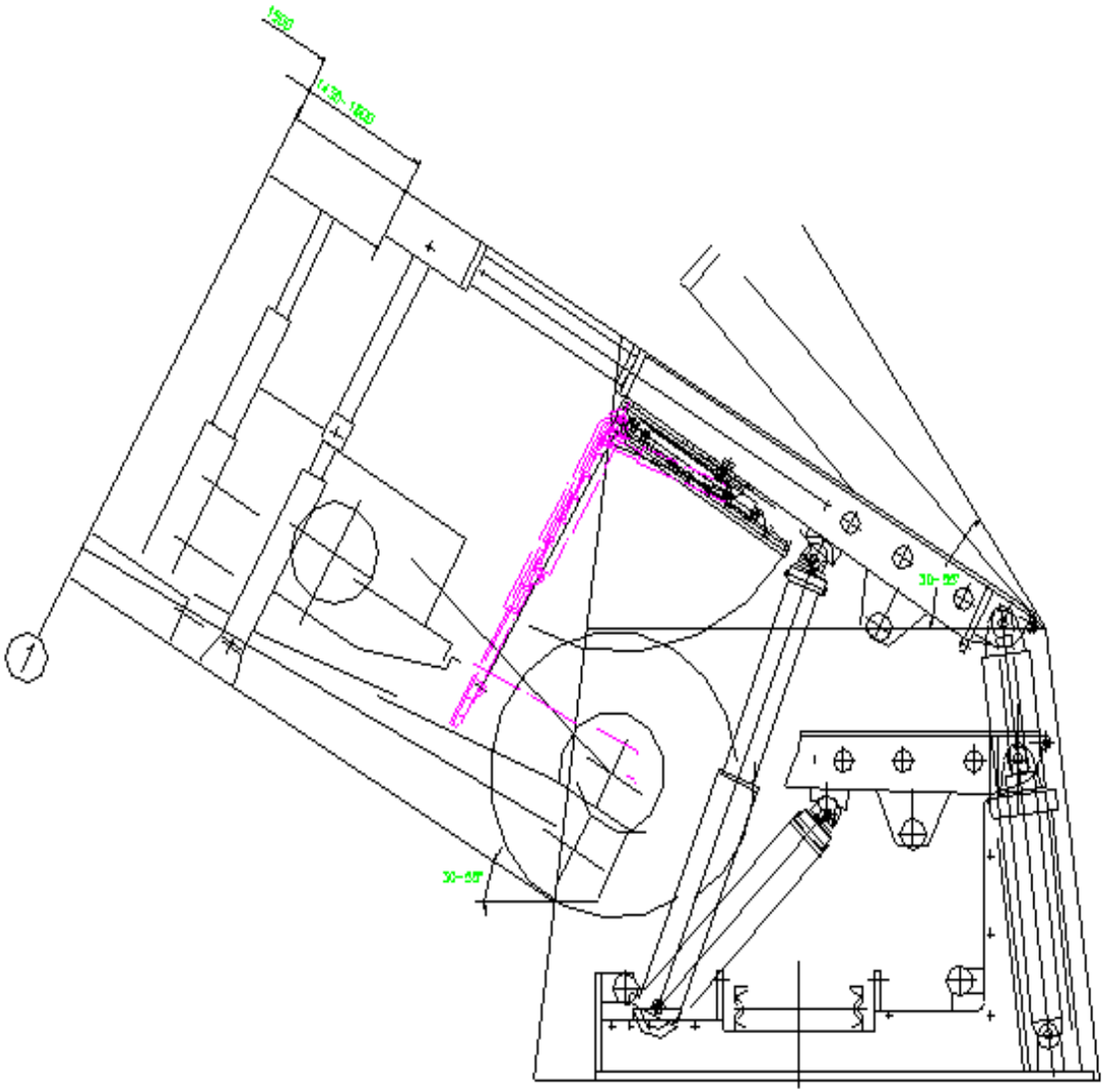
- Fully mechanized coal mining means that fully mechanization is adopted for the whole process of coal mining, including coal cutting, loading and haulage, supporting and roof management



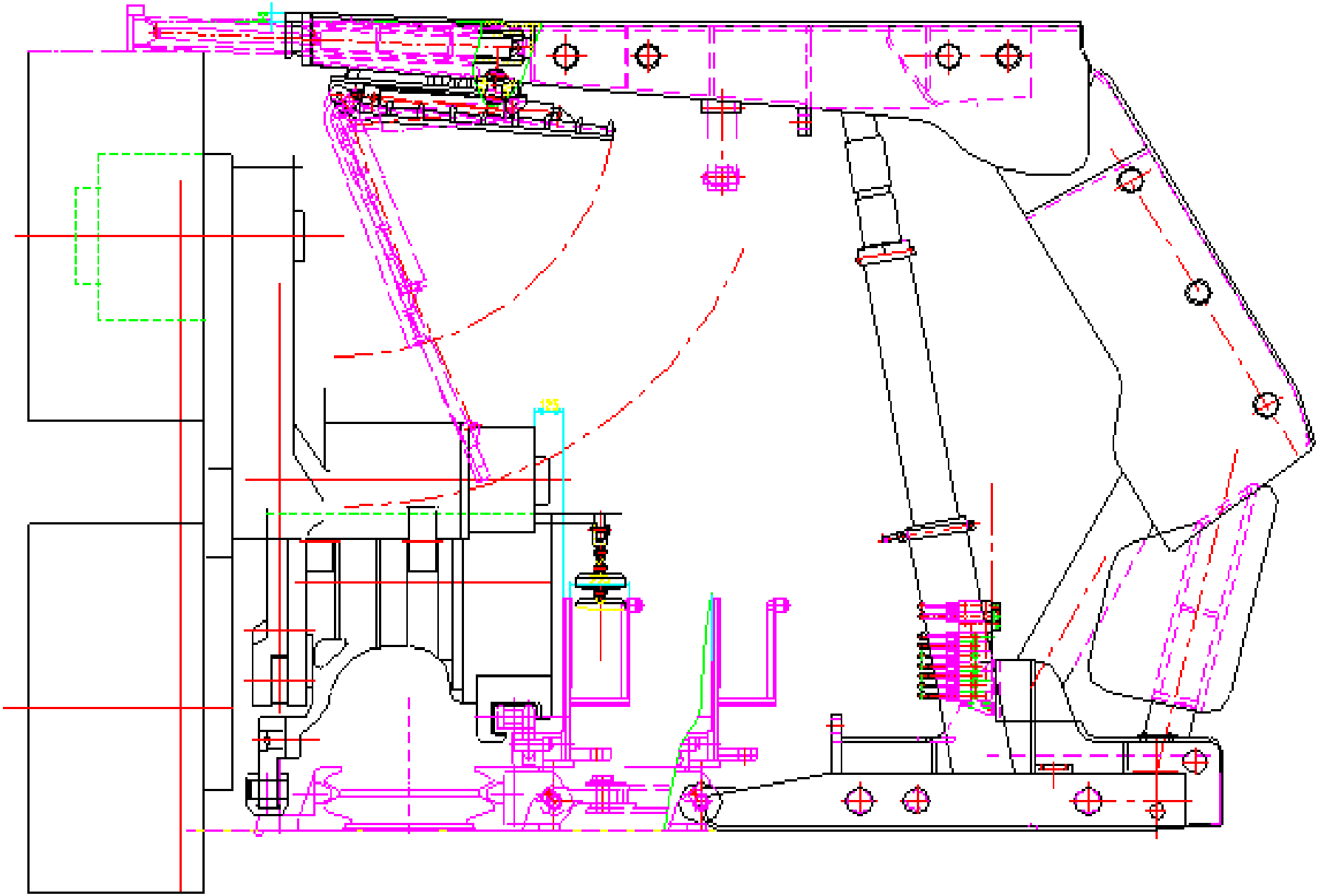
The hydraulic supports are the core for the stability of all coalface equipment.

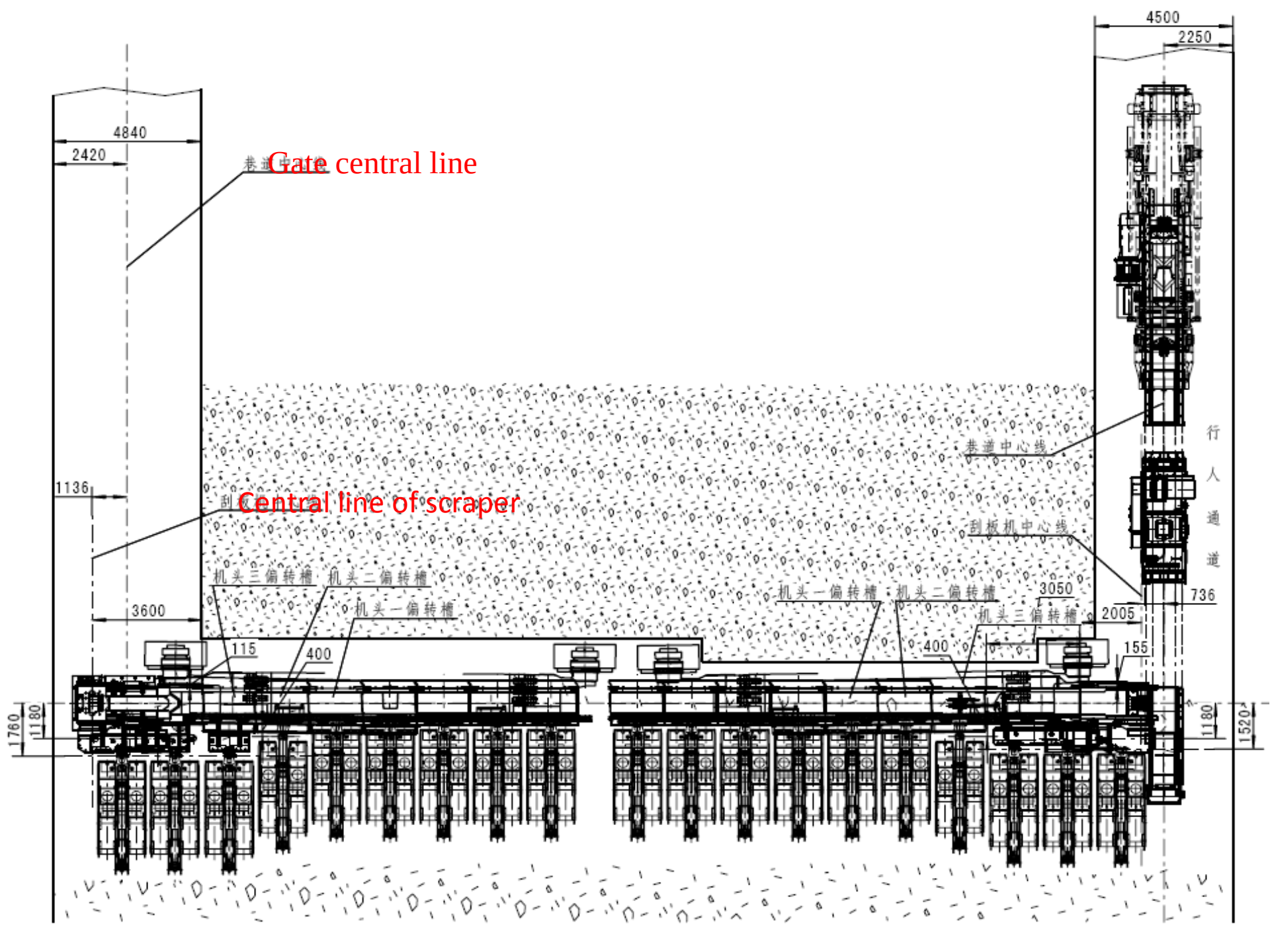
An effective anchoring measure should be taken for the initial three pieces of supports (usual three pieces)

Definition: Big angle coal seam usually means that the angle varies between 35-55, is classified two types according to the mining height: the angle varies 35-55° if the height is less than 3m, and the angle 20-40 if the thickness is over 3m.



The initial support of face end



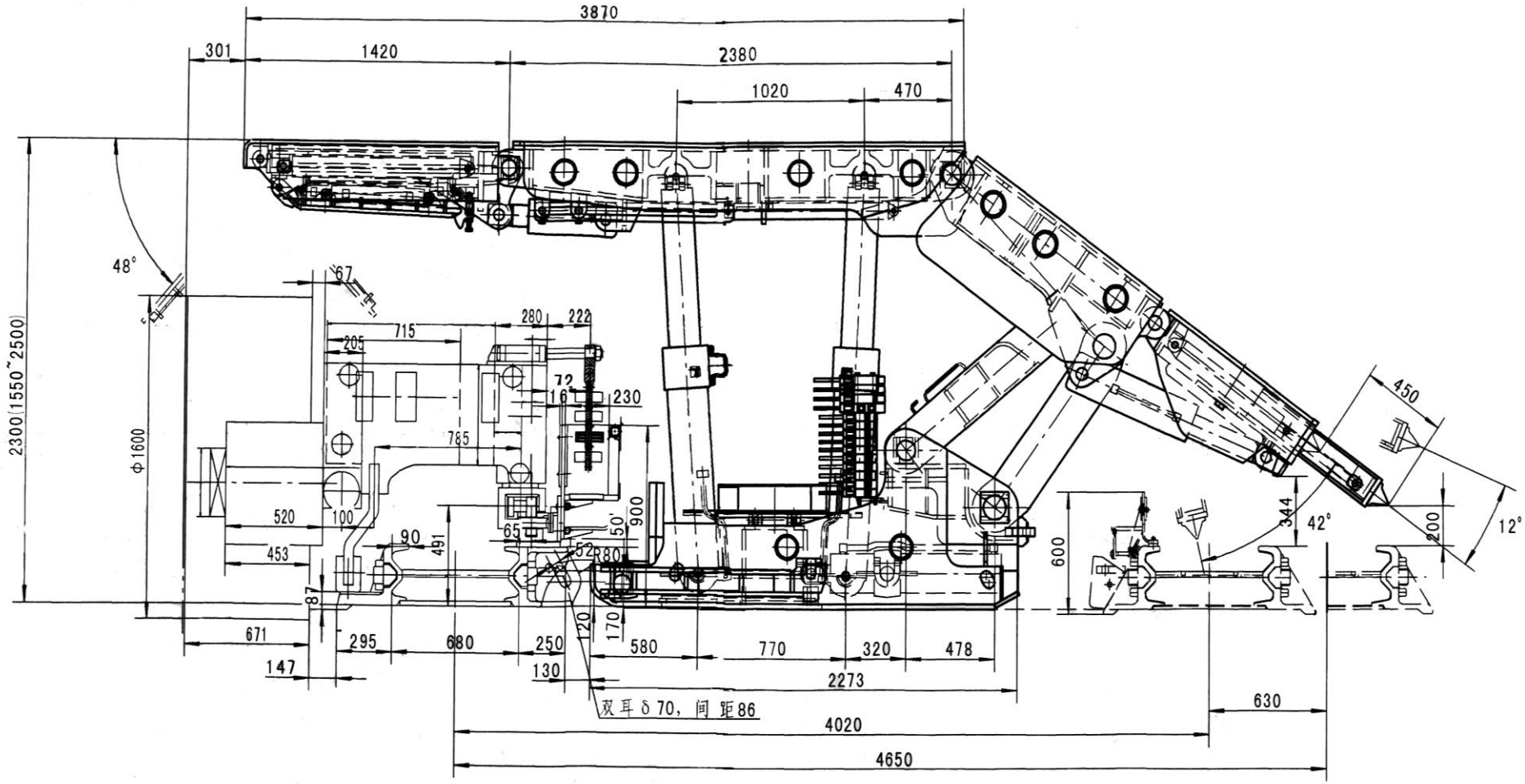

4500
2250
4840
2420
Gate central line
巷道中心线
1136
Central line of scraper
刮板机中心线
行人通道
736
3600
机头三偏转槽
机头二偏转槽
机头一偏转槽
115
400
3050
2005
155
1760
1180
1520

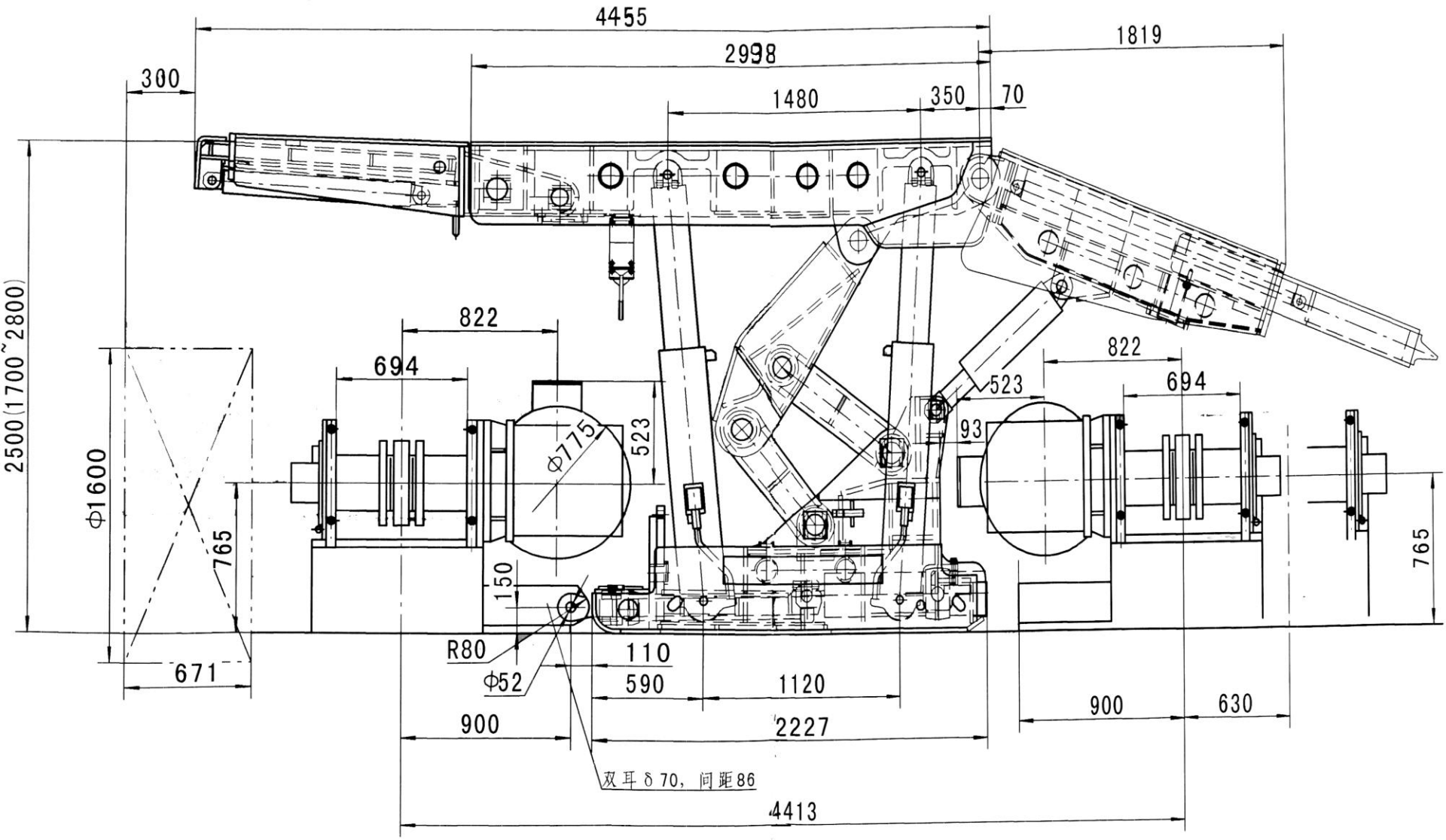
ZF6200-16/32

ZY4800-19/40


西安煤矿机械厂制造

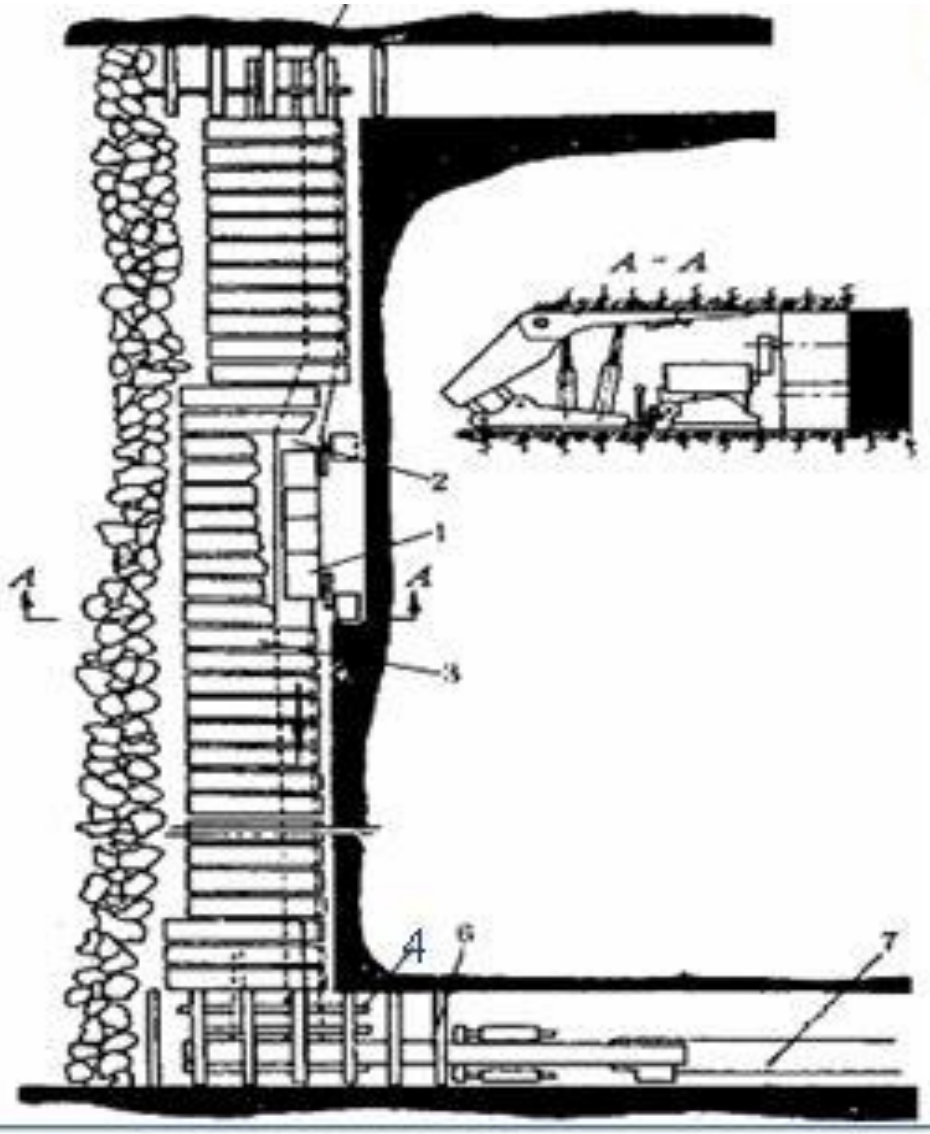
Example: the matching of three machines used in Zhaogezhuang Shear:
MXG-200/500 (by Xian Mining Machinery Plant)
Medium hydraulic supports: ZF4000/15.5/25（by Kailuan Tietuo）
Initial hydraulic support: ZFG4600/17/28
A. F. C.: SGZ730/264（Zhangjiakou Mining machinery Plant）





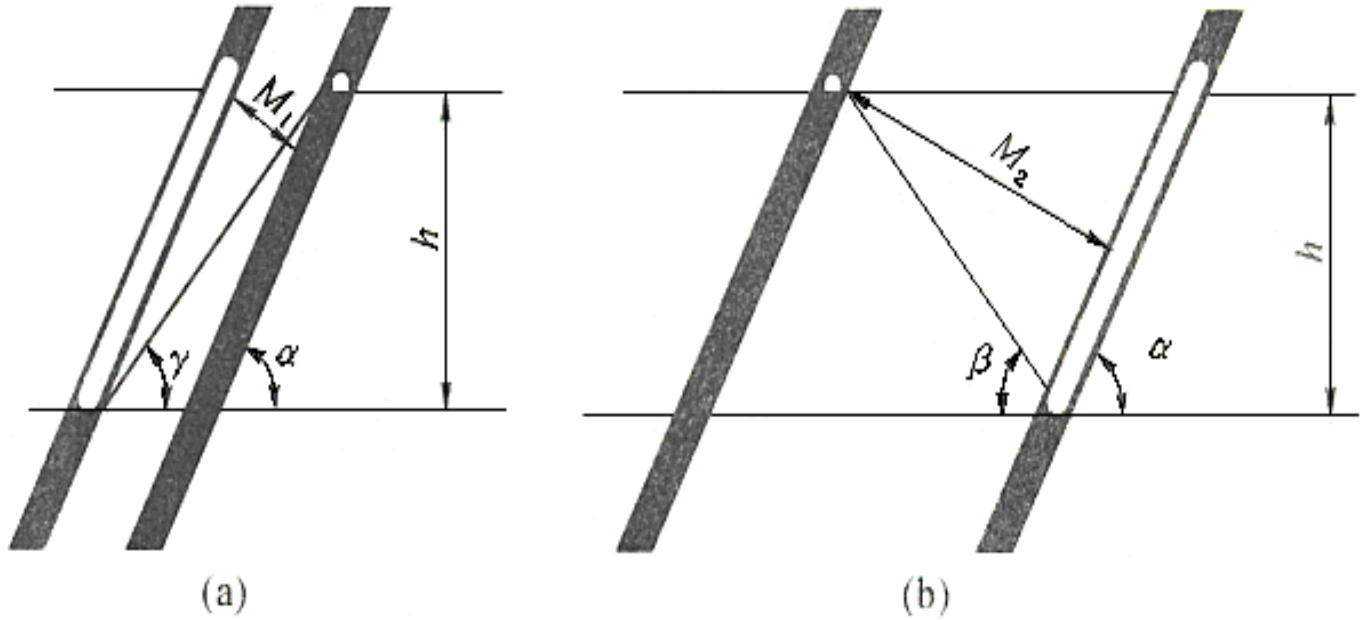
The initial matching support used in Zhapgezhuang mine

The layout of a fully mechanized face



综合机械化采煤工作面

1-采煤机
Shearer
2-刮板输送机
Armed Faced Conveyor
3-液压支架
Hydraulic Support
4-端头支架
The End Support
5-端头支架
The End Support
6-转载机
Stage loader
7-可伸缩胶带输送机
Telescopic Belt conveyor



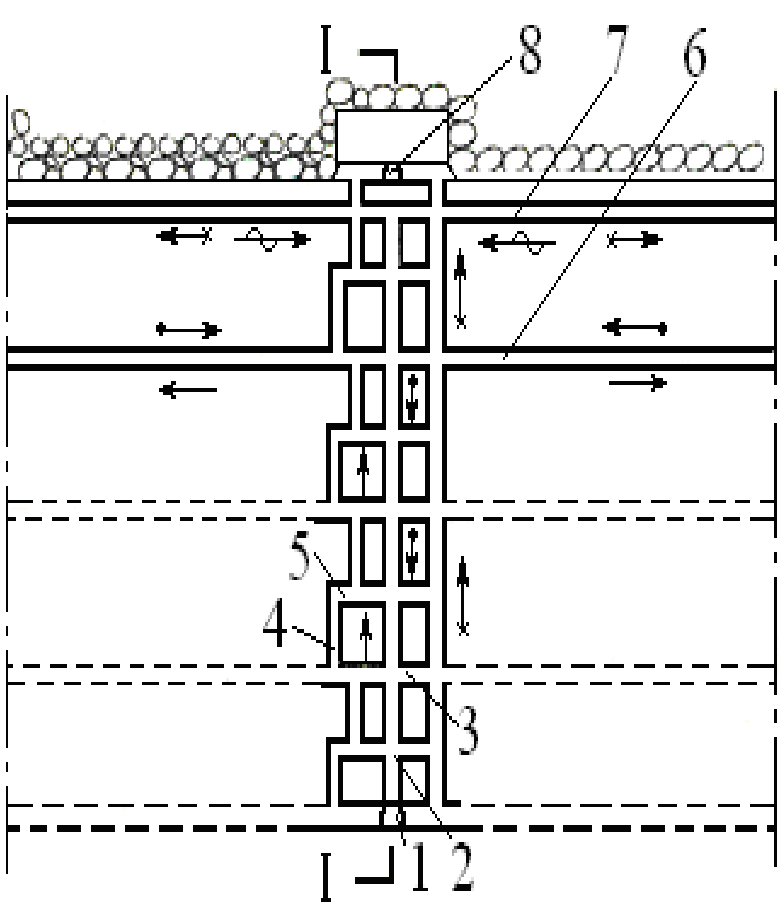
- **The relation between the mined and the intact seam**
- **（ａ）Fig (a) shows upper seam mining affecting the intact seam;**

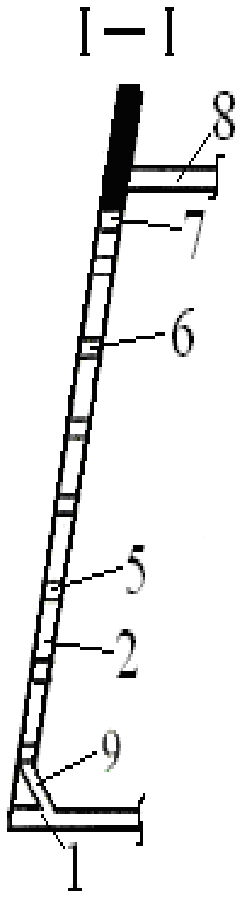
  （b） Fig (b) shows the roof remove of the lower seam mined affects the upper one.

The roadway layout of mining section for the steeply inclined seam

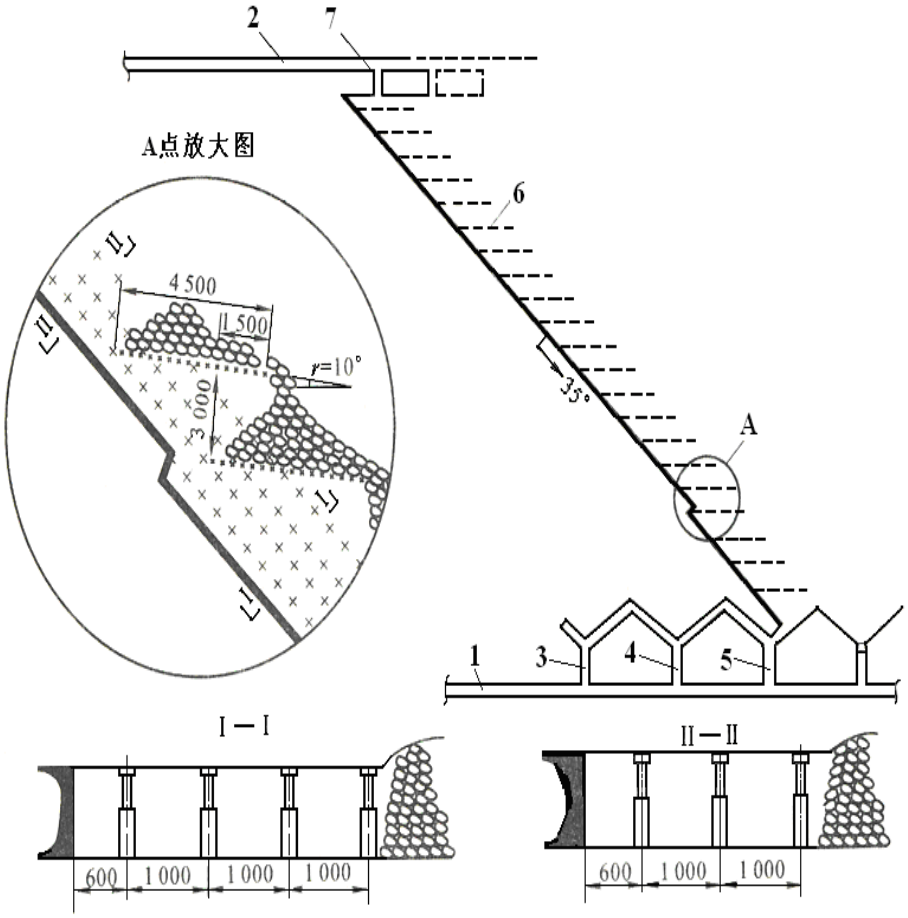
(一)Single seam layout

Close to the central of the mining section, 3-5 uphill (holes) are heading along the dip direction to be used for coal falling, materials transport, walking, and dirt transport, etc. If the water inflow is great, one more uphill is needed





The workface layout of false incline strike longwall



1—stage haulage roadway;

2—stage air return roadway；

3— holes to be prepared ahead;

4— downward safety exit;

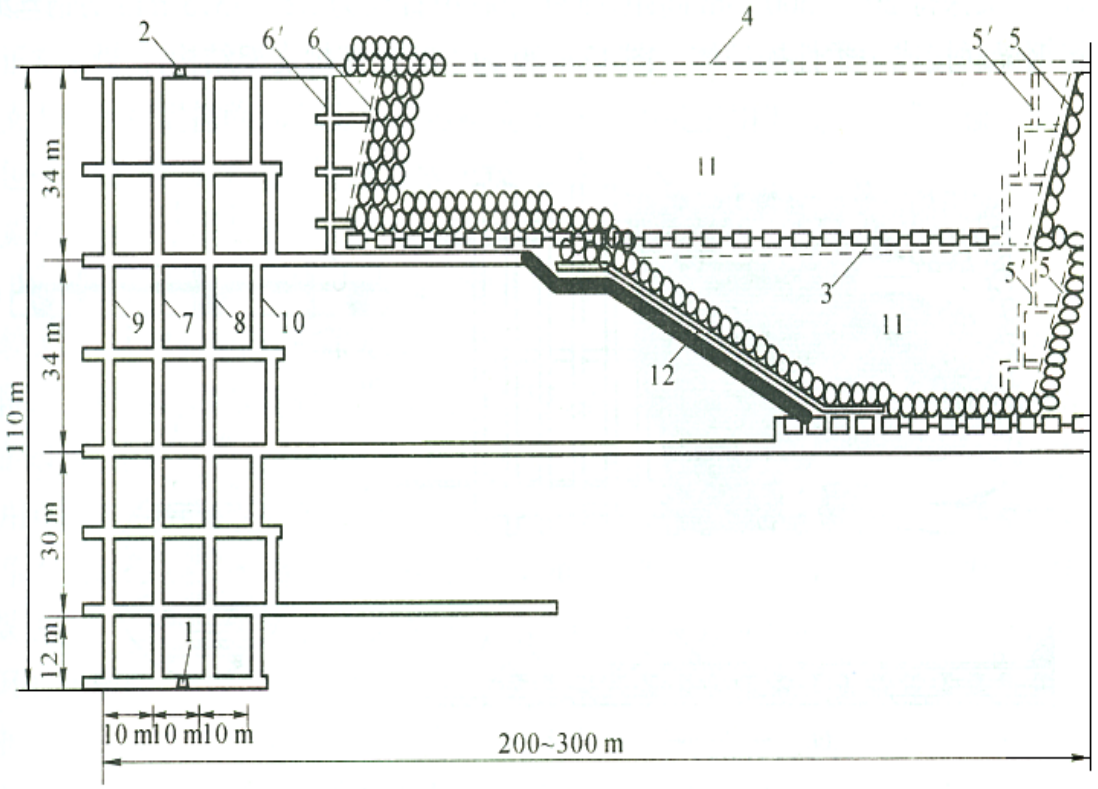
5—coal sliding hole；

6— subsection intensive props；

7— upper safety exit

Coal-winning system

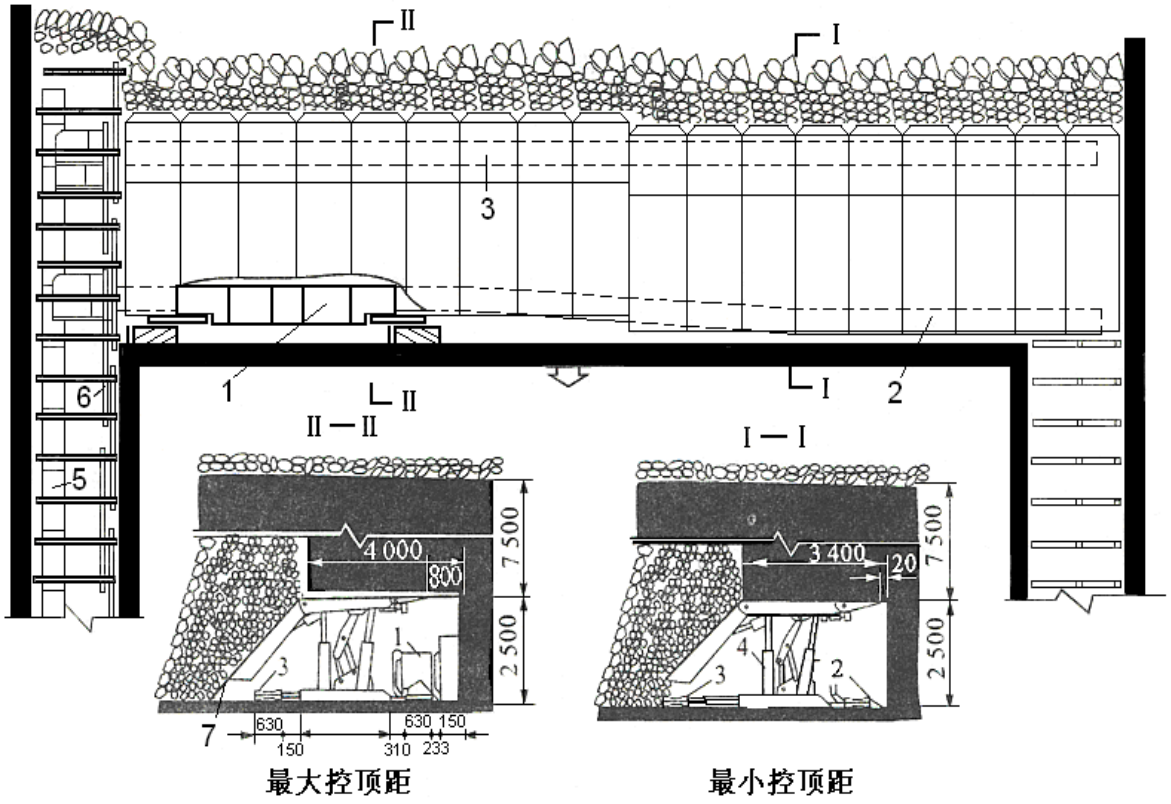
- **Subsection height 30—50m**
- **5m away from district boundary, driving a opening cut, coal sliding hole and walking hole, the distance between them5—8m, at the interval of 10—15m driving a drifter.**
- **Using opening cut to put the horizontal shield that forms 30°～35° with level down to false incline, and becoming the false inclined face.**



伪斜柔性掩护支架采煤法工作面布置图

1-distribution haulage crosscut 2-air return crosscut 3-workface haulage road 4– air return road of face 5—open cut 5'– walking hole 6—end hole 7—coal sliding hole 8—dirt sliding hole 9– material transport 10– walking hole 11- waste 12—shield support

Knowledge related



1—shear;

2— front A.F.C.;

3— rear A.F.C.;

4— power support

5— main gate conveyor

6— reinforced prop;

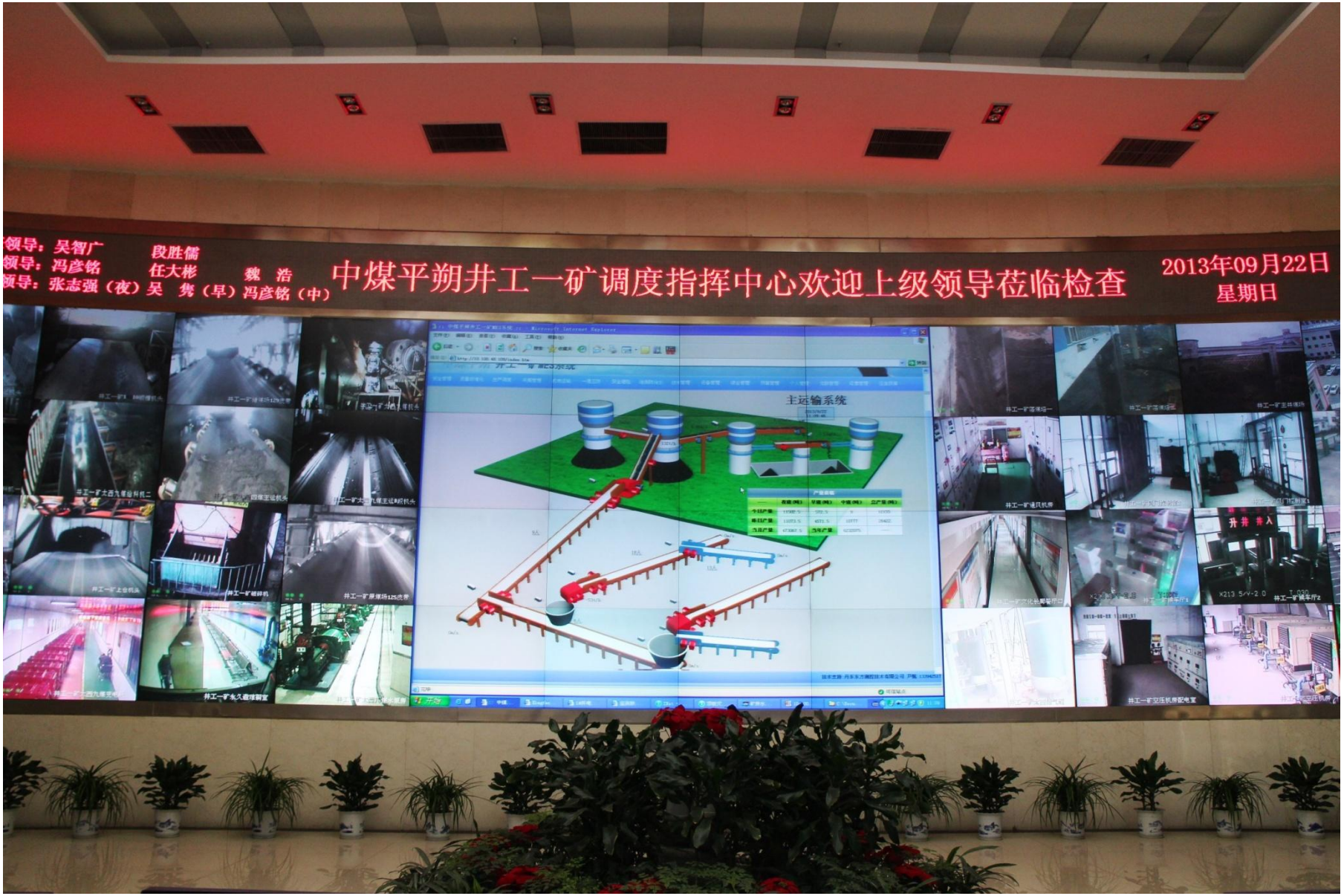
7—window for coal caving


复合式干法选煤设备
矸石
中煤
一煤


无粘结剂煤粉压块设备
Binderless Coal Pelletizing Machine
Binderless Coal Pelletizing Technology
神州机械


數風流人物還看今朝


CONN WELD
INDUSTRIES, INC.
PRINCETON, WEST VIRGINIA
MADE IN U.S.A.
DECANTER MACHINE, INC.
DMI
Johnson City, Tennessee
PHONE: (423)282-8671 • (423)282-5599


领导：吴智广　　段胜儒
领导：冯彦铭　　任大彬　　魏　浩
领导：张志强（夜）吴　隽（早）冯彦铭（中）
中煤平朔井工一矿调度指挥中心欢迎上级领导莅临检查
2013年09月22日
星期日
主运输系统


值班领导（防汛）：刘士玉 副值班：韩振兴 调度值班：洪桂元 马东
北京时间
2013-09-16
星期一
09:05:25 AM
lenovo
a hua
DH-TK808


东欢坨矿综合自动化控制系统
皮带
通讯
报警
操作记录
交接班日志
2013-09-16 08:53:10
中石门缓冲仓控制系统
破碎系统图