

**FROM
DARK COAL
TO
CLEAN COAL**



For a country like India, whose energy needs ride on the back of the Coal Sector, it is remarkable how little most Indians know about the Coal Mining and the everyday benefits it brings to the country

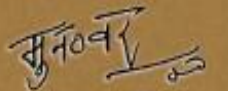
This Coffee Table Book tells the story of the coal mining industry in India and its own system of surveillance and checks, developed over a period, as old as its history. It further delves into how it has contributed to the building of the nation into what it is today. This is the brainchild of the Vigilance Department of MCL, which shares the view of many within the industry that the businesses of exploration and coal mining are often not well understood by the outsiders. The more transparent the various facets of this sector becomes, the higher pedestal of ethics will be reached by this line of business.

'From Dark Coal to Clean Coal' covers some of the industry's history, the turning points of discovery and development, the booms and the bust and lastly the corruption and the corrective practices that were put in place, over the passage of time.

There have been, quite a few, instances, here and there, of blatant violation of set regulations and norms, illegal practices, intimidation, deceit, fraud, favouritism, violence, bribery, financial shadiness etc. The Central Vigilance Commission (CVC) has taken up "My Vision-Corruption Free India" as the theme for Vigilance Awareness Week in 2017 to reduce the scope of corrupt practices by spreading awareness among the public servants, stake-holders and citizens alike, by leveraging technology for systemic changes, by plugging loopholes in the system and by deterrent action against the incorrigibles.

The coal sector is now on its way to recovery with the improvement in its system to curb corruption by introducing GPS-enable trucks to carry coal from mines to destination and geo-fencing the active mining areas to counter theft of the valuable natural resource, installation of CCTV Cameras at vulnerable locations along with other modern techniques to curb corruption within the industry. The Mahanadi Coalfields Limited is the pioneer and is leading from the front in this revolution.

This book is an attempt to tell the story of the Coal Mining Industry through the eyes of the Vigilance Department of MCL.



(मनव्वरखुशीट)

मुख्य सतर्कता अधिकारी



The oldest-known mine in the archaeological records is the "Lion Cave" in Swaziland. The radiocarbon dating shows it to be about 43,000 years old. At this site, the Paleolithic Human mined Haematite to make the red pigment ochre. The mines of similar age in Hungary are believed to be the sites where the Neanderthals may have mined flint for weapons and tools. Sea coal, washed up on the shores of Northumberland and Scotland, is recorded as being used in the 13th Century.





THE HISTORY OF COAL

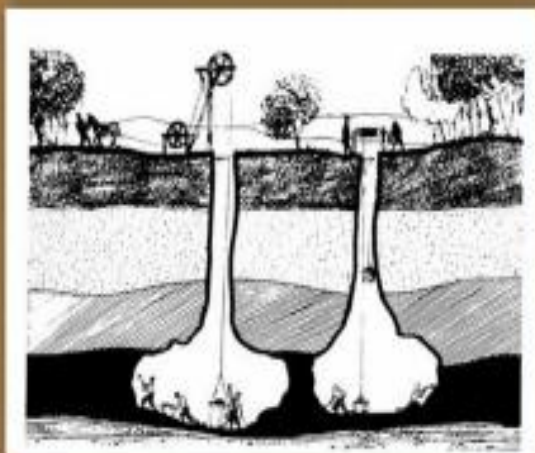
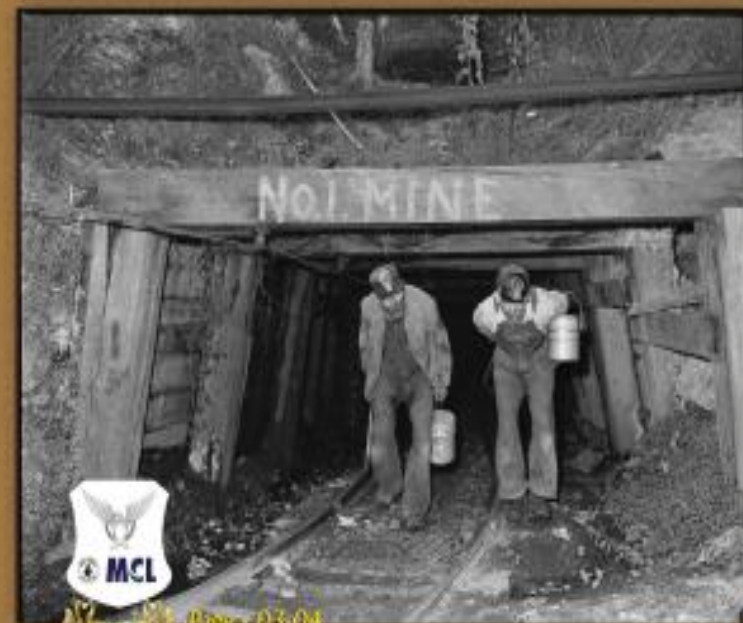
The production and use of coal has a very long history. Coal has been mined at a small scale since the pre-historic times. But it truly became the dominant global fuel in the 18th century, providing the energy required by the technological advances of the Industrial Revolution.

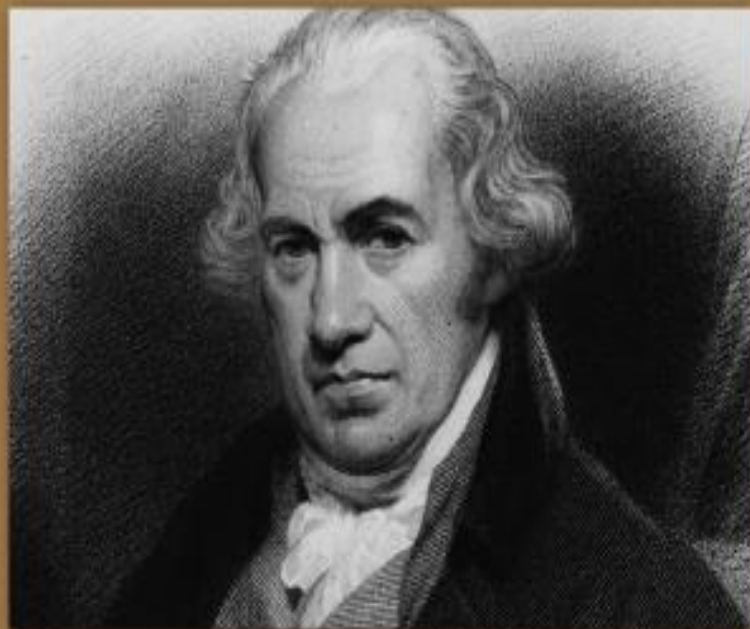
Small scale drift mines and bell pits have been used since pre-historic times. The Romans exploited most of Britain's coalfields by the late 2nd century AD. Coal was used in hypocausts to heat public baths and even for heating of wealthy villas.

The earliest known use of coal in the Americas was by the Aztecs, who both burned it and carved it for jewellery. The first recorded coal production in the US was in 1748, with some 50 tons dug in Virginia.

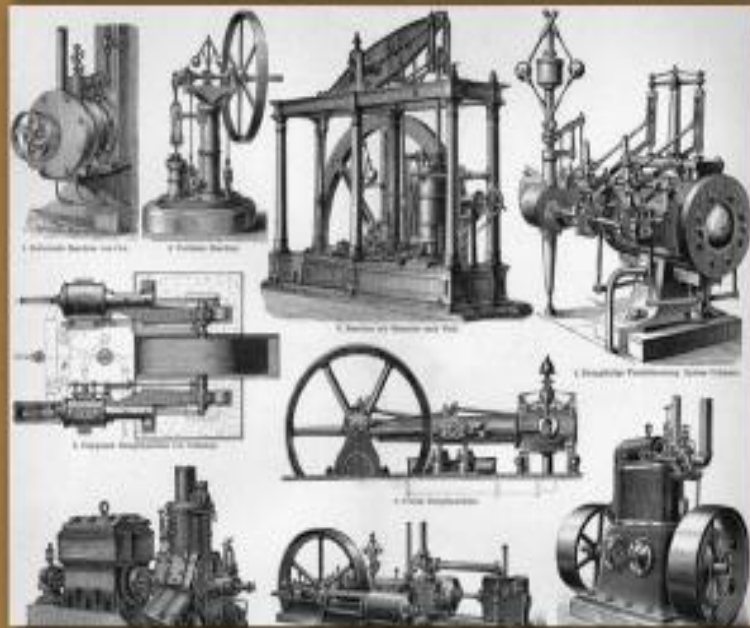
Coal was discovered in Australia at Coal River later named as Hunter River in 1795. A convict settlement was established in 1804 to mine the region - today that settlement is called Newcastle.

Convicts to Miners to Protectors....





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Between 1767 and 1776, a Scot named James Watt, developed the separate condensing engine, improving Newcomen's design - thus initiating the Industrial Revolution in England and subsequently in Europe, transforming the world through the conversion of coal to mechanical energy.

The Industrial Revolution, which began in Britain in the 18th century and later spread to the continental Europe and North America, was based on the availability of coal to power steam engines. The International Trade expanded rapidly when the coal-fed steam engines were built for the railways and steamships.





COAL MINING IN INDIA:

India has a long history of commercial coal mining covering nearly 220 years, starting from 1774, during the time of Warren Hastings, by M/s Sumner and Heatly of East India Company in the Raniganj Coalfield along the Western Bank of River Damodar.

The First Shaft Mine opened at Raniganj between 1815-1820. By 1835, Carr, Tagore & Company had taken over the Raniganj Coal Mines. In 1843 Bengal Coal Company took over the Raniganj Coal Mines and others.

In Central India, mining was commenced at Umaria in Rewah State in 1884 and a small production from Jhilla Field started between 1898 to 1902. In the Central Provinces, the earliest development of coal mining was, apparently, at Mohpani in 1862 by the Nerbada Coal and Iron Co. Ltd. In the Hyderabad State, the Singareny Field was discovered in 1872, and the first production started some 15 years later. In the North-Eastern India, extensive development took place in the Nainiang and Led area in Assam from 1881 onwards. However, for about a century, the growth of Indian Coal Mining remained sluggish for want of demand but got a sudden boost from the First World War onwards.





Sand is unloaded from a truck as preparations are made to choke by sandstowing the pit fire at the Chinakuri coal mine in Bihar, India. The sandstowing had to be abandoned, however, for fear of the mine exploding because of pent-up gas. Of the 196 miners and supervisory staff who were trapped underground as a result of a violent explosion caused by underground gas, 179 lost their lives underground. Of the 17 rescued, four died in hospital. The Chinakuri mine is about 200 miles north-west of Calcutta.

Most important thing to come out of a mine is the MINER



FIVE HORRIFIC MINING ACCIDENTS WHICH KILLED HUNDREDS OF MINERS IN INDIA

Chinakuri Colliery Disaster

The explosion at the Chinakuri Colliery occurred on February 19 in 1958, killing 182 people. The Hindi film 'Kala Patthar' released in 1979 is based on this incident.



Dhanbad Coal Mine Disaster

The explosion which occurred on May 28 in 1965 at Dhanbad Coal Mine was so fierce that it killed 268 miners.



Chasnala Disaster

Another coal mine disaster rocked Dhanbad on December 27 in 1975. This time an explosion at Chasnala Coal Mine which followed a flooding which killed 372 miners.



New Kenda Disaster

The New Kenda Coal Mine disaster on January 25, 1994, in Bihar, killed 55 people.

Gasitand Colliery Disaster

In 1995 from September 26 to 29, as many as 64 miners died due to breaching of River Katri into the mines.





Investigation Begins...



DAVY'S LAMP

In the early days of coal mining, miners used 'open flame lamps' to provide illumination. These naked flames were a potential ignition source for methane gas (CH₄). Ignitions were serious, often catastrophic and many miners lost their lives.

In 1812, Felling Colliery was the site of an explosion caused by pockets of flammable gas being ignited by the open flames of the miners' lamps. There was loss of 92 lives.



Sir Humphry Davy was personally asked by the Revd Robert Gray of Bishopwearmouth to investigate. Davy worked feverishly with his assistant and future pioneer Michael Faraday from October to December 1815 to produce a basic lamp with a wire gauze chimney to enclose naked flames. Following successful tests at Hebburn Colliery in early 1816, the lamp went into production.





By 1800, wooden props were used to support underground tunnels.

HISTORY OF MINING TECHNOLOGY

The history of mining is as rich as it is complicated. Mining has led to great advancements for society.



Driving Deep.....
Finding the Truth.....

In the beginning, miners used primitive tools for digging. Mining shafts were dug out by hand. Until the late nineteenth century coal was mined underground using a pick and shovel, and children were often employed underground in dangerous conditions. During the 1600s, miners started using explosives to break up large rocks. Motorized mining tools, such as drills, would not be invented for several more years.

Coal-cutting machines were introduced in the 1880s. By 1912, surface mining was conducted with steam shovels designed for coal mining.



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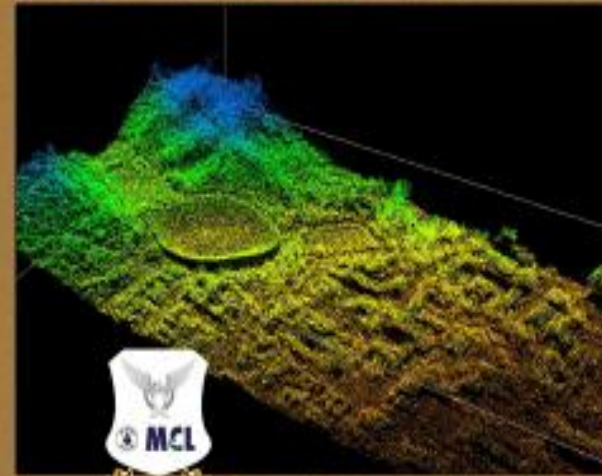
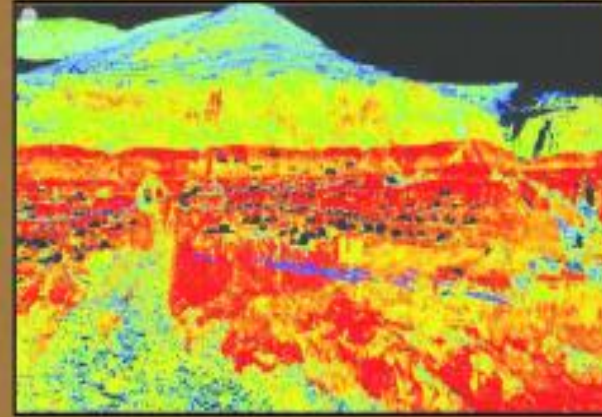
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NEW TECHNOLOGY IN MINING

In today's technologically-advanced society, mining techniques are improving continuously.

Using surface mining techniques, miners are now able to extract coals without blasting. Miners still use heavy machinery as they are digging deeper into the earth.





Vigilant & Watchful Always.....

Coal Mining in Odisha & Formation of MCL:

Coal was discovered in the Talcher Coalfields at Gopalprasad in 1837.

National Coal Development Corporation Ltd. (NCDC) was set up in October, 1956.

A major event in the history of Indian coal industry during the Fourth Five Year Plan (1969-74) was the Nationalisation of the erstwhile Privately Owned Coal Mines in two phases.

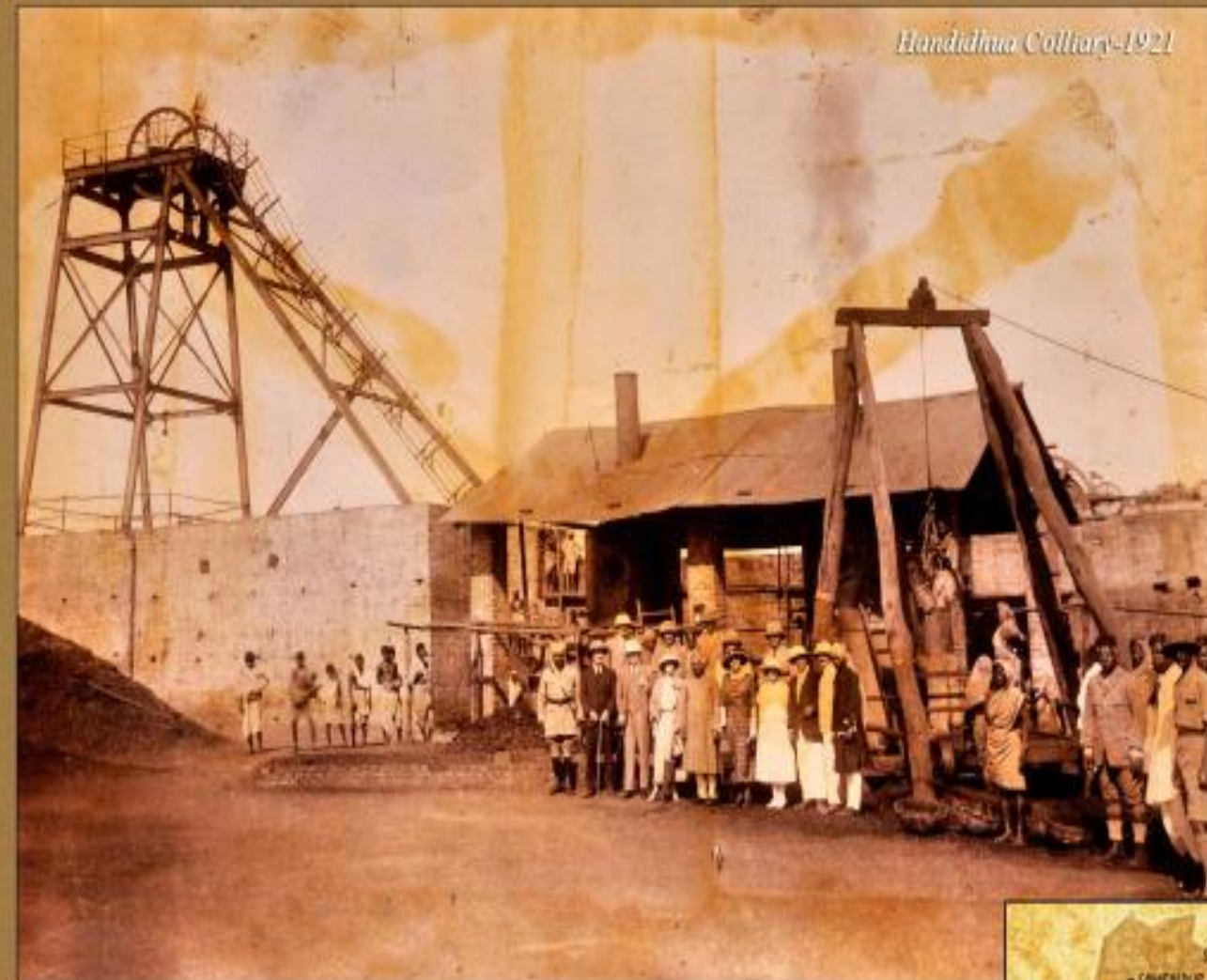
In the first phase, the management of coking coal mines was taken over by the Government of India on 17th Oct. 1971. A state owned company, Bharat Coking Coal Ltd. was formed for managing coking coal mines. In the second phase of nationalisation, the management of non-coking coal mines in the country, except the captive coal mines of the two steel plants, viz., TISCO and IISCO, was taken over by the Government on 31st January 1973.

These mines were subsequently nationalized with effect from

1st May 1973 and another state-owned company, Coal Mines Authority Ltd. (CMAL) came into being with headquarters at Calcutta (now Kolkata). NCDC itself, in this process, became a division of CMAL which owned 36 collieries under commercial production in Bihar, Orissa, Madhya Pradesh and Maharashtra. The CMAL, continued upto 1st November 1975 when it was renamed as Coal India Limited (CIL).

Mahanadi Coalfields Limited was carved out of South Eastern Coalfields Limited in 1992 with its headquarters at Sambalpur.





In 1900, when Bengal Nagpur Railway was building a bridge across the Ib River, coal was accidentally discovered. The first coal mine in the Ib Valley Coalfield was established by Hingir Rampur Coal Company in 1909.

Handidhwa Colliery was opened by M/s Villiers Ltd in 1921. NDC opened mines at South Belanda, Nandira & Jagannath in the year 1960, 1962 and 1972 respectively. After formation of CIL all mines were in CCL, then in SECL before formation of MCL in 1992.





TOP 5 SCAMS

THAT HAVE CAUSED A CERTAIN DEGREE OF DAMAGE TO THE COUNTRY

CWC Scam:

It was estimated that India lost nearly Crores of Rupees in the 2010 Commonwealth Games due to Corrupt Practises. According to the Investigative agencies, several issues including corruption by the Games' officials, delay in the construction of the Games' venues, labour law violation, child labour, misappropriation of funds, payment to non-existent parties etc were the different scams among others.

Fodder Scam:

Popularly known as 'Chara Ghotala' and also the 'mother of all scams', the Fodder scam was worth Crores of Rupees unearthed in Bihar.

Satyam Scam:

"It was like riding a tiger, not knowing how to get off without being eaten." - Ramalinga Raju. The biggest corporate scam involved fraudulent auditing practices allegedly in support with auditors and chartered accountants. The company, Satyam Computer Services Ltd, lied about its financial health by grossly inflating its account to stakeholders, board, regulators etc.

2G Spectrum Scam:

The telecommunication scam involved the politicians and officials undercharging telephone companies for frequency allocation licences which was then used to create 2G spectrum subscription. There was a huge difference between the money collected and the money directed to be collected.

Coal Allocation Scam (Coalgate):

Popularly referred to as 'Coalgate' in the media, the scam came to light when CAG revealed that the then governing body had allocated 216 coal blocks to public and private enterprises illegally.



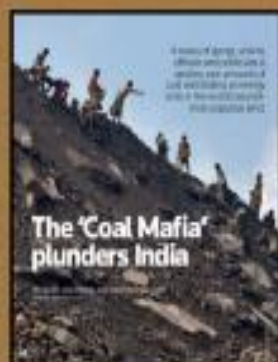


SOME GOVERNMENT INVESTIGATING AGENCIES

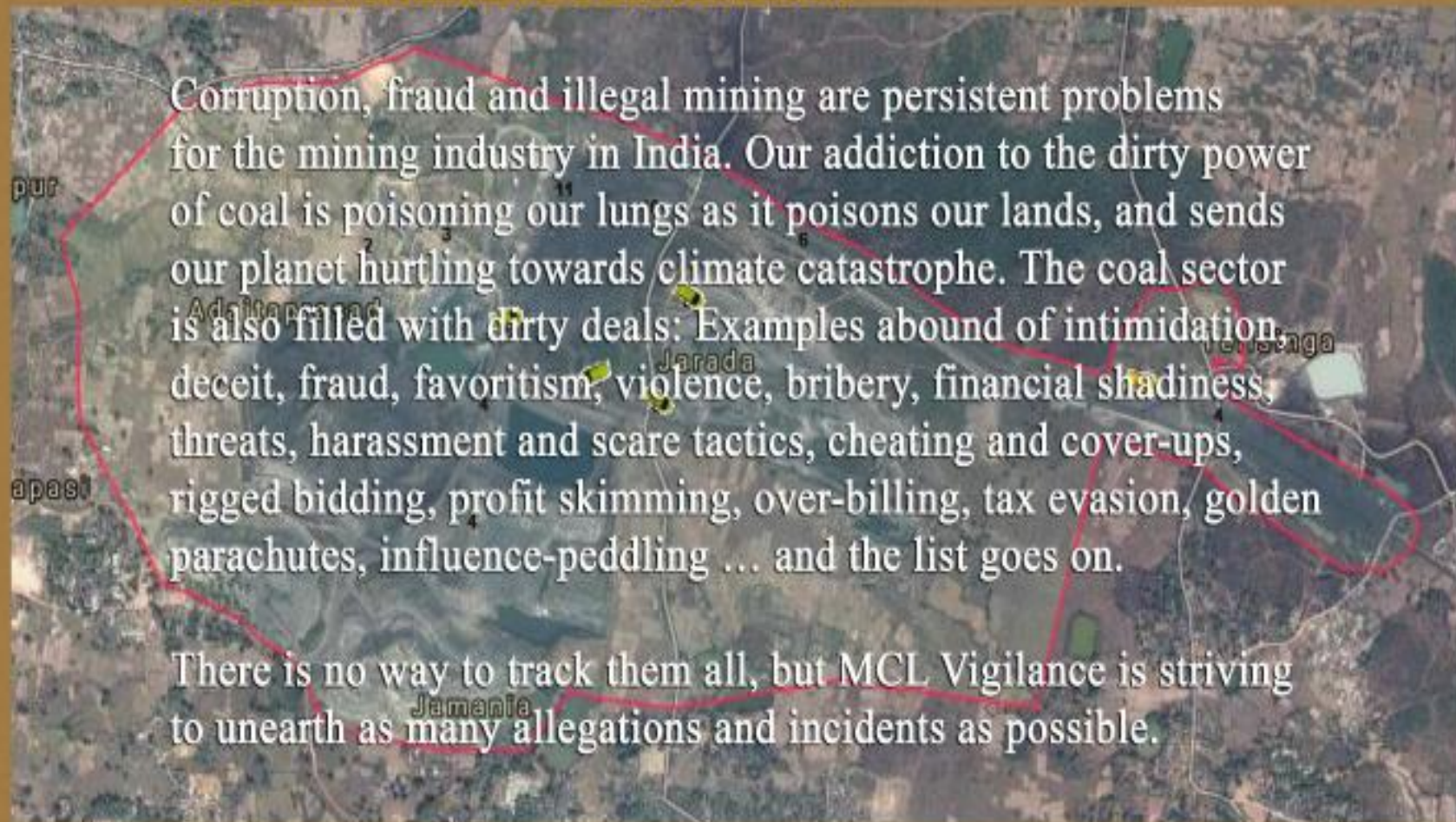
CVC :

It is an apex Indian Governmental body created in 1964 to address governmental corruption. It has the status of an autonomous body, free of control from any executive authority, charged with monitoring all vigilance activity under the Central Government of India, advising various authorities in Central Government organizations in planning, executing, reviewing and reforming their vigilance work. It was set up by the Government of India in February, 1964 on the recommendations of the Committee on Prevention of Corruption, headed by Shri K. Santhanam, to advise and guide Central Government agencies in the field of Vigilance. Nittoor Srinivasa Rau, was selected as the first Chief Vigilance Commissioner of India. The Commission can undertake any inquiry into any transaction in which a public servant is suspected or alleged to have acted for an improper or corrupt purpose; or cause such an inquiry or investigation to be made into any complaint of corruption, gross negligence, misconduct, recklessness, lack of integrity or other kinds of mal-practices or misdemeanours on the part of a public servant. The Commission tenders appropriate advice to the concerned disciplinary authorities in all such matters.





TACKLING MINING CORRUPTION:



Corruption, fraud and illegal mining are persistent problems for the mining industry in India. Our addiction to the dirty power of coal is poisoning our lungs as it poisons our lands, and sends our planet hurtling towards climate catastrophe. The coal sector is also filled with dirty deals: Examples abound of intimidation, deceit, fraud, favoritism, violence, bribery, financial shadiness, threats, harassment and scare tactics, cheating and cover-ups, rigged bidding, profit skimming, over-billing, tax evasion, golden parachutes, influence-peddling ... and the list goes on.

There is no way to track them all, but MCL Vigilance is striving to unearth as many allegations and incidents as possible.

*GPS Based Virtual Geo-Fencing & Real Time Vehicle Tracking System...
MCL is the Leader...*






Curbing Illegal Mining, Goyal
Launches MSS- the
First Such
Surveillance Systems
Developed in the
World Using Space
Technology

SURVEILLANCE :

The word surveillance comes from a French phrase for "watching over" (sur means "from above" and veiller means "to watch"). Most often, surveillance historically occurred as a means to gather and collect information, supervise the actions of other people (usually enemies). Surveillance occurred most often through the use of an individual spy, or a small group of spies. As technology such as spyglasses, telescopes and radios developed, surveillance technologies continually effected the way in which surveillance occurred. Modern surveillance technologies such CCTV, RFID and GPS help to highlight the extent to which surveillance practices have evolved throughout history.





From Edison to Internet: A History of Video Surveillance

1880: The first Movie Cameras are developed.

1939: Miniature Portable Cameras appear.

1942: Closed Circuit Television (CCTV) is first used in Germany.

1951: The Video Tape Recorder (VTR) is invented.

1960: Police were forced to set up a couple of cameras in Trafalgar Square in London to help protect visiting Thai Royalty in England from crowds.

1965: Public Surveillance Cameras become more common.

1969: The first Video Home Security System is born.

1976: Charge-Coupled Device (CCD) technology leads to the creation of cameras that can be used in low light situations.

1996: The First IP camera is released.

Today: Using the internet and wireless communication, video surveillance can now be used and watched from anywhere in the world.





Vigilance in MCL:

Vigilance is basically and admittedly a managerial function and, therefore, it is an integral part of the duties of an executive. Vigilance departments work in cooperation with other Divisions/Units of the Corporation at all levels. Besides, the vigilance departments also work in coordination with the CVC, the administrative ministry and the CBI.

Chief Vigilance Officer :

- Preventive Vigilance & Surveillance Wing
- System Improvement & Training Wing
- Investigation Wing
- Disciplinary Proceeding Wing
- Technical Wing
- Liaison Wing



The primary responsibility for the maintenance of purity, integrity and efficiency in a PSE vests in the CMDs/MDs/Head of the PSEs. The CVO act as his special adviser in all matters pertaining to vigilance. He provides a link between the administrative Ministry/Department and the CVC. CVC's interface with the PSE is through the CVO.



ROLE OF VIGILANCE IN MCL :
Surveillance and Detective Vigilance
Preventive Vigilance
Corrective Vigilance
Predictive Vigilance
Reactive or Punitive Vigilance



GLIMPSES.....





GLIMPSES.....







Incumbency Chat of Chief Vigilance Officers in MCL



Shri A.P. Mund, ASA



Shri A. K. Sharma, IOFS



Shri P.K. Dash, IRS



Shri Deepak Shrivastava, IFS



Shri Shashi Prakash, IAS



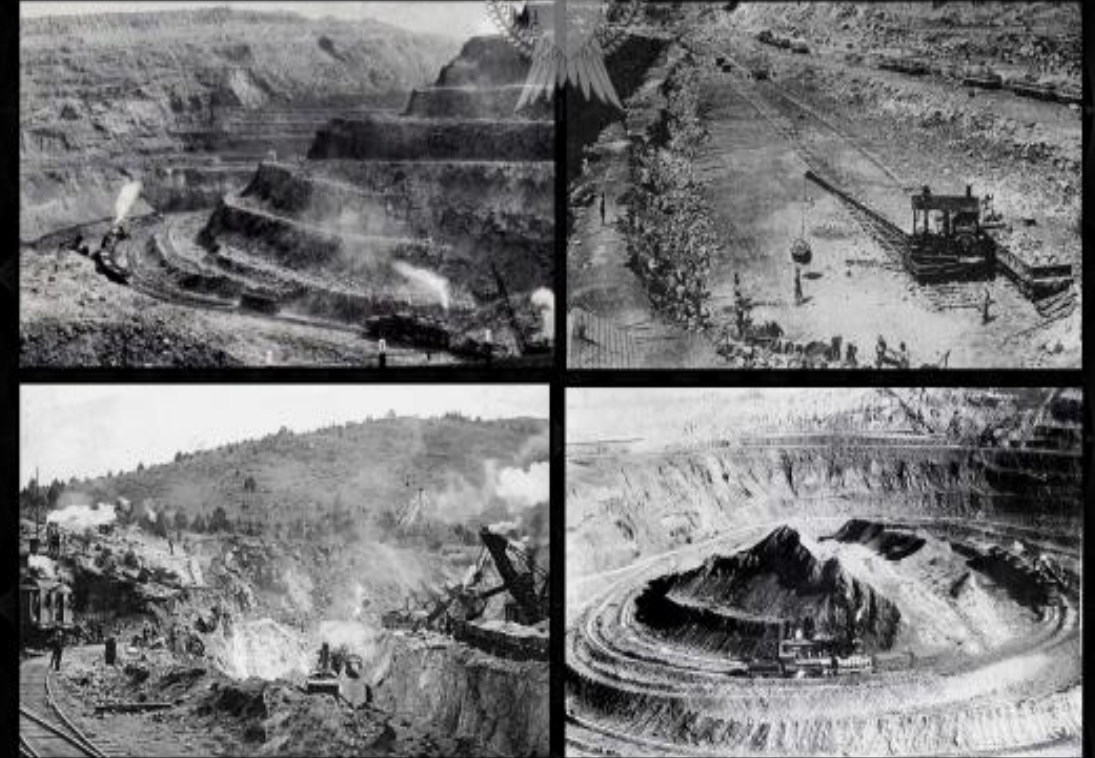
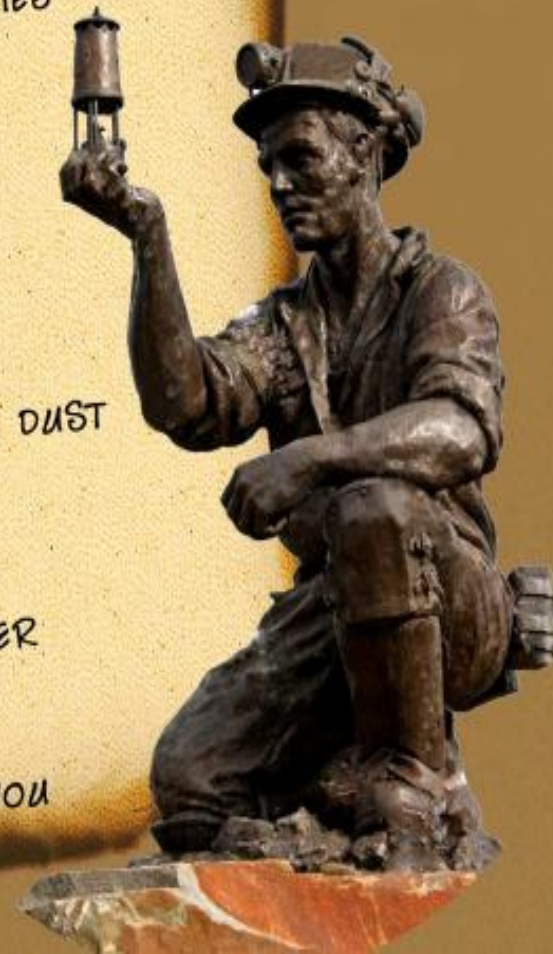
Shri N. K. Pradhan, IRS



Shri Munawar Khursheed, IRPF



COAL MINER'S PRAYER
TAKE A LOOK AT THESE HANDS LORD
THEY'RE WORN AND ROUGH
MY FACE SCARRED WITH COAL MARKS
MY LANGUAGE IS TOUGH
BUT YOU KNOW IN MY HEART LIES
THE SOUL OF A MAN
EACH DAWN AS I RISE
I KNOW ALL TOO WELL
I FACE ONLY ONE THING
A PIT FILLED WITH HELL
TO SCRATCH OUT A LIVING
THE BEST THAT I CAN
THERE'S SULPHUR AND COAL DUST
AND SWEAT ON MY BROW
TO LIVE LIKE A RICH MAN
I'D NEVER KNOW HOW
BUT IF YOU'VE GOT A CORNER
WHEN MY WORK IS THROUGH
I'D BE MIGHTY PROUD
TO LIVE NEIGHBOURS WITH YOU



Prepared under the guidance of
Munawar Khursheed , Chief Vigilance Officer
Mahanadi Coalfields Limited , Sambalpur.