

(2012) 05 RAJ CK 0057

In the Rajasthan High Court

Case No : Civil Writ Petition (PIL) No. 6591 of 2011

Bhanwar Singh and Others

APPELLANT

Vs

Union of India and Others

RESPONDENT

Date of Decision : 25-05-2012

Acts Referred:

Ancient Monuments and Archaeological Sites and Remains Act, 1958 — Section 2
Ancient Monuments and Archaeological Sites and Remains Rules, 1959 — Rule 32
Constitution of India, 1950 — Article 14, 21, 48A, 49, 51A
Environment (Protection) Act, 1986 — Section 29(3), 3(2)
Environment (Protection) Rules, 1986 — Rule 6
Mineral Concession Rules, 1960 — Rule 27(1), 34, 37

Citation : (2012) 4 RLW 3190

Hon'ble Judges : Sangeet Lodha, J;Arun Mishra, J

Bench : Division Bench

Advocate : D.S. Rajvi and Mr. Rajesh Saharan, for the Appellant; Raj Kamal Soni for the State, Mr. V.K. Mathur for Union of India, Mr. Ravi Shanker Prasad, Mr. P.H. Parekh, Mr. M.C. Bhoot, Mr. Mahesh Bora, Mr. D.D. Thanvi, Vikas Balia, Narendra Sharma, S.P. Arora, Manoj Bhandari, Manish Shishodia and Mr. Ramit Mehta, for the Respondent

Final Decision : Allowed

Judgement

Hon"ble Arun Mishra, C.J.—The writ petition has been filed in public interest in order to protect Chittorgarh Fort, which is protected ancient monument under the provisions of the Ancient and Historical Monuments and Archaeological Sites and Remains (Declaration of National Importance) Act, 1951 (hereinafter referred to as "the Act of 1951") and Ancient Monuments Archaeological Sites and Remains Act, 1958 (hereinafter referred to as "the Act of 1958"). Prayer has been made in the writ application to direct the Archaeological Survey of India (for short "the ASI") to protect the Chittorgarh Fort; blasting within 10 kms. from the boundary wall of fort be directed to be stopped; respondent-Mining Department be directed not to allot any fresh mining lease within the periphery of 10 kms. from the boundary wall of fort; open blasting which is not permissible

in the Municipal area be ordered to be stopped and licenses/lease granted be ordered to be cancelled. It is averred in the petition that the petitioners are residents of different villages adjacent to the Chittorgarh Fort; the Chittorgarh Fort is ancient monument within the meaning of Section 2(a) of the Act of 1958; the Fort is more than 1000 years old; notification dated 17.12.1956 was published in the official gazette by the Central Government to declare the Fort to be ancient monument; the State Government is duty bound to protect the ancient monument as per mandate of Article 49 of the Constitution of India. Chittorgarh Fort is one of the unique and oldest forts of Rajasthan which has enhanced not only the glory of Rajasthan but India also. It is an embodiment of the greatness and glory of the land. It is spread in the area of about 700 acres and stands on 152 meter high hill measuring 5 km. long and 0.91 km. Wide. The eventful history of Chittorgarh Fort is characterized by its rich monumental heritage. Chittorgarh Fort was got constructed by different rulers from 7th to 8th Century to Sishodiyas; during various Sultnats, several attempts were made to capture and destroy the Fort, but efforts failed due to its strong construction; Chittorgarh Fort is guarded by a massing fortification wall running along the cliff of the hill; the fort is approachable from three sides north, east and west; Chittorgarh Fort is famous for various structures, palace complex consisting of Ranakumbha Palace, Ratan Singh Palace, Padmini Palace and Bhama Shah Palace; religious complexes consisting of Jain and Hindu temples including Kumbhashyam, Kalika Mata, Charbhuj and Laxmi Narayan etc.; there is Vijay Stambha known as "Tower of Victory" erected by Maharana Kumbha in 1433-1468 AD and this nine storied building is 14.32m square and rises to a height of 37.19m above the ground; there is Kirti Stambha, which is one of the interesting jaina monuments singularly elegant specimen of its class and it is erected on high platform measuring about 9m in diameter at the base and 4.05m at the top with total height of 24 m; considering the importance of various Stambhas, Palaces, archaeological, historical as well as architectural significance, Chittorgarh Fort has been statutorily declared ancient monument of national importance.

2. It is also averred in the petition that Fort comes within the periphery of the Municipal Board and is surrounded by Gram Panchayat, Manpura, Gopalnagar, Surjna Je in the north; in the southern side of the Fort, there are villages Khadi Babri, Bidgas, Chittordhi Khera and Kheri; in the east side, there is Bheru Singh Ka khera and in the west side, there is Surajpole.

3. It is further averred that the State Government has allotted land to the Mining Department for its allotment for the purpose of mining. Earlier public interest litigation being D.B.Civil Writ Petition No.1316/1999 Thakur Ummed Singh V/s Union of India & ors. was filed before this Court in which reply was filed by the Mining and Geological Department and Archaeological Survey of India and on 6.8.2002, the Division Bench of this Court directed that no mining operation shall take place within six kilometers area of the boundary wall of the Fort of Chittorgarh; thereafter, on 29.8.2002, this Court modified the order dated

6.8.2002 to the extent that manual operations and other ancillary operations like transportations and crushing will be permissible to operate beyond 500 metres, but within the radius of 5 kms. of the wall of the existing mining pits. But, no blasting operation shall be allowed within periphery of 5 kms. from the Fort Wall. Beyond 5 kms. of the Fort wall, the blasting operation will also be permitted to operate the existing pits until further orders. No new mining pits will be opened by the newly impleaded parties within 6 kms. of the Wall. Ultimately, the writ petition no.1316/99 was disposed of by the Division Bench of this Court on 1.9.2003 and this Court directed the Mines and Geology Department of State and the Indian Bureau of Mines (for short "the IBM") to share its responsibility to carry out such monitoring of blasting operations in the area periodically at the interval of six months and on the basis of such reports take appropriate measures for safety of mines so that surrounding structures are not affected. It would be the responsibility of IBM to carry out such surveys and lay down from time to time, the requisite standards for safety of surroundings for the purpose of carrying out blasting operations within the area in question and it shall also be the responsibility of mining department of the State to keep strong vigil and see that these safety measures are meticulously implemented and maintained by the mine operators within the area in question and for this purpose half yearly report be submitted to this Court by both IBM as well as by Mines and Geology Department of State of Rajasthan by 30th of June and 31st of December every year. Thereafter, on 3.1.2007, this Court observed that as three years continuous vigilance reports have not given any evidence that the blasting operation in the mine beyond 10 kms was having any adverse effect on the safety of the structure of Chittorgarh Fort, further reporting may be dispensed with. However, this was without prejudice to consider, if any fresh complaint about apprehension to damage of Chittorgarh Fort is made with any new material about the effect of such blasting on the fort. Copies of orders passed by this Court have been filed collectively as Annex.3 to the petition.

4. It is further averred in the petition that after decision was rendered by the Division Bench of this Court in the previous writ application, several mining leases have been granted as mentioned in Schedule A to the petition; blasting is taking place in all mining leases which have been granted and most of lease holders were not having any blasting license and due to blasting, cracks have occurred in Vijay Stambha, Kirti Stambha and Kumbha Mahal. The mining leases are situated at 1.5 km from the Chittorgarh Fort; blasting operations are being done from 12.00 PM to 2.00 PM; 3000 to 4000 holes are being drilled every day by various lease holders; blasting is not only causing damage to the historical Chittorgarh Fort but also houses of the villagers; smoke spread after explosion is also dangerous to health and caused damage to the crops; photographs have been collectively filed as Annex.5 to the petition to show damages caused due to blasting.

5. It is further averred that because of blasting, vibration occurred, which resulted in causing damage to the building and also resulted in dirt falling from

old plaster cluster; extension of old plaster cracks; formation of new plaster cracks; flaking of plaster; falling of plaster; masonry cracks form and partition separate from exterior walls. In the previous writ application, it was also prayed that the Court may impose ban on the mining operations in the area around the Chittorgarh Fort so that the ancient monument of national importance can be saved. Due to mining operations and blasting, which are being done, damage was caused to the structure of Fort and news item was also published.

6. It is further averred in the petition that due to blasting, mining operations and vibration, cracks have occurred in Vijay Stambha, Kirti Stambha and Kumbha Mahal and photographs have been filed collectively as Annex.7 to the petition to show that cracks can be seen with naked eye. The Archaeological Survey of India, after repairing the cracks, has decided to affix the pieces of mirrors (tell tale) to ascertain whether the cracks have occurred due to blasting or by any other reason and as per the norms, the mirrors have cracked and these cracks have occurred in the mirrors due to blasting.

7. It is further averred in the petition that Gram Panchayat Surajpole comes within the periphery of Municipal Board, Chittorgarh as per notification Annex.8 and without no objection from the competent authority, no mining could have been permitted within the periphery of Surajpole. On the protest of the villagers in 2009-10, blasting was stopped, but due to high connections with bureaucrats, no action was taken against the mine holders; on account of blasting and vibration, cracks have occurred in Vijay Stambha and the local MLA of Chittorgarh has assured to take action and it was published in the newspaper on 8.7.2010. Heavy blasting and mining operations are taking place causing severe damage to the structures of Fort.

8. In the previous writ petition no.1316/99, the stand taken by the Archaeological Survey of India was that the Supreme Court in Wasim Ahmed Saeed V/s Union of India, after taking into consideration the study and the proposal submitted before it, ordered that a complete ban should be imposed regarding any kind of mining blasting and digging operations within radius of 10 kms. from Fatehpur Sikri, a protected monument near Agra; same parameter is required to be applied in respect of Chittorgarh Fort; mining leases which have been granted within 10 kms. from the radius of Chittorgarh Fort are required to be cancelled. Blasting is not only causing damage to the structures of Chittorgarh Fort, but it is also in violation of master plan of Chittorgarh City; mining is not permissible in such area and the respondents are duty bound to protect and preserve the ancient monument of national importance.

9. A reply has been filed by the Archaeological Survey of India in which it is admitted that cracks have occurred in some places in Vijay Stambha, Kirti Stambha and Kumbha Mahal, but it cannot be said with certainty that they have been developed due to blasting or some other reason, but at the same time, it is contended that "blasting by a very high magnitude definitely cause damage to the instant structures". In para 10 of the reply, it is further averred that high

intensity blasting devices used in the mining nearby the structures at Chittorgarh Fort is definitely a threat to the safety and security of the structure. With respect to fitting of the glasses, it is averred in para 14 of the reply that monuments of Chittorgarh are in close watch of ASI and tell-tales have been fixed on these monuments to analyze the developments of the cracks. It is important to mention that some of the glasses (tell-tale) have been found to be broken at these monuments but the ASI is not in a position to say with certainty that these glasses had been broken due to blasting, but the possibility that glasses were damaged due to blasting could not be ruled out. It is also submitted in para 15 of the reply that illegal mining and unauthorized use of explosives must be stopped in the interest of conservation and preservation of the ancient Fort at Chittorgarh. It is further averred that the reports of the expert bodies have not conclusively proved that the cracks in Vijay Stambha and other structures of Chittorgarh Fort are being developed due to blasting or vibration. It is further averred that Geological Survey of India and Indian Bureau of Mines have conducted study to examine the impact of blast ground vibrations and suggested that mining activities including blasting should be kept away from the Chittorgarh Fort and high intensity of the explosives devices used in the mining should be stopped and curtailed otherwise these activities would prove harmful to the ancient structures of the Fort. It is further submitted that no new mining works should be allowed nearby the Chittorgarh Fort for its preservation and conservation. The ASI is only empowered to watch and ward 300 meter from the protected limits of Chittorgarh Fort under the provisions of the Act of 1958 and ASI is doing its best to preserve and conserve the ancient structures to the best of its ability. It is further averred in reply to ground (F) that blasting operations for the mining purposes at higher intensity is a threat to the ancient structures and therefore, the blasting operations and mining activities within the radius of 5 km of the Chittorgarh Fort should be stopped.

10. In the return filed by the respondents no.2, 3 and 5-State and Mining Department, it is contended that after earlier writ petition no.1316/99 was decided by this Court, study has been conducted by Indian Bureau of Mines and reports were submitted before this Court in the previous writ application, which was decided with the aforesaid directions to submit periodical reports; the answering respondents are in continuous contact with Indian Bureau of Mines for carrying out the study on the blast vibrations and the correspondence took place between them is marked as Annex.R/8 to Annex.R/9 to the return. However, this Court has stopped the mining operations within 10 kms. from Chittorgarh Fort vide order dated 19.8.2011, as such, further study could not be undertaken. Parameters laid down in the gazette notification dated 16.6.1992 (Annex.R/13 to the return) have been followed. The writ petition has been filed due to rivalry; petitioner Bhanwar Singh has worked for one of the lease holder; blasting was not causing any danger to the ancient monument; a compromise was entered on 22.6.2009 for Rs.7,50,000/- not to create any obstacle in future; however, again objections were raised; petitioners cannot be said to be public spirited persons;

in the earlier writ application, there was no mention of cracks in Vijay Stambha, Kirti Stambha and Kumbha Mahal and this shows that these cracks have not been caused by blasting; reports were submitted pursuant to the directions issued in the previous writ application and on 3.1.2007, this Court directed that there was no further necessity to submit reports; cracks may have caused due to aging effect of structure. In village Surajpole area, blasting as per specifications laid down by the Indian Bureau of Mines is permitted between 1.00 PM to 3.00 PM and answering respondents have issued specific instructions in this regard. On the basis of field observations, it was submitted that approximately 1200 to 1500 holes per day are required in the area to be drilled and approximately 2000 to 2500 tonne mineral is produced and dispatched every day. No air pollution is caused; Rajasthan State Pollution Control Board has given its consent to operate the mines in the area in question. M/s Birla Cement Works (for short "Birla Cement"), which is situated within 4 to 6 kms. away from the Fort Wall, is doing blasting as per circular issued by the Director General of Mines Safety and thus, blasting undertaken by Birla Cement did not cause any harm to the Fort structure. Blasting is taking place at Surajpole and Manpura mining area at a distance of 1.0 to 1.5 km from Fort Wall periphery, that even do not reach the tremors of Suket Shale which otherwise reduces the intensity and therefore, it cannot be said that mining is causing harm to the structure of the fort. No representation is pending. The mining area is exclusively out of the municipal limits. It is wrong to say that cracks have occurred in Vijay Stambha etc. due to mining operations and blasting. Hence, the writ petition is liable to be dismissed.

11. A reply was also filed by Birla Cement in which stand taken is the same as in the reply of the Mining Department. Reliance has been placed on the decision of the previous writ petition no.1316/99; various reports were submitted in the previous writ petition about the monitoring done for about three years; effect of blasting undertaken by Birla Cement is not more than 5 mm per second (peak particle velocity) beyond the distance of 550 meters in the periphery from the place of blasting and as per circular issued by the Director General of Mines Safety, the frequency limit for historical monument is 8 to 25 Mz (5 mm/second) as such it can safely be said that blasting undertaken by Birla Cement in the working pits in the mining area did not cause any harm to the structure of fort; Birla Cement is carrying on mining operations since 1967 and it has given employment to over 2300 people; it is also paying Rs.10 crores per month by way of royalty, taxes, excise duty etc.; Birla Cement has also got conducted investigation of the blast vibration from TERROCK consulting Engineers of Australia, who after thorough investigation, came to the conclusion that the scaling analysis shows that no damage to the Fort can occur due to blasting beyond 450 meters from the mining area; due to the interim order, work has been stopped in the mine including blasting within the leased area; heavy open blasting is being done by some other lease holders within area of 1.5 km from the Fort wall, which may cause damage to the structures of fort and not by the blasting and mining operations undertaken by Birla Cement; it is carrying out

mining operations as per the norms of Director General of Mines Safety; in substance, the reply of Birla Cement is that its activities are not causing any damage to the structures of the Fort.

12. The Dy. Director General, Directorate General of Mines Safety has filed an affidavit in which it is stated that mining operations of Birla Cement are at a distance of 4 km away from the fort; so far as Manpura Stone Quarries are concerned, they are situated about 1.25 kms. away from the Chittorgarh Fort wall; the mines of Bhairon Singh Ji Ka Kheda are situated 1.2 to 1.4 km. (plan distance) north east of the fort area; no damage is being caused by mining operations; at the same time it has been mentioned that it is necessary that concerned lease holders should observe safeguards recommended by IBM at the time of conducting blasts for the purpose of excavating minerals from the lease area. The concerned lease holders should act within the parameters and the safeguards laid down in the report of the IBM.

13. A rejoinder has been filed by the petitioners contending that in the newspaper "Dainik Bhaskar", a report was published showing that cracks have been developed in Vijay Stambha, Kirti Stambha and Kumbha Mahal and wall of the fort; respondents are not bothering about the safety of the fort; Bhanwar Singh is neither working as Contractor nor he works for excavation and transportation of Lime Stone Material from Surajpole and wrong allegations have been made; other facts averred as to donation etc. have been denied; there was collusion between authorities of State and mining lease holders; the respondents have stated that intensity of the tremors depends upon the scale of blasting, therefore, actual impact of blasting on the fort may be got examined by the appropriate authorities and conclusion may be drawn. If such study has been carried out in the past, then that may be consulted. Therefore, communication dated 4.9.2011 is inconclusive. It is incorrect to say that no damage is caused to the structures of fort by mining operations and blasting; smoke and vibration occurred at the time of blasting as a result of which cracks occurred in the structures of fort; several new mining leases have also been granted which are adding to the blasting, which created smoke and carbon mono oxide gas, which is injurious to human being; due to heavy blasting and mining operations, cracks have not only occurred in the structures of fort, but also in the houses of the villagers. The decision of the Apex Court in Wasim Ahmed Saeed (supra) restraining mining activities within 10 kms. from the radius of Fatehpur Sikri deserves to be applied with respect to Chittorgarh Fort, which is ancient monument of national importance. It is also submitted that UNESCO team visited the Fort to declare it as world heritage and news published in the newspaper in this regard has been placed on record with the rejoinder.

14. In the additional affidavit filed by Babulalone of the petitioners, it is submitted that if as per agreement dated 8.7.2008, he has received Rs.7000/- as compensation on account of the crops being damaged due to blasting, no illegality was done by receiving the amount.

15. Considering the importance of the ancient monument of national importance, on the suggestions being made, we have permitted for a fresh report of Indian Bureau of Mines. The IBM has given guarded report that in case maximum charge of explosive/delay as per existing practice may be restricted upto 300 kg in dry season and 500 kg in rainy season for safe protection of Chittorgarh fort, there is no adverse effect on Chittorgarh Fort and other monuments situated on the hill due to present existing blasting practices/mining operations in the mines of Birla Cement. With respect to Manpura Stone Quarries, it was observed that keeping higher factor of safety and considering historical monuments as per DGMS standards, the limiting peak particle velocity restricted to 2 mm/sec and accordingly regression analysis has been carried out for arriving safe distance of 2,5 and 10 mm/sec. It is also suggested that explosive charge/delay as per existing practice may be continued upto 0.125 kg for the safety of Chittorgarh Fort. With respect to impact of blast induced vibrations on Chittorgarh fort due to the working of the mines of Bheriron Singh Ji Ka Kheda area, it was suggested that explosive charge/delay as per existing practice may be continued upto 0.125-0.250 kg for the safety of Chittorgarh Fort. With respect to impact of blast induced vibrations on Chittorgarh Fort due to the working of the China Clay & Red Ochre-Major Mineral Mines(not carrying deep hole blasting), it was observed that the data of six events recorded for this mine are not sufficient for carrying out regression analysis. It was further observed that Chinaclay/Red Ochre Mines (15 nos.) falling within 10 km distance of Chittorgarh are situated at Segwa area and are not covered in this study as they have not approached the IBM for study.

16. Appendix-1 contains the impact of blast induced ground vibrations on Chittorgarh Fort due to working of Birla Cement. The conclusions and recommendations are as follows:-

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 CONCLUSIONS :-

Impact of blast induced vibrations on Chittorgarh fort due to the working Birla Cement Limestone Mines Block-C (Jai-Surjana) and Block-B (Bherda).

6.1.1 There is no mining operations / activities in Block-B (Bherda) of Birla Cement Limestone Mine. The old existing pit is used as water reservoir for supply of Drinking water for the residents of Chittorgarh city. 6.1.2 Mining operations are being carried out only in Block-C (Jai-Surjana) by Opencast mines adopting Heavy Earth Moving Machineries (HEMM) with deep hole blasting having drills of 165 mm diameter. The blast is designed with burden, spacing & depth of blast holes as 4x6x8 to 9.0 m respectively. The max number of blast holes required to be drilled & blasted comes to 50 holes per day, the total explosive charge required per hole come to about 70-80 kg only.

In this mine controlled blasting is normally practiced with Non Electric mille second delay detonators (NONEL). For blasting mainly ammonium nitrate with cap-sensitive explosives like cast booster, emulsion boosters, Kelvex-P etc. are

being used. However, during monsoon slurry explosives are also used. Each hole is fired through delay detonators (NONEL), using bottom initiation. The maximum charge per delay is varying between 160-300 Kg.

6.1.3 During study period a total number of 16 blasts were mentioned and total 46 events were recorded. A regression analysis for peak velocity versus scaled distance was carried out using all 49 events. The Chittorgarh fort is sensitive area falls under archaeological sites. The attempt has been made to carry out regression analysis for total 12 blast events recorded less than 28 Hz for accommodating 3 events which are closer to 25 Hz for analysis purpose for determining the safe distance for maximum charge per delay corresponding to different peak particle velocity (2.5 and 10 mm/sec). It is evident that maximum charge 300 kg per delay will dissipate at a distance of 1005 m from the blast site for ppv 5 mm/sec having frequency range 8-28 Hz. Since no blast events recorded less than 8 Hz frequency for ppv 2 mm/sec corresponding to maximum charge 300 kg per delay, however, regression analysis for frequency range 8-28 Hz confirms that the propagation of ground vibration waves will dissipate at a distance of 1697 m. The shortest distance of mining area (Block-C JaiSurjana) from Fort is 4.0 kms. Monitoring was also done on Fort near Ratan Mahal, Vijay Stambha, Kirti Stambha and on Fort Wall which is nearest to the ML area. No vibration was recorded in all the mentioned locations of Chittorgarh Fort.

The minimum distance from the lease hold area to Chittorgarh fort is 4 kms and therefore, it is concluded that there is no impact on Chittorgarh fort due to induced ground vibration using 160-300 kg/delay with present existing practice. However, the maximum charge 500 kg per delay will also dissipate at a distance of 2191 m and will have no significant impact on Chittorgarh fort. Thus, it may be quite evident that the maximum charge per delay should be restricted to 500 kg during rainy season and not increase beyond this limit in any circumstances for safe protection of Chittorgarh fort due to mine blasting.

Thus it can be concluded from the regression analysis and the field observations considering the importance of the Historical/Archaeological monuments- Chittorgarh Fort maximum charge of explosive / delay as per existing practice may be restricted upto 300 kg in dry season and 500 Kg in rainy season for safe protection of Chittorgarh fort. There is no adverse effects on Chittorgarh Fort and other monuments situated on the hill due to present existing blasting practices/ mining operations in the mines of Birla Cement (Block-C Jai-Surjana) limestone mines.

6.2 RECOMMENDATIONS :-

1. Heavy Blasting operations, including the blast hole drilling should be carried out under the supervision of responsible officials of not less than Second Class Mines Manager.
2. For Heavy Blasting operations, the spacing should be in the range of 5.5 to 6.5 m and burden should be in the range of 3.5 to 4.5 m for 165 mm diameter hole

and the spacing should be in the range of 4.0 to 4.5 m and burden should be in the range of 3.0 to 3.5 m and respectively for 110 mm diameter holes.

3. First row burden (distance between free face and first row) play important role in controlling vibrations and fly rock. If it is more, at any point, than the regular spacing, then an addition relief hole shall be drilled and these relief holes should be blasted first with light charge.

4. For dry holes in normal rock formation ANFO or conventional slurry/emulsion explosive should be preferred. In watery holes high density slurries/emulsions (density more than 1.1) should be preferred. The distribution ratio of booster (cap sensitive explosive) to column charge & non-cap sensitive should not be more than 1:4.

5. Charge per hole should not be more than 85 Kg and Maximum charge per delay restricted up to 300 Kg in dry season and 500 Kg in rainy season.

6. Any structure like house, building, railway tracks etc. lies at a distance of less than 500 m from the blast point, the charge per delay should be restricted to 150 Kg/delay and the peak particle velocity at structure level should not be more than 10 mm/sec.

7. The details of each blast along with monitoring data should be maintained.

17. Appendix-2 contains the impact of blast induced vibrations on Chittorgarh Fort due to working of Manpura Stone Quarries and it was observed that there was no adverse impact on Chittorgarh fort due to blasting using the maximum charge per delay 0.125 kg as per existing practice. The low frequency range data less than 25 Hz not recorded during the monitoring and therefore, explosive charge/delay as per existing practice may be continued upto 0.125 kg for the safety of Chittorgarh Fort. The conclusions and recommendations are as follows:-

6.0 CONCLUSIONS AND RECOMMENDATIONS 6.1

CONCLUSIONS :-

Impact of blast induced vibrations on Chittorgarh fort due to the working Manpura Stone Quarries

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It can be concluded from the regression analysis and the field observations, that there is no adverse impact on Chittorgarh fort due to blasting using the maximum charge per delay 0.125 kg as per existing practice. The low frequency range data less than 25 Hz not recorded during the monitoring and therefore explosive charge/delay as per existing practice may be continued upto 0.125kg for the safety of Chittorgarh Fort.

6.2 RECOMMENDATIONS

1. The maximum charge per hole should not exceed 0.125 Kg.

2. The diameter of blast holes should be 33 mm and should not exceed 0.75 m depth.
3. Not more than 10 holes are to be blasted in a single round, at any one time.
4. Each hole should be fired separately using safety fuse.
5. Safety operating procedures given by DGMS are to be strictly adopted
6. Since the quarries are in clusters, the blasting time for each quarry should be specified and each quarry should strictly follow this blasting time.

18. Appendix-3 pertains to impact of blast induced vibrations on Chittorgarh fort due to the working of the mine of Bheiron Singh Ji Ka Kheda area and it was observed that there was no adverse impact on Chittorgarh fort due to blasting using the maximum charge per delay 0.125-0.25 kg as per existing practice. The low frequency range data less than 25 Hz not recorded during the monitoring and therefore explosive charge/delay as per existing practice may be continued upto 0.125-0.250 kg for the safety of Chittorgarh Fort. The conclusions and recommendations are as follows:-

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 CONCLUSIONS

Impact of blast induced vibrations on Chittorgarh fort due to the working of the mine of Bheiron Singh Ji Ka Khera area

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It can be concluded from the regression analysis and the field operations, that there is no adverse impact on Chittorgarh fort due to blasting using the maximum charge per delay 0.125-0.25 kg as per existing practice. The low frequency range data less than 25 Hz not recorded during the monitoring and therefore explosive charge/delay as per existing practice may be continued upto 0.125-0.250 kg for the safety of Chittorgarh Fort.

6.2 RECOMMENDATIONS

1. The maximum charge per hole should not exceed 0.250 kg.
2. The diameter of blast holes should be 33 mm and should not exceed 1.50 m depth.
3. Not more than 10 holes are to be blasted in a single round, at any one time.
4. Each hole should be fired separately using safety fuse.
5. Safety operating procedures given by DGMS are to be strictly adopted.
6. Since the quarries are in clusters, the blasting time for each quarry should be specified and each quarry should strictly follow this blasting time.

19. Appendix-4 pertains to blast induced ground vibrations on Chittorgarh fort due to the working of the China Clay Mines of M/s Waris Ali near to Bhairon Singhji Ka Kheda and it was observed that the data of 6 events recorded for this mine are not sufficient for carrying out regression analysis.

20. Objections to the report of IBM have been filed by the petitioners. It is submitted that as per the report, monitoring and analysis is done as per the Director General of Mines Safety standards and circular no.7 of 1997; report is conducted only for Block-C (Jai-Surjana) and not conducted for Block-B (Bherda); it is mentioned in the report by IBM that there is no official record of any blasting and use of explosives; it is not stated by the IBM about the actual practice adopted by the lease holders and nothing has been said on effect of blasting if simultaneously blasts take place.

21. An affidavit has been filed by Manish Verma, Mining Engineer and alongwith it, letter dated 8th May, 2012 of Indian Bureau of Mines has been filed in which it has been mentioned that study of monitoring was carried out at various mines near Chittorgarh fort as per DGMS circular no.7 and during the study at mines near Bherusinghji Ka Kheda area and Stone quarries of Manpura area, thrust was given to carry out the blasting as per actual practice and explosive charge being used. However, to get the maximum result, no. of holes were blasted at a time as 5 and 10, so that the maximum intensity of blasting can be assessed. Efforts have also been made to carry out continuous blasting within a span of 3-5 minutes, this time interval is required for connecting terminals and to ignite safety fuse. "Hence, simultaneous effect of blasting in all the mines at a time cannot be assessed as shifting of the instruments and measurement of distances from all the blast site to monitoring stations are not practically feasible". During the study period, the monitoring instrument was kept near the foot wall of fort and nearest to important monuments of the fort.

22. Thus, what is cumulative impact of the blasting being done in several mines, IBM has not assessed the impact as it was not practically feasible for it to do so.

23. The learned counsel appearing on behalf of the petitioners have submitted that due to mining operations and blasting, several cracks have occurred in Vijay Stambha, Kirti Stambha, Kumbha Mahal and wall of Chittorgarh Fort, which is ancient monument of national importance; the act violates the provisions of Article 49 and 51A(f) of the Constitution of India; Vijay Stambha is pride for Indians; several battles were fought from Chittorgarh Fort, however, it could not be conquered, but it is being victimized by destructive method of blasting being done by several lease holders within 10 kms from fort wall; Archaeological Survey of India has taken stand in the previous writ application that mining operations and blasting should be stopped within 10 kms from the fort wall as in the case of Wasim Ahmed Saeed (supra), the Apex Court has issued similar directions. It was further submitted by the learned counsel for the petitioners that the reports, which have been submitted from time to time are in isolation and they are not of random checking and six monthly reports submitted by IBM

cannot be said to be reflecting the correct position after previous writ application was decided; immense damages have been caused to the structure of fort and cracks have occurred in the Vijay Stambha, Kirti Stambha and Kumbha Mahal due to blasting and mining operations; tell-tales have been affixed on these monuments to analyze the developments of the cracks and some of the glasses (tell-tale) have been found to be broken at these monuments and the glasses were damaged due to blasting; there are newspaper reports which clearly show that on account of mining operations and blasting, cracks have occurred in some places of Vijay Stambha, Kirti Stambha and Kumbha Mahal and there is no denial in the return about this; Sujajpole is situated within the municipal limit and thus, without obtaining no objection from the competent authority, mining cannot be permitted in that area; mining leases have been granted within the radius of 10 kms from fort wall for major and minor minerals and due to mining activities and blasting, damages have been caused to the environment, structures of the fort and cracks have occurred in some places of Vijay Stambha, Kirti Stambha and Kumbha Mahal; there is no control, no checking of mining operations, there is no mechanism available with the Mining Department to measure the intensity of charge of explosive/delay used for the purpose of blasting every day, holes, depth, distance etc.; thousands of blasts take place for excavating minerals and in case mining operations are allowed within 10 kms from Fort wall, damage beyond repair is bound to cause to the structures of the fort; glasses were affixed to see whether cracks occurred due to mining operations and blasting and glasses were found broken and the broken glasses tells the tale of truth that cracks appeared due to mining activities and blasting; the ASI has mentioned in the reply that mining activities and blasting should be stopped within 5 kms. from the fort wall, however, in the previous writ application, stand was taken that mining operations and blasting should be stopped within 10 kms. from the fort wall. It was further submitted that the report of IBM has no value as norms have not been followed and it is apparent that it has not carried out on actual blasting being done in the given time by the lease holders; there is no check; no measurement is taken of the blasting, which is being done in normal course of mining; to extract the maximum minerals, heavy blasting used to be done, which is causing damage to the structures of the fort, houses situated nearby area and adverse effect on ecology and environment. Hence, it was prayed that mining operations and blasting within 10 kms. from Chittorgarh Fort be stopped immediately; leases which have been granted within 10 kms. from Fort Wall be cancelled and compensation be awarded for causing damage to the structures of the fort and houses and for affecting ecology and environment.

24. Shri V.K. Mathur, learned counsel appearing on behalf of the Union of India has reiterated what has been submitted in the return. It is submitted that it would be appropriate to stop the mining activities and blasting within reasonable distance from the Fort Wall so as to protect the ancient monument of national importance.

25. Shri R.K.Soni, learned counsel appearing on behalf of the State has

submitted that as per reports of the experts, which have been submitted, no damage is being caused to the fort structures due to mining activities and blasting by the lease holders including Birla Cement. In view of the decision of the previous writ application based on scientific study conducted by IBM, no case is made out for interference by this Court.

26. Shri S.P.Arora, learned counsel appearing for the respondents no.7 to 19 has submitted that small mine holders of lime stone in Bhairo Singh Ji Ka Kheda are not causing any damage to the fort structures. As per IBM report, there is no adverse impact. Hence, it was prayed that mining operations should not be stopped.

27. Shri Ravi Shanker Prasad, learned Senior Counsel appearing on behalf of Birla Cement has submitted that the matter has been concluded in view of the orders dated 6.8.2002, 10.2.2003 and 1.9.2003 passed in the previous writ application no.1316/99 and thus, no further interference is called for by this Court; Indian Bureau of Mines and Geological Survey of India have submitted reports in the previous writ application and this Court decided the writ application and directed monitoring for long time; IBM has submitted six monthly reports that there was no danger to the structures of fort due to mining operations, vibration and blasting by Birla Cement. It is also submitted that open blasting was being done by several lease holders without any authority as apparent from the grounds taken in the petition and on 19.8.2011, this Court passed interim order that no mining should take place within 10 kms. from fort wall; IBM has conducted fresh inspection and various tests pursuant to the order dated 19.12.2011 passed by this Court and submitted report in Feb.2012 and the report shows that there is no adverse impact on fort and other monuments situated on the hill due to present existing blasting practices/mining operations in the mines of Birla Cement. The Dy. Director General of Mines Safety has also filed affidavit on 28.3.2012 pursuant to the order of this Court dated 23.2.2012 and from the said affidavit, it is apparent that no damage is being caused by mining operations though the concerned lease holders should act within the parameters and the safeguards laid down in the report of the IBM. It was further submitted by Shri Ravi Shankar Prasad, learned Senior Counsel that a comprehensive tests were done by IBM to arrive at correct conclusion from 7.1.2012 to 18.1.2012 in the mines held by Birla Cement and it was found that maximum charge per day varied from 56 to 296.94 kg., fort is situated at a distance of 4 km. from mining distance; there is no scientific evidence to show that mining activities of Birla Cement are in any way likely to cause any danger to the structures of fort as apparent from the recommendations made by IBM also. Birla Cement is ready and willing to abide by the recommendations, which have been given by IBM; no new facts have been suggested in the present writ application; on long term monitoring and study, it was found that mining activities and blasting done by Birla Cement were not affecting structures of fort and thereafter, monitoring was stopped vide order dated 3.1.2007 passed in previous writ petition no.1316/99; there is no serious allegation against Birla Cement in the writ application; even

as per the reply filed by the State, no case is made out against Birla Cement; the submission made by Addl. Advocate General on 19.8.2011 that decision has been taken not to permit mining activities within 10 km. from the fort is not supported by the documents on record; Birla Cement has given employment to over 2300 people; it is also paying Rs.10 crores per month by way of royalty, taxes, excise duty etc.; Fort is about 1000 years old and damage is due to wear and tear and lack of proper maintenance and visiting of so many persons per day and there is no conclusive evidence to show that damage has been caused to the structures of fort due to mining activities done by Birla Cement. Birla Cement has been awarded with prestigious Mine Safety Awards from time to time and it has impeccable record of carrying out the mining and blasting activity in a most scientific manner and there has been no violation of safety measures. The mining activity is undertaken by the Birla Cement observing statutory provisions ensuring safety. The Archaeological Survey of India in exercise of the power conferred under Rule 32 of the Ancient Monuments and Archaeological Sites and Remains Rules, 1959 (hereinafter referred to as "the Rules of 1959") has issued notification dated 16.6.1992 laying down parameters to declare the protected limits and prohibited limits where the mining operations are taking place. The notification reveals that area upto 100 meters falls within the protected limits and further beyond it upto 200 meters near or adjoining protected monument to be prohibited and regulated area respectively for the purpose of both mining operations and construction. The mining operations of Birla Cement are beyond the limit fixed vide the said notification. The monument is 1300 years old and normal wear and tear is bound to happen but that is to be looked after by ASI; furthermore cracks may occur due to natural occurrences such as earthquake, lightning, aging and also due to lack of proper maintenance; shrubs and trees have grown on the walls and monuments at the fort and thus, weakening the walls and leading to developing gaps or cracks in the fort. Wear and tear of the monuments can also be attributed to about 2000 tourists that visit the fort regularly on daily basis and have unrestricted access over all the monuments situated in the fort area and also to the frequent traffic that ply in and near the fort; report of Terrock Consulting Engineers, Australia (Australian Expert) states that "the passing of an auto-rickshaw at a distance of 2 meters resulted in a vibration level of 0.44 mm/sec at the lower gate of the fort". No vibration due to blasting in Birla Cement mines reaches the fort walls/monuments where the seismographs were placed. Chittorgarh fort is a living fort where residents have constructed houses and there is no report of damage to the houses by Birla Cement. Birla Cement has got conducted ground vibration studies by Prof. Sushil Bhandari of MBM Engineering College, Jai Narayan Vyas University, Jodhpur and he gave report on 6/9th Feb. 2002 observing that no vibrations have been recorded at the fort as well as the nearby villages from blasting operations in the mines. The studies unequivocally and positively negated any apprehension of damage to Chittorgarh Fort due to the controlled blasting being carried out by Birla Cement. It is also submitted that there are distinguishing features of Birla Cement mining; Birla Cement is having diversified business activities spreading

in the field of cement, optical fire, optical fibre cables, gum and chemicals etc.; Birla Cement is fully mechanized captive limestone mines and it has installed seismograph devices for recording accurate reading of vibrations which is being sent on fortnightly basis to Director General Mines Safety, which other mining lease holders did not possess and follow; mines are inspected every year for environment and safety purposes and various awards are won by Birla Cement for safety measures. Reliance has been placed on the concept of sustainable development, which is also necessary and cannot be ignored. High Court cannot act as expert body and ignore the report of the experts. Hence, no interference is called for and the writ petition deserves to be dismissed. In support of the aforesaid submissions, Shri Ravi Shankar Prasad has placed reliance on some decisions, which will be discussed later on.

29. Shri D.D.Thanvi, learned counsel appearing on behalf of respondent no.21 J.K.White Cement Works has submitted that they are having two mining leases for mineral china clay near village Kanthariya District Chittorgarh which are situated at a distance of about 9 km. from Chittorgarh. They do not require any blasting for mining of these minerals nor it has ever used any blasting material for the purpose of mining in its mining lease area. Thus, no damage is caused to the structures of fort by mining operations of respondent no.21.

30. It was submitted on behalf of respondent no.22 Mohd.Siddique Arif Khan that his mining is for minerals red ochre and china clay, which is situated at a distance of about 9.5 km from Chittorgarh Fort. He does not require any blasting for mining of these minerals nor he has ever used any blasting material for the purpose of mining in the mining lease area.

31. Shri Manoj Bhandari, learned counsel appearing on behalf of respondent no.23-Chittorgarh Patthar Utpadak Sewa Samiti has submitted that their mines in the form of small plots are situated approximately 1.5 km from the fort; they are very small mines owners excavating the stone slabs and lime stone with almost negligible blasting and thus, they may be permitted to excavate their mines in the Manpura area as the Fort is situated at approximately 152 meters height from the ground level; the reserved forest area is situated all around the fort with dense plantation at a distance of approx.300 to 500 meters; there is no adverse impact on the fort; 70% of the plots have already been closed and in 30% of the plots, mining is taking place that too in a very small plot and thus, it cannot be said that there is any danger to the fort structures by the mining activities undertaken by the respondent no.23. The petition has been filed with ulterior motive.

32. The question which arises for consideration is whether damage has been caused to structures of Chittorgarh Fort, which is ancient monument of national importance, due to the mining activities and blasting done by Birla Cement and various other lease holders or damage to the ancient monument can be attributed to daily visit of about 2000 tourists to fort or wear and tear or natural occurrences such as earthquake, lightning, aging or lack of proper maintenance

or shrubs and trees etc., as suggested by the learned counsel for respondent Birla Cement.

33. Before proceeding further, it is worthwhile to mention here that in the present scenario the ecological imbalances and the consequent environmental damage has become alarming due to reckless mining operations. There is a need of the hour to preserve monument. In Rajasthan mining has become a menace. The scale of injustice occurring on Indian soil is catastrophic. In so many cases, the Apex Court intervened in the matter and issued directions from time to time in public interest to protect and preserve forest, ancient monuments, ecology, environment, wildlife etc. from ill effects of mining. Some of the decisions of the Apex Court laying down precautionary principle, concept of sustainable development, polluter-pays principle etc. are being mentioned here.

34. In *Tarun Bharat Sangh, Alwar Vs. Union of India and others*, the Apex Court has laid down in the context of mining operation carried out under license granted by the State Government impairing the environment and wildlife within the Sariska Tiger Park (in Alwar District in State of Rajasthan) declared by notifications as reserve forest, game reserve and sanctuary, statutory notifications were violated. State Government while professing to protect the environment by means of the notifications and declarations, itself permitting degradation of the environment by authorizing mining operations in the area. Direction was issued that no mining operation of whatever nature shall be carried on within the protected area. The Apex Court also considered the provisions of Section 29(3) of the Act of 1953 and laid down that mining rights are not the private rights in or over the forest land.

35. In *M.C. Mehta (Taj Trapezium Matter) Vs. Union of India and Ors.*, (1997) 2 SCC 353 the Apex Court held that precautionary principle is the requirement of the sustainable development; it cannot be beyond capacity of ecosystem; anticipation and prevention is part of precautionary measure; the remediation is part of sustainable development; not even 1% chance can be taken when there is danger to historical monuments; the onus is on industrialist to show action is benign. The Apex Court has laid down thus:-

30. The Taj, apart from being a cultural heritage, is an industry by itself. More than two million tourists visit the Taj every year. It is a source of revenue for the country. This Court has monitored this petition for over three years with the sole object of preserving and protecting the Taj from deterioration and damage due to atmospheric environment pollution. It cannot be disputed that the use of coke/coal by the industries emits pollution in the ambient air. The objective behind this litigation is to stop the pollution while encouraging development of industry. The old concept that development and ecology cannot go together is no longer acceptable. Sustainable development is the answer. The development of industry is essential for the economy of the country, but at the same time the environment and the ecosystems have to be protected. The pollution created as a consequence of development must be commensurate with the carrying capacity

of our ecosystems.

31. Various orders passed by this Court from time to time (quoted above) clearly indicate that the relocation of the industries from TTZ is to be resorted to only if the Natural Gas which has been brought at the doorstep of TTZ is not acceptable/available by/to the industries as a substitute for coke/coal. The GAIL has already invited the industries in TTZ to apply for gas connections. Before us Mr Kapil Sibal and Mr. Sanjay Parikh, learned counsel for the industries have clearly stated that all the industries would accept gas as an industrial fuel. The industries operating in TTZ which are given gas connections to run the industries need not relocate. The whole purpose is to stop air pollution by banishing coke/coal from TTZ.

32. This Court in Vellore Citizens Welfare Forum Vs. Union of India and others, has defined "the Precautionary Principle" and the "Polluter Pays Principle" as under:-(SCC pp.658-60, paras 11-14)

11...We are, however, of the view that "The Precautionary Principle" and "The Polluter Pays Principle" are essential features of "Sustainable Development". The "Precautionary Principle" - in the context of the municipal law - means:-

(i) Environmental measures - by the State Government and the statutory authorities - must anticipate, prevent and attack the causes of environmental degradation.

(ii) Where there are threats of serious and irreversible damage, lack of scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

(iii) The "onus of proof" is on the actor or the developer/industrialist to show that his action is environmentally benign.

12. "The Polluter Pays Principle" has been held to be a sound principle by this Court in Indian Council for Enviro-Legal Action and Others Vs. Union of India (UOI) and Others, .

The Court observed:(SCC p.246 para 65)

"...we are of the opinion that any principle evolved in this behalf should be simple, practical and suited to the conditions obtaining in this country."

The Court ruled that: (SCC p.256, para 65)

.....once the activity carried on is hazardous or inherently dangerous, the person carrying on such activity is liable to make good the loss caused to any other person by his activity irrespective of the fact whether he took reasonable care while carrying on his activity. The rule is premised upon the very nature of the activity carried on."

Consequently, the polluting industries are "absolutely liable to compensate for the harm caused by them to villagers in the affected area, to the soil and to the

underground water and hence, they are bound to take all necessary measures to remove sludge and other pollutants lying in the affected areas". The "Polluter Pays Principle" as interpreted by this Court means that the absolute liability for harm to the environment extends not only to compensate the victim of pollution but also the cost of restoring the environmental degradation. Remediation of the damaged environment is part of the process of "Sustainable Development" and as such the polluter is liable to pay the cost to the individual sufferers as well as the cost of reversing the damaged ecology

33. Based on the reports of various technical authorities mentioned in this judgment, we have already reached the finding that the emissions generated by the coke/coal consuming industries are air pollutants and have damaging effect on the Taj and the people living in the TTZ. The atmospheric pollution in TTZ has to be eliminated at any cost. Not even one per cent chance can be taken when - human life apart - the preservation of a prestigious monument like the Taj is involved. In any case, in view of the precautionary principle as defined by this Court, the environmental measures must anticipate, prevent and attack the causes of environmental degradation. The "onus of proof" is on an industry to show that its operation with the aid of coke/coal is environmentally benign. It is, rather, proved beyond doubt that the emissions generated by the use of coke/coal by the industries in TTZ are the main polluters of the ambient air.

(emphasis added)

36. In T.N. Godavarman Thirumalpad (through K.M. Chinnappa) Vs. Union of India (UOI) and Others, the Apex Court has observed that at global level, the right to live is now recognized as a fundamental right to an environment adequate for health and well being of human beings. There is increase in awareness of the compelling need to restore the serious ecological imbalances introduced by the depredations inflicted on nature by man. There may be boundless progress scientifically which may ultimately lead to destruction of man's valued position in life. The Constitution has laid the foundation of Articles 48A and 51A for a jurisprudence of environmental protection. Today, the State and the citizen are under a fundamental obligation to protect and improve the environment including forests, lakes, rivers, wildlife and to have compassion for living creatures. Duty is cast upon the Government under Article 21 to protect the environment and the two salutary principles which govern the law of environment are :(i) the principles of sustainable development, and (ii) the precautionary principle. In M.C. Mehta Vs. Union of India (UOI) and Others, the Apex Court observed held:-

47. The mining operation is hazardous in, nature, it impairs ecology and people's right of natural resources. The entire process of setting up and functioning of mining operation require utmost good faith and honesty on the part of the intending entrepreneur. For carrying on any mining activity close to township which has tendency to degrade environment and are likely to effect air water and soil and impair the quality of life or inhabitants of the area, there would be

greater responsibility on the part of the entrepreneur. The fullest disclosures including the potential for increased burdens on the environment consequent upon possible increase in the quantum and degree of pollution, has to be made at the outset so that public and all those concerned including authorities may decide whether the permission can at all be granted for carrying on mining activity. The regulatory authorities have to act with utmost care in ensuring compliance of safeguards, norms and standards to be observed by such entrepreneurs. When questioned, the regulatory authorities have to show that the said authorities acted in the manner enjoined upon them. Where the regulatory authorities, either connive or act negligently by not taking prompt action to prevent, avoid or control the damage to environment, natural resources and peoples' life, health and property, the principles of accountability for restoration and compensation have to be applied.

48. The development and the protection of environments are not enemies, if without degrading the environment or minimising adverse effects thereupon by applying stringent safeguards, it is possible to carry on development activity applying the principles of sustainable development, in that eventuality, the development has to go on because one cannot lose sight of the need for development of industries, irrigation resources and power projects etc. including the need to improve employment opportunities and the generation of revenue. A balance has to be struck. We may note that to stall fast the depletion of forest, series of orders have been passed by this Court in T.N. Godavarman's case regulating the felling of trees in all the forests in the country. Principle 15 of Rio Conference of 1992 relating to the applicability of precautionary principle which stipulates that where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for proposing effective measures to prevent environmental degradation is also required to be kept in view. In such matters, many a times, the option to be adopted is not very easy or in a straight jacket. If an activity is allowed to go ahead, there may be irreparable damage to the environment and if it is stopped, there may be irreparable damage to economic interest. In case of doubt, however, protection of environment would have precedence over the economic interest. Precautionary principle retires anticipatory action to be taken to prevent harm. The harm can be prevented even on a reasonable suspicion. It is not always necessary that there should be direct evidence of harm to the environment.

(emphasis added)

37. The Apex Court in the case of M.C.Mehta V/s Union of India (supra) has constituted a Monitoring Committee with a view to monitor the overall ecorestoration efforts in the Aravalli Hills and came to the following conclusions:-

96. 5. The mining activity can be permitted only on the basis of sustainable development and on compliance of stringent conditions.

6.The Aravalli hill range has to be protected at any cost. In case despite stringent

conditions, there is an adverse irreversible effect on the ecology in the Aravalli hill range area, at a later date, the total stoppage of mining activity in the area may have to be considered. For similar reasons such step may have to be considered in respect of mining in Faridabad District as well.

7. MOEF is directed to prepare a short term and long term action plan for the restoration of environmental quality of Arvalli hill in Gurgaon district having regard to what is stated in final report of CMPDI within four months.

8. Violation of any of the conditions would entail the risk of cancellation of mining lease. The mining activity shall continue only on strict compliance of the stipulated conditions.

38. In *Essar Oil Ltd. Vs. Halar Utkarsh Samiti and Others*, the Apex Court held that where experts are consulted and their recommendations are abided by the State Government to ensure that the impact on environment is transient and minimal, the court would not interfere with the experts' opinion. However, if the experts' recommendations are not abided by, then the mere magnitude of the costs involved should not deter the courts from barring or undoing the development activity.

39. In *Intellectuals Forum, Tirupathi Vs. State of A.P. & Ors.* (AIR 2006 SC 1352), the Apex Court has laid down that the government is bound to protect historical tanks qua concept of "sustainable development" and "public trust doctrine". Destruction of local ecological resources is not permissible. The Apex Court has laid down thus:-

67. The responsibility of the state to protect the environment is now a well-accepted notion in all countries. It is this notion that, in international law, gave rise to the principle of "state responsibility" for pollution emanating within one's own territories [Corfu Channel Case, ICJ Reports (1949) 4]. This responsibility is clearly enunciated in the United Nations Conference on the Human Environment, Stockholm 1972 (Stockholm Convention), to which India was a party. The relevant Clause of this Declaration in the present context is Paragraph 2, which states:

The natural resources of the earth, including the air, water, land, flora and fauna and especially representative samples of natural ecosystems, must be safeguarded for the benefit of present and future generations through careful planning or management, as appropriate.

Thus, there is no doubt about the fact that there is a responsibility bestowed upon the Government to protect and preserve the tanks, which are an important part of the environment of the area. Sustainable Development

68. The respondents, however, have taken the plea that the actions taken by the Government were in pursuance of urgent needs of development. The debate between the developmental and economic needs and that of the environment is an enduring one, since if environment is destroyed for any purpose without a

compelling developmental cause, it will most probably run foul of the executive and judicial safeguards. However, this Court has often faced situations where the needs of environmental protection have been pitched against the demands of economic development. In response to this difficulty, policy makers and judicial bodies across the world have produced the concept of "sustainable development". This concept, as defined in the 1987 report of the World Commission on Environment and Development (Brundtland Report) defines it as "Development that meets the needs of the present without compromising the ability of the future generations to meet their own needs". Returning to the Stockholm Convention, a support of such a notion can be found in Paragraph 13, which states:

In order to achieve a more rational management of resources and thus to improve the environment, States should adopt an integrated and coordinated approach to their development planning so as to ensure that development is compatible with the need to protect and improve environment for the benefit of their population.

69. Subsequently the Rio Declaration on Environment and Development, passed during the Earth Summit at 1992, to which also India is a party, adopts the notion of sustainable development. Principle 4 of the declaration states:

In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.

73. In light of the above discussions, it seems fit to hold that merely asserting an intention for development will not be enough to sanction the destruction of local ecological resources. What this Court should follow is a principle of sustainable development and find a balance between the developmental needs which the respondents assert, and the environmental degradation, that the appellants allege.

40. In *T.N. Godavaram Thirumulpad Vs. Union of India (UOI) and Others*, , the Apex Court observed that adherence to the principle of sustainable development is now a constitutional requirement. It is the duty of the State under the Constitution to devise and implement a coherent and coordinated programme to meet its obligation of sustainable development based on inter-generational equity.

41. In *T.N. Godavarman Thirumulpad (60) Vs. Union of India & Ors.*, ((2009) 17 SCC 764), mining activity in Aravalli Hills, especially in that part which has been regarded as forest area or protected under Environment (Protection) Act was prohibited and banned by the Apex Court. Chief Secretaries of Haryana and Rajasthan were directed to file compliance report. Thereafter, in the same case *M.C. Mehta Vs. Union of India (UOI) and Others*, the Apex Court has held that when mining leases were granted, "requisite clearances for carrying out mining operations" were not obtained which have resulted in land and environmental degradation. Despite such breaches, approvals were granted for subsequent slots

because in the past the authorities had not taken into account the macro effect of such wide-scale land and environmental degradation caused by the absence of remedial measures (including rehabilitation plan). Time has now come, therefore, to "suspend" mining in the Aravalli hill range till statutory provisions for restoration and reclamation are duly complied with, particularly in cases where pits/quarries have been left abandoned. Environment and ecology are national assets. They are subject to intergenerational equity. Time has now come to suspend all mining in the said area on sustainable development principle which is part of Articles 21, 48A and 51-A(g) of the Constitution of India. Mining within the principle of sustainable development comes within the concept of "balancing" whereas mining beyond the principle of sustainable development comes within the concept of "banning". It is a matter of degree. Balancing of the mining activity with environment protection and banning such activity are two sides of the same principle of sustainable development. They are parts of precautionary principle. It has further been held that the provisions of Rule 27(1)(s)(i) of the Mineral Concession Rules, 1960, Rules 34 and 37 of the Mineral Conservation and Development Rules, 1988 and the guidelines issued under the said Rules of 1988 have not been complied with. Hence, all mining operations in the Aravalli hill range falling in the State of Haryana within the area of approximately 448 sq. km. in the districts of Faridabad and Gurgaon, including Mewat have been suspended.

42. In *M.C. Mehta Vs. Union of India (UOI) and Others*, the Apex Court has held that environment and ecology are national assets. They are subject to intergenerational equity. Time has now come to suspend all mining in the said area on sustainable development principle which is part of Articles 21, 48A and 51-A(g) of the Constitution of India. The Apex Court has laid down thus:-

4. The question to be answered at the outset is why did this Court impose a complete ban on mining in the Aravalli range falling in the State of Haryana which broadly falls in District Gurgaon and District Faridabad, including Mewat?

5. The statistical data placed before this Court indicated that, in October 2002 twenty-six mines were inspected which indicated wide-scale non-compliance with statutory rules and regulations applicable to mines. Broadly stated, most of these mines failed to obtain environmental clearances. Most of these mines failed to submit the environmental management plan. In some cases, the status of mining indicated below groundwater table. Mining pits were turned into huge groundwater lakes. No efforts were made to create plantation. Broadly, these were silica sand mines. In some cases, even groundwater stood extracted. Deep mining pits with large water bodies were detected. Huge amounts of overburden were also seen in the area. These are some of the defects which were highlighted by EPCA in various reports as far back as October 2002. These non-compliances have also been highlighted with the names of the mines meticulously in para 18 of the judgment in *M.C.Mehta*.

6. It is important to note that by Notification dated 7-5-1992 issued by MoEF u/s

3(2)(v) of the Environment (Protection) Act, 1986 ("the EP Act", for short), as amended, all new mining operations including renewal leases stood banned. The notification further laid down the procedure for taking prior permission before undertaking mining activity.

7. At this stage it may be noted that by the Notification dated 27-1-1994 as amended on 4- 5-1994 issued by MoEF u/s 3(2) of the EP Act, 1986 read with Rule 6, environment impact assessment (EIA) before commencement of any mining operation became mandatory. Therefore, by order dated 29-10-2002/30-10- 2002, when this Court found large-scale mining without approved plans, it decided to ban all mining activities in the Aravalli range.

43. In Centre for Public Interest Litigation and ors. V/s Union of India & ors. (JT 2012 (2) SC 154), the Apex Court observed that the Government is bound to protect environment, forest, air, water, coastal zones etc.

44. In M.C. Mehta Vs. Kamal Nath and Others, the Apex Court held that pollution is a civil wrong and by its nature, it is a tort committed against the community as a whole and thus, a person causing pollution can be asked to pay damages (compensation) for restoration of the environment and ecology and he can also be asked to pay damages to those who have suffered loss on account of the act of the offender. Considering Articles 48A and 51-A(g) of the Constitution in the light of Article 21 of the Constitution, the Apex Court held that any disturbance of the basic element of the environment, namely, air, water and soil, which are necessary for "life", would be hazardous to "life" within the meaning of Article 21. In the matter of rights under Article 21 the Apex Court besides enforcing the provisions of the Acts has also given effect to the fundamental rights under Articles 14 and 21 and held that if those rights are violated by disturbing the environment, it can award damages not only for the restoration of the ecological balance, but also for the victims, who have suffered due to that disturbance. In order to protect "life", "environment" and "air, water and soil" from pollution, the Apex Court has given effect to the rights available to the citizens and persons alike under Article 21 and has awarded damages against those who have been responsible for disturbing the ecological balance either by running industries or any other activity which has the effect of causing pollution in the environment. The Apex Court while awarding damages also enforces the "polluter-pays principle", which is widely accepted as "means of paying for the cost of pollution and its control". To put it in other words, the wrong doer, the polluter is under an obligation to make good the damage caused to the environment.

45. In Indian Council for Enviro-Legal Action and Others Vs. Union of India (UOI) and Others, the Apex Court considering the principle "Polluter pays principle" held that once the activity carried on was hazardous or inherently dangerous, the person carrying on that activity was liable to make good the loss caused to any other person by that activity. This principal was also followed In Vellore Citizens Welfare Forum Vs. Union of India and others,

46. The precautionary principle defined in Vallore Citizens' Welfare Forum (Supra) provides that State Government is bound to anticipate, prevent and attack the causes of degradation; lack of scientific certainty is not a ground to postpone measures to prevent environmental degradation; same is applicable to ancient monuments, more so, in view of Articles 49 and 51A(f) of the Constitution. The Apex Court has observed in M.C. Mehta (Taj Trapezium Matter) (Supra) that one percent chance cannot be taken when preservation of monuments like Taj is involved. The Taj was built due to love. The Chittorgarh fort is another important fort of pride of India in shape of Vijay Stambha etc. In the case of M.C. Mehta (supra), the Apex Court has laid down that in case of doubt, protection of environment would have precedence over the economic interest. The harm can be prevented even on a reasonable suspicion. It is not necessary that there should be direct evidence of harm. Same principle being part of precautionary principle which is emanating from sustainable principle holds good for ancient monuments too.

47. In the light of the aforesaid principles, we now proceed to examine the main question as to how damage has been caused to the ancient monument.

48. From the photographs annexed with the writ application as Annex.7 (pages 108 to 114), it appears that cracks have occurred in some places of Vijay Stambha, Kirti Stambha and Kumbha Mahal and joints of the stones have been supported by iron clamps. It also appears that there is severe damage to the wall. The cracks are of such a nature that there is imminent danger to the structure falling down in case of further vibration etc. There are other photographs also collectively filed as Annex.5 to the petition (pages 97 to 103), which show that cracks have developed in the houses of the villagers. There are newspaper reports galore pointing out that due to blasting which has taken place in the mines, existence of Vijay Sthambha itself is in danger.

49. The Archaeological Survey of India has affixed mirrors (tell-tales) on the monuments to analyze the developments of the cracks. Some of the mirrors (tell-tale) have been found to be broken at these monuments and thus, damage to the mirrors can be safely attributed to mining activities, blasting and vibration. Following is the averment made in this regard in para 4.20 of the petition:-

4.20 That not only this mining operation but also blasts in the mining area situated within the periphery of the Chittorgarh Fort has taken place and there are many news items published from time to time which reflects that due to vibration cracks are being caused to different wings of the Chittorgarh Fort. Copies of the photographs of Vijay Stambh, Kirti Stambh and Kumbha Mahal are produced herewith and marked as Annexure-7 which clearly shows cracks can be seen with naked eye. It is relevant to mention here that Archaeological Survey of India has after repairing the cracks have decided to affix the pieces of mirror to ascertain whether the cracks have occurred due to blasting or by any other reasons and as per the norms the mirrors have cracked and these cracks have occurred in the mirror due to blasting.

50. In the grounds also, similar submissions have been made in ground (i). The relevant portion of ground (i) is quoted below:-

i)...Further more, the ASI and other concerned departments, while repairing the damages in the cracks occurred in Vijay Stambh, Kirti Stambh, Kumbha Mahal and other; arts of the Chittorgarh have affixed pieces of mirror to ascertain whether the cracks occurred in the said part of the fort are due to blasting or due to other reasons and as per the photographs most of the pieces of mirror affixed by the authorities are either cracked or fallen down and empty place is there in the said part of the fort. Therefore, these cracks are occurred due to blasting specially in the reply to writ petition filed by Thakur Ummed Singh V/s State of Rajasthan & Ors. none of the respondents in the said writ petition have stated about the cracks at their relevant time, therefore, it seems that these cracks have occurred after the said decision of the writ petition and due to blasting specially when the new mining lease have been granted by the authorities. Therefore, blasting should be stopped henceforth. The Chittorgarh Fort is in the custody of Archaeological Survey of India and the revenue is collected by the ASI and therefore, they are the custodian of the Fort.

51. In the reply filed by the Archaeological Survey of India, averment made in para 4.20 has been replied to the effect that tell-tales have been affixed on these monuments to analyze the developments of the cracks and some of the glasses (tell-tales) have been found to be broken at these monuments and the possibility of blasting damaging these glasses cannot be ruled out. Following is the averment made in the reply to para 4.20 of the petition:-

14. That the contentions raised in para 4.20 of the writ petition are replied in terms that the monuments of Chittorgarh are in close watch of the answering respondent and telltales have been fixed on these monuments to analyze the developments of the cracks. It is important to mention that some of the glasses (tell-tale) have been found to be broken at these monuments but the answering respondent is not in a position to say it with certainty that these glasses had been broken due to blasting but it is possibility of blasting damages these glasses cannot be ruled out.

Following is the reply to ground (i) of the petition:-

H. That in reply to the contentions raised in ground (i) of the writ petition, it is respectfully submitted that some of the mirrors which are found to be broken, the answering respondent is not in a position exactly to say that the cause of the same is blasting operation only.

52. The respondents no.2, 3 and 5- State of Rajasthan and Mining Department have contended in reply to para 4.20 of the petition that IBM has submitted that due to blasting no damage has been done. So far as the fixing of glass is concerned, they do not have any information in that regard, therefore, no reply can be filed by them. Following is the relevant portion of the reply:-

4(20)....So far as the fixing of glass pieces on the cracks by the Department of Archaeological Survey of India, the humble answering respondents do not have any information to that regard, and therefore, no reply can be filed by the humble answering respondents.

53. Thus, there is no denial that cracks have developed in the Vijay Stambha, Kirti Stambha and Kumbha Mahal and wall of Chittorgarh Fort after the decision of the previous writ application and there is also no denial that mirrors (tell tales) have been found to be cracked.

54. The respondent-Birla Cement in its reply to para 4.20 of the petition has stated that the same pertains to matter between the State government and the petitioners. Thus, there is no denial by Birla Cement that some cracks have developed in Vijay Stambha, Kirti Stambha and Kumbha Mahal of Chittorgarh Fort and it was not disputed at the time of argument that serious damage has been caused to the wall of the fort after the decision of the previous writ application. `Ground (i) of the petition was also not traversed by Birla Cement.

55. Thus, we have no hesitation to come to the conclusion that mirrors (tell-tale) were broken due to blasting as submitted by the petitioners and the fact has not been traversed by the respondents, rather has been admitted by Archaeological Survey of India. There is no other way in which mirrors (tell-tale) could have broken; cracking of mirrors is telling the truth and has strengthen the story that mining operations and blasting in the area in question have caused damage to the ancient monument "Chittorgarh Fort", which ranks at par with any one of the world heritage monuments of India. The fort represents the quintessence of tribute to the nationalism, courage, medieval chivalry and sacrifice exhibited by the Mewar rulers of Sisodia and their kinsmen and women and children, between the 7th century and 16th century. Vijay Stambh is illuminated and looks all the more mesmerizing. The Fort welcomes many a tourists around the world to its complex every year. Moreover, the history of this majestic fort makes the visit to this place more interesting. The magnificent monuments of this fort are definitely worth spending some time in seclusion pondering over the heroism of Mewar rulers. This heritage fort of Rajasthan is definitely a "must-visit" place that cannot be afforded to miss. Thus, mining activities & blasting in the area in question causing damage to such ancient monument of national importance cannot be permitted.

56. Article 49 of the Constitution of India mandates that it shall be obligation of the State to protect every monument or place or object of artistic or historic interest declared by or under law made by Parliament to be of national importance from spoliation, disfigurement, destruction, removal, disposal or export as the case may be. The State has failed to protect ancient monuments of national importance as it has granted mining leases within 10 kms from fort wall and mining operations and blasting have caused damage to the structures of fort. Thus, there is gross violation of mandate of Article 49 of the Constitution.

57. Article 51A(f) of the Constitution mandates that it shall the duty of every

citizen to value and preserve the rich heritage of our composite culture; there is duty cast under Article 51A(g) to protect and improve the natural environment including forests, lakes, rivers and wild life and to have compassion for living creatures. There is violation of Article 51A(f) as there is failure on the part of the lease holders including Birla Cement to value and preserve the rich heritage, rather they have caused damage to ancient monument of national importance by doing mining operations and blasting.

57. The learned Senior Counsel Shri Ravi Shankar Prasad has relied upon the concept of sustainable development, which is also necessary and cannot be ignored. The development cannot be at the cost of damage to ancient monument of national importance.

58. It was submitted that in the previous writ application, various expert reports were submitted by IBM and GSI and it is apparent from the reports that no damage was being caused to the structures of fort by the mining activities and blasting done in the area in question by lease holders, especially by Birla Cement.

59. Since both the parties have relied upon the averments made in the previous writ application and the reports submitted, we propose to discuss them. Firstly, we come to the orders which were passed by this Court in previous writ application no.1316/99. Letter petition was entertained by this Court and vide order dated 6.8.2002, the Division Bench of this Court directed that no mining operation shall take place within six kilometers area of the boundary wall of the Fort of Chittorgarh. The order dated 6.8.2002 is quoted below:-

Respondent No.1 has been served but no one has put in appearance. Respondent No.2 has not been served as notice has been returned with a report that the address of office of the Archaeological Department at Jaipur has changed. Respondent No.3 Chief Secretary of State of Rajasthan has also been served but no one has put in appearance on his behalf. Notice was also issued to the Mining Department which has been served and reply has been filed on its behalf.

The matter concerns preservation of the cultural heritage of Chittorgarh Fort. It is alleged in the petition that allotment of mines and operating of such mines around Chittorgarh Fort by use of explosives for blasting purposes, is effecting the safety of this ancient monument, which has prominent place in the Indian history. A prayer has been made for stopping the mining operations around the Fort.

The factual position has been submitted by Mining Department. The fact of allotment of mining lease around the Fort is not disputed. With reference to one of the major allottees of mining lease. It is stated by the respondent - Mining Department that the blasting operations in the mines do take place but the area of mining is about six kilometres away from the Fort wall.

In that view of the matter, and the fact that mining operations are going around the Fort, in our opinion, Mining Department is not right authority who can vouch

for the safety of Fort from the blasting operations going around the Fort area. Evaluation of blasting operations, can come only from the Archaeological Department which is otherwise responsible for maintenance of the Archaeological heritage of the country and to take proper action in that regard.

It is rather unfortunate that the Archaeological Department of the Union of India has chosen to put in appearance inspite of service and the Archaeological Department of the State has not been served for want of correct address.

In the aforesaid circumstances, we direct that notice be served on the Head of Archaeological Department in Rajasthan through Chief Secretary, Government of Rajasthan and it shall be his responsibility to see that the Archaeological Department of the State is served and it takes effective participation in this matter before the next date of hearing which is fixed on 26.8.2002. Notices be sent by registered post to the Chief Secretary, State of Rajasthan marked as personal attention with a copy of this order for compliance.

In the facts and circumstances, we further direct that no mining operation shall take place within six kilometres area of the boundary wall of the Fort of Chittorgarh. It will be the responsibility of the Mining Department to see compliance of this interim direction and make a report of that on the next date of hearing.

Put up on 26.8.2002.

60. Thereafter, the matter was heard on 29.8.2002 by the Division Bench of this Court and it was submitted on behalf of Birla Cement that contrary to statement made by the Mining Department on earlier occasion its mining lease commences from 4.75 kilometers and is not beyond 6 kms and mining operations were being carried out between 4.75 kms to 7 kms within periphery of the wall. This Court vide order dated 29.8.2002 modified the earlier order dated 6.8.2002 to the extent that manual operations and other ancillary operations like transportations and crushing will be permissible to operate beyond 500 meters, but within the radius of 5 kms of the wall on the existing mining pits. But, no blasting operation shall be allowed within periphery of 5 kms from the Fort Wall. Beyond 5 kms. of the Fort Wall, the blasting operation will also be permitted to operate the existing pits until further orders. No new mining pits will be opened by the newly impleaded parties within 6 kms. of the Wall. Following is the modified order passed by this Court on 29.8.2002:-

Looking to the material placed before us, we deem it proper to modify the interim order passed on 6.8.2002 to the extent that manual operations and other ancillary operations like transportations and crushing will be permissible to operate beyond 500 meters, but within the radius of 5 kms of the wall on the existing mining pits. But, no blasting operation shall be allowed within periphery of 5 kms from the Fort Wall. Beyond 5 kms. of the Fort Wall, the blasting operation will also be permitted to operate the existing pits until further orders. No new mining pits will be opened by the newly impleaded parties within 6 kms.

of the Wall.

Learned counsel for the Union of India is allowed to file reply, if any, specifying the safety zone within which mining operations with blasting devices can be carried out from the protected monuments before the next date of hearing."

61. Thereafter, the case was heard by the Division Bench of this Court on 10.2.2003. The Division Bench taking into consideration the previous orders, reply filed by ASI that mining operations may cause irreparable damage to the monument due to vibrations being emitted from explosives used for blasting operations carried out in an around Chittorgarh Fort and that blasting which is done within a radius of 10 kms. of the Fort may cause damage to the ancient structure in due course of time, although the same may be very slow and some times invisible and order of the Apex Court passed in the case of Wasim Ahmad Saeed (supra) directing complete ban on blasting operations within a radius of 10 kms of monument at Fatehpur Sikri, directed the Archaeological Survey of India and Geological Survey of India to conduct a study and report with regard to the question whether or not the mining operations within a radius of 10 km. Of the Chittorgarh Fort will have any adverse effect on the monument. This Court passed the following order on 10.2.2003:-

Chittorgarh Fort is more than 1000 years old. It has a great historical significance. It is a National Heritage site, which needs to be preserved and protected.

Mining operations to win lime stone by using explosives are taking place in an around Chittorgarh Fort. The operations can cause irreparable damage in case the vibrations emanating from the mines reach the Fort.

This Court keeping in view the importance of Chittorgarh Fort vide order dated 6th August, 2002 directed that no mining operations shall take place within 6 kms. area of the boundary wall of the Chittorgarh Fort. Subsequently, by order dated 29th August, 2002 it was directed that no blasting operations shall be allowed within the periphery of 5 kms. from the Fort wall. Beyond 5 kms. of the Fort Wall, the blasting operations were permitted for the purpose of operating the existing pits until further orders. A direction was given to the effect that no new mining pits will be opened by the newly impleaded parties within 6 kms. of the wall.

It appears that because of the intervention of the Court Birla Cement Works got studies made through the Department of Mining Engineering, Faculty of Engineering, M.B.M. Engineering College, Jai Narayan Vyas University, Jodhpur and Government of India, Ministry of Coal & Mines, Indian Bureau of Mines, Mining Research Cell regarding the effect of blasting operations in the mines in the area of Chittorgarh Fort.

Moreover, the respondents Birla Cement Works also got a study conducted in this regard through an Australian Expert. So far as the report, which has been

submitted by the Department of Mining Engineering, Faculty of Engineering, M.B.M. Engineering College, Jai Narayan Vyas University, Jodhpur, is concerned, it was allegedly found that blasting operations were not having any perceptible effect on the ancient monument. The report of the Government of India, Ministry of Coal & Mines, Indian Bureau of Mines, Mining Research Cell also does not show any perceptible adverse effect on the Fort.

The Archaeological Survey of India, however, in its reply to the writ petition has stated that mining operations may cause irreparable damage to the monument due to vibrations being emitted from explosives used for blasting operations carried out in an around Chittorgarh Fort. It also states that mining in an around the Fort is disturbing its historical set-up and is marring its aesthetic aspects. The view of the Archaeological Survey of India that mining operations by using explosives may cause damage to the Chittorgarh Fort is based on the study, which was conducted with regard to the effect of blasting operations in the mines near Fatehpur Sikri. The reply to the Archaeological Survey states that the blasting which is done within a radius of 10 kms. of the Fort may cause damage to the ancient structure in due course of time, although the same may be very slow and sometimes invisible.

The Supreme Court in the case of Wasim Ahmed Saeed Vs. Union of India ordered a complete ban on blasting operations within a radius of 10 kms. of monument at Fatehpur Sikri. The Archaeological Survey of India submits that the observations and directions made by the Supreme Court in the case of Wasim Ahmed Saeed's case (supra), on principle, are also applicable to the mining operations, which are being carried out in an around Chittorgarh Fort.

Per contra learned counsel for the Birla Cement works submits that what was ordered in respect of the monument located at Fatehpur Sikri may not apply to the instant case due to difference in soil and other factors.

Keeping in view the ramification of the order which we may ultimately pass, we consider it appropriate to direct the Archaeological Survey of India and Geological Survey of India to conduct a study and report with regard to the question whether or not the mining operations within a radius of 10 kms. of the Chittorgarh Fort will have any adverse effect on the monument. The study shall be completed within a period of two months.

Mr.M.Mridul, Senior Advocate, has offered his service as Amicus Curiae for rendering assistance to us in the matter. The parties shall supply complete set of papers to Mr.Mridul.

List the matter on 18.4.2003.

64. Thereafter, Additional Affidavit was filed by Archaeological Survey of India. The matter was taken up on 28.4.2003 and the Division Bench of this Court considering the Addl.Affidavit filed by ASI observed that Annex.R/1 filed alongwith the additional affidavit on 25.4.2003 does not throw any light on the

question about the effect of mining operations carried on beyond 5 kms. or within 10 kms of the Fort in the mining operation area. A private report submitted by Prof.Sushil Bhandari of Jai Narain Vyas University, Jodhpur was also referred to, which was submitted by Birla Cement. The Division Bench vide order dated 28.7.2003 considering the report of Engineering Geology Division, Western Region, Jaipur, Geological survey of India of July, 2003 about blasting operations for operating mines within the radius of 10 kms of Chittorgarh Fort, directed that the blasting operations within 10 kms of Chittorgarh Fort by the mines operators shall remain stayed until further directions. However, the IBM was directed to carry out blasting operations of various propensity for the purpose of making report to this Court. Following order was passed by this Court on 28.7.2003:-

Having considered the report of Engineering Geology Division, Western Region, Jaipur, Geological Survey of India of July, 2003 about blasting operations for operating mines within the radius of 10 kms. of Chittorgarh Fort and submissions made in that behalf particularly that a team of Indian Bureau of Mines has notified its programme to survey in the first week of August, 2003, it is ordered that the blasting operations within 10 kms. of Chittorgarh Fort by the mines operators shall remain stayed until further directions. However, when the team of Indian Bureau of Mines is visiting the mines for the purpose of carrying out the survey, it may be permitted to carry out blasting operations of various propensity for the purpose of making report to this Court before the next date of hearing for which necessary facilities may be made available by the respondent mine operators as may be required by the Bureau.

The matter be listed for orders on 19th August, 2003."

65. The Geological Survey of India in its report of July, 2003 has submitted that the area around Chittorgarh fort in a radius of about 10 km was examined geotechnically to study the effects of blast vibrations from the nearby mines on the national monument (Chittorgarh fort). Subsequently, MEQ studies carried out in fort and its vicinity indicated that seismic vibrations values varying from 5 mm to 38 mm peak to peak amplitude have been recorded at the fort site due to blasting at Jai Surjana mine of Birla Cement. Mining activity in the area can be carried out after calculating and restricting to the optimum quantity of blasting material vis-a-vis seismic response in the fort region.

66. Thus, it is apparent from the report of Geological Survey of India that due to blasting at Jai Surjana mine, there was seismic vibrations recorded at the fort site. It was also observed by GSI in its report that long term monitoring of the impact of blasting shall be made by providing tale tells across the minute cracks,if any, present on the fort structure. Following is the abstract of the report of the GSI:-

Geological geotechnical and micro-earthquake were carried out around Chittorgarh fort to study the effects of mining activities on Chittorgarh fort, Chittorgarh district, Rajasthan. The fort is situated on thickly bedded, sub

horizontal sandstone of the Vindhyan Supergroup. The area around Chittorgarh fort in a radius of about 10 km was examined geotechnically to study the effects of blasts vibrations from the nearby mines on the national monument (Chittorgarh fort). Subsequently, M.E.Q studies carried out in Chhittorgarh fort and its vicinity, indicated that seismic vibrations values varying from 5 mm to 38 mm peak to peak amplitude have been recorded at the fort site due to blasting at Jai- Surjana mine. The study brings out the relation between quantity of blasting material used at Jai - Surjana mine and seismic response. Mining activity in the area can be carried out after calculating and restricting to the optimum quantity of blasting material vis-a-vis seismic response in the fort region.

Long term monitoring of the impact of blasting shall be made by providing tale tells across the minute cracks, if any, present on fort structure.

67. The effects of mining activity on Chittorgarh Fort as mentioned in the report of GSI are as follows:-

"4. EFFECTS OF MINING ACTIVITY ON CHITTORGARH FORT

There are number of mines of non-metallic minerals around Chittorgarh fort in a radius of about 10 km (Plate-II). Some of the mines are under operation and some are abandoned mines. The important mine in the area is JaiSurjana mines of Birla Cement Work. In other mines of China clay, building stones are being queried by manual operations.

Out of the above mentioned mines the major open cast mine is the limestone mine at Jai-Surjana of the Birla Cement Works/providing limestone for its 10,000 tonnes per day capacity cement factory at Chittorgarh and this major mine is excavating the mineral by blasting.

The buildings and various historical monuments e.g.Vijay Stambh, Kirti Stambh etc. and the gigantic boundary walls of the fort are founded over horizontally bedded massive sandstone providing a very sound foundation to these important historical monuments. The boundary walls is 3-4 m wide and is made up of large masonry blocks of massive sandstone and is mostly lying intact. At some places e.g. near the entry point to fort some large cracks are seen in the fortwall. These portions are recommended to be treated immediately to prevent the collapse of wall. The foundation of the fort and other structures are competent provided, the rock over, which they are constructed is not disturbed.

At the toe of the hill, over which the Chittorgarh fort is built, due to the presence of a reserved forest all over its periphery a sound, vegetable and debris natural cover is provided which protects the toe erosion of the hill and thus it gives a sound stable foundation to the fort wall. This buffer zone around the fort also prevents the human interference, much required to preserve this important heritage structure.

Around Chittorgarh fort open cast mining of China clay, red ochre & building stones and cement grade limestone are being carried out (Plate-II). The

explosive are being used for mining of cement grade limestone for M/s Birla Cement Work in Jai Surjana mines. The geological studies carried out in the area suggest that the sandstone at Chittorgarh fort forms almost vertical scarp faces and is blocky in nature due to the presence of three sets of joints and it rests over Suket shale, which are thinly bedded soft, friable and fissile in nature. This shale unit is exposed in the foothills with gentle sloping surfaces. The Suket shale is underlain by Nimbahera limestone, which are being mined using explosives. At the base of Chittorgarh fort Suket shale, which is fort friable & fissile is exposed. The ground vibration generated during blasting operations may disturb the fabric of the shale rock and enhance the annual rate of erosion. This toe support is essential for slope stability around Chittorgarh fort hill. The unstable slopes around Chittorgarh fort hill will trigger the falling of sandstone blocks over which fort wall is located. Already northern & eastern fort walls are in damaged condition at places.

For protection of Chittorgarh fort slope stability and reduced level of ground vibrations are of foremost importance hence no mining shall be done in the scarp slope for a distance of about 500 m from the fort. Mining at distant places may be carried out by using some such amount of blasting, which don't cause vibrations in the fort area and the hill slopes beyond specified limits.

68. In the report of GSI, it was clearly mentioned that several events were recorded on 18th, 19th, 20th, 21st and 22nd June, 2003 which were due to blasting. Four significant events were recorded on 15th June, 2003. The graph clearly brings out the relations between the amount and its seismic response on the fort. The reduced quantity of the blasting material can lower the vibrations than the presently used quantity of blasting material. The geophysical studies have indicated that due to blasting at Jai Surjana mines peak to peak amplitude values of recorded events vary between 5mm to 38 mm at the fort site, which is considered quite high. Tale tells may be provided across the minute cracks, if any, present on fort structure and its regular monthly monitoring may be done to study the behaviour of cracks. The conclusions and recommendations of the GSI are as follows:-

6. CONCLUSIONS AND RECOMMENDATIONS

The area around Chittorgarh fort in a radius of about 10 km was examined geotechnically to study the effects of blasts vibrations from the nearby mines to important national monument Chittorgarh fort. The geotechnical studies carried out around Chittorgarh fort and its vicinity in a radius of 10 km have indicated that the fort is located over a sound foundation of thick bedded, hard, massive sandstone which is blocky in nature due to three sets of joints. This sandstone is underlain by soft, friable, incompetent shale rock forming the hill slopes. This rock unit below the competent cover may cause micro level settling owing to continuous vibrations, which may ultimately lead to instability in the slopes and settling of overlying competent rock mass. For protection of hill slopes it is suggested that mining activity should not be carried out in the vicinity of the hill

slopes.

The geophysical studies have indicated that due to blasting at Jai-Surjana mines peak-to-peak amplitude values of recorded events vary between 5 mm and 38 mm at the fort site, which is considered quite high.

Mining activity-using explosives if unavoidable, can be carried out by deploying technique of controlled blasting with continuous monitoring of the blasting schedule and ground vibration as specified by D.G.M.S so that hill slopes are not disturbed and vibration levels in the fort region remain within specified safe limit.

Long term monitoring (preferably for three years) for any possible impact of blasting on fort structure is recommend to be carried out. For this purpose tale tells may be provided across the minute cracks, if any, present on fort structure and its regular monthly monitoring may be done to study the behaviour of cracks.

69. In fact the aforesaid studies made by Geological Survey of India suggest that vibrations caused by blasting done by Jai Surjana mines of Birla Cement were dangerous to the fort and there was impact on the fort; seismic vibrations values were recorded at the fort site due to blasting at Jai Surjana mine.

70. However, the Division Bench of this Court decided the previous writ application finally on 1st September, 2003 relying upon the private report submitted by Prof.Sushil Bhandari of Jai Narayan Vyas University, Jodhpur and also report of Mr.Tarrock, Australian Expert. From these reports, no perceptible adverse effect on the fort is caused or can be caused by blasting operations conducted for operating mines "beyond 5 kms" of the fort. This Court observed as follows:-

After this intervention by the Court, M/s Birla Cement Works got studies made through Department of Mining Engineering, Faculty of Engineering, M.B.M. Engineering College, Jai Narayan Vyas University, Jodhpur and through Government of India, Ministry of Coal and Mines, Indian Bureau of Mines, Mining Research Cell regarding the effect of blasting operations in the area of Chittorgarh Fort. It also got study conducted in this regard through an Australian Expert, Mr.Tarrock. These reports did not support the case of the petitioner. According to these reports no perceptible adverse effect on the fort is caused or can be caused by blasting operations conducted for operating mines beyond 5 kms of the Fort.

71. The report of Geological Survey of India was referred and it was observed by the Division Bench of this Court that the survey report submitted by GSI did not throw any light on the question about the effect of mining operations carried beyond 5 kms or within 10 kms of the fort in the mining operation area. The Division Bench noted the order dated 28th July, 2003 which was passed on the basis of the report of Geological Survey of India to stop blasting operations within 10 kms of Chittorgarh Fort by the mine operators and referred the report of IBM which conducted the test survey after interim order passed by this Court.

This Court vide order dated 1.9.2003 observed thus:-

From the aforesaid, it is clear that apart from the Expert opinion sought by the mine operators about the safety of Fort, apprehensions regarding likely adverse effect on fort by the blasting operations in the mines within 10 kms. area of the Fort are dispelled by the recent study got conducted by GSI as well as by IBM. No apparent reason appear to prohibit the mining operations in question on the basis of apprehension given out in the letter of Thakur Umed Singh, of its adverse effect on the Fort of Chittorgarh and therefore, interim order passed by this Court prohibiting the blasting operations within the radius of 10 kms. from the Fort on the ground that having adverse effect on the Fort wall needs to be vacated.

This order is without prejudice to any orders passed by this Court in different petitions, which are pending about the adverse effect on ecology and environment of the State due to indiscriminate and indiscreet mining operations carried on through out the State and any orders passed by this Court or by the Supreme Court as has been noticed on earlier occasions in respect of mining operations in hill region shall remain unaffected. The order passed today has no reflection on ecological viability of the mine operations in question. Since that question is being examined independently in separate petition pending before this Court, we do not deem it proper to deal with the said question independently. The order in this case is confined to question of effect of mining operations in questions in the mining quarries within 5 kms. radius and blasting operations beyond 5 kms. of the Fort Wall, but within 10 kms. of the Fort wall, which has been raised by this petition and which has been found against the applicant by different Experts as noticed by us above.

(emphasis added by us)

72. From the above observations, it appears that the order was confined to question of effect of mining operations in question in the mining quarries within 5 kms radius and blasting operations beyond 5 kms of the Fort wall, but within 10 kms. of the Fort wall, which has been raised by the petitioner which has been found against the applicant by different experts. This Court ultimately ordered that there is necessity of safety measures to be followed by mining operators and continuous observance of mining operations, which cannot be slackened and tale tells were to be fitted for monitoring and study of behaviour of cracks. The Mines and Geology Department of State and IBM were directed to share responsibility to carry out such monitoring of blasting operations in the area periodically at the interval of six months and on the basis of such reports take appropriate measures for safety of mines so that surrounding structures are not affected. The operative portion of the order dated 1.9.2003 is quoted below:-

In the circumstances, we direct the Mines and Geology Deptt. Of State and IBM to share its responsibility to carry out such monitoring of blasting operations in the area periodically at the interval of six months and on the basis of such

reports take appropriate measures for safety of mines so that surrounding structures are not effected. It would be the responsibility of IBM to carry out such surveys and lay down from time to time, the requisite standards for safety of surroundings for the purpose of carrying blasting operations within the area in question and it shall be responsibility of Mining department of the State to keep strong vigil and see that these safety measures are meticulously implemented and maintained by the mine operators within the area in question and for this purpose half yearly report be submitted to this Court by both IBM as well as by Mines & Geology Deptt. Of State of Rajasthan by 30th of June and 31st of December every year.

In view of the aforesaid, this petition stands disposed of."

73. It is apparent from the aforesaid order passed by this Court that effect of mining operations was confined within 5 kms radius and blasting operations beyond 5 kms. of the Fort wall, but within 10 kms. of the Fort wall and this Court directed continuous monitoring of mining operations particularly done by Birla Cement and fitting of mirrors (tell-tale) was also observed. However, further reports were submitted before this Court and the Division Bench has ultimately passed the order on 3.1.2007 by which it was observed that since three years continuous vigilance reports have not given any evidence that the blasting operation in the mine beyond 10 kms is having any adverse effect on the safety of the structure of Chittorgarh Fort, further reporting was dispensed with. Following order was passed on 3.1.2007 in Writ Petition No.1316/99:-

Perused the report and also considered the request made by the Regional Controller of Mines Mining Research Cell & Incharge-TMP Division whether to continue to submit other periodical reports as 3 years has elapsed since regular reporting is being made about the adverse effect if any caused on the Chittorgarh Fort and its foundation due to blasting operation of the nature which are being continued beyond the periphery of 10 kms from the Fort in terms of directions dated 1st Sept.,2003.

As we find that three years continuous vigilance reports have not given any evidence that the blasting operation in the mine beyond 10 kms having any adverse affect on the safety of the structure of Chittorgarh Fort, the further reporting may be dispensed with. However, this is without prejudice to consider, if any fresh complaint about apprehension to damage of Chittorgarh Fort is made with any new material about the affect of such blasting on the fort.

The order may be communicated to the Indian Bureau of Mines accordingly.

(emphasis added by us)

74. The aforesaid decision does not conclude the issue, but the matter is open for further assessment of the damages caused to the structures of fort by the mining operations and blasting carried out by Birla Cement and other mine holders continuously. After the decision was rendered by this Court, large

number of mining leases have been granted within the periphery of 1.5 kms. and Birla Cement is also operating at the distance of 4 kms and at some places its mine is at the distance of 3.7 kms from the fort wall, whereas the question in the previous petition was of mining operation beyond 5 kms and within 10 kms from the fort wall and it is apparent from the report of GSI quoted above that damage was being caused by mining operations to the fort at the relevant time also. The mirrors (tell-tale) were affixed and they were found to be broken and this speaks truth that mining operations and blasting done by Birla Cement and lease holders in the close vicinity of fort area have caused damage to the structures of fort.

75. The stand of Archaeological Survey of India in the previous writ petition was to the following effect:-

3. That quarrying operations going around centrally protected monument, Chittorgarh Fort which is more than 1000 years old, may cause irreparable damage due to vibrations emitted from explosives used in blasting which is carried out by the quarrying operations around the centrally protected Chittorgarh Fort and at the same time, may also disturb its historically set up by marring its aesthetic aspect. The basis for studying this fact is that a detail study was conducted on the point of effect of blasting at the Fatehpur Sikri, besides other contentions and it was found that although as per the notification, the mining operations/activities are prohibited in 300 meters around but the implications of blasting which is done even within a radius of 10 kms may cause damage to the ancient structure in due course of time, although the same may be very slow and some times invisible. The matter was taken up before the Hon"ble Supreme Court and on the directions of the Hon"ble Supreme Court in case of Wasim Ahmed Saeed V/s Union of India & Ors., the proposals were drawn and it was ultimately ordered by the Hon"ble Supreme Court after taking into consideration the study and the proposals submitted before it that a complete ban should be imposed regarding any kind of mining blasting and digging operations within a radius of 10 kms from the Fatehpur Sikri monuments. Therefore, the same still holds good as far as the Chittorgarh Fort is concerned. (emphasis added by us)

77. It was clearly mentioned that quarrying operations going around centrally protected monument may cause irreparable damage due to vibrations emitted from explosives used in blasting which is carried out by the quarrying operations around the centrally protected Chittorgarh Fort and at the same time, may also disturb its historical set up by marring its aesthetic aspect. It was also submitted in the aforesaid paragraph that a complete ban should be imposed on any kind of mining blasting and digging operations within the radius of 10 kms from the Fort wall as ordered by the Apex Court in the case of Wasim Ahmed Saeed (supra) in respect of Fatehpur Sikri monument. In para 4 of the return, it was submitted by ASI that vibrations were being caused by blasting operations and therefore, it was necessary to restrain blasting and mining operations within 10 kms from the monuments. Following is the reply of ASI in para 4:-

That it is also relevant to mention here that although the notification on the subject provides for a ban on any kind of mining etc. within a radius of 200 meters from the monuments, but the studies on the subject reveals that there is definitely an impact of vibrations caused due to blasting operations for mining. Therefore, the prohibition of blasting mining operations within a radius of 10 kms of the monuments is for longevity and safety of the monuments. Besides this, the forestation and plantation near the monument is also advisable in order to avoid soil erosion within the vicinity of monument for the protection of Fort as the same is situated on hill top. The study conducted at the Fatehpur Sikri being bulky will be kept at the time of hearing for perusal of this Hon'ble Court.

78. No doubt about it that additional affidavit was filed by ASI in previous writ petition in which it was mentioned that ASI is also in the process to affix tell tales on certain monuments at Chittorgarh Fort to study the problem of cracks development taken place either by the impact of blasting vibrations or other factors. The survey report Annex.R/1 was filed in which it was mentioned that mining activity and blasting in the region would create sudden and uninterrupted vibrations to the ground level which would definitely shake the foundation of the structures causing a total "collapse" of the monuments. It was also mentioned in Annex.R/1 that ecology and environment of Chittorgarh fort will adversely affect in due course of time. It was also mentioned in the report Annex.R/1 that the deponent being constitutionally and statutorily duty bound is concerned to ensure that no activity howsoever, be remotely connected could cause any detrimental effect to the safety and disturbance to the Chittorgarh Fort. It was also submitted that mining operations may cause irreparable damage to the monument of national importance, as such, this Court should impose ban on mining operation in the area around Chittorgarh fort. The relevant portion of the report Annex.R/1 is quoted below:-

ARCHAEOLOGICAL AND GEOLOGICAL SIGNIFICANCE OF THE CHITTAURGARH FORT AND IMPACT OF THE BLASTING VIBRATIONS ON THE MONUMENTS

The Chittaurgarh Fort is considered as one of the oldest forts of Rajasthan that speaks not only the glory of Rajasthan but India as well. Due to its strategic location it was associated with the eventful history and rich monumental heritage that suggest the importance of the royal seat of Mewar.

The antiquity of the Fort goes back to the Buddhist period which is evidenced from the presence of certain votive stupas in different areas of the fort and perhaps it was the center of a republic in 2nd BC. From 8th AD onwards it has been a witness to the rule of several dynasties such as the Moris or Mouryan (7/8 AD) Pratiharas (9 AD), Paramaras (10th/11th AD), Solankis (12th AD), followed by the Guhilots or Sisodians. This change of possession resulted in the growth of various composite structures of different periods which are considered as one of the archaeological and architectural masterpieces of the contemporary times. The magnificent archaeological remain like Kirti Stambh, Vijay Stambh, Kumbha Palace besides numerous Jain temples bear this fact and nowhere in the world it

has got any parallel of its kind. Keeping in view of its archaeological historical as well as architectural significance, proposal was also sought for its inclusion into the World Heritage list of monuments, however, such type of activities may constraint in processing the matter further.

The fort of Chittaurgarh ranks at par with one of the World Heritage monuments of India in certain aspects even it surpasses a few of them. These century old, monuments are only one of its kind specially when attention is paid to the towers like Vijay Stambh and Kirti Stambh. Both these monuments stand erect and the length of which goes upto 39.19 mt. and 24 meter respectively. Erection of long towers on a height of 150 meter from present ground level requires adequate precaution. It is further added that even recordless shacking by mining operation. These vertically erected monuments may adversely affect in course of time mention must be made here that the Chittaurgarh fort area is a tectonic prone zone, and slightest disturbance in its base may disbalance these monument. Not only this, as these monuments do not have any replacement, so, their destruction means an irreparable loss not only to this nation but to the humanity as well.

Geologically, Chittaurgarh area comes under the Vindhyan system of Proterozoic Era. This area is composed of the lower Kaimur sandstone of lower Vindhyan system, which is comprising of an alternate sequence of sandstone, shale and limestone that juxtaposed with the rocks of the Bhilwara supergroup due to the Great Boundary Fault in between that trends 400 km. NW-SE between Chittaurgarh and Agra. The said Kaimur sandstone is homogenous in nature which tends to disintegrate the moment it receives any sought of vibration or pressure either by blasting or by earthquake. Moreover due to the existence of this Great Boundary Fault such type of mining activities may sunken the basic floor along the fault line on which the Chittaurgarh Fort is existed. Hence, in this situation the effect of blasting caused by the mining activity in the region would put a sudden and uninterrupted vibration to the ground level which would definitely shake the foundation of the structures causing a total collapse of the monuments.

It will be worthwhile to mention here that the Chittaurgarh fort do not have any perennial source of water. Inhabitants of the fort are completely depend on rain water since beginning. There are more than 26 water bodies in different localities either natural or man made to accumulate the rain water. It has been observed that these water bodies either have dried up or in the process of the same and water level have gone down up to a great extent during last few years. Though the series of drought may be one of the reason but the same time disturbance in the natural equilibrium within the earth can not be ruled out due to continuous vibration through mining operations in the nearby area. Chittaurgarh being a lime stone/ sand stone prone area, even slightest disturbance in the formation of basic rock may widened the interior veins of rocks through which the accumulated water passes through fastly in lower area. The matter was also

discuss with the geologist of Geological survey of India at the site itself and they also supported our views in this regard. If the above facts are true, no doubt that the ecology and environment of Chittaurgarh fort will adversely affect in due course of time.

Centrally protected Chittaurgarh Fort is statutorily declared a monument of National importance by the Central Act, i.e. Ancient monuments and Archaeological Sites & Remains Act, 1958. By virtue of national importance, its interests reign supreme superceding all parochial interest of economical nature accruing to any State Government and private organization or an individual from any kind of mundane activities including mining or quarrying operations. No interest is above and equal to the supreme national interest of the Fort and in aid of ensuring its safety and imposing grandeur including its historical background set up around it from archaeological point of view. The deponent being constitutionally and statutorily duty bound is concerned to ensure that no activity howsoever, be remotely connected could causing any detrimental effect to the safety and disturbance to the Chittaurgarh Fort.

Keeping in view the archaeological importance of Chittaurgarh Fort and at the same time safety and security of these priceless monuments, Archaeological Survey of India stand on its opinion as already submitted to Hon"ble Court, that the mining operation may cause irreparable damage to this monument of national importance"s. Hence, the Hon"ble Court may graciously be pleased to impose a ban on mining operation in the area around Chittaurgarh Fort so that the safety of this national property could be ensured so that these valuable hentage is preserved for posterity and for future generations and this National property may be saved from utter destruction.

(emphasis added by us)

79. In the additional affidavit, it was also mentioned that:

In his view, it is necessary that the zonal blast vibrations impact assessment study covering all the quarries/mines located within this area may be carried out, for assessing their cumulative impact

80. The report of Prof. Sushil Bhandari of Jai Narayan Vyas University was also referred to and annexed with the additional affidavit as Annex.R/6. The report of ASI, which has been quoted above, reveals what was the real picture and story and even in the course of previous writ petition. Same reports have been relied by Birla Cement and others which also indicated damage from mining and thereafter, further damage has been caused to the fort structure and no study has been taken up of the cumulative effect of mining so far, as is apparent from the affidavit filed by Manish Verma, Mining Engineer in which communication dated 8th May 2012 of IBM has been filed and in para B thereof, it is mentioned that "simultaneous effect of blasting in all the mines at a time cannot be assessed as shifting of the instruments and measurement of distances from all the blast site to monitoring stations are not practically feasible". It passes

apprehension that how IBM could certify without cumulative study of blasting or even otherwise in the face of study done by GSI that damage is not being caused by blasting or mining operations to the fort structures including Vijay Stambha, Kirti Stambha and Kumbha Mahal. The relevant portion of the letter of IBM dated 8th May, 2012 is quoted below:-

Hence, simultaneous effect of blasting in all the mines at a time cannot be assessed as shifting of the instruments and measurement of distances from all the blast site to monitoring stations are not practically feasible. During the study period, the monitoring instrument was kept near the foot wall of fort and near important nearest monuments of the fort.

(emphasis added by us)

81. It is also apparent from the reply that when monitoring was done by Indian Bureau of Mines as per Court's permission, it was only as a measure of test; study was not based on actual basis when the previous writ application was pending; IBM has conducted test operation only after restraint order was passed by this Court restraining mining operation and blasting within 10 kms from Chittorgarh fort; thereafter, IBM conducted test and submitted report; test blasting was done as per specification of DGMS. The finding of GSI in respect of July, 2003 was otherwise. The six monthly reports submitted by IBM after the decision rendered by this Court in the previous writ application and report of 2012 are of no help to the lease holders as at the time of six monthly monitoring blasting could be of lessor charge as serious damage has been caused to the fort structures including Vijay Stambha, Kirti Stambha and Kumbha Mahal due to mining activities and blasting; IBM has stated in the letter dated 8th May, 2012 that it is not possible for it to carry out the cumulative effect of blasting done during mining as it is not practically feasible.

82. Thus, the report of GSI breaking of tell-tale, photographs (Annex.7) and subsequent cracks which have been developed go to show that damage is caused by blasting to the ancient monuments and IBM has simply observed on the basis of test report and its reports are not based on actual operation and thus, are of no value. The mirrors (tell-tale) were affixed and they were found broken and this also goes to show that mining activities and blasting have caused damage to the fort structures including Vijay Stambha, Kirti Stambha and Kumbha Mahal. Hence, considering the report of the Geological Survey of India available on record in the previous writ application, stand of Archaeological Survey of India in the previous writ application and in the present writ petition and considering the photographs annexed with the writ application as Annex.5 and Annex.7 and newspaper reports, it would not be prudent to allow mining operations and blasting within 10 kms. from the periphery of Fort wall as it is causing severe damage to the fort structures including Vijay Stambha, Kirti Stambha and Kumbha Mahal and it is also causing damage to the houses and it has adverse effect on ecology and environment. The very existence of historical ancient monument may become part of history in case mining is continued.

83. It was submitted by Shri Ravi Shankar Prasad, learned Senior Counsel appearing on behalf of Birla Cement that the reports filed in the previous writ application are conclusive. As already stated above, the report of GSI goes to negate the submission and reports of IBM are not conclusive as they are based on test which was conducted or on periodical monitoring which was done at that time; blasting could be managed at a permissible danger; there is even possibility that damage is caused to monument by blasting; the precautionary principle onus is on industrialist; highest possibility is enough to restrain such operation as held by Apex Court in the case of M.C. Mehta (T.T.Z.)(supra); ASI has said possibility of damage by blasting, is enough to stop mining as laid down by the Apex Court in the aforesaid decision; they are not based on actual operation and thus, are of no avail; even in the letter dated 8th May, 2012, the IBM has stated that simultaneous effect of blasting in all the mines at a time cannot be assessed as shifting of the instruments and measurement of distances from all the blast site to monitoring stations are not practically feasible. The report of GSI and other materials on record show that there was impact of blasting done by Birla Cement and other mine holders and vibrations have caused damage to the structures of fort. Cracking of mirrors (telltale) goes to show that blasting and mining operations have caused damage to the ancient monuments of national importance.

84. Merely because emphasis was made by the petitioners in the petition to certain new leases which have been granted and open blasting was going on cannot shift the entire blame to the new lease holders of the damages caused to the fort structures; Birla Cement was also causing serious damages to the fort structures including Vijay Stambha, Kirti Stambha and Kumbha Mahal by doing mining operations and heavy blasting and even it is not in dispute that heavy blasting is done by Birla Cement within 5 kms from the fort wall.

85. It is also pertinent to mention here that the Mining Officer of the Mining Department In-charge of Writs present in the Court has clearly stated that there is no method of monitoring available in the Mining Department and the State of Rajasthan for checking the assessment of the blasting operations and whether it is being done as per directions issued by Director General Mines Safety, it was stated that no record is maintained of the blasting operations and use of explosives by the Mining Department and the State Government.

86. The report, which has been submitted by IBM, is guarded one and it has suggested that maximum charge per delay should be restricted to 500 kg during rainy season and not increase beyond this limit in any circumstances for protection of Chittorgarh fort due to mine blasting; blasting study at Jai Surjana was done by IBM as per specification of Director General of Mines Safety and not as per the actual blasting carried out by Birla Cement; the recommendations, which have been made in Appendix-1 require that details of each blast alongwith monitoring data should be maintained; it also provides that heavy blasting operations including the blast hole drilling should be carried out under the

supervision of responsible officials. Para 6.2 quoted above clearly mentions that there are so many safeguards which are required to be observed for mining operations, only then safety of ancient monument can be ensured and not otherwise. The safety of ancient monument cannot be left on the observance of recommendations made by IBM as damage has been caused due to mining activities and blasting. There was no machinery available with the State Government to observe the compliance of the recommendations which have been made.

87. With regard to impact of blast induced vibrations on Chittorgarh fort due to the working Manpura Stone quarries, recommendations have been made in appendix-2 and 3 by IBM and with regard to impact of blast induced ground vibrations on Chittorgarh Fort due to working of the mine of Bheiron Singh Ji Ka Kheda, recommendations have been made in Appendix-3. Para 6.2 containing recommendations indicates that safety of the ancient monument cannot be left at the mercy of the mine operators; they are doing reckless mining operations and blasting causing damage to the fort structure including Vijay Stambha, Kirti Stambha and Kumbha Mahal.

88. Considering the serious damage caused to the fort structures including Vijay Stambha, Kirti Stambha and Kumbha Mahal due to mining activities and blasting, as claimed by counsel, Birla Cement cannot be distinguished at all. We are unable to accept the submission of Shri Prasad that damage was caused to the ancient monument due to open blasting done by mine holders and not by Birla Cement. It is cumulative effect of all the operations and GSI report in particular negative the submission of Shri Prasad as to Jai Surjana, mines of Birla Cement.

89. In view of the serious damage, which has been caused to the ancient monument of national importance due to mining activities and blasting, report of the GSI, reply of the ASI in the previous writ application and the present writ petition, though this Court earlier directed continuous monitoring and thereafter, when monitoring was stopped in 2007, severe damage has been caused to the fort structures including Vijay Stambha, Kirti Stambha and Kumbha Mahal. In these circumstances, it has become imperative for this Court to stop mining operations in toto within 10 kms from fort wall. This Court while deciding previous writ application observed that Mines and Geology Department of State and IBM should carry out monitoring of blasting operations in the area periodically at the interval of six months and also observed that State should keep strong vigil and see that safety measures are meticulously implemented and maintained by the mine operators within the year in question. However, the State has chosen other method; it has permitted mining operations within 5 kms from fort wall and also even upto 1 km and thus, ancient monument has been severely damaged by the act of Mining Department and State as they failed to check damages being caused to ancient monument and in the reply they have attributed damages to other causes. The main cause of damage to fort structures, in our opinion, is reckless blasting operations done by Birla Cement

and others in the close vicinity of fort. IBM has not made study of cumulative effect of blasting and still submitted the report that no damage was being caused to the fort structures due to mining activities and blasting. Such report has no value as it is not based on actual blasting operation also, rather it passes apprehension how it could have given final opinion that no damage has been caused to fort structures without study of cumulative effect of the entire mining operations and blasting. The IBM has given certain suggestions to avoid damage to the fort and thus, report is double edged weapon. The ancient monument cannot be left at the mercy of greedy mining operators and since blasting has been done in a cavalier fashion and unbridled manner, time has come now to put the mining operations and blasting in the area in question to grinding halt.

90. From the pleadings of the previous writ application and report of GSI, damage caused to fort is clear, but considering overall circumstances and serious damage caused to fort structures and wall including Vijay Stambha, Kirti Stambha and Kumbha Mahal, it would be appropriate to stop mining within 10 km from fort wall. No mining zone cannot be now confined to 3 kms. only.

91. It was submitted that no allegation has been made against Birla Cement in the present writ petition and the allegations are against those mining operators who have been granted mining leases and doing open blasting operations at a distance of 1.5 km. from the fort. It was also submitted by the learned Senior Counsel Shri Ravi Shanker Prasad that Birla Cement has given employment to over 2300 employees and paying about Rs.10 crores per month by way of royalty, taxes and excise duty. In our opinion, these aspects do not entitle Birla Cement to carry out mining activities and blasting causing damage to the ancient monument of national importance, on due consideration of precautionary principle which is part of sustainable development.

92. It was also submitted that due to natural causes, there is damage to the fort structures and furthermore, wear and tear of monuments can also be attributed to about 2000 tourists visiting the fort regularly on daily basis. As already held above, the main cause of damage to the ancient monument was blasting and mining operations and therefore, to say that natural causes or visit of 2000 tourists per day to the fort causes wear and tear, cannot be accepted.

93. Merely because certain mines safety awards were obtained by Birla Cement, it does not confer any right on it to carry out mining operations and blasting causing damage to the ancient monument of national importance.

94. It was also submitted that Birla Cement is making controlled and regulated use of explosives as per Explosives Act and it has given reasons for cracks to natural causes like earthquake, lightning, aging, lack of proper maintenance, shrubs, trees etc. These aspects cannot be relied upon in view of the expert opinion of GSI and report of ASI in the previous writ application, which have been referred to above. The report of IBM cannot be said to be conclusive as discussed above. The report of Tarrock that no damage can occur to fort due to

blasting by Birla Cement also cannot be said to be conclusive. The GSI clearly recorded effect of blasting on the fort. Maximum charge per delay cannot be left at the mercy of the lease holders.

95. It was also submitted by certain mine holders that impact of their blasting is much less than Birla Cement and thus, they should be permitted to carry out mining activities with the help of blasting of lesser magnitude. We are unable to accept the submission. The mining activities and blasting have not only caused damage to the fort structures but also to the houses and also have adverse impact on ecology and environment.

96. It was also submitted that Gram Panchayat Surajpole comes within the periphery of Municipal Board, Chittorgarh as per notification Annex.8 and without obtaining no objection from the competent authority, no mining could have been permitted within the periphery of Surajpole. Though there is notification which has been placed on record to show that the area of Surajpole falls within the municipal limit, but respondents have tried to dispute that no mining was done in Surajpole area, however, that may notification be, the should question prevail. is of Whatever not much relevance as on other grounds, we are stopping mining and blasting within 10 kms from fort wall.

97. Shri Ravi Shanker Prasad, learned Senior Counsel appearing on behalf of Birla Cement has relied upon the decision of the Apex Court in Tehri Bandh Virodhi Sangarh Samiti and ors. V/s State of UP and ors (1992 Suppl.(1) SCC 44) wherein it was held that Court does not possess the requisite expertise to render any final opinion on the rival contentions of the experts; the Court can only investigate and adjudicate the question as to whether the Government was conscious to the inherent danger as pointed out by the petitioners and applied its mind to the safety of the dam. In the instant case, there is expert opinion of GSI and also report of the ASI which shows that mining activities and blasting have caused damage to the ancient monument of national importance and even the State has not taken any steps to protect the ancient monument, rather permitted mining and blasting in the close vicinity of the fort which caused severe damage to the fort structures. So far as the report of IBM is concerned, as already stated above, it is not conclusive. In such cases as held by Apex Court in M.C. Mehta (TTM)(supra), no chance even one per cent can be taken in case of such monuments. Precautionary principle requires anticipation action to be taken. Hence, the above ruling would not come to help the Birla Cement.

98. Reliance has also been placed on the decision of the Apex Court in The Secretary and Curator, Victoria Memorial Hall Vs. Howrah Ganatantrik Nagrik Samity and Others, particularly paras 25, 33, 36 and 37, which read as follows:-

25. The Expert Committee was appointed by the High Court itself vide order dated 27.11.2003. It consisted of experts of various subjects, rendering services in different fields. Therefore, it is unfortunate that the High Court not only brushed aside its report, so far as the instant issue is concerned, rather labelled

it as a "so-called Expert Committee.

33. The High Court while disposing of the Writ Petition dis-approved the recommendation for having a centre and exhibition area within the VMH compound merely observing that such an area would be contrary to the concept of protection of historical monument. The application for modification has been rejected by the High Court on the grounds that it would be contrary to preserving greenery; such a campus should not have the buildings for brisk activities and entertainment and if permission is granted, it would frustrate the effort of the High last seven years by passing prohibitory orders.

36. Thus, it is evident that the High Court did not give any specific/good or relevant reason for not accepting the recommendation made by Expert Committee at initial stage or while rejecting the application for modification vide impugned order.

37. The Constitution Bench of this Court in *The University of Mysore and Another Vs. C.D. Govinda Rao and Another*, held that "normally the Court should be slow to interfere with the opinions expressed by the experts." It would normally be wise and safe for the Courts to leave the decision to experts who are more familiar with the problems they face than the Courts generally can be. This view has consistently been reiterated by this Court as is evident from the Judgments in *State of Bihar and Others Vs. Dr. Asis Kumar Mukherjee and Others*, ; *Dalpat Abasaheb Solunke and Others Vs. Dr. B.S. Mahajan and Others*, ; *Central Areca Nut and Cocoa Marketing and Processing Cooperative Ltd. Vs. State of Karnataka and Others*, ; and *The Dental Council of India Vs. Subharti K.K.B. Charitable Trust and Another*,

99. In the instant case, there are cogent material available on record including expert opinion of GSI, report of ASI etc. filed in previous case and material placed on record in the present case, which show that blasting and mining operations have caused damage to the fort structures. As regards report of IBM, it cannot be regarded as conclusive being not based on study of cumulative effect of blasting. Cracking mirrors (tell-tale) also strengthens the fact that blasting and mining operations have caused damage to the ancient monument. Hence, the above judgment of Apex Court is of no help to Birla Cement.

100. In view of the discussion made above, the reckless mining activities and blasting have caused damage to the ancient monument of national importance, houses and crops and have impact on ecology and environment which have overruled and thus, they should be put to grinding halt and should not be allowed within 10 kms from the fort wall. Thus, mining leases within 10 kms from the fort wall are liable to be cancelled.

101. Under Article 51A(f) of the Constitution, every citizen is obliged to value and preserve the rich heritage and the lease-holders have failed to comply with such obligation and similarly, as per mandate of Article 49 of the Constitution, the State is under obligation to protect ancient monuments from spoilation,

disfigurement, destruction, etc, which it failed to do so, rather allowed mining and blasting causing damage to ancient monuments and mining and blasting are also done in an illegal manner and thus time has come to direct them to comply with their constitutional obligations for preservation and restoration of the damages caused to the ancient monuments.

102. For causing severe damage to the fort structures including Vijay Stambha, Kirti Stambha and Kumbha Mahal and houses and affecting ecology and environment, considering the polluter-pays principle, it is just and proper to direct Birla Cement and other mine holders to pay compensation for restoring back glory of ancient monument to the extent it is possible after damage. A lot of damage has also been caused in the area in question, let restoration and its reclamation be done as expeditiously as possible.

103. Accordingly, we make the interim order absolute and direct that no mining activities and blasting shall take place within 10 kms from the fort wall. The mining leases granted within 10 kms from fort wall are cancelled. The Birla Cement as well as mine holders are directed to make payment of compensation to the tune of Rs.5 crores (Five Crores only), out of which, 90% shall be paid by Birla Cement and the remaining amount shall be paid by other mine holders involved in blasting. The amount of compensation shall be kept at the disposal of Archaeological Survey of India (ASI) and be utilized for repair and upkeep of the fort in question. The plan to repair damages and improve facilities be submitted to this Court within four months. With the aforesaid directions, the writ petition is allowed. No costs.