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LITHOSTRATIGRAPHY OF BAGH BEDS AND ITS CORRELATION WITH LAMETA BEDS

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ABSTRACT

The study of Cretaceous rocks exposed between Chikli and Barwah, district Dhar, Madhya Pradesh, discloses that they can be subdivided into the lower Nimar Sandstone (Formation) and the upper Bagh Formation, which together form—Narbada Group (new name proposed).

The Nimar Sandstone shows much variation in lithological characteristics. The lower part of the Nimar Sandstone probably represents a fresh water facies, while its upper part a marine facies.

The Bagh Formation is divisible into three members i.e. Nodular Limestone, Deola/Chirakhan Marl and Coralline Limestone. The Deola Marl is deposited in a localized basin (Man River area) and represents only a facies variant of Nodular Limestone. The presence of Coralline Limestone band within the Deola Marl/Nodular Limestone represents deposit of a regressive phase or sudden change in the environment of deposition.

The Lameta Formation is considered to be equivalent and not younger to the Bagh Formation. The Nodular Limestone and Mottled Nodular Bed have similar lithology, trace fossils and probably similar stratigraphical position.

INTRODUCTION

The study of the Cretaceous succession in Dhar (Bagh Beds s.l.) and Jabalpur (Lameta Beds) areas, Madhya Pradesh, shows that the above two successions are infratrappeans and overlie unconformably the metamorphics. Lithologically, both show a fair amount of similarity in having a dominantly calcareous facies overlying a dominantly arenaceous facies. The major difference, as per the earlier concept, lies in that Bagh Beds (formation) and part of Nimar Sandstone (formation) is convincingly marine, whereas the Lameta Beds (formation) and Jabalpur Sandstone (formation) were considered fresh water (Blanford, 1869 ; Bose, 1884, Vredenberg, 1970 ; Table 1) . Chanda (1963) and Chanda and Bhattacharya (1966), on the basis of petrological characters, considered the Lameta Beds of marine environment of deposition. Raiverman (1975) considered Bagh, Lameta and Nimar as facies variations and not time stratigraphic units. Kumar and Tandon (1977) on the basis of burrows and few arenaceous foraminifera, supported a marine environment for the Mottled Nodular Bed in the Lameta sequence.

However, there never was any doubt in that the Bagh and Lameta were deposits of Cretaceous age, though many workers considered Lameta to be younger in age than the Narbada Group (Bose, 1884 ; Roy Chowdhary and Sastry 1962 ; Murty *et al.*, 1963 ; Sahni and Jain, 1966 ; Verma, 1969 ; Chiplonkar, Badve and Ghare, 1974). Regarding the Nimar Sandstone, it was Sharma and Singh (1977) and Singh and Srivastava (1978) who showed that the lower part of Nimar Sandstone is fresh water whereas the upper part is marine.

Before going into the details of lithological variations observed in the Bagh Beds and the subsequent discussion, the authors wish to acknowledge that their interest in the present problem was aroused by Dr. Chiplonkar through the problems posed by him in several publications, along with Messrs. Badve and Ghare (See Chiplonkar and Badve, 1972 ; Chiplonkar, Badve and Ghare, 1977 ; Chiplonkar, 1977 ; Chiplonkar and Ghare, 1977).

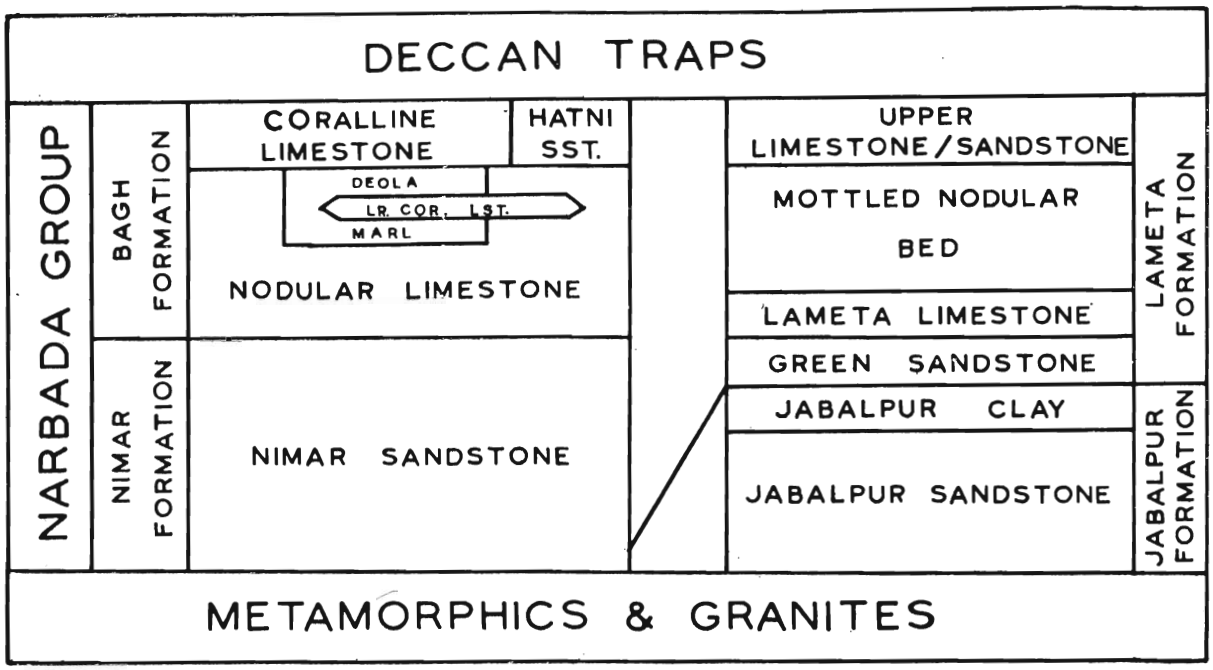
OBSERVATIONS

In order to understand the lithological variations, lithologs were prepared at several localities (Fig. 1) from east of Chota Udipur up to Barwah (Fig. 1, inset). A comparison of the lithologs in iteslf gives a fairly good picture of the variations in the theme of deposition. However in order to bring out some significant points, few critical areas are discussed below under Nimar Sandstone and Bagh Formation separately.

NIMAR SANDSTONE

In most of the localities where Nimar Sandstone is well developed, the lower sequence shows coarse conglomeratic sandstones, current bedded, mostly with fining upward sequences indicating fresh water environment of deposition. A characteristic burrow is seen at several localities at a slightly higher horizon (Plate I—1), which appear to have been caused by small crabs. The type and intensity of these burrows might indicate marine

Table 1. Comparison and Correlation of Infratrappeans of Bagh and Jabalpur areas.



influence at a much lower stratigraphic level than visualized earlier.

Definite marine influence is seen with oyster impressions, *Thalassinoides* burrows and other crab burrows, current bedding in opposing directions, *Turritella* and *Astarte* beds. The Nimar Sandstone is full of sedimentary structures, a few of which we could identify are given below—

Current ripples, Rhomboid ripples, Climbing ripples, Current bedding—large and small scale, Flame structure, Lenticular and flaser bedding and Channel deposits.

It is rather surprising that the Nimar Sandstone has not been studied for sedimentary structures, inspite of their clarity in outcrops. Their study decidedly will provide valuable insight in the palaeoenvironment of these sediments.

The sandstones (Nimar Sandstone) vary from coarse to fine grained, and upper part becoming clayey at places. At several localities the beds near the contact of Nodular Limestone become calcareous.

MAN RIVER SECTIONS

The Sitapuri Hill in general shows the general characteristics mentioned above. Just across the Man River, about 1 kilometre west of Sitapuri, sandstones with small crab burrows are overlain by a thick sequence of alternate coarse and fine beds. The finer sediments show wavy bedding whereas the coarser beds show ripple bedding (Plate II—2). Again, about 2 km towards north in Baria Nadi Section, the sandstones grade into clays, and the majority of the sequence is highly burrowed. This clearly shows that the Nimar Sandstone exl. lateral variations, so much so, that at almost every metre the nature of sequence varies.

HATNI RIVER SECTION

In a limestone quarry (Nodular Limestone) the ' stone shows large burrows, about 10 cm in diam filled with green sand (Pl. I—4). It is apparent tha green sand must be underlying the Nodular Limes. The burrows are similar in pattern to large *Thalass.* burrows. This sequence i. e. Green Sandstone ove by Nodular Limestone, reminds us of the Lameta Fo tion where Lower Limestone is underlain by G Sandstone (Table 1).

UMRALI SECTION

This section shows a sequence very similar to pattern of deposition shown by Gandwana coal f. The lowest unit is a very thick coarse sandstone ove.. by ferruginous sandstone—light grey shale—carbonac shale. This sequence is repeated thrice in the out observed. The authors could not observe any evid of marine environment of deposition in the se. observed. Since this area lies very much in the Nar' Trough and shows cyclic sedimentation with carbonac bands repeated, it is proposed here that parts of Nar' Trough, not affected by marine transgression, Gondwana type fresh water cyclic sedimentation.

Further, since the Umrali section lies very muc the Narbada Trough, this sequence has to be taken consideration while considering the Nimar Sadns Even if the Nimar Sandstone turns out to be a depo

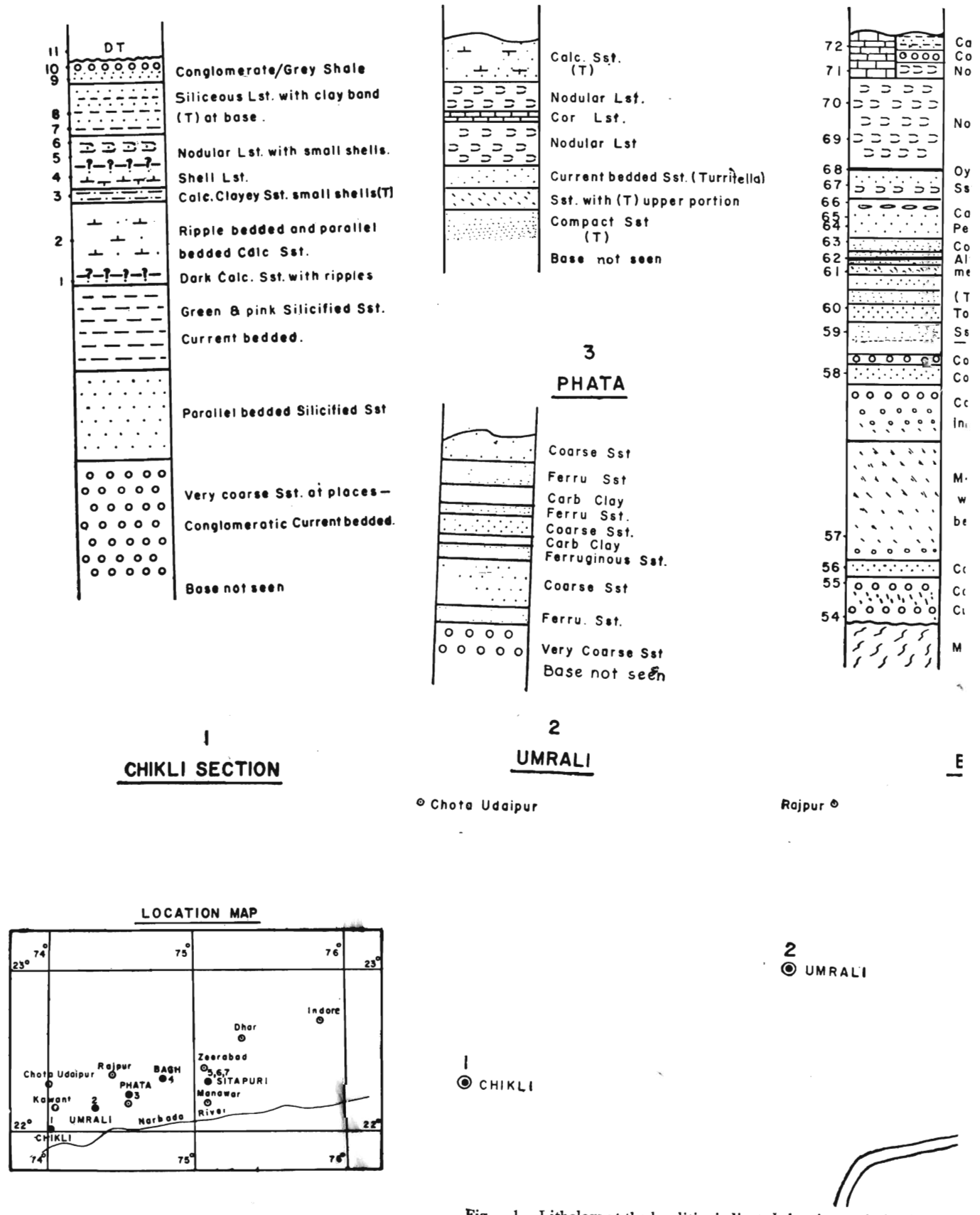
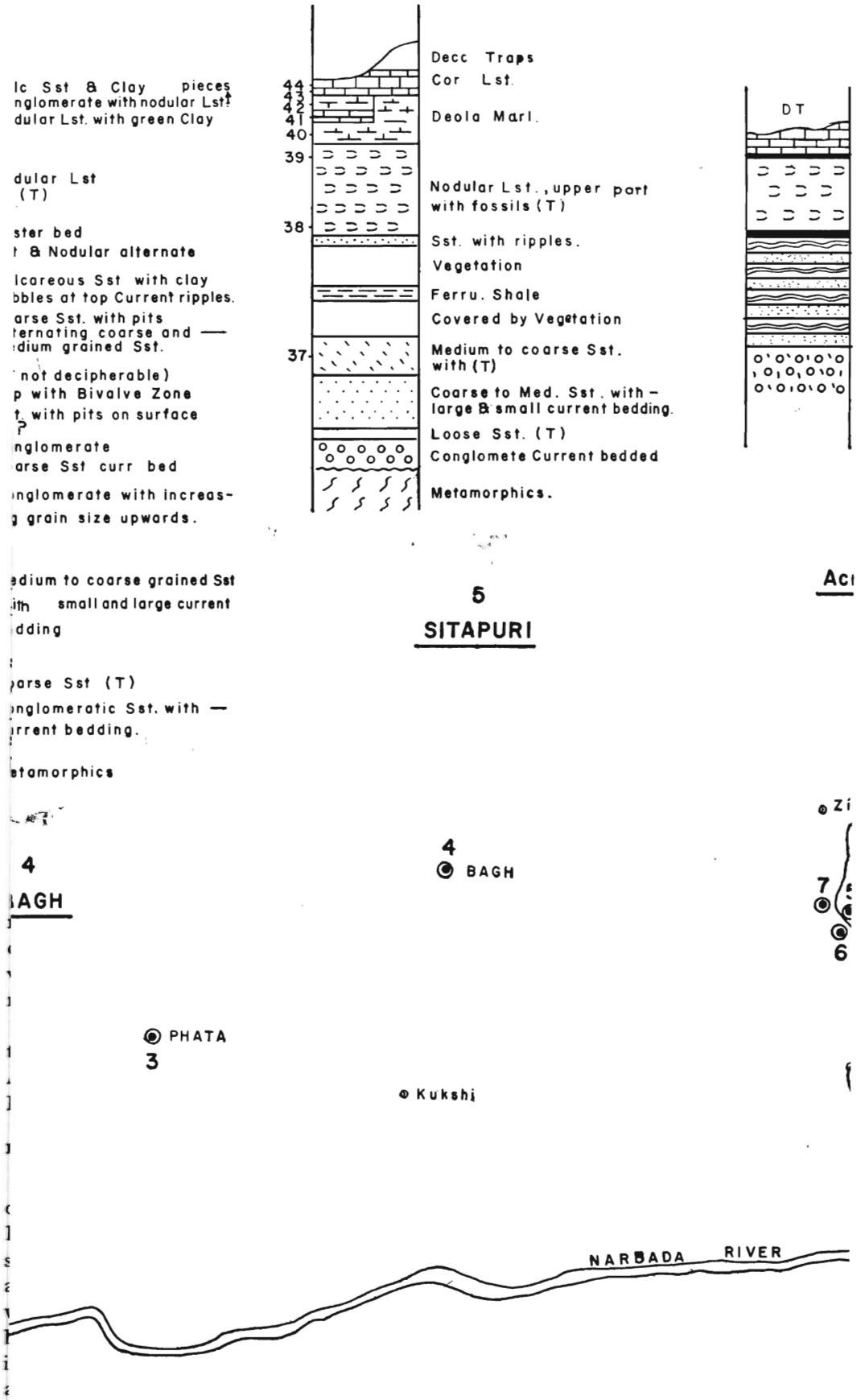


Fig. 1. Lithologs at the localities indicated showing variation in thicl



ness and lithology. Measured thickness are visual estimates. (T) = Trace Fossils/Bioturbation. Scale 1 cm=

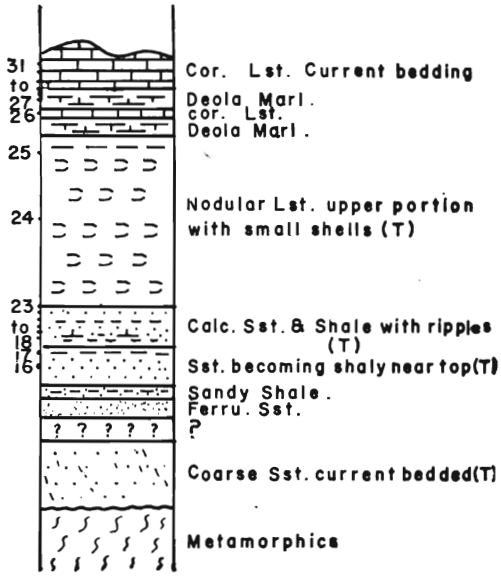
Cor. Lst.
Oysterbed (T)

Nodular Lst. with (T)

Oysterbed 0·5 m
Sst. and Shale alternating
wave bedding and ripples.

Sst. with Conglomerate
Current bedded.

Base not seen.



6

ross Man river

7

Baria Nadi Sec.

rabad

5
SITAPURI

=2 m.

estuarine environment, the Umrali Section has to be considered as a fresh water deposit underlying the Nimar Sandstone unless the two are found to be separated by a comprehensible time gap.

BAGH FORMATION

This formation is characterised by a dominantly calcareous facies. Two persistent lithounits have been widely recognised, i.e. Nodular Limestone and Coralline Limestone. In Man River Valley a Deola/Chirakhan Marl has been recognised by a different tone in colour and highly fossiliferous nature. However, Deola Marl in other areas is represented by Nodular Limestone (Table 1).

The Upper part of Nimar Sandstone usually becomes calcareous, and hence favours continuity in deposition between Nimar and Bagh Formations. Yet, at many localities, the contact is sharp, while at Jeerabad, the Nodular Limestone directly overlies the metamorphics. The evidence favours the presence of Paraconformity. At Barwah limestone quarry, the Nimar Sandstone is almost horizontal, while the limestone (considered to be Lameta) are dipping from 30° to 50° in a westerly direction. As the area is disturbed and the two litho units are not seen in contact, no definitive conclusion can be reached though we feel that the discordant relationship is because of faulting. It is evident that more data is required to determine the relationship.

NODULAR LIMESTONE (Member) :

It is a clayey limestone which at places becomes arenaceous. Megascopically, it generally shows a lower unfossiliferous sequence and an upper fossiliferous sequence. The fossils present are bivalves, rare gastropods, bryozoa etc., but most of the forms present are very small in size pointing to unsuitable conditions of growth. Yet, at places, large fossils including ammonites, oysters etc. have been recovered.

At most of the places, the Nodular Limestone shows profusely developed *Thalassinoides* burrows (Pl. 1—4 ; Pl. II—4, 5), making a network usually along the bedding, but burrows cutting acrocss the bedding are also seen. The presence of *Thalassinoides* burrows gives a nodular appearance and hence the authors are almost convinced that the nodular appearance of Nodular Limestone is due to the development of burrows. Ripple marks (Pl. II—5) have been observed at few places in association with burrows.

DEOLA MARL/CHIRAKHAN MARL (Member) :

This is a distinct unit very similar in lithological content and appearance to the Nodular Limestone, but differing in having a yellowish to pinkish colour and a very highly fossiliferous nature. It also shows a good development of burrows, but due to bioturbation on a large scale and presence of numerous fossils, the burrows and bedding plane are not easily decipherable. The marls have yielded a good fauna most of which has been reported by Chiplonkar and his associates (for details see Chiplonkar *et al.*, 1977). The fauna abounds in echinoderms, bivalves and bryozoa besides ammonites, brachiopods, shark teeth, ostracods etc. Surprisingly, records of forams are rare. Sharma (1976) has reported planktonic foraminifera from Deola Marl, which by far, is the only convincing report, but the absence of *Globotruncana* is rather puzzling.

The Deola Marl is present in the Man River valley only and hence its deposition took place in a localized basin.

CORALLINE LIMESTONE (Member) :

It is a well developed horizon and is seen in direct contact with the overlying Deccan Traps. Brownish yellow in colour, it comprises dominantly of medium to coarse sand-size fragments of bryozoans and corals. At times thin and small pockets rich in brachiopod and bivalves are seen. It shows good development of large scale cross bedding, the basal laminae of a cross bedding may be conglomeratic (Plate II—6). Being in contact with Deccan Traps, the upper horizons may become cherty. Bioturbation is seen though it is not common (Zeerabad section). A fairly persistent Lower Coralline Limestone is seen at several localities, either within the Nodular Limestone or within the Deola Marl. In Sitapuri hillock, two Coralline Limestone bands are seen on the northern side whereas the southern side shows only one horizon.

HATNI NALA SECTION

An interesting variation is seen in this section. The Nimar Sandstone is overlain by Nodular Limestone—Lower Coaralline Limestone—Nodular Limestone—Calcareous Sandstone. In most of the places there is an Upper Coralline Limestone instead of the calcareous sandstone. This sandstone is medium grained, calcareous and highly burrowed, so much so that no bedding features are seen. Cherty veins are quite common as is usually seen in Coralline Limestone. From the stratigraphical position, it becomes apparent that the calcareous sandstone is equivalent to the Coralline Limestone and that it is a facies variation. Verma (1968-69) recognised this unit but placed it above the buff coloured granular limestone (=Coralline Limestone).

To this unit, i.e. highly burrowed calcareous sandstone (Pl. I—8), a new name—Hatni Sandstone Member is proposed.

BAGH SECTION

A feature not observed anywhere except the Bagh Cave section is a sequence of conglomerate, clays and

sandy clays, about 4 m. thick, overlying the Nodular Limestone. The conglomerate shows cobble to pebble size fragments of Nodular Limestone in a clayey matrix overlain by white and green clays and sandy clays (Plate I—5, 6). On the same hill and at the same stratigraphic level, highly silicified granular limestone (Coralline Limestone) is seen within a very short distance. The characteristics and size of the conglomerate indicate erosion and little transportation. It is concluded that this very very localised sequence is a deposit effected by a stream, probably, much after the Deccan Trap activity.

LAMETA BEDS

The Lameta Beds are well known for their dinosaurian remains and the stratigraphy was worked out in detail by Matley (1921). Jabalpur Sandstone and Jabalpur Clay (Jabalpur Stage, Upper Gondwana) underlie the Lameta Beds (Table 1). Since the upper part of sandstone and the clays have yielded plant fossils, there never was any doubt about their Upper Gondwana affinity.

The Lameta sequence which begins with Green Sandstone is overlain by Lower Limestone—Mottled Nodular Bed—Upper Limestone—Upper Sandstone and ultimately the Deccan Traps. The Green Sandstone has now been shown to be of marine environment of deposition (Chanda 1963 ; Chanda and Bhattacharya, 1966). The senior author (SKS) along with one of his colleagues, Dr. I. B. Singh visited Jabalpur in 1980 where Dr. Singh, based on the nature of current bedding and lithified burrows near a fault plane, was of the opinion that the Green Sandstone represents deposition by marine processes. Since the work of Kumar and Tandon (1977) and subsequent visit by the authors, there remains no doubt that the Mottled Nodular Bed and Lower Limestone are again of marine origin. Thus, it can be safely said that the Lameta Beds were deposited under marine influence.

The name, Upper Limestone, is rather misleading as it is actually a coarse grained calcareous sandstone which grades into Upper Sandstone with decreasing calcareous content.

PROPOSALS

The Nimar Sandstone and Bagh Beds were considered as two separate units by Blanford (1869) and Bose (1884). Lithologically too, the Nimar Sandstone shows variation from conglomerate to calcareous clays, sandstone being the most dominant lithology. Most of the later workers included the Nimar Sandstone as a part of the Bagh Beds (Sahni and Jain, 1966 ; Pal, 1970 ; Roy Chowdhary and Sastri, 1962 ; Chiplonkar, Badve and Ghare, 1972, 1977).

It is proposed that—

(1) Nimar Sandstone, having a distinct lithology besides being a mappable unit, be considered as a formation.

(2) Bagh Beds, in having a distinct lithology besides being a mappable unit, be considered as a formation. The smaller units of Bagh Formation be considered as members, e.g.

(i) Nodular Limestone Member

(ii) Deola (Chirakhan) Marl Member and

(iii) Coralline Limestone Member.

Further, since the Nimar Sandstone (part) and Bagh Formation were deposited under marine environment and show gradational contact at many localities, the two formations form a much inter-related group. Hence the Nimar and Bagh Formations be included under—Narbada Group.

EVENTS

The development of Narbada Trough, probably in the Lower Cretaceous period roughly along the present course of Narbada river, would have induced a new set of drainage pattern. This would result in fresh water deposits in the existing trough. However, if the trough was not totally inland trough, it is possible that the oldest deposits with marine influence would have taken place where the sea entered the trough (coastal region) probably as deltaic or estuarine or intertonguing fresh water and marine deposits. This situation would have continued, probably for a very short period, until marine transgression took place (as the authors have not visited the outcrops of Bagh Beds or their equivalents west of Chota Udaipur, they have assumed that the transgression did take place from west direction, as is the present concept). This transgression brought a sudden change in the drainage pattern while many of the streams, or their parts thereof, must have been engulfed under the approaching sea. The transgression resulted in the deposition of the marine units e.g., upper part of Nimar Sandstone[1]—Nodular Limestone—Deola Marl and Coralline Limestone/Hatni Sandstone. As the lower part of Nimar is fresh water and the upper part marine, the presence of calcareous units is noticed in upper part of Nimar Sandstone and becomes dominant only with the deposition of Nodular Limestone. However, those areas which were beyond the reach of the marine conditions, fresh-water conditions persisted for a longer duration, e.g. Umrali beds. Regression of sea took place some time during the deposition of Coralline Limestone/Hatni Sandstone. Apparently, lava flows resulting in Deccan Traps followed without much break in time. Evidence pointing to unconformable contact is seen in a road cutting near Jeerabad where about 30 cm thick conglomerate band is seen below the Traps. There is evidence to show that some

[1]The upper Nimar Sandstone includes that part of Nimar which was deposited under marine influence.

deposition in the form of green to grey clays did take place after Coralline Limestone and before Trappean activity (Chikli and Jeerabad villages). But whether these clays are fresh water or marine or ash beds could not be ascertained. In the absence of any fauna, the chances of their being fresh water deposits or mixed ash-beds are greater. Since, in most of the areas visited, the traps overly Coralline Limestone, it can be said with some certainty that the time break, if any, was not much. Blanford (1869) was the first to mention that Traps were deposited on uneroded Bagh Beds.

ENVIRONMENT OF DEPOSITION

Nimar Sandstone : Passing over from the fresh water facies to marine facies, there is ample evidence pointing to shallow water conditions of deposition, e.g. Current bedding, ripple marks, burrows and benthonic body fossils—*Ostrea*, *Mytilus*, *Turritella* etc. The total evidence indicates deposition from intertidal to inner subtidal environment.

Bagh Formation : The presence of ripple marks along with *Thalassinoides* burrows in the Nodular Limestone again indicates shallow environment of deposition. The presence of more argillaceous sediments points to low energy conditions. The Deola Marl, which is highly fossiliferous and shows dominance of echinoderms, specially *Hemiaster*, again indicates deposition in subtidal environment. The Coralline Limestone with large scale current bedding, rare conglomerate layers and coral and bryozoa fragments of medium to coarse sandsize, again indicate shallower conditions.

Badve and Ghare (1978) based on the presence of oyster beds in the entire Narbada Group and the presence or absence of fossils have interpreted three regressions and proposed intertidal to deeper water environment of deposition. Based on overall evidences they favour a depth ranging from 20 to 150 fathoms.

AGREEMENTS AND DISAGREEMENTS

As already mentioned, the Nimar Sandstone shows variation from one section to another (see Fig. 1—lithologs) indicating varying conditions of energy during deposition. Evidence of *Thalassinoides* and other crab burrows and the associated sedimentary structures indicate marine environment of deposition at a much lower stratigraphic level than indicated by Chiplonkar *et al.* (1977). According to them marine environment settled after the Trace fossil horizon. Apparently they still believe that the first Oyster bed (see Chiplohkar, Ghare and Badve 1977, p. 58, Table 1) marks a marine intercalation in the otherwise fresh water Nimar Sandstone. The present authors cannot actually make out the Trace fossils horizon of Chiplonkar (1977) and Chiplonkar, Badve and Ghare (1977) as the Nimar is full of trace fossils, specially from the beginning of the marine facies. Again, Chiplonkar and his co-workers in their several publications have not given a litholog and the actual position of the trace fossil horizon in the succession. Thus, it is a question of which horizon in a given area yields greatest number of trace fossils and hence such a horizon cannot be taken as a stratigraphic marker. The trace fossil horizon is of local significance only.

The bathymetric facies groups—Cruziana facies, Zoophycus facies and Nereites facies given by Chiplonkar and Ghare (1977), based on the trace fossils, is not supported by the other field evidences. However, they themselves have favoured deposition in littoral to sublittoral warm water conditions. The present authors agree with their interpretation.

The oyster beds and oyster banks have been noticed in several localities. Unless precise lithologs are prepared, it would be improper to correlate and establish oyster beds in different sections unless it is in the form of a definite zone. However, an oyster bed had been recognised between Nimar and Bagh Formation, (See Pascoe, 1959, Vol. II, p. 1274-1275). The total evidence shows the presence of a shell bearing bed at the top of Nimar Sandstone. Depending on the facies variation and suitable niche, oyster, *Cardium*, *Astarte* and *Turritella* or a combination of the above is invariably seen. This is a definite and traceable horizon and can be used as a stratigraphic marker though this unit is not more than 0.5 m thick.

The authors do not agree with Badve and Ghare (1978) in that the Bagh Foamation represents deposits of intertidal to deeper water environment. The depth of 20-150 fathoms given by Badve and Ghare is not favoured by the fauna, sedimentary structures and trace fossils.

The authors are in agreement with Chiplonkar *et al.* (1977) on the following points—

(1) Deola (Chirakhan) Marl is a distinct litho-unit.
(2) Since the broad lithology is same, introduction of new names is not necessary, as has been attempted by Murthy *et al.*, (1963), Poddar (1964), Sastry and Mamgain (1971) and Pal (1970, 1971). (See Table in Chiplonkar *et al.*, 1977).
(3) Lower Coralline Limestone is a fairly persistent unit and should be recognised as a distinct litho-unit.

In the end, the authors on the basis of lithology, stratigraphical position and environment of deposition do not support the idea that Lameta Beds are younger than the Bagh Sequence. The total evidence indicates that the above two sequences are time equivalent. Blanford and Vrendenburg considered the Bagh sediments as marine equivalents of fresh water Lameta. [See Blanford (1869) and Vredenburg (1907) in Pasco (1959) p. 1273]. Blanford (1869, p. 56) specifically mentions that

"Thus it will be seen that a connexion has been traced out between the sandstones of Bagh and the conglomerates of Puchmurry Hills, and also between the marine limestone of Bagh and freshwater limestone of the Lameta. Further researches may be necessary to establish this correlation, but it rests on strong evidence".

CORRELATION OF BAGH AND LAMETA FORMATIONS

The stratigraphical setting of the Bagh and Lameta Formations has been given earlier (see Introduction). Both the formations show a dominantly marine arenaceous facies, followed by a calcareous marine facies. The Nimar Sandstone is fresh water at the base (Umrali Section) and marine higher up. Similarly, Jabalpur Sandstone and clays are of fresh water origin whereas the Green Sandstone is marine. The evidence for Green Sandstone as marine was given by Chanda (1963) and Chanda and Bhattacharya (1966). Dr. I. B. Singh's discovery of lithified burrows in the Green sandstone near the Chui Hill fault and his observations on the current bedding directions favours marine environment of deposition. Interestingly enough, a green sandstone was seen in Phata quarry below the Nodular Limestone in the Bagh sequence as well.

The calcareous unit in Bagh consists of Nodular Limestone, Deola Marl and Coralline Limestone. The Lameta sequence shows a Lower Limestone followed by Mottled Nodular Bed, Upper Limestone and Upper Sandstone.

The Nodular Bed in Bagh and the Mottled Nodular Bed in Lameta are similar in lithology as well as profusely developed *Thalassinoides* burrows along with other burrows. In both the sequences, the nodular appearance is due to the burrows.

The similarity in other units does not continue as the upper two beds in Bagh Formation are highly fossiliferous. However, in Hatni River Section the Upper Coralline Limestone is absent and is replaced by a calcareous sandstone, a facies variation (Hatni Sandstone Member).

Finally, Deccan Traps are seen to cover both the Bagh and Lameta Formations. The overall evidence supports the authors contention that the Nimar (part) and Jabalpur Sandstones (Part) as well as the Bagh and Lameta Formations are time equivalent facies.[1]

CONCLUSION

(1) The Upper Nimar Sandstone and Bagh Beds were deposited in shallow marine environment ranging from intertidal to shallow subtidal.

(2) Lower part (Umrali Section) of Nimar Sandstone is of fresh water environment of deposition, while the upper part is marine.

(3) Nimar Sandstone and Bagh Beds are two separate units, as recognised by Blanford (1869), Bose (1884) and Pascoe (1959).

(4) Narbada Group is proposed to include the Bagh and Nimar Formations as they form an inter-related group.

(5) Umrali Beds are a part of Nimar Sandstone and are equivalent to Jabalpur Sandstone (part).

(6) Green Sandstone of Lameta Beds is of marine origin.

(8) Nodular character of Nodular Limestone Member (Bagh) and Mottled Nodular Bed (Lameta) is due to profusely developed burrows.

(9) Deola (Chirakhan) Marl Member is a distinct litho unit.

(10) With changing environment and increasing influx of detrital material, calcareous sandstones are deposited in Bagh Beds (Hatni Sandstone Member) and in Lameta (Upper Limestone and Upper Sandstone).

ACKNOWLEDGEMENT

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[1]Time equivalence here has strong support from stratigraphical setup and lithological variation. However, detailed mapping and age determination will have the final word.


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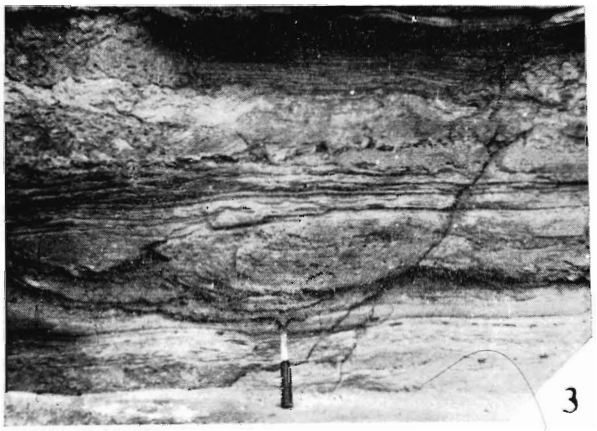
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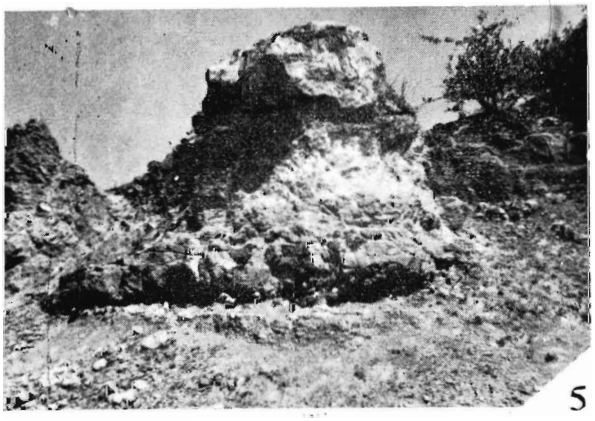
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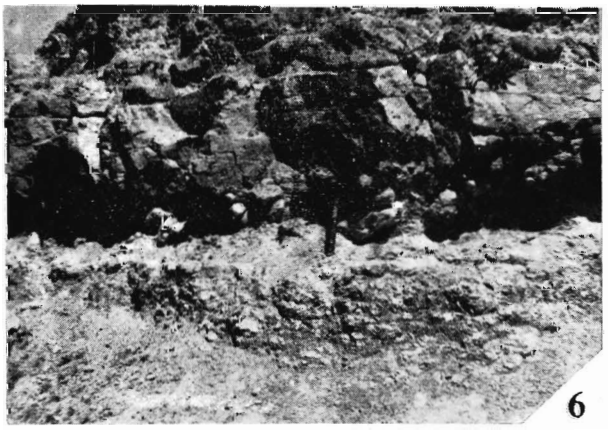
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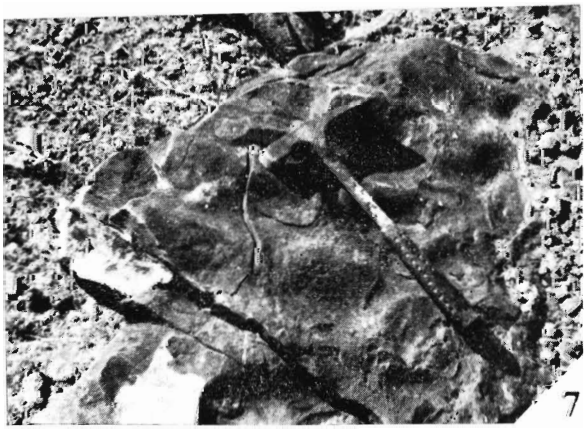
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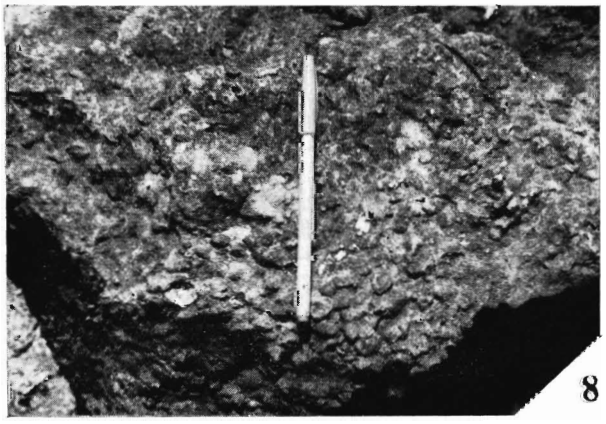
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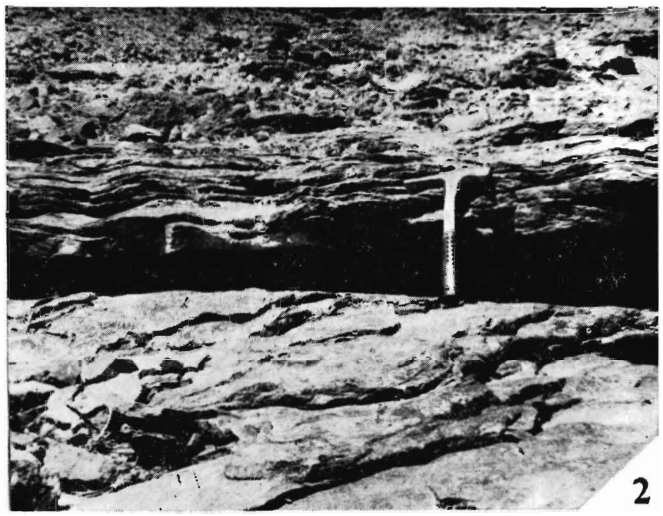
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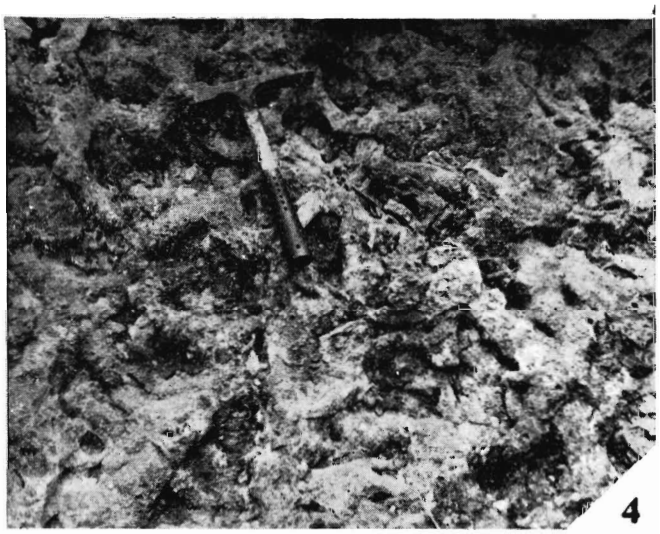
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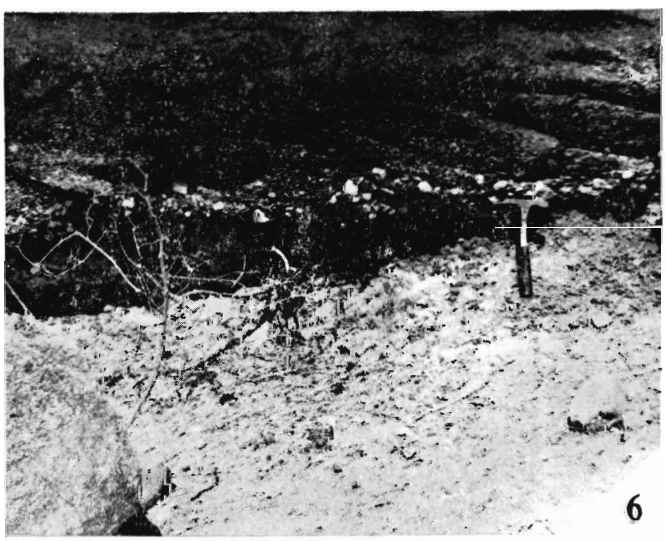
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EXPLANATION OF PLATES

PLATE I

1. Small crab burrows, Nimar Sandstone, Bagh Section.
2. Flame structure, Bagh Section.
3. Bioturbation in Nimar Sandstone, Bagh Section.
4. *Thalassinoides* burrows filled with green sand, Phata quarry.

5 & 6. Sequence overlying Nodular Limestone with conglomerate at base containing pebbles derived from Nodular Limestone, Bagh Section.

7. Ripple marks in Coralline Limestone, Jeerabad Section.
8. Hatni Sandstone, profusely burrowed, Hatni Section.

PLATE II

1. Crab burrows, Nimar Sandstone, Sitapuri Section.
2. Alternate coarse and fine layers with wavy bedding, Man River Section.
3. Nodular Limestone, a typical view, Man River Section.
4. Nodular Limestone with *Thalassinoides* burrows, Man River Section.
5. Ripple marks with *Thalassinoides* burrows in Nodular Limestone, Man River Section.
6. Coralline Limestone with large scale current bedding; conglomerate layer at base, Zeerabad Section.