

SPG-India Organises Geological Field Trip To Rishikesh-Singtali-Kaudiyala Ghat

A Geological Field Trip was organized by the SPG-Dehradun in the Garhwal Lesser Himalayas on 22.03.2015. Geoscientists from all the ONGC exploration formations in Dehradun i.e. KDMIPE, GEOPIC, Frontier Basins and E&D Directorate were enthusiastic and eager to study the outcrops of the Lesser Himalayas in the Rishikesh-Singtali-Kaudiyalaghat sector. The trip guide was eminent scientist

Dr. N. S.Virdi, Former Director, Wadia Institute of Himalayan Geology, Dehradun who is well-known for his contributions towards understanding of the northwestern Himalayas. After a brief introduction by Dr. Virdi about the regional geological setting, the trip was flagged-off by Dr. D.N. Singh, HOI-KDMIPE at 0730Hrs wishing the participants a successful field trip.



Dr. D N Singh, GGM-HOI, KDMIPE flagging-off the field trip



Geoscientists examining the outcrop of Blaini Formation

The early morning chill was pleasant and the enthusiasm of the participants was very high, eager to observe the sedimentary and meta-sedimentary Lesser Himalayan outcrops. The first stop was near bypass road from Laxman Jhula to Rishikesh. At this stop, the Blaini Formation (Proterozoic age) outcrop was studied. Here the limestone, siltstone and inter-bedded conglomerate is present comprising of matrix supported conglomerate (diamictite) with clasts of quartzite, chert and limestone, associated with beds of limestone and argillites. Its significance as a marker horizon in the Krol Belt was explained. In the next stop 3 km away, the Krol-A limestone outcrop which is the Lower Krol

Member was studied with the structural deformation being distinctly visible. It comprises of marl in the basal part lying above the Infra-Krol Formation and argillite and limestone facies above it. Its paleogeography and stratigraphic position was explained to the participants. Enroute towards Vayasi, the Middle Krol (Krol-B) was studied which characteristically exposes purple red shale and associated facies. In the next stop, the Upper Krol (Krol-C), thick bedded outcrop outcrop of dark grey coloured limestone was studied. At this locality, large detached rocks which had moved as rock falls were seen. At the next halt, 4Km before Vayasi, the steep escarpments of The Upper Tal Quartzites



At the Krol-A outcrop



Dr. N S Virdi explaining The Shell Limestone locality



Close-up view of Shell Limestone near Singtali showing the fossils

towards the hillsides could be seen and Krol-Tal succession was explained and the problems in chronostratigraphy based on faunal assemblages. The largely silici-clastic Tal Group conformably overlies the carbonate rocks of the Krol Group. Near the bridge across River Ganga, its contact with the Shell Limestone was examined. Overlying it, the thrust Precambrian Bijni strata comprising of greenish grey to white quartz arenite and argillites could be observed from a distance. Following a tea break, further moving up near Singtali, the outcrops of Shell Limestone and a thin strip of greenish grey Subathu shale which was highly splintery was examined and it overlies the Shell Limestone. The fossiliferous Shell Limestone (of Cretaceous age) outcrop evoked strong interest from the geoscientists as they could observe fossil shells embedded in grey coloured calcarenite. The Shell Limestone is sandy with terrigenous influxes. Dr. Virdi explained that it was deposited in supratidal to subtidal environment under medium to high energy conditions. The last halt was at Kaudiyala. Here the geoscientists were shown the basal part



The contact of Upper Tal Quartzite Formation with Shell Limestone near Bridge on River Ganaga, 5 Km before Vayasi

of Lower Tal Formation which shows the presence of black splintery shale with phosphatic nodules and chert on the right bank of river Ganga where it is well developed.

It was a very exciting field trip which immensely enhanced the understanding of this sector of the Himalayas to all the participants. Dr. Virdi was thanked for his efforts in guiding the geoscientists and sharing his knowledge. He was presented a memento on behalf of SPG by Sri. TR Muralimohan, GM(GP)-GEOPIIC.. A group photo was taken at the Shell Limestone outcrop and the field trip was concluded. The vote of thanks was proposed by Shri C.V. Rao, DGM (GP), E&D Dte and Vice President, SPG. A special appreciation is conveyed on behalf of SPG for the keen interest shown by Sri. C.P.S. Rawat and Sri. Rajesh Sharma from KDMIPE. He said it was overall an educative, informative and exciting field trip. All the participants thanked the executive body, SPG-Dehradun for organizing such a wonderful and interesting field trip.



Group Photo of the participants at the Shell Limestone locality
Contributed By: Rajesh Sharma, DGM (Geology), KDMIPE