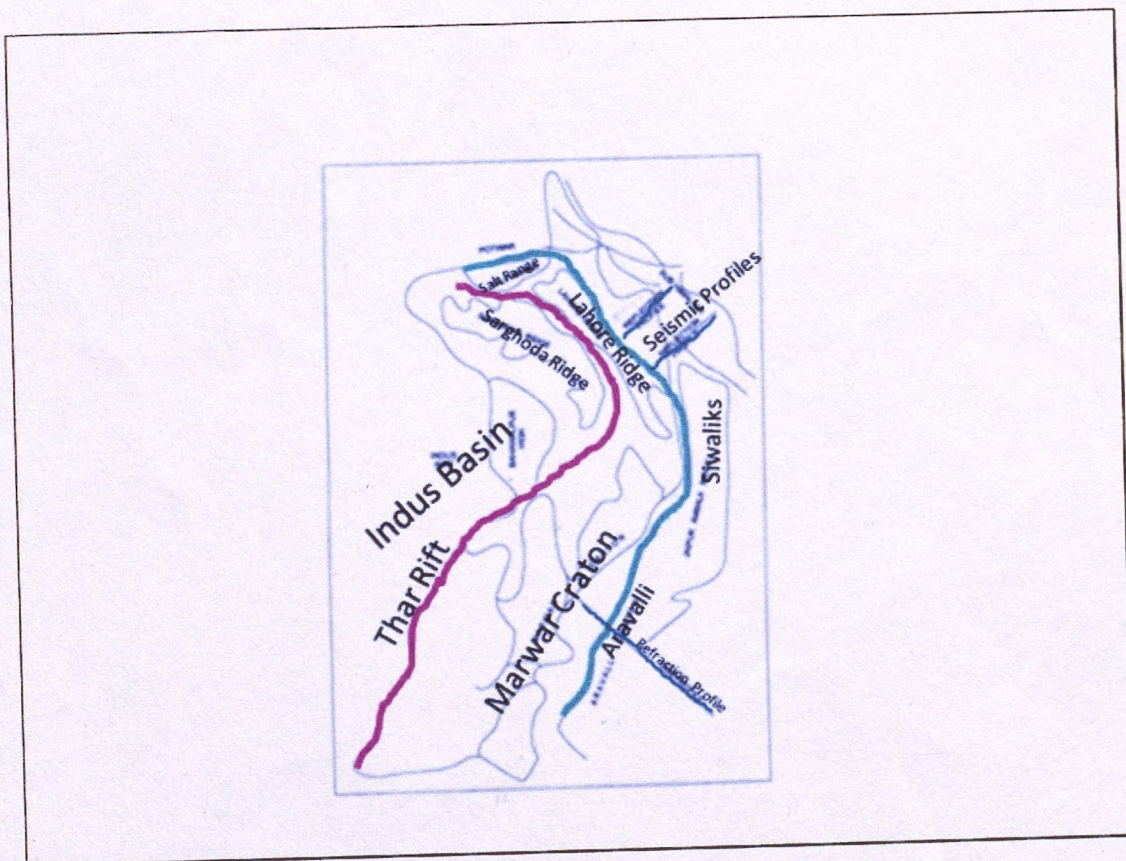


DOCKET-6

Punjab-Kashmir-Afghanistan

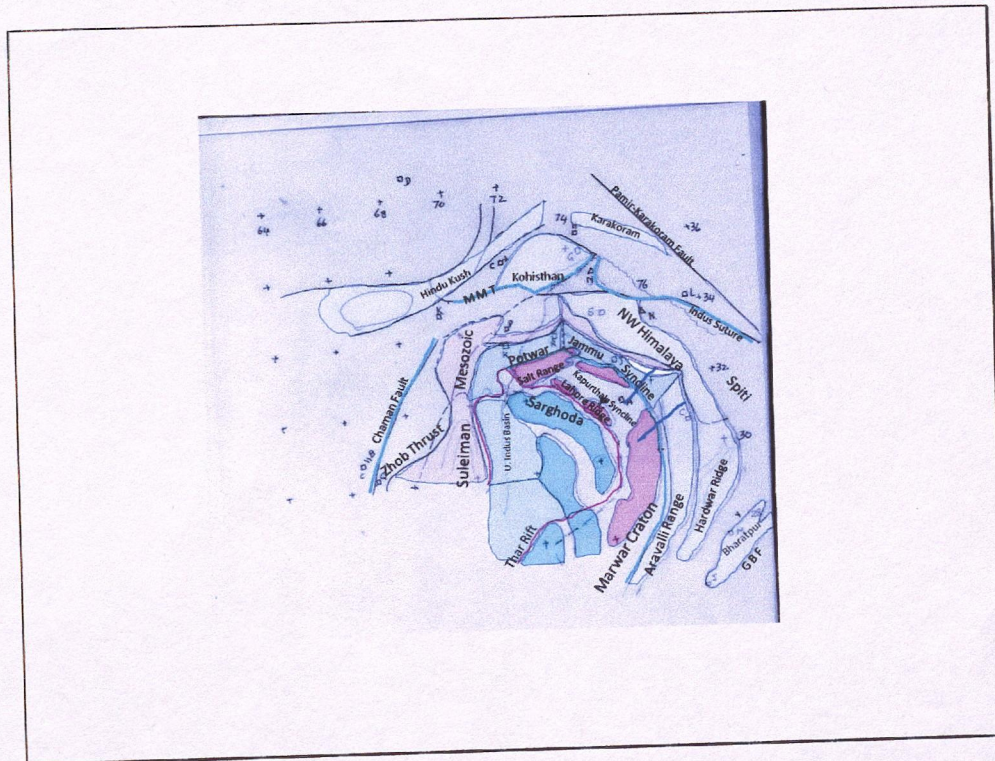
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Slide 1



Slide 1: This is the general map of Punjab including the Pakistan part. It is broadly divided into two parts. On the west is the Marwar Craton and on the east is the Aravalli system. The Salt Range, the Sarghoda ridge and the Lahore ridge lie in the Marwar craton. The Aravalli Range and its northern extension under the alluvium are part of the eastern section.

Slide 2

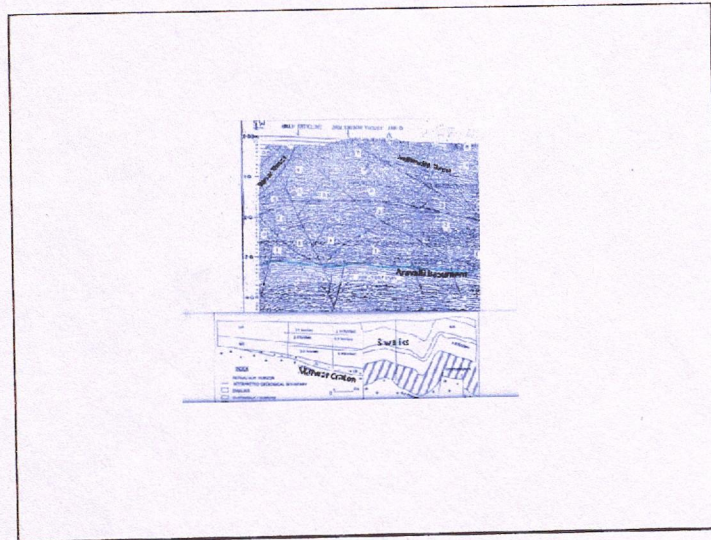


Slide 2: The structural elements of Punjab, Kashmir and part of Afghanistan are depicted. The eastern branch of the Aravallis is the Jaipur – Delhi – Hardwar ridge. In the north it plunges under the Dun valley and yet again under the MBF to emerge as the NW Himalaya. The Hardwar ridge is the western limit of the Upper Vindhyan deposits of the Ganga Basin. The Spiti basin lies to the East of the NW Himalaya. The Aravalli Range proper is exposed up to Delhi, from where it plunges under the alluvium to as far north as the Ravi river. It forms the basement for the Siwalik deposits of Himachal Pradesh. A deep well drilled on the Janauri anticline in Himachal Pradesh met Aravalli marble at a depth of about 4.8 km.

The Marwar craton is separated from the Aravalli system by a major fault. The northeast of this fault is occupied by the Jammu syncline and the Suruinsar anticline. The Jammu syncline opens out westwards into the Potwar Basin. The Kapurthala syncline lies between the Lahore and Gurdaspur ridges. It turns southwards along the Sarghoda ridge to join the Indus basin. The salt beds form the deepest exposure of the Salt Range. Apparently these extend southeast along the Kapurthala syncline. The latter turn southward along the Sarghoda ridge to join the Indus basin. The salt deposits of the Sambhar Lake and at Phalodi appear to be evidence in favour.

The Indus basin is marked by a red line. At its lower end it forms the Thar rift. The Upper Indus basin lies to the west of the Sarghoda ridge and extends far southwards. West of the Upper Indus basin lie the Suleiman Range, the Zhob thrust and the Chaman Fault. The Indian plate is bounded on the north by the Indus suture, which continues westwards as the Main Mantle Thrust. North of this thrust are the Kohistan arc, the Hindu Kush and Karakoram mountains.

Slide 3

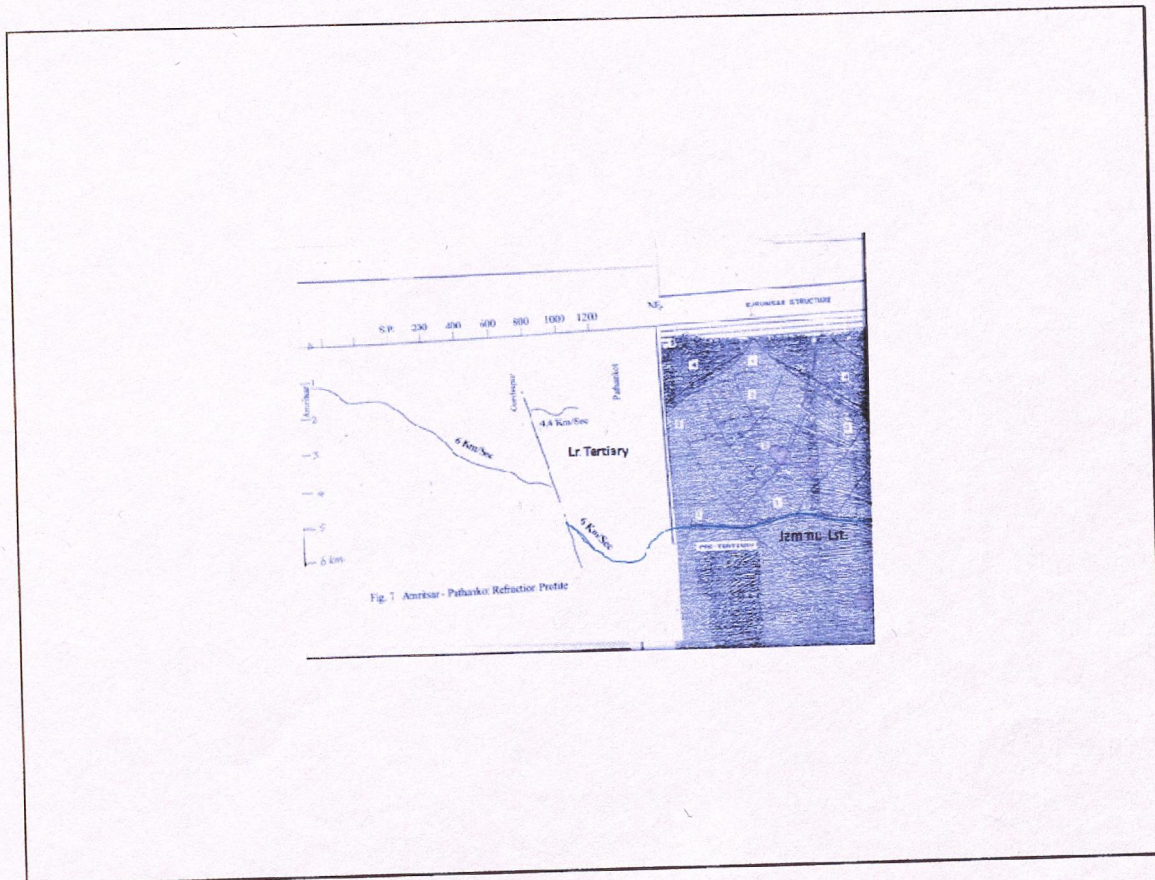


Slide 3:

Figure A is a reflection seismic section across the Siwaliks in the Jwalamukhi region. The Bahl anticline is overthrust by the Jwalamukhi thrust from the east and the Barsar thrust from the west (counter thrust).

Figure B is a geoseismic section in the same area. In the western part the upper and middle Siwaliks rest directly over the pretertiary basement. The section thickens eastwards across the major Marwar Fault to include the Lr.Tertiary. The Siwalik folds are clearly brought out. There is also a clear change of basement composition across the fault.

Slide 4



Slide 4 :

This is a seismic section across the Suruinsar anticline and Jammu syncline. The latter extends from Amritsar up to the anticline. The Marwar fault separates the Marwar craton from the Jammu syncline. The Lr.Tertiary thickens enormously and continues into the anticline. There are two thrusts over the anticline – one from the east and one from the west (counter thrust). The section east of the fault contains both Murree and Eocene sediments. Its basement is the Jammu limestone. A well drilled into this anticline did not meet basement even at 6 km. depth.