

## Relationship Between Faults and Hydrocarbon Distribution

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**Abstract:**-On plane caprock sealing gas zone is relatively large in west, the second is in east and the least is in middle and north. sealing gas zone and its controlling to gas distribution in Nanpu depression are mainly in the following three aspects: ①on plane gas mainly distributed in sealing gas zone; ②on section gas distributed under the caprock in sealing gas zone ; ③on section gas distributed on up and down of the caprock in none sealing gas zone , but it is influenced by the supply level of gas source rock .

**Key words:**-Nanpu depression; caprock; faulted thickness;

Since conducting faulting cap accumulation within the opening period, the caprock depends crucially on conducting fracture in the upper and lower cap distribution can be formed. If conducting fracture in the upper and lower cap was not connected to the distribution shown in Figure 4a, transporting natural gas can not break through the cap rock migrated upward, the caprock. Conversely, if the conducting fracture in the upper and lower connection cap distribution, as shown in Figure 4b, transporting natural gas through the fracture migrated upward through the is connected to the upper and lower cap research in the accumulation of .

the caprock or not. Due to limited seismic mass cross section on the seismic section determined directly conducting fracture in the upper and lower cap distribution is very difficult, it can only use if there is cap and down to indirectly determine the distribution of natural gas. Different exploratory wells disconnect cap thickness (minus the cap layer thicknessConducting fracture throw) in ascending order, the upper and lower statistical distribution of natural gas, natural gas distribution up and down the cap and the cap has a cap only under the disconnection of gas distribution thickness desired size deemed closure cap the minimum thickness of disconnection. If the disconnect cap thickness greater than the required minimum closing disconnect thickness, conducting fracture therein was not connected to the vertical distribution of the caprock, gas can only be distributed in its next gathering; the contrary, if the thickness of the cover layer disconnect less than the minimum required to meet its closed off thickness, conducting

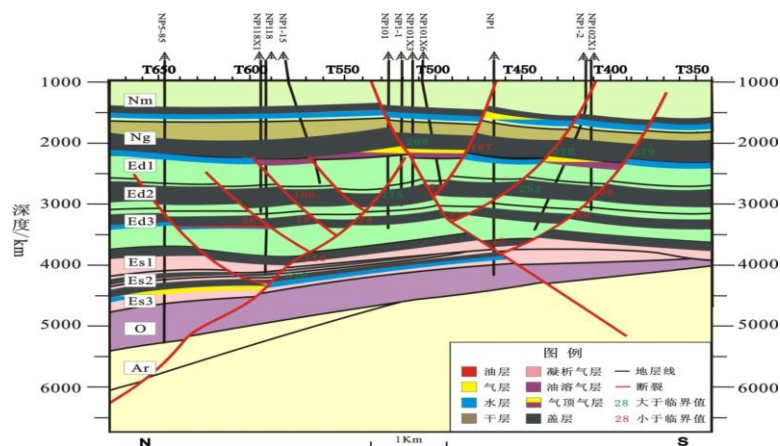


Fig1 Gas reservoir section of 1st structure in Nanpu Depression

fracture in their distribution within the upper and lower connection cap was not closed at its upper and lower natural gas can be aggregated distribution, but natural gas dispersed. Through statistical Nanpu Sag East Sec 57 wells and 56 wells mudstone caprock Hall Volcanic disconnect cap thickness size, according to its size the statistical upper and lower natural gas distribution, and the results shown in Figure 2, Figure2 can be obtained mudstone caprock and East Sec Hall three sections of the largest volcanic disconnect the caprock thickness required were 120m ~ 140m and 150m ~ 180m. By Statistics All transporting break off within Nanpu Sag East Third mudstone caprock and Museum Volcanic cap from the size and the corresponding Hall East Sec mudstone caprock and Volcanic cap thickness size, calculate East Sec mudstone caprock and volcanic disconnect cap thickness, which is made flat distribution shown in Figure 2, and then follow the required closure cap above has been determined that volcanic East Sec three sections of mudstone caprock Museum and the minimum thickness disconnection he can get into the Nanpu Sag of eastern Tibet Sec mudstone caprock and Museum volcanic cap closed area, shown in Figure 2, it can be seen from Figure 1, the accumulation of Nanpu Sag East Sec mudstone caprock sealing area is divided cloth Depression western region, eastern part there is only a plurality of local regions, the area is relatively small, the majority of the rest areas is not confined areas. As can be seen from Figure 1, the accumulation of Nanpu Sag Museum Volcanic CAPROCK mainly distributed Depression Southwest, a relatively small area, the majority of the rest areas is not confined areas. 4.2 accumulation of gas cap is not closed at its upper and lower distribution area

As can be seen from Figure 2, Nanpu 5th Structure and mudstone caprock Hall East Sec three sections of the upper and lower volcanic cap Jieyou natural gas distribution, since it is the East Sec mudstone caprock and Museum Volcanic cap here construction disconnect thickness is less than the minimum thickness of the closed disconnect required, accumulation of not closed, can not stop the underlying three sections of sand or sand some source rock and gas migrated upward along fault transporting natural gas either through East Sec mudstone cap, but also through the museum volcanic cap. And the occurrence of natural gas on the east side under Sec mudstone caprock and Museum Volcanic cap shunt migration, the two conducting fracture sandwiched anticlines and fault traps blocking gathered into hiding as shown, so that the distribution of natural gas in the East Hall and mudstone caprock Sec three sections of volcanic cap rock bottom.

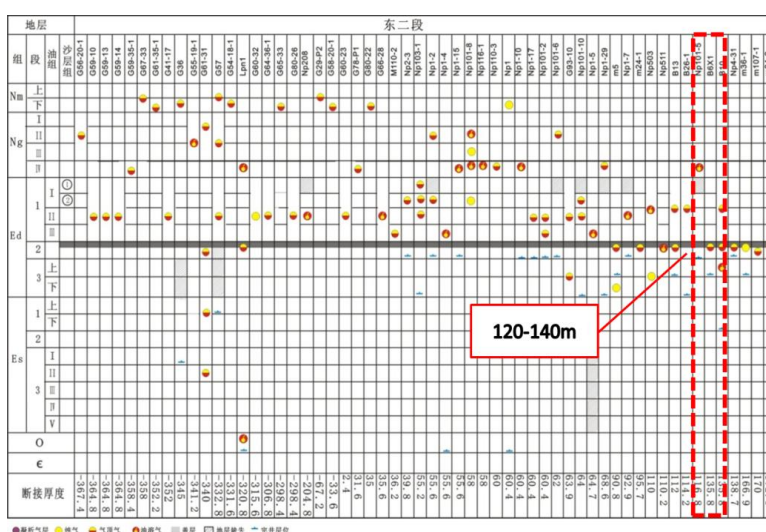


FIG.2 MINIMUM LIMIT DETERMINATION OF GAS SEALING FAULTED

I. THICKNESS OF DIFFERENT CAPROCK IN NANPU DEPRESSION

accumulation of Nanpu Sag East Sec mudstone caprock sealing gas mainly distributed in the recessed Southwest, eastern distribution only local area, a relatively small area; mainly accumulation of the caprock Museum Volcanic Zone Depression in the Southwest, a relatively small area.

the relationship between Nanpu Sag in shallow accumulation region of the caprock and gas distribution between the mainly in the following two aspects ① accumulation of gas in the caprock area under the distribution of natural gas is mainly distributed in the western sag East under Sec mudstone caprock and Museum volcanic cap; ② accumulation of gas cap is not closed at its upper and lower distribution region, Sag natural gas can be distributed both in the East and mudstone caprock Sec Hall volcanic cap above, and it may be distributed under the East Sec mudstone caprock and volcanic Museum.

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