From the beginning of lithological exploration in shengli oilfield, the research of turbidites of the third section of Shahejie formation on the southern slope of Dongying depression were fast maturity. Previous study holds that delta-turbidities depositional systems were widely developed in the middle third section of Shahejie formation in Dongying depression. And make the sands which develop between the delta front and deep water turbidities as turbidities series. But by analysis of actual drilling data, we find the sands are the new sedimentary type which is different with turbidities. We called it slope moving fans. From 2009 to today, ten wells have been deployed in sheng-li oilfield based on this kind of reservoirs. And two of them have been put in the production. This shows that slope moving fans reservoirs have bright prospects for the exploration and higher research significance. But the research of slope moving fans is in the initial stage now, in low awareness. And the systematic knowledge of slope moving fans is not formed.

Through the observation and description of the core, a large amount of detailed experimental data, combined with analysis of drilling logs and seismic data. The sediment characteristics of slope moving fans are clear, and the different with frontal sand body of delta and turbidities are pointed out.

(1)By thin section analysis and statistical analysis indicate that reservoir lithology of slope moving fans consist mainly of thin and middle thickness grey siltstone, fine sandstone and pebbled fine sandstone. Sand framework compose quartz (30%—55%), feldspar (10%—28%) and rock fragments (5%—18%). The reservoir rocks are characterized with low compositional maturity. The cement types are pore and contact-pore cementation. Cements are mainly mud, and a little dolomite and calcite. The color of shale is mainly luggage, charcoal grey and light-grey. That reflects transportation and sedimentation of short distance in oxidation and half reduction environment.

But particle size of turbidities is finer than that of slope moving fans, mainly is siltstone. Sandstone is more purity, clipped in deep-water shale.

(2) grain size characteristics: ①Probability cumulative grain size curves: Based on grain size experimental measurement data analysis of slope moving fans, the characteristics of probability cumulative grain size curves mainly present as the typical three-segments, two-segments and bi-bouncing single-suspension pattern, show translational deposition of gravity flow and tractive current. But the probability cumulative grain size curves of turbidities present as low slope one-segment which is distinctly characteristic of turbidities sediments. ②In the C-M diagram, samples point group of slope moving fans are most parallel to C-M baseline, both have the character of tractive current and turbidities sediments. But samples point group of turbidities are all parallel to C-M baseline. ③Particle size parameter value of slope moving fans are most more than 9.8433, only individual samples less than 9.8433. But particle size parameter value of turbidities is all less than 9.8433.

(3) Based on core observation, slope moving fans has its unique sedimentary structure character. ①Boulder structure is the most typical sedimentary structure character. It shows transportation fluid with very high matrix viscosity, embodies density plastic character. But turbidity current is low density deposition, is the viscous flow due to gravity different, and has significantly graded bedding. So boulder structure is not impossible exists in turbidities. ②flow structure: Sand of slope moving fans appears mutation contact with upper and lower mudstone. And flow mud particles and ball development in massive sand, part of mud-gravel show “S” arrangement. That shows delta shear underlying sediment during progradation transportation, is the layered flow character.

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(4) Sedimentary model: Slope moving fans usually located between delta and turbidities. Slope moving fans main develop on the slope zone, but turbidities develop in low angle transgenic flat region. With deltaic gradually promoting, slope moving fans distribut with irregular banding and semifloscular along delta direction.