

## Biosynthetic Base Environmental Friendly Drilling Fluid System - Ant-Druid

The modified from natural plant oil as a base fluid, not only has better performance of the system than that of mineral oil base drilling fluid, also with unique advantages including environmental friendly, formation damage control and safe use.

ANTON provides Ant-Druid drilling fluid system services, base oil and key supporting additives.

### Service Scope:

Widely used in strong water sensitivity down hole problem well drilling, displacing mineral oil base drilling fluid for all kinds of ultra-deep, high temperature and high pressure well, down hole trouble well from offshore to onshore.

- An easy hydration and dispersion, wellbore unstable silt and shale formation;
- Much down hole problem horizontal wells, highly-deviated wells, ERW and multi branch well drilling;
- In salt, mixture salt and anhydrite formation; and
- Environment sensitive and strict requirements areas.



### Technical Features:

- Better performance of the system than that of mineral oil base drilling fluid;
- The base oil is not sensitive to the temperature, pour point is minus 26 Celsius degrees, the performance is stable when temperature more than 200 Celsius degrees. It is free from aromatic hydrocarbon, no toxic, biodegradable, the base oil can degrade 84 percent within 28 days. High flash point and ignition point. It does not belong to the hazardous material, and safety during transporting, using and storage;
- Non fluorescence, more conducive to discovery oil and gas, and accurate evaluation, low formation damage; and
- Non corrosion to sealing parts and down hole rubber tools, reduce round-trip for changing drilling tool times, improving the drilling efficiency.

### Technical Achievements:

With the supporting key technology and chemical products invention patent, has obtained the certification from the authoritative environmental protection agency for the drilling cuttings.

### Service Performance:

Create the following records at Shale Gas Well at Southwest Oil and Gas Fields:

- "One trip" at test section of 2,318m with drilling cycle of 16 days;
- Average ROP of 9.74 m/h at horizontal section of 1,500m with drilling cycle of 9.1 days;
- Drilling cycle of 56 days for single well.

