Anton Drilling Group
Service Introduction
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Anton Drilling Group can provide customers with drilling and completion integrated general contract and single technical services, provide the whole process of drilling services from construction plan design to project organization, give full play to the professional service advantages of service providers, improve engineering quality and risk control ability through fast drilling, and create the maximum value for customers.
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Products and service

- Single drilling technology: Anton has comprehensive supporting drilling technology service capacity;
- Integrated drilling service: Can independently undertake integrated drilling services, and help customers to achieve cost reduction and efficiency improvement with superior and fast drilling technology.
1. Integrated Drilling Service

- With the ability of integrated drilling design and optimization, the integrated drilling solution is put forward.

- Through the overall organization, coordination and implementation of the project, the purpose of improving operational efficiency and reducing comprehensive costs is achieved, so as to achieve the mutual benefit and win-win situation between the owner and the service provider.

**Advantages**

- Improve Engineering Quality
- Improve the ability of Risk Control
- A Win-Win Situation

- Integrated drilling and completion service for single well and platform well;
- Consulting and management service for exploration and development projects;
- Integrated risk contracting service for exploration and development projects.
Products and service

2. Rig Service

- Total Management of 25 Rigs, 8 sets (1500HPX6, 2000HPX2) –Self-Owned
- Plain/mountainous area/desert/marsh
- Exploration/Development well/Shallow/Deep/Ultra-deep well/Vertical/Horizontal well
- Lateral well/Sidetrack drilling/Gas storage Coal bed methane/Shale gas/Brine, etc.

- Model
  - Rig day rate
  - Drilling general contract
  - Drilling & completion integrated general contract
  - Block general contract (Turnkey project)
3. Directional Drilling Service

- Capacity of serving 30 wells simultaneously.
- More than 760 Wells were constructed.

<table>
<thead>
<tr>
<th>Type</th>
<th>Positive Pulse MWD</th>
<th>Negative Pulse MWD</th>
<th>LWD</th>
<th>RSS</th>
</tr>
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<tbody>
<tr>
<td>Quantity</td>
<td>39</td>
<td>20</td>
<td>18</td>
<td>3</td>
</tr>
</tbody>
</table>

- Comprehensive directional/horizontal well service capacity

- Workshop

Global R&M Center in Tang Gu with full set of R&M facilities and QA/QC engineer; R&M facility in each service base to handle field R&M work.
4. Mud Service

- Water Base System
  - KCL/FOAMER\textsuperscript{AT}
  - ORG-DRILL\textsuperscript{AT}
  - LATI-SPRING\textsuperscript{AT}
  - Extreme Flow
  - Polyamine
  - Saturated salt brine system

- Oil Base System
  - LAVA-FLOW\textsuperscript{AT}

- Synthesis Base System
  - Ant-Druid
  - Mixed Polyolefin

- Provide a variety of high-performance WBM, OBM, high temperature, salt resistance, environmental protection and other drilling fluid systems and services
Products and service

5. Cementing Service
Cementing general package construction services, cement slurry system technical services, admixture materials services, cementing tool accessories services, cementing engineering design services.

- HT/UHT cement slurry system (250°C)
- High/ultra-high density cement slurry system (3.0SG)
- Low/ultra-low density cement slurry system (0.85SG)
- Elastic-plastic cement slurry system
- Self-healing cement slurry

- horizontal shale gas well
- Geothermal well
- Deep water and cryogenic well
- Thermal recovery well
- Carbon dioxide well
- CBM well
- Salt mining well

- Cement additives service
- Cementing lump sum

Slurry system
Well type
Service model
6. Oilfield environmental protection

Anton independently designed pretreatment + efficient desalination + biochemical treatment + reverse osmosis process. Dual alkali method was adopted to remove hardness, efficient desalination and biological method to remove COD. Reverse osmosis was used as the reuse water process. After treatment, all water quality indexes are up to and better than the domestic sewage discharge standard level A. The treated water can be used for industrial production and green water, breaking through the bottleneck of oil-gas field mixed wastewater treatment technology with high salt and high COD, and having unique advantages in the treatment technology involving the field of oily wastewater with high salt and high COD.
As the earliest professional company in China, Anton started drilling tool rental service in 1999. After nearly 20 years of development, It has become the most powerful drilling tool rental and technical services in China.

**Services**

- drilling tool rental
- drilling tool maintenance
- hardband welding & sales
- drilling tool manufacturing & sales
- drilling tool logistics
- well control equipment rental
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Drilling Performance

Important accomplishments listed in the below table

① Quick Response  ② Careful Preparation  ③ Timetable

<table>
<thead>
<tr>
<th>No</th>
<th>Year</th>
<th>Name</th>
<th>Service Content</th>
<th>Well No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2011</td>
<td>Sulige Gas Field dual-lateral horizontal well drilling &amp; completion and multi-staged fracturing IPM service</td>
<td>Program design, integrated drilling engineering service (rig, technique, bit, down-hole tool), directional drilling and Geo-steering service, mud service, 5 stage fracturing service</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2011</td>
<td>Shenhua CCS project, Drilling &amp; completion and CO₂ injection IPM service</td>
<td>Program design, integrated drilling engineering service, Mud logging, WL logging, Mud service, formation test, cementing, perforation, fracturing, Casing supply, Pneumatic Sealing Test, CO₂ injection.</td>
<td>2</td>
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<tr>
<td>3</td>
<td>2011</td>
<td>Daqing Oilfield UBD side-tracking horizontal well drilling &amp; completion IPM service</td>
<td>Program design, Side-tracking in casing, integrated drilling engineering service, OBM service, DP logging, UBD service, multi-staged completion service</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>2012</td>
<td>Daqing Oilfield Coal-gas development IPM service for whole block</td>
<td>Program design, site construction, integrated drilling engineering service, foam drilling fluid, WL Coring service, dual-staged cementing, waste disposal</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>2012</td>
<td>Xingjiang Kelamayi side-tracking horizontal well drilling &amp; completion IPM service</td>
<td>Program design, Side-tracking in casing, Geo-steering service, integrated drilling engineering service, drilling and completion fluid service, DP logging, Staged fracturing service, well test.</td>
<td>1</td>
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<tr>
<td>6</td>
<td>2012</td>
<td>TWE Coal-gas well drilling&amp; completion IPM Service</td>
<td>Program design, site construction, integrated drilling engineering service, drilling and completion fluid service, Mud logging, WL logging, Cementing, waste disposal</td>
<td>2</td>
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<tr>
<td>No</td>
<td>Year</td>
<td>Name</td>
<td>Service Content</td>
<td>Well No.</td>
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<td>---------------------------------------------------------------------------------</td>
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<tr>
<td>7</td>
<td>2013</td>
<td>Geothermal Drilling IPM service in Tianjin</td>
<td>Integrated drilling engineering service (rig, technique, bit, downhole tools, fishing), directional drilling service, Mud service, Casing Running &amp; Cementing</td>
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<tr>
<td>8</td>
<td>2013</td>
<td>Sichuan horizontal well drilling &amp; completion Service</td>
<td>Program design, directional drilling and Geo-steering service, Mud service, completion</td>
<td>5</td>
</tr>
<tr>
<td>9</td>
<td>2013</td>
<td>Yanchang oilfield side-tracking horizontal well drilling &amp; completion and fracturing IPM service</td>
<td>Geological analysis, well pattern arrangement, Well program design, Integrated drilling engineering service, directional drilling and Geo-steering service, Mud service, side-tracking in casing, multi-staged fracturing, well test</td>
<td>2</td>
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<tr>
<td>10</td>
<td>2014</td>
<td>Geothermal Drilling IPM service in Beijing</td>
<td>Integrated drilling engineering service (rig, technique, bit, downhole tools, fishing), directional drilling service, Mud service, Casing Running &amp; Cementing, waste disposal</td>
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<tr>
<td>11</td>
<td>2014</td>
<td>Xingjiang Kelamayi side-tracking horizontal well drilling &amp; completion and fracturing IPM service</td>
<td>Program design, Integrated drilling engineering service, Side-tracking, directional drilling and Geo-steering service, mud service, WL logging, multi-staged completion and fracturing.</td>
<td>15</td>
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<tr>
<td>12</td>
<td>2014</td>
<td>Yanchang oilfield side-tracking horizontal well drilling &amp; completion and fracturing IPM service</td>
<td>Geological analysis, well pattern arrangement, Well program design, Integrated drilling engineering service, directional drilling and Geo-steering service, Mud service, side-tracking in casing, multi-staged fracturing, well test</td>
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<tr>
<td>13</td>
<td>2014</td>
<td>Tarim dual-lateral horizontal well Drilling &amp; completion IPM service</td>
<td>Drilling program design, Integrated drilling engineering service, directional drilling service, RSS + LWD service, multi-staged completion</td>
<td>1</td>
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<tr>
<td>14</td>
<td>2014</td>
<td>Salt well drilling/completion IPM service</td>
<td>Site/road construction, Integrated drilling engineering service, Drilling fluid, Coring service, Directional drilling and RMRS service, Cementing, WL logging, Mud logging, Casing, wellhead supply, Waste disposal</td>
<td>2+2</td>
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</tbody>
</table>
## Drilling Performance

<table>
<thead>
<tr>
<th>No</th>
<th>Year</th>
<th>Name</th>
<th>Service Content</th>
<th>Well No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>2014</td>
<td>North Sulige horizontal drilling &amp; completion and multi-staged fracturing IPM service</td>
<td>Geological analysis/program design/integrated drilling engineering service/WBM service, directional drilling and geo-steering service, Cementing, Multi-staged fracturing, well test, waste disposal</td>
<td>1</td>
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<tr>
<td>16</td>
<td>2014</td>
<td>Jingmen shale gas well drilling &amp; completion, fracturing, well test IPM service</td>
<td>Program design, integrated drilling engineering service, WBM service, directional drilling, mud logging, WL logging, Cementing, Multi-staged fracturing, well test, waste disposal</td>
<td>1</td>
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<tr>
<td>17</td>
<td>2015</td>
<td>Yanchang oilfield horizontal, Xinjiang Oilfield horizontal well Drilling IPM service</td>
<td>Integrated drilling engineering service (rig, technique, bit, downhole tools, fishing), directional drilling service, Mud service, Casing Running &amp; Cementing, waste disposal</td>
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<tr>
<td>18</td>
<td>2016</td>
<td>IRAQ Halfaya oilfield Drilling IPM service</td>
<td>Integrated drilling engineering service (rig, technique, bit, downhole tools, fishing), directional drilling service, Mud service, Casing Running &amp; Cementing, waste disposal</td>
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<tr>
<td>19</td>
<td>2016</td>
<td>IPM service for POLY-GCL in Ethiopia</td>
<td>Integrated drilling engineering service (rig, technique, bit, downhole tools, fishing), directional drilling service, Mud service, Casing Running &amp; Cementing, waste disposal</td>
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<tr>
<td>20</td>
<td>2017</td>
<td>Total south sulige block Drilling engineering IPM service</td>
<td>Integrated drilling engineering service (rig, technique, bit, downhole tools, fishing), directional drilling service, Mud service, Casing Running &amp; Cementing, waste disposal</td>
<td>6</td>
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<tr>
<td>21</td>
<td>2018</td>
<td>Southwest Shale gas IPM service</td>
<td>Integrated drilling service, completion service, Fracturing service, testing service</td>
<td></td>
</tr>
</tbody>
</table>
THANKS!
Helping others succeed...