Leading Independent Third Party Company for Survey Management & Relief Well Services

www.pathcontrol.com
Fields of expertise:

- Wellbore Placement
- Advanced Survey Management
- Relief Well & Intercept Wells
- Blow Out Contingency Planning

Added Value:

- Expertise & Know-how
- Dedicated Methodologies
- Proprietary Algorithms & Software
- Survey Management Global Approach

A RELIEF WELL & INTERCEPT WELL COMPANY

Relief Well

- Field proven methodology – First pass intercept
- High profile relief well project specialists
- Specific process from planning to interception
- Enhanced 3D ranging interpretation
- Well Control throughout Re-entry or perforation
- Interception & Milling modeling

Blow Out Contingency Planning

- Emergency response : Planning & Training
- Communication standards & Procedures
- Workflow Process and Organization Charts
- Well Capping Plan & Surface intervention
- Relief Well Contingency Plan
- Dynamic Killing & Ranging Strategy
ACE Methodology for Survey Management Services:

**ANTICIPATE:**
- Advanced Survey Management & Survey Program
- Global Data Mining & Database Integrity
- Spatial IFR Services

**CONTROL:**
- Collision Avoidance with PCTrack (R) Ranging
- Real Time Survey Management
- Temporal 4D IFR Services

**ENHANCE:**
- Position Uncertainty based on enhanced models
- Reliable directional database construction
- Reservoir wellbore enhanced placement

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**LEADING INDEPENDENT PREFERRED PARTNER**

**Wellbore Positioning**
- Directional Database Integrity
- Improved Wellbore Placement
- Reduced Positioning Uncertainties
- Well Planning and Survey program design
- Collision Avoidance Management
- Advanced Training for Engineers

**Real-Time Advanced Survey Management**
- 24/7 Remote Support Operation
- Collision Avoidance with PCTrack Technology
- Accurate TVD well placement
- Reduced Lateral Uncertainty
- Customized Error Model
- Real-Time Geosteering

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**TECHNOLOGY ORIENTED & ISCWSA MEMBER**

**Passive Magnetic Ranging**
- Provide 3D distance and direction to offset wells
- Compatible with all MWD systems
- Patented 3D PCTrack Technology
- Real-Time Well Detection for top-hole, sidetrack...
- Collision avoidance Monitoring tool
- Adapted to Plug & Abandon

**In-Field Referencing (IFR)**
- Improve QA/QC and Accuracy of MWD measurement
- Unique Temporal & Local IFR Services
- Spatial In-Field Referencing Services
- Geomagnetic Data Processing
- Real-Time IFR 4D + MSA process
- Accurate lateral wellbore positioning
WELLBORE POSITIONING PARTNER FOR ADVANCED SURVEY MANAGEMENT SERVICES

Interception and Relief wells projects

2008
Interception, Milling and Re-entry of a 2-7/8” stinger into a 4-1/2” tubing
(Offshore Libya)

2009
Double interception with milling and perforation of a blow-out well
(Offshore Nigeria)

2010
Interception of a 13-5/8” casing of a blow-out well (Offshore Nigeria)

2011
Planning of 3 relief wells required to kill a blow-out well surrounded by 39
active wells and branches (Onshore Nigeria)

2012
Drilling of 2 relief wells for a double intercept in the 9-5/8” casing of a
blow-out HPHT well (Offshore UK)
Relief Well drilling intercept in 10-3/4” casing of a blow-out well (Onshore
Kuwait)

2013
Intercept well to re-enter the stump of a 7” casing (Onshore France)
Side Track and Open-hole re-entry below BHA lost in hole (Onshore Russia)
Design of an intercept well and its fall-back deeper intercept of
a 3-1/2” tubing corroded 20 m below surface (Onshore Argentina)

2014
Design of two relief wells to intercept a blow-out well
(Offshore Mexico)
Intercept and Milling of a 5-1/2” casing of a blow-out well (Onshore USA)

2015
Challenging proximity drilling for a top-hole section (Offshore Argentina)

2016
Side Track, Interception and Re-entry of a stinger to plug and abandon a
highly corroded well and prevent communication overlaying reservoirs
(Onshore France)

2017
Double-intercept well for a plug and abandon job (Onshore USA)

2018
Successful first-pass interception and milling of a blowout well (Onshore
Nigeria)
7 Interception wells (Onshore North America)

2019
Relief Well services, first pass interception of a blowout well
(Offshore Indonesia)
2 Relief Well plans for multi well blow out cluster (Onshore North America)
7 Interception wells (Onshore North America)