



HDD Intersect Services

Prime Horizontal



Horizontal Intersect Drilling

Casing to Casing

- Restricted Entry/Exit positions
- Gravel formation
- Intersect Casing direction or along the borehole

Environmental

- If hole cleaning or formation conditions require a lower annular pressure (monitored by Pressure While Drilling) than has been estimated over the length of the bore, it can be significantly reduced by drilling from both sides.

Torque & Drag Relief

- For various reasons, there are instances where it appears impossible to punch out. In some situations a relief bore from the opposite side can relieve the push and torque values allowing completion of the hole.

While 'Casing to Casing' intersects generated the first opportunity to successfully prove intersect techniques and technologies. Prime Horizontal was the pioneer of this technology.

We have now completed over 60 successful intersects using multiple magnetic sources for guidance.

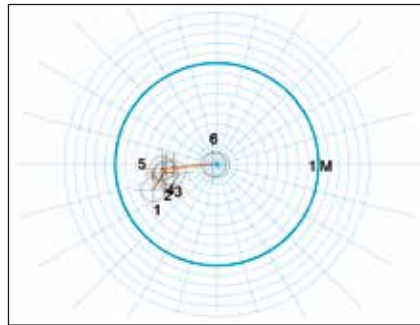
Each source gives us additional capabilities to ensure a first time success.

Longest Intersect: 3935m with 14" product pipe.

Shortest Intersect: 350 m.

Largest Intersect: 1100m with 48" product pipe.

Smallest product pipe diameter: 4".



Intercept vector plot

AM & RM subs accuracy

RM & AM Subs	2 7/8" OD—9 1/2" OD
RM & AM Accuracy	5cm at <3m depending on S/N Ratio



Benchmark in use

Various Magnetic Sources

ParaTrack-2 Axial Magnet sub

The AM sub is generally utilised in soft formation/jetting. Where tracking systems enables a close proximity for the first range as distance is limited to 5m.

Applications include close spaced boreholes, freeze drilling, & tunneling projects.

AM Final Approach | Up to 5m



Axial Magnet Sub

ParaTrack-2 Rotating Magnet sub



Rotating Magnet Sub

The RM sub is generally utilised in harder formations & longer crossings & where the surface tracking systems are limited. Ideal for long crossings under a large body of water or obstruction, where coil or beacon cannot be utilised.

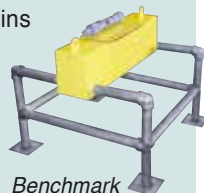
RM Initial Approach | Up to 70m

Benchmark

The Benchmark is used for under river Intersects. It is deployed by positioning 3 Benchmarks on the riverbed over the drill line.

Stand Footprint	915mm x 915mm
Box	1041mm x 203mm x 280mm
Weight	125kg
Materials	Non magnetic stainless steel

Omni-directional acoustical actuator
 Operation time per actuation: 15mins
 30 day reserve to first actuation
 Signal strength accuracy to -50m
 160 hour operating time reserve
 100m water depth maximum.



Benchmark

Prime Horizontal offices

www.primehorizontal.com

United States, Canada, Mexico, Brazil

Prime Horizontal Inc
 1302 Gulf Boulevard, New Iberia, LA 70560 US
 Ph (US): +1 337 359 9061
 Ph (CA): +1 780 800 6614
 Ph (BRZ): +55 71 3023 0934

Europe, China, Middle East

Prime Horizontal Ltd
 Salland 3
 1948 RE Beverwijk
 The Netherlands
 Phone: +31 251 271 790

Australia, Southeast Asia, India

Prime Horizontal Australia Pty Ltd
 10 Enterprise Street, Cleveland,
 QLD 4163, Australia
 Ph (AUS): +61 73 821 3684
 Ph (IND): Phone: +91 997 172 9753