



USR DRILLING SERVICES

Effective Reservoir Development

*Innovative Well Intervention Ultra
Short Radius (USR) Drilling and
Completion Technologies*

Providing Innovative Drilling and Completion Technologies





THE USR DRILLING SYSTEMS

Rotary Steerable and Mud Motor Drilling has been combined to provide the industry with a unique drilling alternative to conventional horizontal drilling systems.

Attributes of the drilling systems employed by USRD include:

- Ability to re-enter existing wells completed with 4-1/2" OD casing (or larger)
- Drills a consistent radius of curvature as small as 27 feet
- Laterals ranging from 100' to 1,000' can be drilled
- Multiple laterals can be drilled from a single well-bore
- Compatible with any drilling medium including air, mist or foam
- Can be implemented with a drilling rig or service rig

Most horizontal wells are currently drilled with mud motor drilling systems. These mud motor systems are well-suited for drilling medium and long radius curves, but short radius and USR curves (particularly those with less than a 60' radius of curvature) are more difficult and risky. USRD specializes in drilling horizontal wells with radii of 25-57 feet using a combination of rotary steerable and mud motor assemblies which are specifically designed to achieve high build up rates approaching 230° per 100'. Both USRD's drilling systems are specifically designed to be operated from a workover type rig with pipe rotation provided by a top drive or power swivel. The use of less costly surface components and smaller location foot print translates to lower drilling costs.

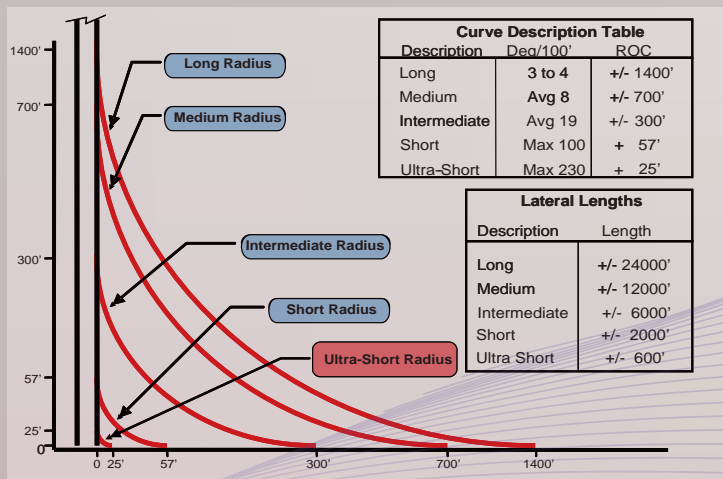
One key benefit of USRD's technology is that inclination and azimuth readings are obtained only 2' to 7' from the bit. This reduced projection to the bit distance allows for a planar curve and smoother lateral section. Thin pay zones can be more accurately drilled with less wellpath tortuosity. This provides a definite advantage for well completion and production.

WHAT IS ULTRA SHORT RADIUS DRILLING

By Definition:

Build Up Rate: 100 degrees per 100 feet to 230 degrees per 100 feet

Vertical Section of Curve: Minimum 25 feet to a Maximum of 57 feet.



USR DRILLING SERVICES CO, wll ("USRD") provides Ultra Short Radius "USR" Drilling and Completion Technologies.

USR is rapidly becoming the preferred choice for a variety of applications, Including:

- Sidetracks from Vertical Wells in Tightly Spaced Fields
- Sidetracks from Vertical Wells with Water Coning
- Sidetracks from Vertical Wells with Near Wellbore Damage
- Sidetracks into Channel Sands with Surrounding Shale
- Exploitation of Attic Oil from a Vertical or Horizontal Wells
- Exploitation of Low Producing Vertical or Horizontal Wells
- Exploitation of Slim Hole Vertical or Horizontal Wells
- Sidetracks from Water Injectors to Increase Injection Rates and Improve Sweep Efficiency
- To Increase Injectivity and Deliverability in Gas Storage Reservoirs

USR offers the following advantages over conventional horizontal drilling systems:

- Problem Zones such as Water Sands, Gas Caps and Problematic Shales can be Avoided
- Allows a More Efficient Development of Closely Spaced Fields
- Downhole Pumps can be Placed at the Top of the Formation to Maximize Productivity
- Utilizes Workover Type Rigs, Smaller Pumps and Circulating Systems
- Landing in Thin Targets can be more easily achieved when exiting from an existing wellbore and at or near the top of the target formation

Since 1990, our USR teams have been involved in the early testing and development of USR Drilling and Completion Technologies and have drilled more than 200 test wells and more than 250 field applications.

USR DRILLING'S EXCEPTIONAL EXPERTISE

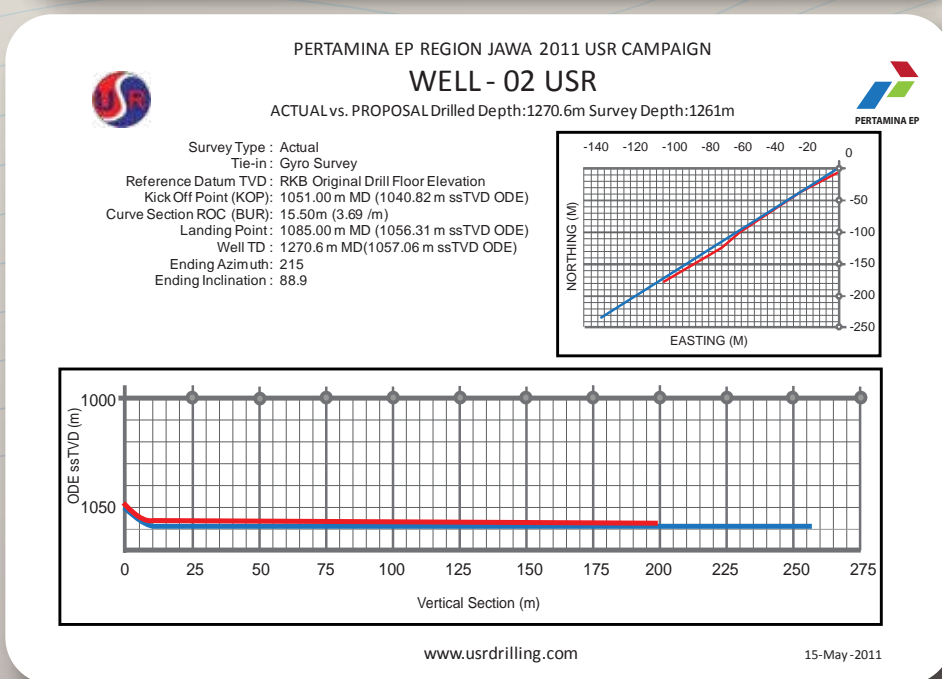
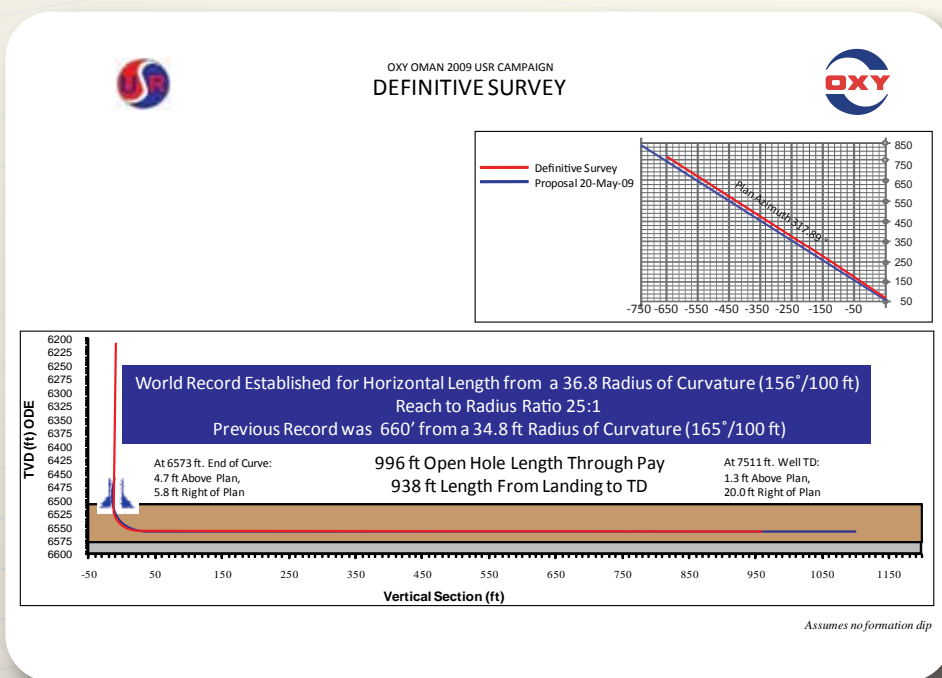
USR Drilling Services is the oil and gas industry's sole and exclusive service provider of Ultra Short Radius Drilling (USRD) and Completion Technologies. The management, drilling and engineering personnel possess, on average, more than 20 years of experience with USRD. This experience began in the late 1980s with the early development and testing of the initial prototype tools.

Our expertise is the re-entry of existing wellbores to exploit bypassed reserves in mature fields. We deploy proprietary well-intervention technologies that were specifically designed to exploit remaining reserves, increase production from marginal wells, restore production from shut-in wells, and reduce water production.

We are a directional drilling company that specializes in Ultra Short Radius (USR) and Short Radius (SR) projects. The company's focus is on the market segment requiring a radius of curvature (27-60 ft.) and a slim hole (3 7/8 in. to 4 3/4 in.).

Tap into our pool of skilled Directional Drillers and Drilling Engineers. Also, look to our highly experienced Rig Managers and Project Engineers to support your operations. We pride ourselves on effective drill site and project management. USR Drilling Services has experience in drilling and managing projects in the US, Middle East, Europe, Asian Sub-Continent, SE Asia, and Africa.

USR CASE HISTORIES



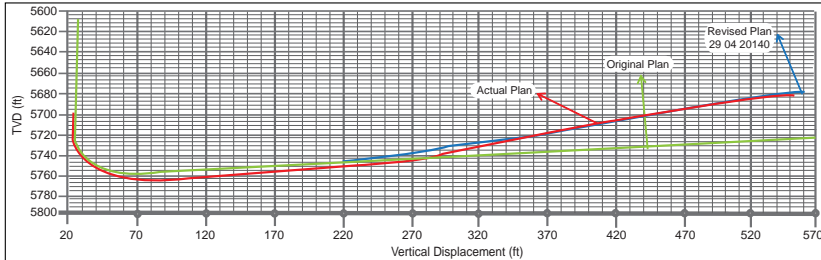
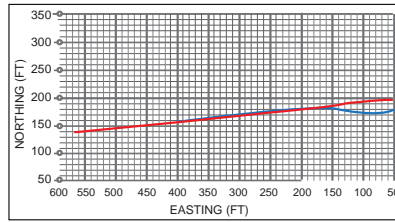


CITIC SERAM 2010 USR CAMPAIGN
NUA-A3 USR



CITIC Seram Energy Ltd

Well Head Coordinates (m) : N 9641750.3 E 670371.0
Survey Type : Actual
Tie-in : Surface Original EN-1 Survey
Reference Datum TVD : RKB Original Drill Floor Elevation
Kick Off Point : 5726' MD (5717.73 TVD ODE)
Curve Section ROC (BUR) : 45.0 ft (127°/100 ft)
Landing Point : 5809' MD (5763.9' TVD ODE)
Well TD : 6300' MD (5680.0' TVD ODE)
Ending Inclination : 92.3°
Ending Azimuth : 266.4°



Assumes no formation dip

A VARIETY OF RIGS CAN BE USED FOR USR DRILLING



GABON (mini rig)



OMAN (750hp)



TURKEY (450hp)



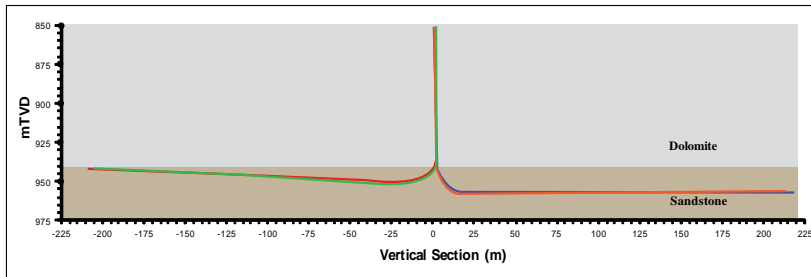
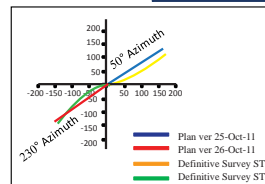
GABON (400hp)



INDIA (350hp)

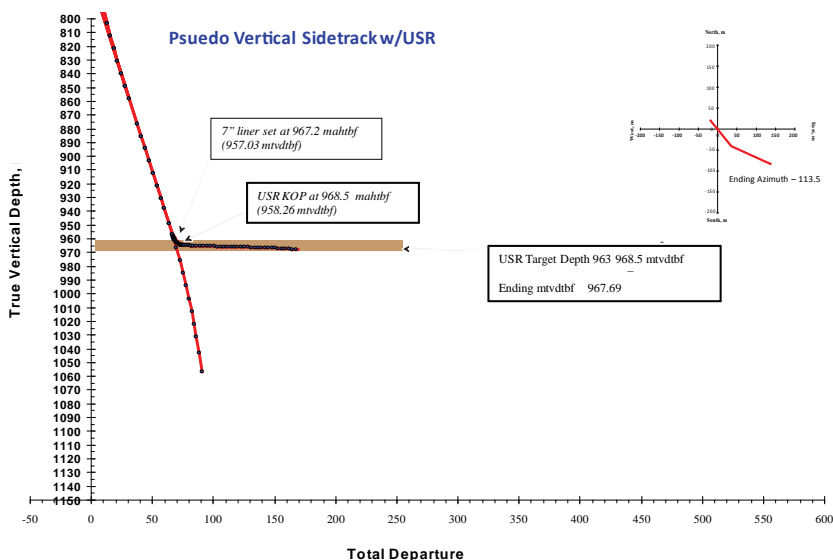


PERENCO, GABON
DEFINITIVE SURVEY



Assumes no formation dip

PETROLEUM DEVELOPMENT OMAN





EQUIPMENT REQUIREMENTS

The Rig

The rig can be a typical service completion unit capable of pulling and racking double stands of pipe. The rig must be in good condition, including the engine, brakes and cables. The floor must be high enough to permit the use of blowout preventers. The weight indicator, power swivel torque gauge and mud pump pressure gauge must be accurate and easily visible on the rig floor.

The Power Swivel

The power swivel must be the equivalent of a Bowen 2.5 or larger. A remote control panel must be positioned on the rig floor. The power swivel must be electrically or hydraulically controlled, sensitive and respond immediately to the control panel. When placed in the neutral position, the swivel must stop and not continue to rotate. A swivel with a back brake system is preferred. In deeper wells and for longer laterals, a Bowen 3.5 may be required. An accurate torque gauge to monitor drilling torque is required.

The Mud Pump

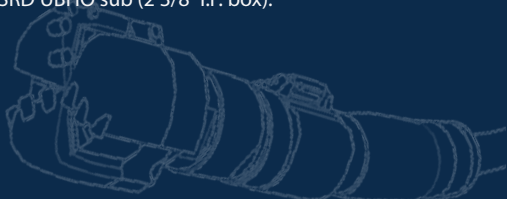
The mud pump must be a triplex capable of 110 to 400 gpm and 600 to 2,000 psi. The pump must supply a quiet signal to the pressure gauge at surface. Erratic fluctuation in the signal will make it difficult for the driller to recognize pressure drops during correction maneuvers.

The Primary Drill String

The primary drill string to be used in the vertical hole must have shouldered connections such as IF, AOH, DSS, or PH-6. The pipe must be made up to the manufacturer's make-up torque specification. All inside diameters must be at least 1.9" to pass the gyroscopic orientation tools. The interior of the pipe must be clean and free of all scale and debris. It is recommended that the drill string be drifted, tested, and rattled prior to delivery to the well site.

Cross-Overs

A full opening of at least 1.9" I.D. is required for all cross-overs. Cross-overs will be needed from the power swivel to the primary string and from the primary string to the USRD UBHO sub (2 3/8" I.F. box).



Well Completion Options :

Single Leg or Multi Lateral Legs

- Open Hole Completion
- 2-3/8" and 2-7/8" Perforated or Slotted liners.
- 2-3/8" and 2-7/8" Articulated and Rotatable Pre-packed sand screens "Snake Screens"

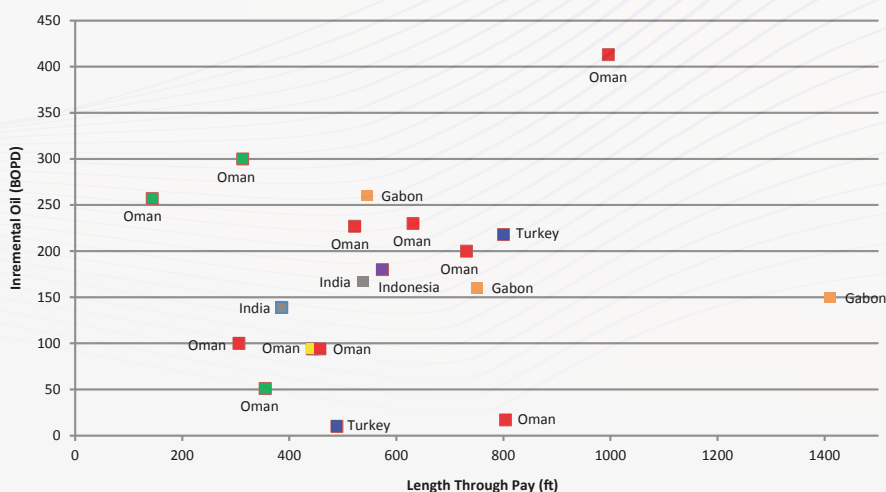
For later stimulation, Coiled tubing can be run through the completion.

"SNAKE SCREENS"™



Incremental Oil vs USR Hole Length Chart

Incremental Oil vs USR Hole Length Through Pay





CONTACT INFORMATION



For More Information, please contact:

USR DRILLING SERVICES CO, W.L.L

404 Diplomat Tower
Manama, Kingdom of Bahrain

Tel: + 973 1753 7833 Fax: + 973 1753 7844
www.usrdrilling.com

Attn: J. David LaPrade, President
d.laprade@usrdrilling.com

INDIA

D-3132, Oberoi Garden Estates,
Chandivili, Andheri (E),
Mumbai - 400 072
India
Tel : +91-22-67103251
Fax : +91-22-67103254

INDONESIA

Menara Thamrin 19th Floor, Suite 1904
Jl. M. H. Thamrin Kav.3
Jakarta 12950
Indonesia
Tel : +62-21-2302756
Fax : +62-21-2303443

OMAN

Way # 5236, Building # 2799
Ghala
Sultanate of Oman
Tel : +968 24502393 / +968 24590405
Fax : + 968 2450422

MALAYSIA

c/o Well Engineering &
Technology Sdn Bhd
(WellTech)
Level 12, Menara Weld,
76, Jalan Raja Chulan,
50200 Kuala Lumpur,
Malaysia
Tel: (603) 2026 6787
Fax: (603) 2034 2199

