

## TECHNOLOGY: TERRA-SLICING OF CASING



### TECHNICAL PRINCIPLES & APPLICATIONS

Terra-Slicing is a patented abrasive jet cutting completion process to cut through production casings with high-pressure slurry (up to four or more). Terra-Slicing is designed to cut vertical windows into cement and 15 feet (5m) in many directions into near-wellbore rock formation.

The Terra-Slicing machine is the only downhole tool that controls itself at downhole point of engagement (and not surface). This is a big advantage over competitor products.

Terra-slicing tool can be oriented in real-time to any vector.

The application of Terra-Slicing is ideal in any cement squeeze repair of bad casing; secondary recovery of oil or gas production from depleted zones; or where previous completion or fracturing was unstable or ineffective; any open-hole or cased wells that have low permeability, low porosity, high pressure, near-wellbore damage, or other production problems; can be run in vertical or horizontal wells; also to improve water-cut & increase production.

### BENEFITS OF THE TECHNOLOGY

1. Re-distributes stresses away from near-wellbore zone
2. Porosity increases >> 4-5x; Permeability >> 15x
3. Drainage volume increases 6.2x greater than borehole
4. Very deep penetration (compared to perforation)
5. Eliminates screenouts, lamination, skin effects, etc.
6. Creates vertical permeability that does not normally exist in nature – full thickness through interbedding & layers
7. Has a longer lasting effect than any other technology
8. “Managed balanced” drilling – not overbalanced
9. So powerful it can cut multiple casings & deep rock
10. Does not crack casing cement / keeps hydraulic integrity
11. The only technology that actually excavates rock
12. Accurate & controllable connection / communication
13. Helps direct a hydraulic fracture (even near water)
14. Ecologically safe / environmentally friendly
15. Follow-up intensification methods also show increased results due to huge drainage surface (i.e. acidization, hydro-fracturing, acoustics, etc.)

### MARKET PROVIDER

Falconridge Oil UAE provides and markets this technology award-winning service.

### BENCHMARKING

- Reservoir engineering, numerical modeling, completion engineering design, economic evaluation, casing/rock analysis
- Cut dimensions are calibrated beforehand
- Real-time digital monitoring provided
- Orientation tool field-tested, high accuracy
- Terra-slice final measurements may be confirmed with DHV or well test logging.

### RISKS AND COSTS

Risks of failing to cut are minimal, even for multiple casings and cement. Equipment is designed for deep cuts. Cutting and orientation ability can be demonstrated on surface prior to job. Cost ranges from 500K to 5M depending on size, depth, and number of terra-slices, and complexity of the job. Risk and cost can be reduced further by consulting with experienced engineering and geological team of Falconridge Oil UAE.

**CHAMPION :**

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