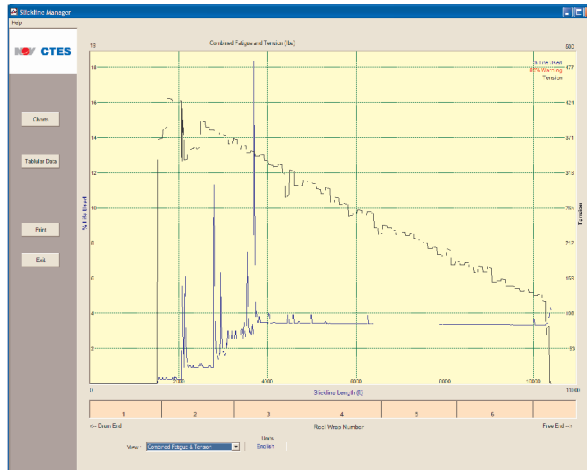


# Cerberus™ for Slickline Fatigue

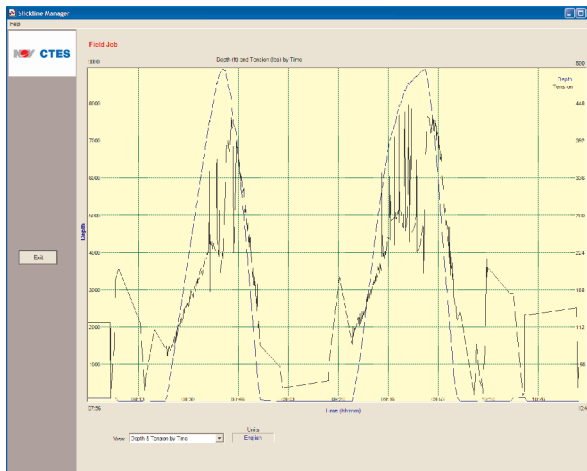
OPTIMIZE USEFUL SLICKLINE LIFE BY PREVENTING FAILURES AND COSTLY LINE REPLACEMENT

## FATIGUE LIFE TRACKING

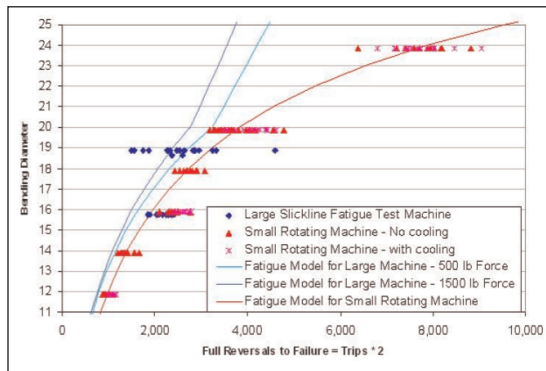
- Result shows fatigue along the length of the slickline
- Data acquisition system required to capture job depth and tension data
- Sheave diameters and configurations required
- Filtered data from all jobs stored in database for each slickline
- Records Slickline cutting and re-spooling events



Job Data from Data Acquisition System



Percent Life Used vs. Length



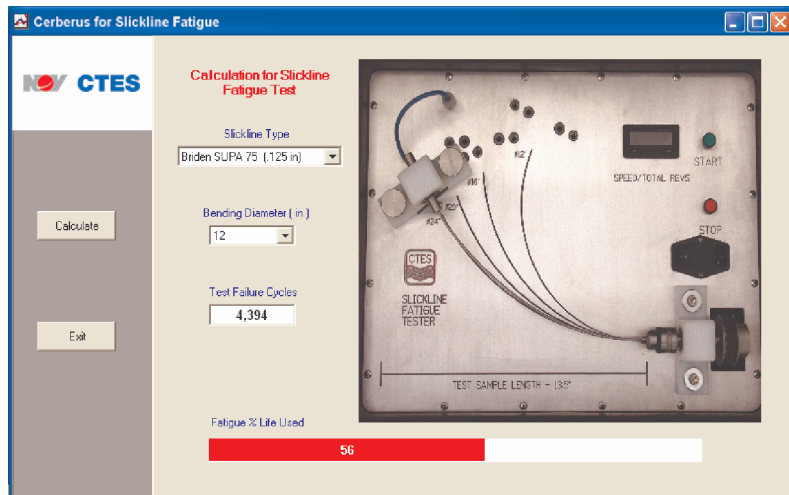
Typical Fatigue Test Data and Model Results

## MODEL DEVELOPMENT:

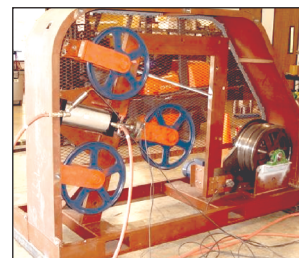
- Plastic bending fatigue model
- Varies fatigue life with tension
- Different model parameters for each slickline
- Model calculates percent of life used

## VALIDATION: FATIGUE TESTING:

- Two fatigue test machines developed
- Testing with and without tension
- Fully reversed bend cycles counted
- Samples cycled to failure
- Each type of slickline must be tested



Portable Test Machine Results: Fatigue Percent of Life Used



Large Test Machine

Cerberus™ for Slickline Fatigue

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