# Time-lapse Processing

Our complete time-lapse processing and imaging toolkit can really make a difference.

This includes:

› Comprehensive time-lapse attribute maps and volumes

› Deterministic deghosting

› Shot-by-shot designature

› Time-lapse co-denoise

› Global and local time-lapse matching

› Multi-attribute time-lapse binning

› Time-lapse de-striping

## TIME-LAPSE CO-DENOISE

BEFORE

AFTER

NOISE

4 km
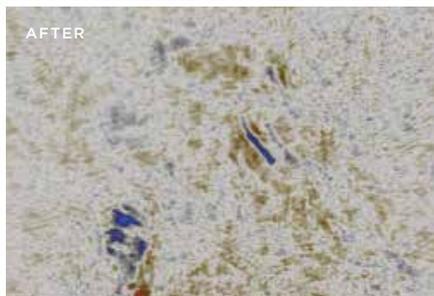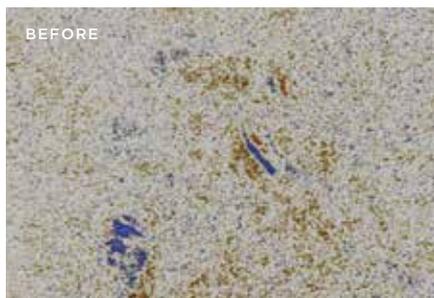
O1. (top) Difference timeslice (baseline - monitor) before time-lapse co-denoise. (middle) Difference timeslice after time-lapse co-denoise. (bottom) Difference between the top and middle images highlighting the removed noise. Our algorithm describes a model such that baseline and monitor share a "common signal" while each contains a unique "innovation signal". The data misfit not explained by this model is treated as noise. The signal components are simultaneously recovered using an inversion algorithm.

SUPERIOR IMAGING OF TIME-LAPSE SIGNALS

LEGACY   DUG REPROCESSING

MONITOR SURVEY

TIME-LAPSE DIFFERENCE

4 km
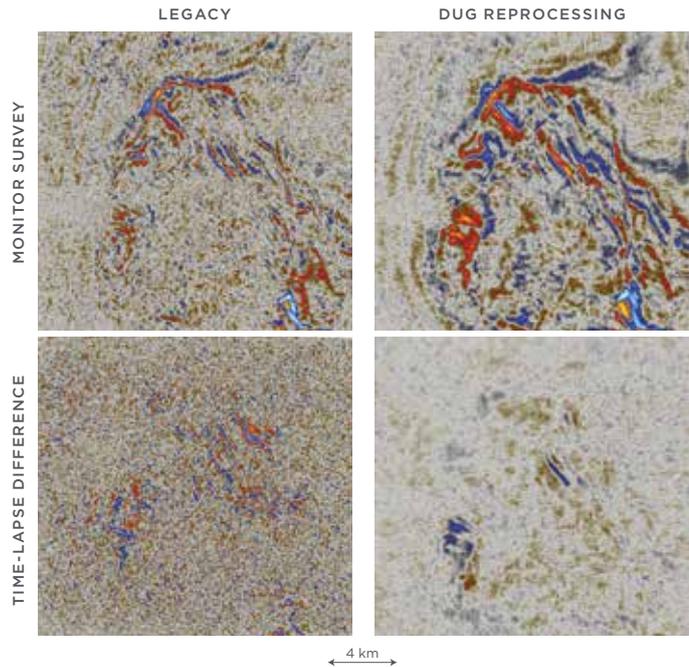
O2. (left column) Legacy processing results showing a full-stack time slice through a monitor survey (top) and a difference (baseline - monitor) time slice (bottom). (right column) Our time-lapse reprocessing results highlight much improved signal-to-noise ratio and clearer imaging of the time-lapse signals.

SUPERIOR TIME-LAPSE ATTRIBUTES

LEGACY   DUG REPROCESSING
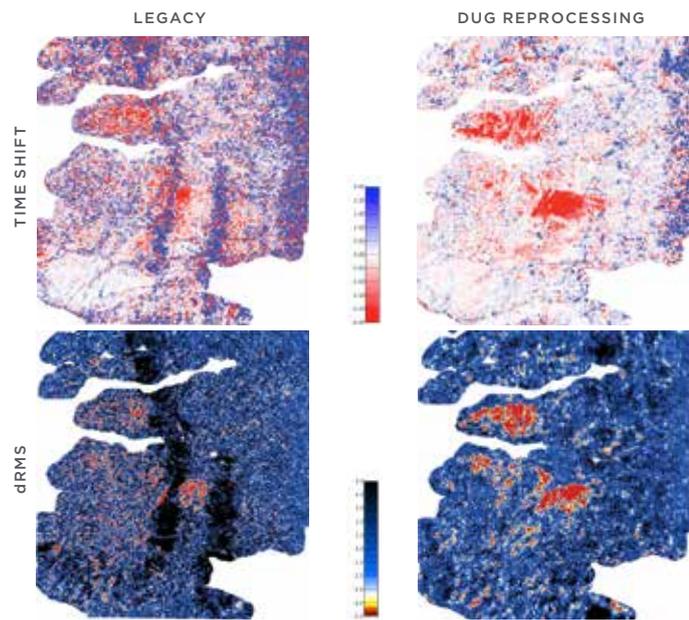
TIME SHIFT

dRMS

O3. (left column) Legacy processing results showing time shift and dRMS attributes for a target horizon. (right column) The same attributes after our time-lapse reprocessing. Note the improved resolution and definition of the time-lapse response.

Data courtesy of Equinor qualification project