



MEMS vs. Geophone Super Test in Anadarko Basin

Non-exclusive Seismic Survey in Roger Mills and Beckham Counties, Oklahoma, and Wheeler County, Texas

VectorSeis® / Geophone / Vibroseis / Dynamite Test Line

SHEARWAVE, INC is pleased to announce the successful acquisition of an advanced MEMS digital multi-component test in the Western Anadarko Basin.

The purpose of this project is to compare MEMS and geophone technology over a regional 25 mile profile with both vibroseis and dynamite sources. Both Geophone and VectorSeis® data was recorded simultaneously with the I/O System Four VC.

The program resulted in four identically located 25 mile lines (100 miles total) including VectorSeis -Dynamite, VectorSeis -Vibroseis, Geophone-Dynamite and Geophone-Vibroseis with processed versions including PP, PS and advanced product displays.

Key Geology and Well Ties

This long offset regional spec line was designed to transition from the deep basin southwest to the western termination of the Wichita Mountain Front and ties key wells plus several gas fields. Line ties include several full-wave sonic logs.

Key productive formations in the area include the Morrow, Atoka, Granite Wash and other formations. The project is a comprehensive evaluation of conventional analog sensors vs. new 3C MEMS technology in a deep complex imaging environment.

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62K buggy vibrators Paragon Geophysical, Inc.

Field & Technical Support

SHEARWAVE would like to acknowledge the field and technical support of our subcontractors including Paragon Geophysical, GX Technology (I/O), Seismic Equipment Solutions and others. Also the help of Gateway Permit Services for securing permits in a tough area.

Non-exclusive Seismic Data and Test Package will be available for Licensing at Year End 2006



Right: I/O VectorSeis® 3C Digital Sensor



Above: Paragon Geophysical under contract to SHEARWAVE, INC. provided the acquisition services for this complex project.

This data set will be available for licensing at year end. Deliverables will include an executive summary, PowerPoint presentations (flip stacks), stack displays and field data.

All key data sets including geometries and rotations have been preserved to aid in future reprocessing.

PowerPoint studies include filter panels, shot sourced noise attenuation, signal to noise studies, source energy comparisons, vector filtering, point receivers vs. arrays and many others.

SHEARWAVE, INC. will be conducting PowerPoint QC presentations in December 2006 for interested parties.

VectorSeis® is a registered trademark of I/O.



Photo: Shooters plant uphole geophone and prepare for shot hole detonation.

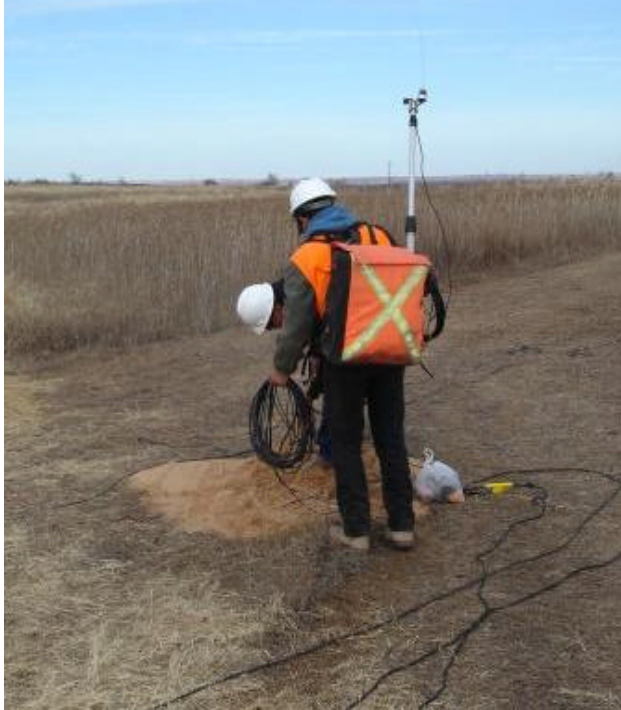


Photo: Deep Atoka and Morrow production on line.



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Non-exclusive Seismic Survey

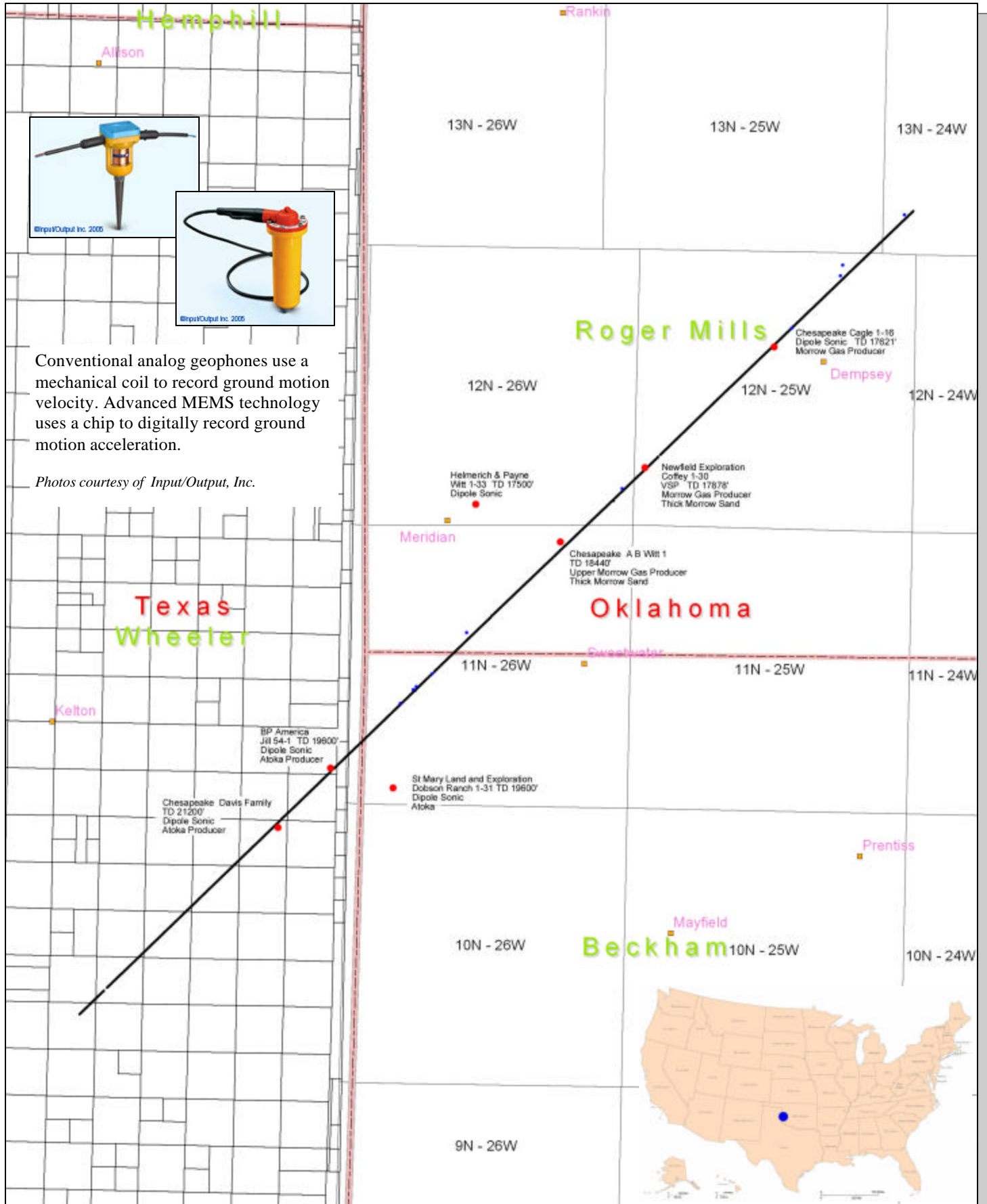
Test Specifications at a Glance

- Four 25 mile lines in same location
 - VectorSeis Dynamite
 - VectorSeis Vibroseis
 - Geophone Dynamite
 - Geophone Vibroseis
- Dip line tying key wells, production and geology
 - Ties three full wave sonic logs
 - Ties thick Morrow sands at depth
 - Ties Atoka production at depth
 - Line transitions from basin to mountain front
- Recording
 - VectorSeis System Four VC
 - New 10 Hz Geophone Strings
 - VectorSeis 3C MEMS Sensors
 - Super long offsets
 - Tight group intervals
 - Shot hole dynamite source
 - Vibroseis source
 - Vibroseis sweep tests conducted
 - Uphole recorded
- Processing
 - GX Technology (Axis Imaging Division)
 - PowerPoint Guide & Flip Stacks
 - Velocity vs. Acceleration
 - Migrated & Final Stacks
 - Wavelet-based AVO
 - Advanced product displays
- Key Productive Formations in Area
 - Morrow (thick producing sand on line)
 - Atoka (significant producers on line)
 - Granite Wash
 - Other multi-pay area
- PowerPoint Studies
 - Filter panels all data sets
 - Shot sourced noise attenuation
 - Signal to noise studies
 - Energy comparisons
 - Point receiver vs. array study
 - Many others
- *Licensing*
 - Available under a non-exclusive license 12-2006*



LOCATION OF LINE SW-502-06 PLOTTED FROM SEG P1 FILE

All four 25 mile seismic lines are located in this identical location. Geophone and MEMS data were recorded at the same time; first with dynamite and then vibroseis sources. **Contact SHEARWAVE, Inc. for SEG P1 file.**



Conventional analog geophones use a mechanical coil to record ground motion velocity. Advanced MEMS technology uses a chip to digitally record ground motion acceleration.

Photos courtesy of Input/Output, Inc.