

# Professional Résumé

## Tedd F. Sperling, Geophysicist

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### Academic Education

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MS	<b>Geophysics</b> (3.61/4.0 GPA) Specialization in Reflection Seismology Michigan State University - East Lansing, Michigan	-- 1984
BS	<b>Geology</b> (Cum Laude) Specialization in Structural Geology and Stratigraphy California State University - Northridge, California	-- 1975
AA	<b>Geology</b> Los Angeles Valley College - Van Nuys, California	-- 1973

### Additional Education

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*SEISMIC DATA ACQUISITION.* Completed several short courses in seismic data acquisition provided by United Geophysical Corporation, Traverse City, MI.

*SEISMIC DATA INTERPRETATION.* Completed seismic data interpretation project provided by United Geophysical Corporation, Pasadena, California.

*SEISMIC DATA PROCESSING.* Completed seismic data processing training program provided by Seismogram Service Corporation, Alma, Michigan.

Graduated from Military Police Academy, UNITED STATES ARMY, Fort Riley, Kansas.

### Professional Certification

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Certified Professional Geologist - WBPG - Certification Number PG-2297

### Computer Languages

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*PROFICIENT IN:* PHP, MySQL, CSS, ECMA, C, C++, Flash, XML, and HTML.

### Professional Societies

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American Association of Petroleum Geologists <i>Member of Committee for Computer Applications to Geology.</i>	<b>AAPG</b>
Michigan Association of Petroleum Landmen	<b>MAPL</b>
Michigan Society of Exploration Geophysicists <i>Past Secretary and Treasurer (Co-Founder).</i>	<b>MSEG</b>
Michigan Basin Geological Society <i>Past Secretary and Treasurer .</i>	<b>MBGS</b>
Michigan State University Geophysical Society <i>Past Secretary and Treasurer.</i>	<b>MSUGS</b>
Michigan Oil and Gas Association Society of Exploration Geophysicists	<b>MOGA SEG</b>

## Experience

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Geological and Geophysical Consultant  
**Sperling Geophysics Corporation**  
Lansing, Michigan

-- 1978 to Present

Currently President and Owner of Sperling Geophysics Corporation. As a consultant, provided a full range of Geological and Geophysical services to assist the oil and gas community in petroleum exploration. Clientele ranged from large companies to the individual investor. The services offered included the following:

- **Prospect Evaluation** - Provided services for the generation, evaluation, and interpretation of Geological and Geophysical oil and gas prospects. Integrated all forms of Geological data (*i.e.*, *subsurface maps, well logs, etc.*) and Geophysical data (*i.e.*, *Seismic, Gravity, Radiometric, etc.*) to render a complete Geoscience perspective to prospect evaluation and hydrocarbon drilling recommendations.
- **Seismic Data Interpretation** - Provided a fully integrated geological and geophysical approach to seismic interpretation. Developed computer programs that provided Geological technical support for Geophysical interpretations. Specialized in solving seismic stratigraphy problems.
- **Seismic Data Processing** - Supervised seismic data processing procedures. Determined seismic data processing parameters. Selected computer programs to be applied to the seismic data. Designed seismic processing techniques to account for regional and localized changes in Geology. Processed data for client's "*specific geographical area*" and for client's "*zone of interest*". These techniques rendered seismic sections capable of high confidence interpretations.
- **Seismic Data Acquisition** - Designed seismic field acquisition parameters. Negotiated and accepted bids for contract seismic acquisition work; Supervised seismic field crews to enhance parameter adherence and promote high quality data collection.
- **Computer Programming** - Wrote numerous Geoscience computer programs, which included: Computer Contouring; Synthetic Seismograms; Seismic Data Modeling; Acquisition Parameter Design; Ray Trace Analysis; Geophone and Source Array Design; AVO Modeling; FFT Analysis; Custom Digital Filter Design; Wavelet Design; Well Log Digitization; and, Well Log Analysis.
- **Accomplishments in Computer Programming** - **First** to offer Micro-Computer Seismic Data Modeling (*i.e.*, *MASA<sup>®</sup>*) to the oil and gas community. **First** to be Nationally credited with a Micro-Computer Oil Discovery (*AAPG EXPLORER*). **First** Micro-Computer Member of the AAPG Committee for Computer Applications to Geology.
- **Accomplishments in Oil and Gas Exploration** - Interpreted over 1,000 Geological and Geophysical oil and gas prospects. Wrote over 750 formal technical reports on hydrocarbon exploration projects. Provided several hundred client presentations. Performed Geological and Geophysical interpretations, processed seismic data, and designed and implemented exploration programs within the States of Colorado, Florida, Illinois, Indiana, Kansas, Michigan, New York, Ohio, Oklahoma, Pennsylvania, Tennessee, Texas, and Wyoming. Conducted pure Geophysical research efforts in seismic interpretation and seismic data processing of data acquired in Antarctica. Designed seismic exploration programs for coal mining in Malaysia. Interpreted seismic data in Australia, Canada, Gulf Coast, Nigeria, and South America. **Recommendations have resulted in over 100 successful wells.**
- **Clients** include (*but are not limited to*) the following: AMOCO, Arbuckle Petroleum, Belden & Blake, Elf Aquitaine, EXXON, Dart Oil & Gas, Grace Petroleum, Hunt Energy, Kellogg's, Michigan Gas & Utilities, Michigan Oil, Miller Brothers Oil Corporation, Patrick Petroleum, Shell Oil, State of Michigan, State of Ohio, Stocker & Sitler, Sullivan Oil, and Wisner Oil.

## Experience (*continued*)

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Geological and Geophysical Consultant  
**EXPLORATION CONSULTING ASSOCIATES, LTD.**  
East Lansing, Michigan

-- 1977 to 1978

Exploration Consulting Associates, Ltd. (*ECA*), provided Geoscience services to the oil and gas industry. These services included seismic data acquisition, seismic data processing, and seismic data interpretation. As a Geological and Geophysical Consultant, duties were basically as follows:

- Contracted seismic field crews, determined field acquisition parameters and supervised all ECA seismic data acquisition programs. In addition, designed, conducted, and assisted in interpretation of gravity programs within Michigan for the detection of southeastern Niagaran reefs;
- Determined seismic data processing parameters and supervised data processing. Performed "*Hand Static*" determinations to resolve glacial drift problems inherent in Michigan seismic data. Developed internal computer programs for seismic data processing which included the design of a special FK filter program, synthetic seismograms, seismic modeling, RMS velocity to depth, and other such computer programs that provided assistance in seismic interpretation;
- Rendered geophysical and geological interpretations of seismic data with specialization in the Niagaran Reef Trend. Prepared reports, presentations, geologic maps, geophysical maps and determined and recommended petroleum test well site locations;
- As part owner of ECA, attended to business administration, personnel management, and client relations. The position required an extensive background in seismic data acquisition, seismic data processing, geology, and geophysics. The position provided an excellent introduction into geophysical interpretations and client relations. **Recommendations resulted in over 12 successful Niagaran wildcat and development wells.**

Seismic Data Analyst  
**SEISMOGRAPH SERVICE CORPORATION**  
Alma, Michigan

-- 1976 to 1977

Seismograph Service Corporation provides seismic data processing services to the oil and gas community. This company is a world renowned company with a reputation of providing exceptional processing services. As a Seismic Data Analyst, duties were basically as follows:

- Computer data processing of raw seismic field data into refined reflection seismograms for the petroleum industry at large. This duty encompassed the determination and application of numerous processing parameters and the selection of seismic programs to render high confidence seismic displays for geophysical and geological interpretation. This position required extensive knowledge of seismic acquisition techniques, seismic data processing procedures, and reflection seismology theory. Additional duties included the preparation of seismic support data, synthetic seismograms, seismic data modeling, isochronous maps, and geological data to aid in geophysical interpretation.
- Research efforts in FORTRAN computer programming led to several original seismic data enhancements and parameter determining programs. Developed a computer program that analyzed amplitude variations in Northern Reef Trend seismic anomalies and identified Niagaran reef flanks to assist in interpretation. Also, developed a seismic data program that analyzed temporal variations below Niagaran reefs with respect to shot and receiver distance. Both techniques identified several Northern Niagaran Trend reefs. Also, developed techniques for using FFT programs to analyze, identify, and assist in interpretation of both Northern and Southern Trend Niagaran Reef seismic anomalies.

## Experience (*continued*)

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Associate Seismologist  
**UNITED GEOPHYSICAL CORPORATION**  
Traverse City, Michigan

-- 1975 to 1976

United Geophysical Corporation (*UGC*) was a seismic acquisition company that provided service for the oil and gas industry. UGC had a reputation of providing seismic acquisition services on a worldwide basis with seismic crews and experience on every continent. As an Associate Seismologist, duties were basically as follows:

- Managed and supervised a portable dynamite seismic exploration crew consisting of approximately 35 personnel operating within Michigan. Responsible for the performance of seismic field crew and quality control of the seismic data acquired. Met with clients to determine location and extent of their exploration programs. Designed field acquisition parameters for various seismic exploration programs. Received extensive "quality control" training in the design of seismic data acquisition parameters. Was responsible for determining seismic exploration procedures to comply with the "Miss-Dig" damage prevention of underground utilities within Michigan.

## Professional Society Presentations

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- AAPG** Columbus, OH - Principles of Seismic - A short Course.  
*Topic: Seismic Interpretation Techniques for Discerning Michigan Niagaran Reefs.*
- AAPG** Columbus, OH - Computer Aided Analysis of Geologic Data.  
*Topic: Micro Computer Modeling for the Detection of Niagaran Reefs.*
- AAPG** San Antonio, TX - Energy, Economics, Exploration in Transition.  
*Topic: Micro Computer Survey of the Petroleum Industry.*
- AAPG** Keystone, CO - Interactive Computer Applications.  
*Topic: Seismic Data Modeling of Michigan Niagaran Reefs.*
- AAPG** Keystone, CO - Artificial Intelligence in the Geosciences.  
*Topic: The Design of Intelligent Systems.*
- AAPG** Dallas, TX - AAPG Convention.  
*Topic: Micro Computers in Geology and Geophysics.*
- AAPG** Houston, TX - Houston GeoTech.  
*Topic: Seismic Data Modeling for Michigan Niagaran Reef Detection.*
- AEG** Columbus, OH - Appalachian Energy Group - Exploration Seminar  
*Topic: The Design of Optimum Seismic Acquisition Parameters.*
- SEG** Las Vegas, NV - Convention.  
*Topic: Micro Computer work shop participant.*
- USTC** Detroit, MI - U.S. Oil & Gas Technology Conference.  
*Topic: Computers in the Geosciences (Taught four hour workshop).*
- COGS** Denver, CO - Monthly Meeting - Computer Oriented Geological Society.  
*Topic: Seismic Modeling for Michigan Niagaran Reefs.*
- COGS** Wooster, OH - Monthly Meeting - Computer Oriented Geological Society.  
*Topic: Seismic Stratigraphy Modeling.*
- MBGS** East Lansing, MI - Monthly Meeting - Michigan Basin Geological Society.  
*Topic: Computers in Geology.*
- MBGS** East Lansing, MI - Monthly Meeting - Michigan Basin Geological Society.  
*Topic: Seismic Exploration for the Niagaran Reef.*
- AEG** Holt, MI - Monthly Meeting - Association of Engineering Geologist.  
*Topic: Seismic Reflection and Refraction Techniques for Shallow Exploration.*

## Instructor

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**Taught Applied Geophysics.** Lansing Community College (*16 week course*). Course included: basic geophysical theory; remote sensing techniques; data acquisition; design of acquisition parameters; data processing and data processing theory; Geophysical data modeling; and Geophysical/Geological Interpretation. The course was attended by over 30 oil industry personnel.

## Publications

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**A Dictionary of Computer Terms**, T. F. Sperling, American Association of Petroleum Geologists Explorer, September Issue, pp. 30-35, 1984.

**A Study of Velocity Anisotropy with Respect to Horizontal Receivers - A Master of Science Thesis**, T. F. Sperling, University Microfilms International, 1984.

**An Introduction into Michigan Geophysics**, T. F. Sperling, Michigan Oil & Gas News, vol. 88, no. 16, pp. 40-45, 1982.

**Finding Oil with an Apple**, T. F. Sperling, American Association of Petroleum Geologists Explorer, July Issue, pp. 1, 24-25, 1985.

**Geophysical Report - MASA**, T. F. Sperling, Petroleum Computing, October Issue, vol. 1, no. 2, pp. 6, 1984.

**Got a Computer - Now What?**, T. F. Sperling, American Association of Petroleum Geologists Explorer, September Issue, pp. 34-36, 1984.

**Micro Computer Applications**, T. F. Sperling, Petroleum Computing, December Issue, vol. 1, no. 4, pp. 7, 1984.

**Micro Computer Forecast for 1985**, T. F. Sperling, Petroleum Computing, January Issue, vol. 1, no. 5, pp. 7, 1985.

**Micro Computer Pioneers**, T. F. Sperling, Petroleum Computing, November Issue, vol. 1, no. 3, pp. 7, 1984.

**Micro Computer Seismic Modeling**, T. F. Sperling, Computer Aided Analysis of Geologic Data Seminar for the Eastern Section Conference of the American Association of Petroleum Geologists, pp. 64-90, 1987.

**Micro Computers Gain in Popularity**, T. F. Sperling, American Association of Petroleum Geologists Explorer, December Issue, pp. 38-39, 1984.

**Notes on Software Protection**, T. F. Sperling, Petroleum Computing, February Issue, vol. 1, no. 6, pp.7, 1985.

**Programming a Micro Computer**, T. F. Sperling, Petroleum Computing, March Issue, vol. 1, no. 7, pp.7, 1985.

**Seismic Interpretation Techniques for Discerning Michigan Niagaran Reefs**, T. F. Sperling, Principles of Seismic - A Short Course for the Eastern Section Conference of the American Association of Petroleum Geologists, pp. 29-55, 1987.

**Source Interval Optimization for Seismic Recording**, T. F. Sperling, Ohio Oil & Gas Association Bulletin, February, March, April issues, pp. 24-26, pp. 26-28, pp. 27-29, 1993.

**The Basics - An Introduction into Michigan Geophysics**, T. F. Sperling, Michigan Oil & Gas News, vol. 90, no. 12, pp. 30-32, 1984.

**The Silurian Reef**, T. F. Sperling, Michigan Oil and Gas News, vol. 91, no. 12, pp. 18-19, 21-25, 63, 1985.

**Thinking About Buying a Computer?**, T. F. Sperling, American Association of Petroleum Geologists Explorer, September Issue, pp. 20-23, 1984.

References (Professional and Character)

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Gaylord, MI 49735  
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**JADE CORPORATION**  
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