

**Subsurface Surveys & Associates, Inc.
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Resume of Gary W. Crosby, Ph.D.
Senior Geophysicist
SubSurface Surveys & Associates, Inc.

California Registered Geophysicist
California Registered Geologist

EDUCATIONAL BACKGROUND

Ph.D. in Geophysics from Columbia University in 1963
MS in Geology and Physics from Brigham Young University in 1959 (magna cum laude)
BS in Geology and Physics from Brigham Young University in 1957

HONORS

Texas State Scholarship
NSF Fellowship
GSA Fellowship
NATO Postdoctoral Fellowship to Swiss Federal Institute
Three Merit Awards from the University of Montana
Invited Candidate for Two Teaching Chairs and President of Colorado School of Mines
Invited Delegate for the Scientific Exchange with Mainland China

PROFESSIONAL HISTORY

2004 to Present

Exclusive Consultant to SubSurface Surveys & Associates, Inc.

1988 to 2004

Principal of Subsurface Surveys; as a principal of Subsurface Surveys. Dr. Crosby is responsible for geophysical survey design, data collection and interpretation, and report generation. Dr. Crosby has extensive experience in conducting magnetic, electromagnetics, seismics, and ground penetrating radar investigations.

1986 to 1988

Director of Basin Analysis for Phillips Petroleum

1985 to 1986

Director of Geophysics for Phillips Petroleum

1983 to 1985

Manager of IV1'ld-continent Region for Phillips Petroleum

1980 to 1983

Geophysical Staff Director (including the Data Processing Center) for Phillips Petroleum

1978 to 1980

Geophysics Manager of Research and Development for Phillips Petroleum

1974 to 1978

Exploration Director of Geothermal Operations for Phillips Petroleum

1972 to 1976

Professor of Geophysics at University of Montana

1968 to 1972

Associate Professor of Geophysicist at University of Montana

1966 to 1968

Assistant Professor of Geophysicist at University of Montana

1965 to 1966

Assistant Professor in Geophysics at East Texas State University

1962 to 1965

Research Geophysicist for ARCO (Served in training, special problems, and generating structural and geophysical methodology for exploration personnel). Significant contribution was Handbook of Gravity Interpretation.

PUBLICATIONS AND PRESENTATIONS

Geology of the South Pavant Range, Millard and Sevier Counties, Utah: **Brigham Young Univ. Res. Studies. v.G, no. 3, 1959.**

Inexpensive aids to geologic field work: **Compass**, v.36, no.3, p. 193-210, 1959.

Structural evolution of the Middlebury synclinorium, west-central Vermont (abs): **Geol. Soc. America Special Paper** 76, p 37-38, 1964.

Compaction halo surrounding Gulf coast salt domes (abs.): **Geol. Soc. America Special Paper 82**, p. 36, 1965.

Gravity nomographs for fault solutions: **Jour. Geol. Ed.** v.13, no. 4, p. 102-104, 1965.

Gravity anomaly and salt dome elongation in the lower Gulf Coast salt basin (abs.): **Geophysisc**, v.30, no. 6, p. 1231, 1965.

High angle dips at erosional edge of overthrust faults: **Bull Canadian Petroleum Geologist**, v.15, no. 3, p. 219-229, 1967

High angle dips on overthrust faults: (abs.), **Geol. Soc. Amer. Spec. Paper 115**, p.414, 1968.

Vertical movements and isostasy in western Wyoming overthrust belt: **Am. Assoc. Petroleum Geologist Bull.**, v.52, no. 10, p. 2000-2015, 1968.

Gravity study of the great bend of the Mexia-Talco fault zone, northeast Texas: (abs.), **Amer. Geophys. Union Trans.**, v.49, p.329, 1968

Strike-slip faulting during late-stage folding: **Geol. Soc. Amer. Prog.**, Ann. Mtgs., Mexico City, p.64-65, 1968.

Radial movements by gravitational gliding in overthrust belts: (abs.) **Geol. Soc. Amer. Spec. Paper 101**, p.45-46, 1968, with P.K. Link.

Radial movements in the western Wyoming salient of the Cordilleran overthrust belt **Geol. Soc. America Bull.**, v. 80, p. 1061-1078, 1969.

Vertical movements and overthrusting at the eastern edge of the Great Basin: **Geol. Soc. America Prog.**, rocky Mt. Sec. Mtgs., p. 19, 1969.

Geophysical investigation of the Swan Valley, northwestern Montana: Montana Univ. Joint Publ. Water Resources Research Center, p. 42, 1970.

Gravity study of the great bend in the Mexia-Talco fault zone, Texas: **Jour. Geophysical Research**, v. 76, p. 2690-2705, 1971.

Tectonic models for structural regimes (abs.) ESO, **Trans. Am. Geophys. Union**, v.51, p. 430-431, 1970.

Radial movements in the western Wyoming salient of the Cordilleran overthrust belt: Reply: **Geol. Soc. America Bull.**, v.81, p. 3507-3512, 1970.

Montana's earthquake history: **Off. Emerg. Prep.**, in house publication, 1971.

Stress reorientation during folding: **Geologische Rundschau**, v. 61, p. 413-429, 1972, with P.K. Link.

An isostatic hypothesis for extension in fold and thrust belts: EOS, **Amer. Geophys. Union Trans.**, v. 53 p. 1123, 1972.

Dual origin of Basin and Range faults: **Utah Geol. Assoc.**, Publ.2, p. 67-73, 1972.

Geophysical study of the Montana lineament: **AIME**. Pacific Northwest Metals and Mineral Conf., Expl. and Geophys., 1973, with J.K. Douglas.

The mechanical significance of deformation within overthrust plates: **BYU Geol. Studies**, v.20, p.117-136, 1973.

Regional structure in southwestern Utah: **Utah Geol. Assoc.**, Publ. 3, p. 27-32, 1973.

The role of deformation in changing reservoir properties of aquifers: **Mont. St. Univ. Rpt.**, no. 42, p. 11, 1973, with F.B. Bodholt.

A blast triggered earthquake: **Northwest Geology**, v. 3, p 71-74, 1974.

Long refraction line through western Montana and northern Idaho: EOS, **Trans Am. Geophys. Union**, v.55, p. 74, 1974.

Geothermal Exploration of Roosevelt KGRA, Utah (abs.): **Am. Assoc. Petroleum Geologist Bull.**, v.60, p.1390, 1976, with C.W. Berge and R.C. Lenzer.

Tectonic evolution in Utah's miogeosyncline-shelf boundary zone: **Rocky Mt. Assoc. Geologist Ann. Guidebook 27**, p. 27-35, 1976.

Nomographic solution for preliminary economic evaluation of geothermal prospects: **Geothermal Res. Council Trans.**, v. 1, 1977.

Geothermal Exploration of the Roosevelt KGRA: (abs.) **Amer. Assoc. Petroleum Geologist Bull.**, v.61,

p. 766-767, 1977, with C.W. Berge and R.C. Lenzer.

Recent developments at the Roosevelt Hot Springs KGRA in **Energy and Mineral Resource Recovery:** Am. Nuclear Soc. CONF-770440, 1977.p. 60-67, with R.C. Lenzer and C.W. Berge.

Prediction of final temperature: Third workshop, Geothermal Reservoir Engr., Stanford Univ., 1977.

Proving the viability of the geothermal resource: Proceedings: EPRI Annual Geothermal Review. EPRI ER-660-SR Sp. Rpt., p 4-33 to 4-38, 1978.

Three dimensional seismic exploration in the Austin Calk: **Geophysics. Soc. Expl. Geophysicist**, 52nd Ann. International Mtg., p. 96-98, with others.

Structural-geophysical interpretation of Swan Valley, Montana: **Mont. Geol. Soc.**, 1984 Annual Conf., Vol., p. 245-251, 1984.

Inventory of groundwater storage in the Mojave River Basin for the Mojave Water Agency, Apple Valley, CA, 1990 (water resource maps published by the USGS).

Numerous Proprietary Reports