

CURRICULUM VITAE

William G. Pariseau

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EDUCATION

Doctor of Philosophy University of Minnesota Major: Mining Engineering Emphasis: Rock Mechanics	June 1966 Minneapolis, Minnesota Minor: Applied Mathematics
Bachelor of Science University of Washington Major: Mining Engineering (Geological Option) Magna Cum Laude graduation	March 1960 Seattle, Washington
Registered Professional Engineer Pennsylvania (by examination) Montana (by reciprocity)	

PROFESSIONAL AND RELATED EXPERIENCE

- (0) McKinnon Professor of Mining Engineering, Emeritus, 1 July 2010
- (1) Malcolm N. McKinnon Endowed Chair in Mining Engineering (1986-2010).
Professor of Mining Engineering (1973-present), Associate (1971-73), University of Utah.
Adjunct Professor, Geology and Geophysics, University of Utah (1985-2013).
Affiliate Professor, Mining and Metallurgy, University of Idaho (1985-1991).
- (2) Visiting academic, Commonwealth Scientific and Industrial Research Organization, Australia Summer, 1986)
- (3) Visiting Academic (1978), Imperial College of Science and Technology (Interdisciplinary Rock Mechanics Group).
- (4) Visiting Research Professor (1977-78), Brown University (Engineering Division).
- (5) Associate Professor of Mining Engineering (1970-71), Assistant (1968-70), Montana College of Mineral Science and Technology.
- (6) Assistant Professor of Mining Engineering (1965-68), The Pennsylvania State University.
- (7) Consultant: Allied Chemical Corporation Kansas State Geological Survey
 AMAX Coal Company McIntyre-Porcupine Coal Division
 Anaconda Minerals Company Mining Research Directorate (Canada)

ARCO Coal Company	Pittsburgh Mining Research Center
Callahan Mining Company	R & M Consultants
Call and Nicholas, Inc.	Raytheon Services, Nevada
Engineers International, Inc.	Research Specialties, Inc. (RE/SPEC)
Georgia Marble Company	SC&A Associates
Georgia-Pacific Corporation	Sandia Laboratory
Homestake Mining Company	Science Applications International Corp.
Ingersoll-Rand Research	Spokane Research Center
Intera Environmental Group	Utah Power and Light
Trinity Engineering Associates	Canyon Fuel Company, LLC.
Crowley Law Firm (Stillwater Mining Co.)	

- (7) Graduate Teaching and Research Assistant, U. of Minnesota; Engineering Department, City of Anchorage; Alaska Department of Highways; Mineral Resources Division; U.S. Bureau of Mines -- Spokane; Anaconda Copper Co., Butte, Montana; New York -- Alaska Gold Dredging Corp., Nyac, Alaska (1957-1965).
- (8) United States Marine Corps (1953-1956).
- (9) Short Course Instructor: Beginning and Advanced Rock Mechanics, U. of Minnesota (1966); Stabilizing Mine Excavations, The Pennsylvania State University (1968); Plasticity Theory, Gonzaga University (1971); Plasticity Theory and Slope Stability, USBM Spokane Research Center (1979); Plasticity Theory and Rock Mechanics, USBM Spokane Research Center (1992)

MEMBERSHIPS

Professional

American Rock Mechanics Association
 American Institute of Mining, Metallurgy and Petroleum Engineers
 American Association for the Advancement of Science
 American Association of University Professors
 International Society for Rock Mechanics
 Society of Mining, Exploration and Metallurgy
 Utah Academy of Sciences, Arts and Letters
 Northwest Mining Association
 International Association for Computer Methods and Advances in Geomechanics

Honorary

Phi Beta Kappa
 Tau Beta Pi
 The Society of Sigma Xi

HONORS AND AWARDS

Old Timers' Club 2010 Outstanding Faculty Award
 Outstanding Teacher Award, College of Mines and Earth Sciences,
 University of Utah, 2009-2010.

WICHE Representative (several years)

University: Seed Grant Committee
VP - Research Search Committee
Instrumentation Committee
Graduate Program Review (chairman)
Academic Policy Advising Committee
University Parking Appeals Committee

Professional

Geotechnical Advisory Committee (GAC) for DUSEL (Chairman)
Homestake-DUSEL/SUSEL PAC member
NSF Deep Underground Science and Engineering Laboratory (DUSEL) Panel
(Chairman)
Board of Directors -- American Rock Mechanics Association
Board of Directors -- International Association for Computer Methods
and Advances in Geomechanics
Editorial Advisory Board -- International Journal of Numerical and
Analytic Methods in Geomechanics
Editorial Board -- International Journal of Rock Mechanics and Mining
Science and Geomechanics Abstracts
Various Symposia Advisory Committees
Contributor: NSF Sponsored U.S.-India Seminar/Workshop, "Thick Seam
Extraction," Dhanbad, India, January, 1986.
Contributor: NSF Sponsored U.S.-Italy Workshop, "Characterizing and
Modeling Rock Mass for Design and Construction of Underground
Cavities," Turin, Italy, September 1982.
Geomechanics Unit Committee -- Society for Mining, Metallurgy and
Exploration, Inc.
Rock Mechanics Award Committee
Minerals and Exploration Division, Program Committee
Peele Award Committee
Committee on Geotechnical and Geophysical Phenomena -- Society of
Engineering Science
NSF Workshop on Mechanics Problems Associated with Mining and
Processing Energy Related Minerals
U.S. National Committee for Rock Mechanics (Member-at-Large, two terms)
U.S. National Committee for Rock Mechanics (In Situ and Mining Sub-
panel)
U.S. National Committee for Rock Mechanics (Award Panel)
Student Affairs Committee (chair) -- Utah Section AIME/SME
ASTM Committee C-18 Natural Building Stone
Advisor Student AIME Chapters (3)
Faculty Advisor Tau Beta Pi (U. of Utah), elected 2007
Member, Technical Advisory Committee, Utah Mine Safety Commission,
2007/8.

COURSES TAUGHT

University of Utah

Advanced Rock Mechanics-I (Plasticity Theory)
Advanced Rock Mechanics-II (Field Instrumentation)
Landslides and Slope Stability Analysis
Geoplasticity
Experimental Rock Mechanics
Advanced Metal Mining
Special Topics
Independent Study
Graduate Seminar

Rock Mechanics-I (Natural Support)
Rock Mechanics-I Lab (Rock Properties)
Rock Mechanics-II (Artificial Support)
Rock Mechanics-II Lab (Field Instrumentation)
Applied Rock Mechanics
Heat Energy Systems (Thermodynamics)
Hydraulic Systems
Engineering Design
Mechanics of Materials
Mine Valuation
Principles of Mining,
Introduction to Mining
Introduction to Finite Element Modeling in Geomechanics
Selected Topics
Mining Seminar

Montana College of Mineral Science and Technology

Unit Operations
Engineering Probability and Statistics
Rock Mechanics I, II (with Lab)
Advanced Topics (Finite Element Analysis)

The Pennsylvania State University

Introduction to Mining
Mine Ventilation
Post-yield Mechanics of Rock
Graduate Seminar

LIST OF PUBLICATIONS

William G. Pariseau

(refereed journals, reviewed symposia proceedings, reviewed government publications)

1. "A New View of the Ideal Plasticity of Soils and Unconsolidated Rock Materials," W. G. Pariseau, International Journal of Rock Mechanics and Mining Sciences, 3, Nov. 1966, 307-317.
2. "The Force-Penetration Characteristic of a Wedge Penetrating Rock," W. G. Pariseau and C. Fairhurst, International Journal of Rock Mechanics and Mining Sciences, 4, 1967, 165-180.
3. "The Post-Yield Mechanics of Rock and Soil," W. G. Pariseau, Mineral Industries Bulletin, 36, The Pennsylvania State University, May 1967.
4. "A Contribution to the Discussion Concerning the Brittle Fracture of Rock," W. G. Pariseau, Failure and Breakage of Rock, (C. Fairhurst, ed), Am. Inst. Mng. Met. Petr. Engrs., NY, 1967, 145-50.
5. "Soil Plasticity and the Movement of Materials in Ore Passes," W. G. Pariseau and E. P. Pfleider, Trans. Quart. Soc. of Mining Eng., 241, March 1968, 42-56.
6. "Plasticity Theory for Anisotropic Rocks and Soils," W. G. Pariseau, Basic and Applied Rock Mechanics (K. E. Gray, ed), Am. Inst. Mng. Metl. Petr. Engrs., NY, 1972, (Chapter 10), 267-295.
7. "Mine Subsidence and Model Analysis," W. G. Pariseau and D. Dahl, Trans. Quart. Soc. of Mining Eng., 241, December 1968, 488-494.
8. "The Post-Yield Flexure of Geologic Strata," W. G. Pariseau, Trans. Quart. Soc. of Mining Eng., 244, June 1969, 203-209.
9. "Gravity Flows of Ideally Plastic Materials Through Slots," W. G. Pariseau, J. of Eng. for Ind., (Trans. ASME), May 1969, 414-422.
10. "State of the Predictive Art in Subsidence Engineering," W. G. Pariseau and B. Voight, J. of the Soil Mech. and Foundations Div., (Proc. ASCE, 96, SM2, 7210750, March 1970, 721-750.
11. "Discontinuous Velocity Fields in Gravity Flows of Granular Materials," W. G. Pariseau, Power Technology, 3, 1969/70, 218-226.
12. "Finite Element Analyses of Elastic-Plastic Problems in Geologic Media: An Overview," W. G. Pariseau, B. Voight, and D. Dahl, Proc. 2nd Congress of the Int. Soc. for Rock Mechanics, 2, September 1970, 3-45.
13. "Wedge Indentation of Anisotropic Geologic Media," W. G. Pariseau, Dynamic Rock Mechanics (G. G. Clark, ed), Am. Inst. Mng. Met. Petr. Engrs., NY, 1971, (Chapter 27), 529-546.
14. "Influence of Topography on the Pre-Mining State of Stress," W. G. Pariseau, Proc. 4th Canadian Symp. on Research Tectonics and 7th Canadian Symp. on Rock Mechanics, U. of Alberta, Edmonton, March 1971, 191-200.

15. "Gravity Flow of Powder in a Lunar Environment (in two parts). II. Analysis of Flow Initiation," W. G. Pariseau, Proc. Int. Powder Technology and Bulk Solids Conf., Powder Advisory Centre, London, 1971, 183-192.
16. "Gravity Flow of Powder in a Lunar Environment," (Part II), U.S. Bureau of Mines Report of Investigation 7577, W. G. Pariseau, 1971, 20 pp.
17. "Open Pit Mine Slope Stability: The Berkeley Pit," W. G. Pariseau and K. Stout, Stability of Rock Slopes (R. J. Cording, ed), Am. Soc. Civil Engrs, NY, 1972, 367-395.
18. "Elastic-plastic Analysis of Pit Slope Stability," W. G. Pariseau, Application of the Finite Element Method in Geotechnical Engineering (C. S. Desai, ed), U.S. Army Waterways Experiment Station, Vicksburg, 1972, 349-393.
19. "Support Potential of Hydraulic Backfill in Cut-and-Fill Stopes," W. G. Pariseau and C. Daniel Kealy, New Horizons in Rock Mechanics (H. R. Hardy, Jr., and R. Stefanko, eds), Am. Soc. Civil Engrs., NY, 1973, 501-526.
20. "Bin Hopper Engineering and Bulk Materials Flow: A State-of-the-Art Report on Empirical and Theoretical Analysis," W. G. Pariseau and R. S. Fowkes, U.S. Bureau of Mines I.C. 9552, 1972, 36 pp.
21. "Rock Mechanics and Risk in Open Pit Mining," W. G. Pariseau, Proc. 11th International Symposium on Computer Applications to the Mineral Industry, (J. R. Sturgul, editor), College of Mines, Univ. of Arizona, 1973, A106-124.
22. "Support Performance Prediction for Hydraulic Fill," W. G. Pariseau. M. M. McDonald, J. R. M. Hill, Proc. Symposium on Mine Filling, The Australasian Inst. of Mining and Metallurgy, 1973.
23. "Materials Handling Research: Penetration of Selected/Granular Materials by Wedge-shaped Tools," R. S. Fowkes, D. E. Frisque, and W. G. Pariseau. U.S. Bureau of Mines Rept. Inv. 7739, 1973, 19 pp.
24. "Influence on Hydraulic Backfill on Closure and Pillar Stress in Narrow Cut-and-Fill Stopes," Applications of Rock Mechanics (E. R. Hoskins, Jr., ed), Am. Soc. Civil Engrs., NY, 1975, 23-35.
25. "Influence of Rock Properties Variability on Mine Opening Stability Analysis," W. G. Pariseau, Proc. 9th Canadian Symp. on Rock Mechanics, Mines Branch, Dept. of Energy, Mines and Resources, Ottawa, 1974, 141-165.
26. "Estimation of Support Load Requirements for Underground Mine Openings by Computer Simulation of the Mining Sequence," W. G. Pariseau, Soc. Min. Engrs. Trans., 262, June 1977, 101-109.

27. "Limit Design of Mine Pillars Under Uncertainty," W. G. Pariseau, Design Methods in Rock Mechanics (S. L. Crouch and C. Fairhurst, eds), Am. Soc. Civil Engrs., NY, 1977, 287-301.
28. "Optimal Assignment of Trucks to Shovels in Open Pit Mines," B. Daud and W. G. Pariseau, Proc. 13th Internat. Symp. on the Application of Computers in the Mineral Industry, University of Clausthal, Germany, Oct. 6-11, 1975.
29. "Thermoelastic/Plastic Analysis in Rock Mechanics," W. G. Pariseau, Numerical Methods in Geomechanics (C. S. Desai, ed), Am. Soc. Civil Engrs., NY, 1976, 1168-1187.
30. "A Support Performance Prediction Method for Hydraulic Backfill," W. G. Pariseau, J. R. M. Hill, M. M. McDonald and L. M. McNay, USBM Report of Investigation 8161, 1976, 1168-1187.
31. "Experimental Observations of Velocity Discontinuities in Flowing Sand," W. G. Pariseau, The Effects of Voids on Material Deformation, Am. Soc. Mechanical Engrs., Applied Mech. Div., 16, NY, 1976, 47-70.
32. "Post-Elastic Vibrating Wire Stress Measurements in Coal," W. G. Pariseau and I. M. Eitani, Proc. Internat. Symp. on Field Measurements in Rock Mechanics, 1977, 255-273.
33. "Statistical Analysis of Laboratory Compressive Strength and Young's Modulus Data for the Design of Production Pillars in Coal Mines," W. Sorenson and W. G. Pariseau, Proc. 19th Symp. Rock Mech., May 1978.
34. "3D Mine Pillar Design Information from 2D FEM Analysis," W. G. Pariseau and W. Sorenson, Internat. J. Numer. Anal. Methods Geomech., 3, 1979, 145-157.
35. "A Note on Monitoring Stress Changes in Situ," W. G. Pariseau, Intl. J. Rock Mech. Min. Sci. & Geomech. Abstr., 15, 1978, 161-166.
36. "Rockslides and Avalanches: An Introduction," B. Voight and W. G. Pariseau, Rockslides and Avalanches, (B. Voight, ed) I, (Natural Phenomena) Elsevier Scientific Pub. Co., Amsterdam, 1978, 1-67.
37. "A Simple Mechanical Model for Rockslides and Avalanches," W. G. Pariseau, Engineering Geology, 16, 1980, 111-123.
38. "Elastic-Plastic Finite Element Analysis of Hopper Filling and Flow Initiation," W. G. Pariseau and D. E. Nicholson, Mechanics Applied to the Transport of Bulk Materials, Applied Mech. Div., Am. Soc. Mech. Engrs., 31, 1979, 61-77.
39. "Finite Element Approach to Strain Softening and Size Effects in Rock Mechanics," W. G. Pariseau, Numerical Methods in Geomechanics, (W. Wittke, ed), Blakema, 2, 1979, 545-558.

40. "Elastic-plastic and Elastic-brittle Finite Element Analysis of Cave Zone Growth in Response to Longwall Face Advance," W. G. Pariseau, Proc. 20th U.S. Symp. of Rock Mechanics, U. of Texas, 1979, 541-553.
41. "Inexpensive but Technically Sound Mine Pillar Design Analysis," W. G. Pariseau, Internat. J. Numer. Anal Methods Geomech., 5, 1981, 425-447.
42. "Comparisons between Finite Element Calculations and Field Measurements of Room Closure and Pillar Stress during Retreat Mining," W. G. Pariseau and I. M. Eitani, Internat. J. of Rock Mechanics and Mining Sciences and Geomechanics Abstracts, 18, 1981, 305-319.
43. "Rockslides and Avalanches: Basic Principles and Perspectives in the Realm of Civil and Mining Operations," W. G. Pariseau and B. Voight, Rockslides and Avalanches - 2 (Engineering Sites), (B. Voight, ed), Elsevier, Amsterdam, 1979, 1-92.
44. "Finite Element Method Applied to Cut-and-Fill Mining," W. G. Pariseau, Application of Rock Mechanics to Cut-and-Fill Mining, University of Lulea, Sweden, 1, 1980, 447-481.
45. "Shear Stability of Mine Pillars in Dipping Seams," W. G. Pariseau, Proc. 23rd U.S. Symposium on Rock Mechanics, Chap. 105, AIME, NY, 1982.
46. "Safety and Stability in Rock Mechanics Design Analysis," W. G. Pariseau, Proc. 24th U.S. Symposium on Rock Mechanics, Association of Engineering Geologists, 1983.
47. "On the Use of the Computer for Ground Control Planning," W. G. Pariseau, Proc. First Conference on the Use of Computers in the Coal Industry, Chap. 55, SME/AIME, NY, 1983.
48. "Linearization of In Situ Stress Change Formulas for Gages of Arbitrary Down-Hole Orientation," W. G. Pariseau, International J. for Numerical and Analytical Methods in Geomechanics, 9, No. 3, 1985, 277-283.
49. "Geomechanics of the Carr Fork Mine Test Stope," W. G. Pariseau, M. K. Fowler, J. C. Johnson, M. Poad, E. L. Corp., Geomechanics Applications in Underground Hardrock Mining, SME/AIME, NY, 1984.
50. "Numerical Assessment of the Influence of Anisotropy on Steeply Dipping VCR Stopes," W. G. Pariseau, and F. Duan, Geomechanics Applications in Underground Hardrock Mining, SME/AIME, 1984.
51. "Finite Element Approach to Cable Bolting in Steeply Dipping VCR Stopes," K. Donovan and W. G. Pariseau, Geomechanics Applications in Underground Hardrock Mining, SME/AIME, 1984.
52. "Recent Experience in Calibration of Finite Element Models by Back Analysis of Underground Mine Data," W. G. Pariseau, E. L. Corp and M. E. Poad, Proc. International Symposium on Large Scale Underground Mining, November 1985, University of Lulea, Sweden.

53. "Recent Mechanics of a Deep VCR Stope of the Homestake Mine," W. G. Pariseau, M. Poad, E. L. Corp and C. H. Schmuck, Application of Rock Characterization Techniques in Mine Design, SME/AIME, 1986.
54. "Numerical Simulation of Fragmentation during the Throw Stage of Blasting," C.-H. Ryu and W. G. Pariseau, Proc., Society of Explosives Engineers Mini-Symp., Atlanta, February 1986, pp. 103-117.
55. "An Alternative Solution for the In Situ Stress State Inferred from Borehole Stress Relief Data," W. G. Pariseau, Sixth International Congress on Rock Mechanics, August/September 1987, Montreal, Canada.
56. "A Three Dimensional Finite Element Analysis of the VCR Study Stope at the Homestake Mine," W. G. Pariseau and F. Duan, Proc 5th Annual Workshop, GMTC, Mine Systems and Ground Control, Virginia Polytechnic Institute and State University, Blacksburg, 1987, 67-78.
57. "Stability Analysis of the VCR Study Stope at the Homestake Mine," W. G. Pariseau and F. Duan, Gold Mining 87, SME, 1987, 199-213.
58. "Elastic Moduli of Well-jointed Rock Masses," W. G. Pariseau and H. Moon, Numerical Method in Geomechanics (Innsbruck), Balkema, 1988, 815-822.
59. "Influence of Cable Bolts and Hanging Wall Stability," W. G. Pariseau, Proc., 6th Annual Workshop, GMTC, Mine Systems and Ground Control, Virginia Polytechnic Institute and State University, Blacksburg, 1988, 31-40.
60. "On the Concept of Rock Mass Plasticity," W. G. Pariseau, Key Questions in Rock Mechanics, Balkema, 1988, 291-302.
61. "Rock Mechanics," W. G. Pariseau, Geotimes, Vol. 34, No. 2, 23-25.
62. "Finite Element Analysis of the Homestake Mine Study Stope: An Update," W. G. Pariseau and F. Duan, Numerical Models in Geomechanics, Elsevier Applied Science, New York, 1989, 566-576.
63. "Influence of Joints on the Elastic Response of a LFUFL Stope to FEM Mining," W. G. Pariseau and H. Moon, Proc. 30th U.S. Symp. on Rock Mechanics, Balkema, 1989, 931-941.
64. "A Comparison Between Two- and Three-Dimensional Numerical Models of a Coeur D'Alene District Mine," T. J. McMahon and W. G. Pariseau, Proc. 30th U.S. Symp. on Rock Mechanics, Balkema, 1989, 963-970.
65. "Ropes Mine Crown Pillar Rock Mechanics," W. G. Pariseau, A. C. Walkup, W. W. Carlson, and K. K. Wu, Proc. 30th U.S. Symp. on Rock Mechanics, Balkema, 1989, 909-918.
66. "Extended Three Dimensional Finite Element Analyses of the Homestake Mine Study Stope," W. G. Pariseau, M. Poad, and E. L. Corp., Proc. Int'l Symp. on Rock at Great Depth, Pau, France, 23-31 Aug. 1989.

67. "Sandstone Escarpment Stability in Vicinity of Longwall Mining," R. E. Jones, W. G. Pariseau, V. Payne, and G. Takenaka, Proc. 31st U.S. Symp. on Rock Mechanics, Balkema, 1990, 555-562.
68. "Three-dimensional Analysis of a Shaft Pillar at the Homestake Mine," W. G. Pariseau, J. C. Johnson, and S. Orr, Proc. 31st U.S. Symp. on Rock Mechanics, Balkema, 1990, 529-536.
69. "Fast Engineering Analysis of Alternative Cable Bolt Patterns," F. Duan and W. G. Pariseau, Eighth Annual Workshop, GMTTC, Mine System and Ground Control, 1990, 3-13.
70. "Equivalent Elastic Moduli of Cable Bolted Finite Elements," F. Duan and W. G. Pariseau, Proc. Int'l. Conf. on Computer Methods and Advances in Geomechanics, 6-10 May 1991, Cairns, Australia.
71. "Estimation of Permeability in Well-jointed Rock Masses," W. G. Pariseau, Proc., Int'l Conf. on Computer Methods and Advances in Geomechanics, 6-10 May 1991, Cairns, Australia.
72. "Rock Mechanics," W. G. Pariseau, SME Handbook, Sec. 10.2, 1992.
73. "Rock Mechanics Investigations at the Lucky Friday Mine (in three parts) 3. Calibration and Validation of a Stope-Scale Finite-Element Model," W. G. Pariseau, J. K. Whyatt, and T. J. McMahon, U.S. Bureau of Mines Report of Investigations 9434, 1992, 16 pp.
74. "In Situ Stress Measurements near the Ross Shaft Pillar, Homestake Mine, South Dakota," J. C. Johnson, W. G. Pariseau, D. F. Scott, F. M. Jenkins, U.S. Bureau of Mines Report of Investigations 9446, 1992, 17 pp.
75. "Studies and Mechanics of Rock Bursts-Associated Seismicity Mines by Using Fractals and Damage Mechanics," H. Xie and W. G. Pariseau, Proc. 33rd U.S. Symp. on Rock Mechanics, Balkema, 1992, 745-754.
76. "Trial Underhand Longwall Stope Instrumentation and Model Calibration at the Lucky Friday Mine, Mullan, Idaho, USA," J. K. Whyatt, T. J. Williams, and W. G. Pariseau, Proc. 33rd U.S. Symp. on Rock Mechanics, Balkema, 1992, 511-519.
77. "Fractal Estimation of Joint Roughness Coefficients," H. Xie and W. G. Pariseau, Proc., Int'l Conf. Fractured and Jointed Rock Masses, U. of Cal.-Berkeley, Vol. 1, 1992, 132-139.
78. "Stability and Seepage in Wet Mines: A Critical Review," W. G. Pariseau and C. S. Forster, Proc. 10th Annual Workshop, GMTTC, Mine Systems and Ground Control, 1992, 167-178.
79. "Finite Element Applications in Mining Engineering," W. G. Pariseau, Vol. 1, Chapter 27, Comprehensive Rock Engineering, Pergamon Press, 1993.
80. "Fractal Character and Mechanism of Rock Bursts," H. Xie and W. G. Pariseau, Int'l. J. Rock Mech. Min. Sci. & Geomech. Abstr., Vol. 30, No. 4, 1993, 343-350.

81. "Equivalent Properties of a Jointed Biot Material," W. G. Pariseau, Proc. 34th U.S. Symp. on Rock Mechanics, U. of Wisconsin, Madison, June 27-30, 1993.
82. "Equivalent Properties of a Jointed Biot Material," W. G. Pariseau, Int'l. J. Rock Mech. Min. Sci. & Geomech. Abstr., Vol. 30, No. 7, 1993, 1151-1157.
83. "Progress and Problems in Wet Mine Design," W. G. Pariseau and C. S. Forster, Proc., 11th Annual Workshop, GMTC, Mine Systems Design and Ground Control, Univ. of Alabama, Oct. 18-19, 1993.
84. "Equivalent Properties of Porous Jointed Rock," W. G. Pariseau, Computer Methods and Advances in Geomechanics, Balkema, 1994, 2259-2264.
85. "Progress and Problems in Mining Geomechanics," W. G. Pariseau, Computer Methods and Advances in Geomechanics, (Ed. H. J. Siriwardane and M. M. Zaman), Vol. 1, 1994, 2577-268, Balkema, Rotterdam.
86. "Design Considerations for Stopes in Wet Mines," W. G. Pariseau, Proc. 12th Annual GMTC Workshop on Mines Systems Design and Ground Control, pp. 37-48, 1994.
87. "On the Significance of Dimensionless Failure Criteria," W. G. Pariseau, Intl. J. Rock Mech. Min. Sci. & Geomech. Abstr., Vol. 31, No. 5, 1994, 555-560.
88. "Fractal Estimation of Joint Roughness Coefficients," H. Xie and W. G. Pariseau, Science in China (Series B), Vol. 37, No. 12, 1994, 1516-1524.
89. "Rock Mechanics Study of Shaft Stability and Pillar Mining, Homestake Mine, Lead, SD (in three parts). 1. Premining Geomechanics Modeling Using UTAH2," W. G. Pariseau, J. C. Johnson, M. M. McDonald and M. E. Poad, U.S. Bureau of Mines Report of Investigation, 1995, 20 pp.
90. "Ross Shaft Pillar Project at the Homestake Mine," M. E. Poad, W. G. Pariseau and M. A. Laurenti, Mining Engineering, Vol. 47, No. 1, 1995, 80-84.
91. "Non-representative Volume Element Modeling of Equivalent Jointed Rock Mass Properties," W. G. Pariseau, Proc. Mechanics of Jointed and Faulted Rock - 2, Balkema, 1995, 563-568.
92. "Cable Bolting for Pillar Recovery at the Magmont Mine," S. R. Dismuke, J. M. Goris and W. G. Pariseau, Mining Engineering, Vol. 47, No. 4, 1995, 362-365.
93. "Finite Element Simulation of Central Pillar Mining at the Homestake Mine," W. G. Pariseau, J. C. Johnson, M. E. Poad and M. A. Stahl, Third Canadian Conference on Computer Applications in the Mineral Industry (CAMI'95), 1995, pp. 456-463.

94. "Coupled Three-Dimensional Finite Element Modeling of Mining in Wet Ground," W. G. Pariseau, Third Canadian Conference on Computer Applications in the Mineral Industry (CAMI'95), 1995, pp. 283-292.
95. "Rock Mechanics Study of Shaft Stability and Pillar Mining, Homestake Mine, Lead, SD (in Three Parts), II - Mine Measurements and Confirmation of Premining Results," W. G. Pariseau, J. C. Johnson, M. M. McDonald, and M. E. Poad, U.S. Bureau of Mines Report of Investigation 9576, 1995, pp. 13.
96. "Rock Mechanics Study of Shaft Stability and Pillar Mining, Homestake Mine, Lead, SD (in Three Parts), III - Geomechanical Modeling and Monitoring Using UTAH3," W. G. Pariseau, J. C. Johnson, M. M. McDonald, and M. E. Poad, U.S. Bureau of Mines Report of Investigation 9618, 1996, pp. 29.
97. "Progress in Wet Mine Measurements for Stability," W. G. Pariseau and S. C. Schmelter, Proc., 13th Annual GMTC Workshop, Mine Safety and Environmental Engineering, Virginia Polytechnic Institute and State University, 1995, pp. 71-81.
98. "Finite Element Analysis of Water Pressure and Flow on Shaft and Tunnel Stability," W. G. Pariseau, SME Transactions, Vol. 300, pp. 39-46.
99. "Equivalent Strength of Porous Fractured Rock," W. G. Pariseau, Proc., 11th ASCE Engineering Mechanics Conference, 1996, pp. 216-219.
100. "Case Study of Safety and Wet Mine Slope Stability," S. C. Schmelter and W. G. Pariseau, Proc. 14th Annual GMTC Workshop, Mine Safety and Environmental Engineering, Virginia Polytechnic Institute, 1996, pp. 11-72.
101. "Contributions of Rock Mechanics to Underground Mine Safety," W. G. Pariseau, Proc. 28th Annual Institute on Mining, Health and Safety Research, 1997, pp. 155-169.
102. "Mine Slope Stability by Coupled Finite Element Analysis," W. G. Pariseau, S. C. Schmelter and A. K. Sheik, Int'l J. Rock Mech. Mng Sci., 1997, Vol. 34, No. 3/4, paper no. 520.
103. "Coupled Finite Element Modeling of Slope Stability," W. G. Pariseau and S. C. Schmelter, Trans. Society for Mining, Exploration and Metallurgy, 1998, Vol. 304, pp. xx-yy.
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by

William G. Pariseau

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PAST AND CURRENT RESEARCH FUNDING

William G. Pariseau

"Gravity Flow of a Granular Material in a Wedge-shaped Hopper," The Pennsylvania State University; Sponsor: Central Fund for Research.

"Lower Limits of Continuum Concepts in the Mechanics of Ideal Soils," The Pennsylvania State University; Sponsor: National Science Foundation.

"Experimental Determination of Stress and Velocity Fields During Ore Pass Drawdown," The Pennsylvania State University; Sponsor: National Science Foundation.

"Apparatus for the Demonstration and Teaching of the 'Effective' Pressure Concept in the Mechanics of Geologic Media," The Pennsylvania State University; Sponsor: Central Fund for the Improvement of Teaching.

"Computer Simulation of Mine Subsidence," The Pennsylvania State University; Sponsor: Mineral Conservation Section.

"The Engineering Prediction of Ground Subsidence and Surface Damage over Coal Mines in Pennsylvania," (with B. Voight), The Pennsylvania State University; Sponsor: Coal Research Section.

"Experimental Determination of Stress and Velocity Fields During Ore Pass Drawdown," (continuation), Montana College of Mineral Science and Technology; Sponsor: National Science Foundation.

"An Improvement Plan for Plane and Mine Surveying," Montana College of Mineral Science and Technology; Sponsor: National Science Foundation.

"Slope Stability," (with K. Stout, et al.), Montana College of Mineral Science and Technology; Sponsor: The Anaconda Company.

"Mechanics of Fine Powders," Spokane Mining Research Center (NASA contract).

"Analysis of Risk in the Stability of Open Pit Mine Slopes," (with J. Mutmansky), University of Utah; Sponsor: Uniform School Fund.

"Influence of Temperature Change on the Safety of Mine Pillars," University of Utah; Sponsor: Uniform School Fund.

"Interpretation of Rock Mechanics Data, Single Entry System, Sunnyside Mine," University of Utah; Sponsor: USBM.

"Rock Mechanics Testing Equipment," (with W. Wawersik and J. E. Willson), University of Utah; Sponsor: Research Development Fund.

"Rock Mechanics Data Acquisition Equipment," University of Utah; Sponsor: Research Development Fund.

"Gravity Flow Bin Design," University of Utah; Sponsor: USBM.

"In Situ Coal Pillar Strength Study," (with W. Wawersik, et al.), University of Utah; Sponsor: USBM.

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"Pillar Design for Vertical Crater Retreat (VCR) Mining," Sponsor: USBM/Anaconda/Homestake.

"Scale Effects on Rock Deformability in Boreholes," (with M. K. McCarter); Sponsor: Chevron Research Fund (U of U).

"Guidelines for Open Pit Ore Pass Design," (with M. M. Singh, Engineer International, Inc.), Sponsor: U.S. Bureau of Mines.

"Ground Control Stress Measurement in Utah Coal Mines," Sponsor: Mineral Leasing Fund (U of U).

"Numerical Simulation on Comminution Processes in Jointed Geologic Media," (with M. K. McCarter); Sponsor: USBM/Comminution Center (U of U).

"Evaluation of Field Parameters Controlling Explosive Fragmentation," (with M. K. McCarter), Sponsor: USBM/Comminution Center (U of U).

"Ground Control and Cable Bolting in VCR Stopes," Sponsor: Office of Mineral Institutes, Generic Centers (VPI).

"Stability Analysis of Mine Openings in Jointed Rock Masses," Sponsor: Mineral Leasing Fund.

- "Seepage in Jointed Rock Masses," Sponsor: Mineral Leasing Fund.
- "Media Mechanics and Breakage in Tumbling Mills," (with K. Rajamani),
Sponsor: USBM/Comminution Center (U of U).
- "Escarpment Stability Study," Sponsor: Utah Power and Light Company.
- "Jointed Rock Mass Modulus," Sponsor: Mineral Leasing Fund.
- "Application of PM Theory, Lucky Friday Mine," Sponsor: USBM(U.S. Bureau of Mines).
- "Wet Mine Design," Sponsor: USBM.
- "Field Studies for Wet Mine Stability," University of Utah; Sponsor: USBM.
- "Coupled Slope Stability Analysis," University of Utah; Sponsor: Kennecott Copper Corporation.
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- "Analysis of Mine Seismicity and Geotechnical Modeling for Improved Safety in Underground Coal Mines",Sponsor, Spokane Research Laboratory, NIOSH.