

REFERENCES

- Adams, T. A., Baxter, D., Boyer, R., Britton, J., Henry, L., Heslin, G., and Filz, G. (1997) "The mechanical and hydraulic behavior of soil-bentonite cutoff walls", Charles E. Via, Jr. Department of Civil Engineering Report, Virginia Polytechnic Institute and State University.
- Al-Hussaini, M. (1981). "Comparison of various methods for determining K_o ." *Laboratory Shear Strength of Soil, ASTM STP 740*, R. N. Yong and F. C. Townsend, eds., ASTM, 78-93.
- Barrier Containment Technologies for Environmental Remedial Applications. (1995).* John Wiley & Sons, Inc., R. R. Rumer and M. E. Ryan, eds., New York.
- Barvenik, M. J. and Ayers, J. E. (1987). "Construction quality control and post-construction performance verification for the Gilson Road hazardous waste site cutoff wall.", EPA/600/2-87-065.
- Bentler, D. J. , Morrison, C. S., Esterhuizen, J. J. B., and Duncan, J. M. (1998). "SAGE user's guide: a finite element program for static analysis of geotechnical engineering problems." Version 2.03, The Charles E. Via Jr. Department of Civil Engineering, Virginia Tech, Blacksburg, VA.
- Blight, G. E. (1973). "Stresses in narrow cores and core trenches of dams." *Transactions, Eleventh International Congress on Large Dams*, Vol. 3, 63-80.
- Brandon, T. L. (1995), personal communication.
- Britto, A. M. and Gunn, M. J. (1987). *Critical State Soil Mechanics Via Finite Elements*. Ellis Horwood Limited, Chichester, West Sussex, England.
- Brooker, E. W. and Ireland, H. O. (1965). "Earth pressures at rest related to stress history." *Canadian Geotech. J.*, vol. II, no. 1, 1-15.
- Burgess, A. S., Leonard, M. S., and Laird, G. S. (1988). "Design and construction of a soil bentonite slurry wall around an operating facility superfund site." *Proc., 2nd Int. Conf. on Case Histories in Geotech. Engrg.*, S. Prakash, ed., 81-88.
- Burke, G. K. (1999), personal communication.
- Burke, G. K. and Achhorney, F. N. (1988). "Construction and quality assessment of the in situ containment of contaminated groundwater." *Proc., 5th National Conf. on*

- Hazardous Wastes and Hazardous Materials*, The Hazardous Materials Control Research Institute, 6-10.
- Clark, I. H.(1994). "Modeling of soil-bentonite cut off wall." *Proc., ANCOLD Conference on Dams*, Tasmania.
- Clough, G. W. and Duncan, J. M. (1969). "Finite element analysis of Port Allen and old river locks." University of California, Berkeley Report.
- Clough, G. W. and Duncan, J. M. (1991). "Earth Pressures." *Foundation Engineering Handbook, 2nd ed*, Chapter 6, Fang, H. Y., ed., Van Nostrand Reinhold, New York, N. Y.
- Cowland, J. W. and Thorley, C. B. B. (1985). "Ground and building settlement associated with adjacent slurry trench excavation." *Ground Movements and Structures – Proc., Third Int. Conf.*, University of Wales Institute of Science and Technology, J. D. Geddes, ed., Pentech Press, London, England, 723-738.
- Cundall, P., Hansteen, E., Lacasse, S., and Selnes, P. B., (1980). "NESSI, soil structure interaction program for dynamic and static problems" Norges Geotekniske Institute, Norway.
- Dafalias, Y. F. and Herrmann, L. R. (1986). "Bounding surface plasticity. II: Application to isotropic cohesive soils." *J. Engrg. Mechanics*, American Society of Civil Engineers, 112(12), 1263-1291.
- D'Appolonia, D. J. (1980). "Soil-bentonite slurry trench cutoffs." *J. Geotech. Engrg. Div.*, ASCE, 106(4), 399-417.
- Daniel, D. E. (1994). "State-of-the-art: laboratory hydraulic conductivity tests for saturated soils." *Hydraulic Conductivity and Waste Contaminant Transport in Soil*, ASTM STP 1142, D. E. Daniel and S. J. Trautwein, eds., 30-77.
- Davidson, R. R., Denise, G., Findlay, B., and Robertson, R. B. (1992). "Design and construction of a plastic concrete cutoff wall for the Island Copper Mine." *Slurry Walls: Design, Construction and Quality Control*, ASTM STP 1129, D. B. Paul, R. R. Davidson, and N. J. Cavalli, eds., American Society for Testing and Materials, Philadelphia PA, 271-288.
- Duguid, D. R., Forbes, D. J., Gordon, J. L., and Simmons, O. K. (1971). "The slurry trench cutoff-off for the Duncan Dam." *Canadian Geotechnical J.*, Vol. 8, No.1, 94-108.

- Duncan, J. M. (1965). "The effect of anisotropy and reorientation of principal stresses on the shear strength of saturated clay." Ph.D. Dissertation, University of California, Berkeley.
- Duncan, J. M. (1994). "The role of advanced constitutive relations in practical application." *Proc., 12th Int. Conf. on Soil Mech. and Found. Engrg.*, New Delhi, India, Volume 5, 31-48.
- Duncan, J. M., Byrne, P., Wong, K. S., and Mabry, P. (1980). "Strength, stress-strain and bulk modulus parameters for finite element analysis of stresses and movements in soil masses." *Report No. UCB/GT/80-01*, Department of Civil Engineering, University of California, Berkeley.
- Duncan, J. M. and Chang, C. Y. (1970). "Non-linear analysis of stress and strain in soils." *J. of the Soil Mech. and Found. Div.*, ASCE, Vol. 96, No. SM5, 1629-1653.
- Duncan, J. M. and Seed, H. B. (1967). "Corrections for strength test data." *J. Soil Mech. and Found. Div.*, ASCE, Vol. 93, No. SM5, 121-137.
- Dunlop, P. and Duncan, J. M. (1970). "Development of failure around excavated slopes." *J. of the Soil Mech. and Found. Div.*, ASCE, Vol. 96, No. SM2, 471-493.
- Dunn, R. J. and Mitchell, J. K. (1984), "Fluid conductivity testing of fine-grained soils." *J. Geotech. Engrg.*, ASCE, 110(11), 1648-1655.
- Earth Sciences Associates (1989). "Geotechnical investigation and evaluation of remedial measures for repair of the building at 490 Middlefield Road." October, 1989, Palo Alto, Ca.
- Engemoen, W. O. and Hensley, P. J. (1986). "ECPT investigation of a slurry trench cutoff wall." *Use of In Situ Tests in Geotechnical Engineering, Geotech. Special Publ. No. 6*, S. P. Clemence, ed., ASCE, New York, N.Y., 514-528.
- Evans, J. C. (1991). "Geotechnics of hazardous waste control systems", Chapter 20, *Foundation Engineering Handbook*, 2nd Edition, H. Y. Fang, ed., Van Nostrand Reinhold, New York, NY, 765-777.
- Evans, J. C. (1993). "Vertical cutoff walls." *Geotechnical Practice for Waste Disposal*, Chapter 17, D. E. Daniel, ed., Chapman & Hall, London, 430-454.
- Evans, J. C. (1994). "Hydraulic conductivity of vertical cutoff walls." *Hydraulic Conductivity and Waste Contaminant Transport in Soil, ASTM STP 1142*, D. E. Daniel and S. J. Trautwein, eds., ASTM, Philadelphia, Pa, 79-94.

- Evans, J. C. and Cooley, B. H. (1993). "Slurry wall performance." *Progress in Geotechnical Engineering.*, Hershey, Pa.
- Evans, J. C., Costa, M. J., and Cooley, B. (1995). "The state-of-stress in soil-bentonite slurry trench cutoff walls." *Proc., Geoenvironment 2000, ASCE Geotechnical Special Publication No. 46*, Y.B. Acar and D. E. Daniel, eds., New Orleans, Louisiana, 1173-1191.
- Evans, J. C. and Fang, H. Y. (1988). "Triaxial permeability and strength testing of contaminated soils." *Advanced Triaxial Testing of Soil and Rock, ASTM STP 977*, R. T. Donaghe, R. C. Chaney, and M. L. Silver, eds., ASTM, Philadelphia, Pa, 387-404.
- Filz, G. M. (1992). "An experimental and analytic study of earth loads on rigid retaining walls." Ph.D. Dissertation, Virginia Polytechnic Institute and State University, Blacksbrug, VA.
- Filz, G. M. (1995). "Mechanical properties of soil-bentonite materials." Prepared for International Containment Technology Workshop, Baltimore, Maryland.
- Filz, G. M. (1996). "Consolidation stresses in soil-bentonite backfilled trenches." *Proc., 2nd Int. Congress on Environmental Geotechnics*, M. Kamon, ed., Balkema, Rotterdam, 497-502.
- Filz, G. M., Baxter, D. Y., Bentler, D. J., and Davidson, R. R. (1999). "Ground deformation adjacent to a soil-bentonite cutoff wall." *Geo-Engineering for Underground Facilities*, GSP No. 90, ASCE, Reston VA, 121-139.
- Filz, G. M., Boyer, R. D, and Davidson, R. R. (1997). "Bentonite-water slurry rheology and cutoff wall trench stability." *In situ Remediation of the Geoenvironment*, GSP No. 71, ASCE, Reston VA, 139-153.
- Fox, P. J. and Baxter, C. D. P. (1997). "Consolidation properties of soft soils from hydraulic consolidation test." *J. Geotech. and Geoenvironmental Engrg.*, ASCE, Vol. 123, No. 8, 770-776.
- Gens, A. and Potts, D. M. (1988). "Critical state models in computational geomechanics." *Engrg. Comput.*, Vol 5, Number 3, 178-197.
- Golder Associates (1987). "Interim Remedial Measures, Raytheon Semiconductor Division, Mountain View, California", Vol. I and II, March 1987, Redmond, Wash.
- Grube, W. E., Jr. (1992). "Slurry trench cut-off walls for environmental pollution control." *Slurry Walls: Design, Construction, and Quality Control, ASTM STP 1129*, D. B. Paul, R. R. Davidson, and N. J. Cavalli, eds., ASTM, Philadelphia, Pa., 69-77.

- Handy, R. L. (1985). "The arch in soil arching." *J. of Geotech. Engrg.*, ASCE, Vol. 111, No. 3, 302-319.
- Harding Lawson Associates (HLA) (1987). "Soil Mechanics Laboratory Tests for Slurry Trench Cutoff Wall, 350 Ellis Street Site, Mountain View, CA" February 3, 1987, revised March 20, 1987, Novato, CA.
- Harding Lawson Associates (HLA) (1987). "Ground Deformation Analysis, Slurry Cutoff Wall Installation, Raytheon Building Sites, Mountain View, CA.", April 27, 1987, San Francisco, CA.
- Harding Lawson Associates (HLA) (1989). "Ground Deformation Analysis, Slurry Cutoff Wall, Raytheon Facility, Mountain View, CA." August 18, 1989, San Francisco, CA.
- Head, K. H. (1986). *Manual of Soil Laboratory Testing*, Vol. 3, Pentech Press Limited, London, Great Britain, p.937.
- Henkel, D. J., and Gilbert, G. D. (1952). "The effect of the rubber membrane on the measured triaxial compression strength of clay samples." *Geotechnique*, Vol. 3, 20-29.
- Henry, L. B., Filz, G. M., and Davidson, R. R. (1998). "Formation and properties of bentonite filter cakes." *Filtration and Drainage in Geotechnical/Geoenvironmental Engineering*, GSP No. 78, ASCE, L. N. Reddy and M. V. S. Bonala, eds., Reston VA, 69-88.
- Heslin, G. M., Filz, G. M., and Baxter, D. Y. (1997). "An improved method for interpreting API filter press hydraulic conductivity test results." *Proc., Int. Containment Technology*, 71-77.
- Holtz, R. D. and Kovacs, W. D. (1981). *An Introduction to Geotechnical Engineering*, Prentice-Hall, Inc., Englewood Cliffs, N.J., p. 404.
- Jaky, J. (1948). "Pressure in silos." *Proc. 2nd Int. Conf. on Soil Mech. and Found. Engrg.*, 1, 103.
- Kallur, V. G., Haug, M. D., and Barbour, S. L. (1995). "Effects of hydraulic gradients on pore fluid chemistry." *Geoenvironment 2000*, ASCE GSP 46, Y. B. Acar and D. E. Daniel, eds., 732-745.
- Khoury, M. A., Fayad, P. H., and Ladd, R. S. (1992). "Design, construction, and performance of a soil-bentonite cutoff wall constructed in two stages." *Slurry Walls:*

- Design, Construction, and Quality Control*, ASTM STP 1129, D. B. Paul, R. R. Davidson, and N. J. Cavalli, eds., ASTM, Philadelphia, Pa.
- Kulhawy, F. H. (1977). "Embankments and Excavation." Chapter 16, *Numerical Methods in Geotechnical Engineering*, C. S. Desai and J. T. Christian, eds., McGraw Hill Book Company, New York, 528-555.
- Kutter, B. L., and Sathialingam, N. (1992). "Elastic-viscoplastic modelling of the rate-dependent behavior of clays." *Geotechnique*, 42, No. 3, 27-441.
- Ladd, C. C., Foot, R., Ishihara, K., Schlosser, F., and Poulos, H. G. (1977). "Stress-deformation and strength characteristics." *Proc., 9th Int. Conf. on Soil Mech. and Found. Engrg.*, Vol. 2, Tokyo, Japan, 434-453.
- La Rochelle, P., Leroueil, S., Trak, B., Blais-Leroux, L., and Tavenas, F. (1988). "Observational approach to membrane and area corrections in triaxial tests." *Advanced Triaxial Testing of Soil and Rock*, ASTM STP 977, R. T. Donaghe, R. C. Chaney, and M. L. Silver, eds., American Society for Testing and Materials, Philadelphia, Pa., 715-731.
- Leonards, G. A. and Ramiah, B. K. (1959). "Time effects in the consolidation of clay." ASTM STP 254, 116-130.
- Mayne, P. W. and Kulhawy, F. H. (1982). "K_o-OCR relationships in soil," *J. Geotech. Engrg. Div.*, American Society of Civil Engineering, 108(GT6), 851-872.
- McCandless, R. M. and Bodocsi, A. (1988). "Hydraulic characteristics of model soil-bentonite slurry cutoff walls." *Proc., Fifth National Conf. on Hazardous Wastes and Hazardous Materials '88*, Las Vegas, Nevada, 198-201.
- McGregor, J. A. and Duncan, J. M. (1998). "Performance and use of the standard penetration test in geotechnical engineering practice". Virginia Tech Center for Geotechnical Practice and Research, Blacksburg, VA.
- Millet, R. A., Perez, J. Y. and Davidson, R. R. (1992). "USA practice slurry wall specifications 10 years later." *Slurry Walls: Design, Construction and Quality Control*, ASTM STP 1129, D. B. Paul, R. R. Davidson, and N. J. Cavalli, eds., American Society for Testing and Materials, Philadelphia, Pa.
- Mitchell, J. K. and Madsen, F. T. (1987). "Chemical effects on clay hydraulic conductivity." *Geotechnical Practice for Waste Disposal '87*, ASCE GSP No. 13, Y. B. Acar and D. E. Daniel, eds., ASCE, New York, N. Y., 87-116.

- Morgenstern, N. and Amir-Tahmassebi, I. (1965). "The stability of a slurry trench in cohesionless soils." *Geotechnique*, Vol. XV, No. 4, Dec., 387-395.
- Poh, T. Y. and Wong, I. H. (1998). "Effects of construction of diaphragm wall panels on adjacent ground: field trial." *J. Geotech. and Geoenv. Engrg.*, Vol. 124, No. 8, ASCE, 749-756.
- Pond, E. C. (1996). "Seismic parameters for the central United States based on paleoliquefaction evidence in the Washash Valley." Ph.D. Dissertation, Virginia Polytechnic Institute and State University, Blacksbrug, VA.
- Puller, M. J. (1974). "Slurry trench stability: theoretical and practical aspects." *Ground Engineering*, Vol. 7, No. 5, 34-36.
- Rad, N. S., Bachus, R. C., and Jacobson, B. D. (1995). "Soil-bentonite design mix for slurry cutoff walls used as containment barriers." *Dredging, Remediation, and Containment of Contaminated Sediments, ASTM STP 1293*, K. R. Demars, G. N. Richardson, R. N. Yong, and R. C. Chaney, eds., ASTM, Philadelphia, Pa, 239-251.
- Ressi di Cervia, A. L. (1992). "History of slurry wall construction." *Slurry Walls: Design, Construction, and Quality Control, ASTM STP 1129*, D. B. Paul, R. R. Davidson, and N. J. Cavalli, eds., ASTM, Philadelphia, Pa, 3-15.
- Roscoe, K. H. and Burland, J. B. (1968). "On the generalised stress-strain behaviour of "wet" clay". *Engineering Plasticity*, J. Heyman and F. A. Leckie eds., Cambridge University Press, 535-609.
- Roscoe, K. H. and Schofield, A. N. (1963). "Mechanical behavior of an idealised "wet-clay"". *Proc., European Conf. of Soil Mech. and Found. Engrg.* Wiesbaden., 47-54.
- Rumer, R. R. and Ryan, M. E., eds. (1995). *Barrier Containment Technologies for Environmental Remediation Applications*, John Wiley & Sons, Inc., p. 34.
- Ryan, C. R. (1985). "Slurry cutoff walls: applications in the control of hazardous wastes." *Hydraulic Barriers in Soil and Rock, ASTM STP 874*, A. I. Johnson, R. K. Frobels, N. J. Cavalli, and C. B. Pettersson, eds., ASTM, Philadelphia, Pa, 9-23.
- Seed, H. B., Tokimatsu, K., Harder, L. F., and Chung, R. M., (1985). "Influence of SPT procedures in soil liquefaction resistance evaluations", *J. Geotech. Engrg*, ASCE, Vol. 111, No. 12, 1425-1445.
- Spooner et al. (1985). Chapter 5.8, *Slurry Trench Construction for Pollution Migration Control*, Noyes Publication.

- Stark, T. D. and Vettel, J. J. (1991). "Effective stress hyperbolic stress-strain parameters for clay." *Geotech. Testing J.*, GTJODJ, Vol. 14, No. 2, 146-156.
- Terzaghi, K. (1943). *Theoretical Soil Mechanics*, John Wiley and Sons, Inc., New York, N.Y.
- Terzaghi, K. and Peck, R. B. (1948). *Soil Mechanics in Engineering Practice*, John Wiley and Sons, New York.
- Trautwein. "Test Program for a Soil-Bentonite Slurry obtained from the GKN Hayward Baker – Raytheon Site in Mountain View, CA"
- U.S. Army Corps of Engineers (USACE). (1986). "Engineering and design, seepage analysis and control for dams." Engineer Manual EM 1110-2-1901.
- U.S. Army Corps of Engineers (USACE). (1996). "Engineering and design checklist for design of vertical barrier walls for hazardous waste sites." Appendix B, Technical letter: ETL 1110-1-163, Washington, D.C.
- Wong, G. C. Y. (1984), "Stability analysis of slurry trenches." *J. Geotech. Engrg*, Vol. 110, No. 11, ASCE, 1577-1590.
- Wroth, C. P. and Houlsby, G. T. (1985). "Soil mechanics - property characterization and analysis procedures." *Proc., 11th Int. Conf. Soil Mech. and Found. Engrg.*, Vol. 1, 1-57.
- Wood, D. M. (1990). *Soil Behaviour and Critical State Soil Mechanics*, Cambridge University Press.
- Xanthakos, P. P. (1979) *Slurry Walls*, McGraw Hill, New York, NY.
- Zamojski, L. D., Perkins, S. W., and Reinknecht, D. (1995). "Design and construction evaluation of a slurry wall at FLR Landfill superfund site." *Geoenvironment 2000, Geotech. Spec. Publ. No. 46*, Y. B. Acar, and D. E. Daniel, eds., ASCE, New York, N. Y., 1192-1206.