

REFERENCES

- Agarwal, K. and Ghanekar, K. (1970). *Prediction of CBR from plasticity characteristics of soil*. Paper presented at the Proceeding of 2nd South-east Asian Conference on Soil Engineering, Singapore. June.
- Alam, S. K., Mondal, A., and Shiuly, A. (2020). Prediction of CBR Value of Fine Grained Soils of Bengal Basin by Genetic Expression Programming, Artificial Neural Network and Krigging Method. *Journal of the Geological Society of India*, 95(2), 190-196.
- Alavi, A. H. and Gandomi, A. H. (2011). A robust data mining approach for formulation of geotechnical engineering systems. *Engineering Computations: Int J for Computer-Aided Engineering*, 28(3), 242-274.
- Alavi, A. H., Gandomi, A. H., Nejad, H. C., Mollahasani, A., and Rashed, A. (2013). Design equations for prediction of pressuremeter soil deformation moduli utilizing expression programming systems. *Neural Computing and Applications*, 23(6), 1771-1786.
- Alavi, A. H., Gandomi, A. H., Sahab, M. G., and Gandomi, M. (2010). Multi expression programming: a new approach to formulation of soil classification. *Engineering with Computers*, 26(2), 111-118.
- Alawi, M. and Rajab, M. (2013). Prediction of California bearing ratio of subbase layer using multiple linear regression models. *Road Materials and Pavement Design*, 14(1), 211-219.
- Ali, Y., Hussain, F., Irfan, M., and Buller, A. S. (2021). An eXtreme Gradient Boosting model for predicting dynamic modulus of asphalt concrete mixtures. *Construction and Building materials*, 295, 123642.
- Alzabeebee, S. (2020). Application of EPR-MOGA in computing the liquefaction-induced settlement of a building subjected to seismic shake. *Engineering with Computers*, 1-12.
- Alzabeebee, S., Alshkane, Y. M., Al-Taie, A. J., and Rashed, K. A. (2021). Soft computing of the recompression index of fine-grained soils. *Soft Computing*, 1-16.
- Alzabeebee, S. and Chapman, D. N. (2020). Evolutionary computing to determine the skin friction capacity of piles embedded in clay and evaluation of the available analytical methods. *Transportation Geotechnics*, 24, 100372.
- Araujo, W. and Ruiz, G. (2016). *Correlation equations of CBR with index properties of soil in the city of Piura*. Paper presented at the Proceeding of 14th LACCEI International Multi-conference for Engineering, Education and Technology.
- Ardakani, A. and Kordnaeij, A. (2017). Soil compaction parameters prediction using GMDH-type neural network and genetic algorithm. *European Journal of Environmental and Civil Engineering*, 1-14.
- Armaghani, D. J., Faradonbeh, R. S., Momeni, E., Fahimifar, A., and Tahir, M. (2018). Performance prediction of tunnel boring machine through developing a gene expression programming equation. *Engineering with Computers*, 34(1), 129-141.
- Asteris, P. G., Skentou, A. D., Bardhan, A., Samui, P., and Pilakoutas, K. (2021). Predicting concrete compressive strength using hybrid ensembling of surrogate machine learning models. *Cement and Concrete research*, 145, 106449.
- Atterberg, A. (1911). Die plastizitat der Tone. *Intern mitt. boden.*, 4-37.
- Banzhaf, W. (1994). *Genotype-phenotype-mapping and neutral variation—a case study in genetic programming*. Paper presented at the International Conference on Parallel Problem Solving from Nature.
- Bardhan, A., Gokceoglu, C., Burman, A., Samui, P., and Asteris, P. G. (2021). Efficient computational techniques for predicting the California bearing ratio of soil in soaked conditions. *Engineering Geology*, 106239.

- Bardhan, A., Samui, P., Ghosh, K., Gandomi, A. H., and Bhattacharyya, S. (2021). ELM-based adaptive neuro swarm intelligence techniques for predicting the California bearing ratio of soils in soaked conditions. *Applied Soft Computing*, 107595.
- Bassey, O. B., Attah, I. C., Ambrose, E. E., and Etim, R. K. (2017). Correlation between CBR Values and Index Properties of Soils: A Case Study of Ibiono, Oron and Onna in Akwa Ibom State. *Resources and Environment*, 7(4), 94-102.
- Baykasoğlu, A., Öztaş, A., and Özbay, E. (2009). Prediction and multi-objective optimization of high-strength concrete parameters via soft computing approaches. *Expert Systems with Applications*, 36(3), 6145-6155.
- Bharati, A. K., Ray, A., Khandelwal, M., Rai, R., and Jaiswal, A. (2021). Stability evaluation of dump slope using artificial neural network and multiple regression. *Engineering with Computers*, 1-9.
- Bhatt, S., Jain, P. K., and Pradesh, M. (2014). Prediction of California bearing ratio of soils using artificial neural network. *American International Journal of Research in Science, Technology, Engineering & Mathematics*, 8(2), 156-161.
- Black, W. (1961). The calculation of laboratory and in-situ values of California bearing ratio from bearing capacity data. *Geotechnique*, 11(1), 14-21.
- Black, W. (1962). A method of estimating the California bearing ratio of cohesive soils from plasticity data. *Geotechnique*, 12(4), 271-282.
- Brameier, M. and Banzhaf, W. (2001). A comparison of linear genetic programming and neural networks in medical data mining. *IEEE Transactions on Evolutionary Computation*, 5(1), 17-26.
- Brameier, M. and Banzhaf, W. (2002). *Explicit control of diversity and effective variation distance in linear genetic programming*. Paper presented at the European Conference on Genetic Programming.
- Breiman, L., Friedman, J. H., Olshen, R. A., and Stone, C. J. (2017). *Classification and regression trees*: Routledge.
- Breytenbach, I. (2009). The relation between index testing and California Bearing Ratio values for natural road construction materials in South Africa. *Unpublished M. Sc Dissertation, Faculty of Natural and Agricultural Sciences, University of Pretoria, South Africa*.
- Cabalar, A. F. and Mustafa, W. S. (2017). Behaviour of sand–clay mixtures for road pavement subgrade. *International Journal of Pavement Engineering*, 18(8), 714-726.
- Cao, J., Gao, J., Rad, H. N., Mohammed, A. S., Hasanipanah, M., and Zhou, J. (2021). A novel systematic and evolved approach based on XGBoost-firefly algorithm to predict Young's modulus and unconfined compressive strength of rock. *Engineering with Computers*, 1-17.
- Chang, N.-Y. (1990). *Influence of Fines Contents and Plasticity on Earthquake-induced Soil Liquefaction*: Geotechnical Engineering Division, Department of Civil Engineering
- Chauhan, R. (2010). *A laboratory study on effect of test conditions on subgrade strength*. (M.Tech.),
- Chen, T., He, T., Benesty, M., Khotilovich, V., Tang, Y., and Cho, H. (2015). Xgboost: extreme gradient boosting. *R package version 0.4-2*, 1(4), 1-4.
- Cramer, N. L. (1985). *A representation for the adaptive generation of simple sequential programs*. Paper presented at the proceedings of an International Conference on Genetic Algorithms and the Applications.
- Das, S. K. (2005). Application of genetic algorithm and artificial neural network to some geotechnical engineering problems. *Ph.D Thesis, IIT Kanpur (India)*.
- Davis, E. (1949). The California bearing ratio method for the design of flexible roads and runways. *Géotechnique*, 1(4), 249-263.

- Deepak, Y., Jain, P., and Rakesh, K. (2014). Prediction of soaked CBR of fine grained soils from classification and compaction parameters. *International Journal of Advanced Engineering Research and Studies*, 3, 119-121.
- Dibike, Y. B., Velickov, S., Solomatine, D., and Abbott, M. B. (2001). Model induction with support vector machines: introduction and applications. *Journal of computing in civil engineering*, 15(3), 208-216.
- Dong, W., Huang, Y., Lehane, B., and Ma, G. (2020). XGBoost algorithm-based prediction of concrete electrical resistivity for structural health monitoring. *Automation in Construction*, 114, 103155.
- Doshi, S., Mesdary, M., and Guirguis, H. (1983). *A statistical study of laboratory CBR for Kuwaiti soils*. Paper presented at the Road Engineering Association of Asia and Australasia, Conference, 4th, 1983, Jakarta, Indonesia.
- Duan, J., Asteris, P. G., Nguyen, H., Bui, X.-N., and Moayed, H. (2021). A novel artificial intelligence technique to predict compressive strength of recycled aggregate concrete using ICA-XGBoost model. *Engineering with Computers*, 37(4), 3329-3346.
- Duque, J., Fuentes, W., Rey, S., and Molina, E. (2020). Effect of Grain Size Distribution on California Bearing Ratio (CBR) and Modified Proctor Parameters for Granular Materials. *Arabian Journal for Science and Engineering*, 45, 8231-8239.
- Erzin, Y. and Turkoz, D. (2016). Use of neural networks for the prediction of the CBR value of some Aegean sands. *Neural Computing and Applications*, 27(5), 1415-1426.
- Farias, I. G., Araujo, W., and Ruiz, G. (2018). Prediction of California bearing ratio from index properties of soils using parametric and non-parametric models. *Geotechnical and Geological Engineering*, 36(6), 3485-3498.
- Ferreira, C. (2001). Gene expression programming: a new adaptive algorithm for solving problems. *arXiv preprint cs/0102027*.
- Friedman, J. H. (2001). Greedy function approximation: a gradient boosting machine. *Annals of statistics*, 1189-1232.
- Gawith, A. and Perrin, C. (1962). *Development in the Design and Construction of Bituminous Surfaced Pavements in the State of Victoria, Australia*. Paper presented at the International Conference on the Structural Design of Asphalt Pavements University of Michigan, Ann Arbor.
- Ghazi, A. F. (2015). Engineering characteristics of compacted sand-bentonite mixtures. *Master of Engineering Science thesis, Edith Cowan university Australia*.
- Goldberg, D. E. (1989). Genetic algorithms in search, optimization and machine learning. In: Addison Wesley, Reading: MA.
- Greenstein, J. and Livneh, M. (1975). A procedure for estimating the design cbr-value of a dune sand. *A Procedure for Estimating the Design CBR-Value of a Dune Sand*, 6, 155.
- Gül, Y. and Çayır, H. M. (2020). *Prediction of the California bearing ratio from some field measurements of soils*. Paper presented at the Proceedings of the Institution of Civil Engineers-Municipal Engineer.
- Hanandeh, S., Ardah, A., and Abu-Farsakh, M. (2020). Using artificial neural network and genetics algorithm to estimate the resilient modulus for stabilized subgrade and propose new empirical formula. *Transportation Geotechnics*, 24, 100358.
- Hassan, J., Alshameri, B., and Iqbal, F. (2021). Prediction of California Bearing Ratio (CBR) Using Index Soil Properties and Compaction Parameters of Low Plastic Fine-Grained Soil. *Transportation Infrastructure Geotechnology*, 1-13.
- Hight, D. and Stevens, M. (1982). An analysis of the California Bearing Ratio test in saturated clays. *Geotechnique*, 32(4), 315-322.
- Holland, J. (1975). An introduction with application to biology, control and artificial intelligence Adaptation in Natural and Artificial System. In: MIT Press, Cambridge, MA.
- IRC-37. (2012). Guidelines for the Design of Flexible Pavements. *IRC: 37–2012, 3rd Revision*.

- IRC-37. (2018). Guidelines for the Design of Flexible Pavements. *IRC: 37–2018, 4th Revision*.
- IS 2720 (Part 4). (1985). Methods of test for soils–Grain size analysis. In: Bureau of Indian Standards New Delhi, India.
- IS 2720 (Part 5). (1985). Determination of liquid limit and plastic limit (second revision). In.
- IS 2720 (Part 8). (1994). Determination of water content, dry density relation using heavy compaction (second revision).
- IS 2720 (Part 16). (1987). Laboratory determination of CBR (second revision).
- IS 2720 (Part 31). (1990). Field determination of california bearing ratio.
- Jalal, F. E., Xu, Y., Iqbal, M., Jamhiri, B., and Javed, M. F. (2021). Predicting the compaction characteristics of expansive soils using two genetic programming-based algorithms. *Transportation Geotechnics*, 30, 100608.
- Jalal, F. E., Xu, Y., Iqbal, M., Javed, M. F., and Jamhiri, B. (2021). Predictive modeling of swell-strength of expansive soils using artificial intelligence approaches: ANN, ANFIS and GEP. *Journal of Environmental Management*, 289, 112420.
- Kardani, N., Bardhan, A., Kim, D., Samui, P., and Zhou, A. (2021). Modelling the energy performance of residential buildings using advanced computational frameworks based on RVM, GMDH, ANFIS-BBO and ANFIS-IPSO. *Journal of Building Engineering*, 35, 102105.
- Kardani, N., Bardhan, A., Samui, P., Nazem, M., Zhou, A., and Armaghani, D. J. (2021). A novel technique based on the improved firefly algorithm coupled with extreme learning machine (ELM-IFF) for predicting the thermal conductivity of soil. *Engineering with Computers*, 1-20.
- Karimpour-Fard, M., Machado, S. L., Falamaki, A., Carvalho, M. F., and Tizpa, P. (2019). Prediction of Compaction Characteristics of Soils from Index Test's Results. *Iranian Journal of Science and Technology, Transactions of Civil Engineering*, 43(1), 231-248.
- Katte, V. Y., Mfoyet, S. M., Manefouet, B., Wouatong, A. S. L., and Bezeng, L. A. (2019). Correlation of California bearing ratio (CBR) value with soil properties of road subgrade soil. *Geotechnical and Geological Engineering*, 37(1), 217-234.
- Kaufman, L. and Rousseeuw, P. J. (2009). *Finding groups in data: an introduction to cluster analysis* (Vol. 344): John Wiley & Sons.
- Kim, D., Nam, B. H., and Youn, H. (2018). Effect of clay content on the shear strength of clay-sand mixture. *International Journal of Geo-Engineering*, 9(1), 19.
- Kin, M. (2006). CALIFORNIA BEARING RATIO CORRELATION WITH SOIL INDEX PROPERTIES. *Master of engineering project, University technology, Malaysia (2006)*.
- Kleyn, S. (1955). Possible developments in pavement foundation design. *Civil Engineering= Siviele Ingenieurswese*, 5(9), 286-292.
- Koza, J. R. (1992). *Genetic programming: on the programming of computers by means of natural selection* (Vol. 1): MIT press.
- Kumar, K. P., Nanduri, R., and Kumar, N. D. (2014). Validation of predicted California bearing ratio values from different correlations. *American Journal of Engineering Research*, 3(8), 344-352.
- Kumar, S. A., Kumar, J. P., and Rajeev, J. (2013). Application of Machine Learning Techniques to Predict Soaked CBR Of remoulded soils". *International Journal of Engineering Research & Technology*, 2(6), 3019-3024.
- Kurnaz, T. F. and Kaya, Y. (2019). Prediction of the California bearing ratio (CBR) of compacted soils by using GMDH-type neural network. *The European Physical Journal Plus*, 134(7), 326.
- Langfelder, L. and Nivargikar, V. (1967). Some Factors Influencing Shear Strength and Compressibility of Compacted Soils. *Highway Research Record*(177).
- Lim, S., Wijeyesekera, D., and Bakar, I. (2014). *Correlations of Soil Classification and Compaction Parameters With Soaked and Unsoaked CBR of Soils*. Paper presented at the South East

- Asia Conference on Soft Soils Engineering and Ground Improvement. Advancement of Research and Practice for Geotechnical Solutions, Bandung, Indonesia.
- Miller J, T. P. (2002). Cartesian genetic programming . *In Proceedings of genetic programming . Springer, Berlin.*
- Moayed, R. Z., Kordnaeij, A., and Mola-Abasi, H. (2017). Compressibility indices of saturated clays by group method of data handling and genetic algorithms. *Neural Computing and Applications, 28*(1), 551-564.
- Nagaraj, H. (2016). Influence of gradation and proportion of sand on stress–strain behavior of clay–sand mixtures. *International Journal of Geo-Engineering, 7*(1), 19.
- Nagaraj, H. and Suresh, M. (2018). Influence of clay mineralogy on the relationship of CBR of fine-grained soils with their index and engineering properties. *Transportation Geotechnics, 15*, 29-38.
- National Cooperative Highway Research Program, N. (2001). Guide for mechanistic and empirical-design for new and rehabilitated pavement structures, final document. In: Appendix CC-1: Correlation of CBR values with soil index properties.
- National Rural Road Development Agency, N. (2005). Operational Manual Pradhan Mantri Gram Sadak Yojana. *Ministry of Rural Development, Government of India.*
- Nini, R. (2018). Effect of Soil Loading Surcharge on its CBR Value. *Balamand, El-Koura, Lebanon.*
- Oltean, M. (2004). Multi expression programming source code. Available at: https://www.mepx.org/source_code.html. In.
- Oltean, M. and Dumitrescu, D. (2002). Multi expression programming. *Journal of Genetic Programming and Evolvable Machines, Kluwer, second tour of review.*
- Oltean, M. and Dumitrescu, D. (2002). Multi expression programming, technical report, UBB-01-2002. *Babes-Bolyai University, Cluj-Napoca, Romania.*
- Oltean, M. and Grosan, C. (2003). A comparison of several linear genetic programming techniques. *Complex Systems, 14*(4), 285-314.
- Oltean, M. and Groşan, C. (2003). *Evolving evolutionary algorithms using multi expression programming.* Paper presented at the European Conference on Artificial Life.
- Pandian, N., Sridharan, A., and Raju, P. (1999). California bearing ratio test simplified. *Journal of Testing and Evaluation, 27*(1), 72-75.
- Patel, R. S. and Desai, M. (2010). *CBR predicted by index properties for alluvial soils of South Gujarat.* Paper presented at the Proceedings of the Indian geotechnical conference, Mumbai.
- Pattanaik, M. L., Choudhary, R., and Kumar, B. (2020). Prediction of frictional characteristics of bituminous mixes using group method of data handling and multigene symbolic genetic programming. *Engineering with Computers, 36*(4), 1875-1888.
- Patterson, N. (2002). Genetic programming with context-sensitive grammars. *Ph.D Thesis, School of Computer Science, University of Scotland.*
- Porter, O. (1939). *The preparation of subgrades.* Paper presented at the Highway Research Board Proceedings.
- Purwana, Y., Nikraz, H., and Jitsangiam, P. (2012). Experimental study of suction-monitored CBR test on sand-kaolin clay mixture. *GEOMATE Journal, 3*(6), 419-422.
- Putri, E. E., Rao, N., and Mannan, M. (2012). Evaluation of modulus of elasticity and modulus of subgrade reaction of soils using CBR test. *Journal of Civil Engineering Research, 2*(1), 34-40.
- Rakaraddi, P. and Gomarsi, V. (2015). Establishing relationship between CBR with different soil properties. *International journal of research in engineering and technology, 4*(2), 182-188.
- Rakesh, N., Jain, A., Reddy, M. A., and Reddy, K. S. (2006). Artificial neural networks—genetic algorithm based model for backcalculation of pavement layer moduli. *International Journal of Pavement Engineering, 7*(3), 221-230.

- Ramasubbarao, G. and Sankar, S. G. (2013). Predicting soaked CBR value of fine grained soils using index and compaction characteristics. *Jordan Journal of Civil Engineering*, 7(3), 354-360.
- Razouki, S. S. and Kuttah, D. K. (2004). Effect of soaking period and surcharge load on resilient modulus and California bearing ratio of gypsiferous soils. *Quarterly Journal of Engineering Geology and Hydrogeology*, 37(2), 155-164.
- Reddy, M. A., Reddy, K. S., and Pandey, B. (2001). Design CBR of Subgrade for Flexible Pavements. *Highway Research Bulletin*, 61-69.
- Reddy, M. A., Reddy, K. S., and Pandey, B. (2004). Selection of genetic algorithm parameters for backcalculation of pavement moduli. *International Journal of Pavement Engineering*, 5(2), 81-90.
- Rehman, A. u., Farooq, K., and Mujtaba, H. (2017). Prediction of california bearing ratio (CBR) and compaction characteristics of granular soils. *ACTA GEOTECHNICA SLOVENICA*, 14(1), 62-72.
- Rehman, Z., Khalid, U., Farooq, K., and Mujtaba, H. (2017). Prediction of CBR Value from Index Properties of different Soils. *Technic J*, 22(2), 17-26.
- Ryan, C., Collins, J. J., and Neill, M. O. (1998). *Grammatical evolution: Evolving programs for an arbitrary language*. Paper presented at the European Conference on Genetic Programming.
- Ryan, C. and O'Neill, M. (1998). Grammatical evolution: A steady state approach. *Late Breaking Papers, Genetic Programming, 1998*, 180-185.
- Sabat, A. K. (2015). Prediction of California bearing ratio of a stabilized expansive soil using artificial neural network and support vector machine. *Electronic Journal of Geotechnical Engineering*, 20(3), 981-991.
- Salgado, R., Bandini, P., and Karim, A. (2000). Shear strength and stiffness of silty sand. *Journal of Geotechnical and Geoenvironmental Engineering*, 126(5), 451-462.
- Seed, H. B., Mitchell, J., and Chan, C. (1961). *The strength of compacted cohesive soils*. Retrieved from
- Seed, H. B. and Monismith, C. L. (1954). Relationship between density and stability of subgrade soils. *Highway Research Board Bulletin*(93).
- Sivrikaya, O., Kayadelen, C., and Cecen, E. (2013). Prediction of the compaction parameters for coarse-grained soils with fines content by MLR and GEP. *Acta geotechnica slovenica*, 10(2), 29-41.
- Smith, G. N. (1986). Probability and statistics in civil engineering. *Collins professional and technical books*, 244.
- Sood, V., Lal, N., and Dhir, M. (1978). Estimation of CBR values of moorums from index properties. *Indian Highways*, 6(11), 28-31.
- Sreenivasulu, C., Sravani, T., Seshalalitha, M., and Pavani, R. (2014). Influence of coarse fraction on compaction characteristics and CBR strength of a fine grained soil. *International Journal of Advances in Engineering & Technology*, 7(4), 1217.
- Stephens, D. (1990). The prediction of the California bearing ratio. *Civil Engineering= Siviele Ingenieurswese*, 32(12), 523-528.
- Sukumaran, B., Kyatham, V., Shah, A., and Sheth, D. (2002). *Suitability of using california bearing ratio test to predict resilient modulus*. Paper presented at the Proceedings: Federal aviation administration airport technology transfer conference.
- Suthar, M. and Aggarwal, P. (2018). Predicting CBR value of stabilized pond ash with lime and lime sludge using ANN and MR models. *International Journal of Geosynthetics and Ground Engineering*, 4(1), 1-7.
- Taha, S., Gabr, A., and El-Badawy, S. (2019). Regression and neural network models for California bearing ratio prediction of typical granular materials in Egypt. *Arabian Journal for Science and Engineering*, 44(10), 8691-8705.

- Talukdar, D. K. (2014). A study of correlation between California Bearing Ratio (CBR) value with other properties of soil. *International Journal of Emerging Technology and Advanced Engineering*, 4(1), 559-562.
- Taskiran, T. (2010). Prediction of California bearing ratio (CBR) of fine grained soils by AI methods. *Advances in Engineering Software*, 41(6), 886-892.
- Tenpe, A. R. and Patel, A. (2018). Application of genetic expression programming and artificial neural network for prediction of CBR. *Road Materials and Pavement Design*, 21(5), 1183-1200.
- Tenpe, A. R. and Patel, A. (2020). Utilization of Support Vector Models and Gene Expression Programming for Soil Strength Modeling. *Arabian Journal for Science and Engineering*, 1-19.
- Tsai, H.-C. and Lin, Y.-H. (2011). Predicting high-strength concrete parameters using weighted genetic programming. *Engineering with Computers*, 27(4), 347-355.
- Turnbull, W. J. and Foster, C. R. (1956). Stabilization of materials by compaction. *Transactions of the American Society of Civil Engineers*, 123(1), 1-15.
- Vallejo, L. E. and Mawby, R. (2000). Porosity influence on the shear strength of granular material–clay mixtures. *Engineering Geology*, 58(2), 125-136.
- Venkatasubramanian, C. and Dhinakaran, G. (2011). ANN model for predicting CBR from index properties of soils. *International Journal of Civil & Structural Engineering*, 2(2), 614-620.
- Verma, G. and Kumar, B. (2022). Artificial Neural Network Equations for Predicting the Modified Proctor Compaction Parameters of Fine-Grained Soil. *Transportation Infrastructure Geotechnology*, 1-24.
- Verma, J. (2012). *Data analysis in management with SPSS software*: Springer Science & Business Media.
- Victoria Country Roads Board, V. (1964). The design of flexible pavements. *Technical Bulletin*(21).
- Victoria Country Roads Board, V. (1980). The design of flexible pavements. *Technical Bulletin*(31).
- Vinod, P. and Reena, C. (2008). Prediction of CBR value of lateritic soils using liquid limit and gradation characteristics data. *Highway Research Journal, IRC*, 1(1), 89-98.
- Wang, H. L. and Yin, Z. Y. (2020). High performance prediction of soil compaction parameters using multi expression programming. *Engineering Geology*, 276, 105758.
- Wroth, C. and Wood, D. (1978). The correlation of index properties with some basic engineering properties of soils. *Canadian Geotechnical Journal*, 15(2), 137-145.
- Yang, X. S., Gandomi, A. H., Talatahari, S., and Alavi, A. H. (2012). *Metaheuristics in water, geotechnical and transport engineering*: Newnes.
- Yared, L. (2013). *Correlation of CBR value with soil index properties for Addis Ababa subgrade soils*. (Master of Science), Addis Ababa University, Ethiopia.
- Yildirim, B. and Gunaydin, O. (2011). Estimation of California bearing ratio by using soft computing systems. *Expert Systems with Applications*, 38(5), 6381-6391.
- Zhang, H., Zhou, J., Jahed Armaghani, D., Tahir, M., Pham, B. T., and Huynh, V. V. (2020). A combination of feature selection and random forest techniques to solve a problem related to blast-induced ground vibration. *Applied Sciences*, 10(3), 869.
- Zhang, X., Nguyen, H., Bui, X.-N., Tran, Q.-H., Nguyen, D.-A., Bui, D. T., and Moayedi, H. (2020). Novel soft computing model for predicting blast-induced ground vibration in open-pit mines based on particle swarm optimization and XGBoost. *Natural Resources Research*, 29(2), 711-721.
- Zou, W.-l., Han, Z., Ding, L.-q., and Wang, X.-q. (2021). Predicting resilient modulus of compacted subgrade soils under influences of freeze–thaw cycles and moisture using gene expression programming and artificial neural network approaches. *Transportation Geotechnics*, 28, 100520.

Zumrawi, M. (2012). Prediction of CBR from index properties of cohesive soils. *Advances in civil engineering and building materials*. CRC Press, Boca Raton, 561-565.

LIST OF PUBLICATIONS

Published/Accepted in Journals

1. **Verma, Gaurav,** and Brind Kumar. "Application of multi-expression programming (MEP) in predicting the soaked California bearing ratio (CBR) value of fine-grained soil." *Innovative Infrastructure Solutions* 7, no. 4 (2022): 1-16. DOI: <https://doi.org/10.1007/s41062-022-00858-0>
2. **Verma, Gaurav,** and Brind Kumar. "Artificial Neural Network Equations for Predicting the Modified Proctor Compaction Parameters of Fine-Grained Soil." *Transportation Infrastructure Geotechnology* (2022): 1-24. DOI: <https://doi.org/10.1007/s40515-022-00228-4>
3. **Verma, Gaurav,** and Brind Kumar. "Multi-layer perceptron (MLP) neural network for predicting the modified compaction parameters of coarse-grained and fine-grained soils." *Innovative Infrastructure Solutions* 7, no. 1 (2022): 1-13. DOI: <https://doi.org/10.1007/s41062-021-00679-7>
4. **Verma, Gaurav,** and Brind Kumar. "Prediction of compaction parameters for fine-grained and coarse-grained soils: a review." *International Journal of Geotechnical Engineering* 14, no. 8 (2020): 970-977. DOI: <https://doi.org/10.1080/19386362.2019.1595301>

Under Review in Journals

1. **Verma, Gaurav,** Brind Kumar and Chintoo Kumar. "Novel application of KRR, K-NN and GPR algorithms for predicting the soaked CBR of fine-grained plastic soils." *Acta Geotechnica* (Under Review).

Conferences

1. **Verma, Gaurav,** and Brind Kumar. "Estimation of California Bearing Ratio from the Plastic Limit of Fine-grained Soils for Pavement Sub-grade." *International*

Conference on Pavements and Computational Approaches (ICOPAC-2018)
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Appendix A. Appendix

Table A-1. Dataset of laboratory testing for analysis.

Sl. No.	Sample Chainage	Gravel (%)	Sand (%)	FC (%)	LL (%)	PL (%)	PI (%)	MDD (g/cm ³)	OMC (%)	CBR (%)	Soil Group	Source of testing
1	88+500 (LHS)	1.06	14.14	84.81	29.25	21.20	8.05	1.906	11.03	8.20	CL	IL
2	88+500 (LHS)	1.05	14.04	84.91	29.00	21.25	7.75	1.910	10.80	8.60	CL	FL
3	88+500 (LHS)	0.80	14.68	84.53	27.85	20.27	7.59	1.907	10.83	9.10	CL	IL
4	88+500 (LHS)	0.92	16.65	82.44	28.90	20.83	8.08	1.871	12.33	9.30	CL	IL
5	99+380 (LHS)	4.21	9.28	86.52	29.95	21.21	8.75	1.838	11.85	7.50	CL	FL
6	99+380 (LHS)	3.80	9.02	87.19	30.05	21.33	8.73	1.818	10.35	7.60	CL	FL
7	99+380 (LHS)	6.09	27.82	66.10	25.40	19.39	6.01	1.910	11.93	8.00	CL-ML	FL
8	99+380 (LHS)	4.97	9.60	85.43	30.90	21.54	9.36	1.810	11.95	8.00	CL	FL
9	99+380 (LHS)	2.28	9.91	87.82	28.90	20.95	7.96	1.909	11.03	8.10	CL	IL
10	99+380 (LHS)	1.48	10.45	88.08	29.50	21.30	8.20	1.870	11.70	8.10	CL	IL
11	99+380 (LHS)	2.00	9.16	88.85	29.30	20.98	8.32	1.825	10.75	8.10	CL	FL
12	99+380 (LHS)	1.56	9.08	89.36	29.90	21.56	8.34	1.832	10.70	8.10	CL	FL
13	99+380 (LHS)	1.42	9.43	89.16	29.40	22.40	7.00	1.855	13.00	8.10	CL-ML	FL
14	99+380 (LHS)	1.67	9.80	88.53	28.45	21.36	7.10	1.853	12.95	8.10	CL	FL
15	99+380 (LHS)	1.63	9.69	88.68	29.45	22.28	7.18	1.845	13.10	8.10	CL	FL
16	99+380 (LHS)	2.94	9.70	87.37	29.80	21.40	8.40	1.910	11.20	8.13	CL	FL
17	99+380 (LHS)	3.61	9.40	87.00	27.80	20.55	7.25	1.915	11.48	8.15	CL	FL
18	99+380 (LHS)	2.59	8.91	88.51	28.95	20.98	7.98	1.903	11.75	8.15	CL	FL
19	99+380 (LHS)	4.38	8.97	86.65	28.00	21.60	6.40	1.855	13.60	8.20	CL-ML	IL
20	99+380 (LHS)	2.45	10.56	87.00	29.85	21.21	8.65	1.891	11.58	8.20	CL	IL
21	99+380 (LHS)	2.39	10.22	87.40	28.85	20.98	7.88	1.915	10.23	8.20	CL	FL
22	99+380 (LHS)	2.71	10.88	86.42	28.65	20.88	7.78	1.897	11.70	8.20	CL	FL

Table A-1 (Cont.)

23	99+380 (LHS)	2.49	10.78	86.74	29.05	20.95	8.10	1.885	10.10	8.20	CL	FL
24	99+380 (LHS)	1.64	9.70	88.66	30.00	21.60	8.40	1.900	11.05	8.30	CL	IL
25	99+380 (LHS)	5.79	7.81	86.40	29.90	21.71	8.20	1.825	11.25	8.30	CL	FL
26	99+380 (LHS)	1.71	8.59	89.71	30.65	22.01	8.64	1.875	11.75	8.30	CL	FL
27	99+380 (LHS)	2.37	8.92	88.72	28.10	20.58	7.53	1.907	11.60	8.30	CL	FL
28	99+380 (LHS)	4.69	8.97	86.35	27.90	20.96	6.95	1.903	12.05	8.30	CL-ML	FL
29	99+380 (LHS)	4.73	9.18	86.09	29.20	21.70	7.50	1.830	9.95	8.30	CL	FL
30	99+380 (LHS)	4.73	9.18	86.09	29.20	21.70	7.50	1.830	9.95	8.30	CL	FL
31	99+380 (LHS)	2.47	10.41	87.12	28.65	20.78	7.88	1.885	10.35	8.30	CL	FL
32	99+380 (LHS)	2.62	10.20	87.19	29.15	20.95	8.20	1.878	11.40	8.30	CL	FL
33	99+380 (LHS)	3.65	9.09	87.27	29.95	22.61	7.35	1.914	11.60	8.35	CL	FL
34	99+380 (LHS)	2.38	9.09	88.54	29.77	21.39	8.38	1.835	11.85	8.35	CL	FL
35	99+380 (LHS)	3.94	9.56	86.51	28.70	21.37	7.34	1.849	13.54	8.40	CL	IL
36	99+380 (LHS)	2.53	10.64	86.83	30.50	22.15	8.35	1.912	11.00	8.40	CL	IL
37	99+380 (LHS)	2.84	9.66	87.51	28.15	20.50	7.65	1.899	10.15	8.40	CL	IL
38	99+380 (LHS)	2.73	8.20	89.07	29.70	21.30	8.40	1.890	10.90	8.40	CL	IL
39	99+380 (LHS)	4.00	25.74	70.27	26.05	19.27	6.79	1.905	11.91	8.40	CL-ML	FL
40	99+380 (LHS)	4.00	29.59	66.41	25.20	19.56	5.64	1.893	12.20	8.40	CL-ML	FL
41	99+380 (LHS)	4.44	10.30	85.27	29.48	21.35	8.13	1.926	11.00	8.40	CL	FL
42	99+380 (LHS)	2.34	10.09	87.57	28.70	20.74	7.97	1.879	11.48	8.40	CL	FL
43	99+380 (LHS)	3.02	10.26	86.73	28.95	21.13	7.82	1.895	10.95	8.40	CL	FL
44	99+380 (LHS)	4.23	10.11	85.66	30.50	21.76	8.75	1.837	11.00	8.40	CL	FL
45	99+380 (LHS)	5.35	9.95	84.71	29.35	20.95	8.40	1.926	10.85	8.45	CL	FL
46	99+380 (LHS)	2.28	10.07	87.66	28.50	20.78	7.73	1.898	10.68	8.50	CL	IL
47	99+380 (LHS)	2.43	10.86	86.72	28.65	20.96	7.70	1.920	10.45	8.50	CL	IL
48	99+380 (LHS)	1.58	9.78	88.65	29.90	21.41	8.50	1.873	11.50	8.50	CL	FL
49	99+380 (LHS)	1.64	9.17	89.20	29.80	23.03	6.78	1.850	13.30	8.50	CL-ML	FL
50	99+380 (LHS)	4.54	9.87	85.59	27.83	20.18	7.65	1.954	10.90	8.50	CL	FL

Table A-1 (Cont.)

51	99+380 (LHS)	2.96	8.95	88.10	29.85	21.33	8.53	1.903	11.80	8.50	CL	FL
52	99+380 (LHS)	2.61	8.85	88.55	29.50	21.21	8.30	1.905	11.61	8.50	CL	FL
53	99+380 (LHS)	2.98	8.39	88.64	29.15	21.03	8.13	1.855	11.81	8.50	CL	FL
54	99+380 (LHS)	1.37	8.15	90.48	29.65	21.80	7.85	1.853	12.00	8.50	CL	FL
55	99+380 (LHS)	3.86	8.78	87.36	27.40	21.70	5.70	1.920	11.60	8.50	CL-ML	FL
56	99+380 (LHS)	2.51	9.90	87.59	28.80	20.93	7.88	1.868	12.60	8.50	CL	FL
57	99+380 (LHS)	2.24	10.28	87.49	28.50	20.78	7.73	1.927	11.15	8.50	CL	FL
58	99+380 (LHS)	2.33	9.16	88.52	26.96	20.06	6.91	1.927	10.38	8.55	CL-ML	FL
59	99+380 (LHS)	1.34	12.15	86.51	29.30	21.82	7.49	1.890	11.40	8.60	CL	IL
60	99+380 (LHS)	2.27	10.67	87.06	29.25	21.01	8.25	1.903	12.40	8.60	CL	IL
61	99+380 (LHS)	4.60	28.38	67.03	25.90	19.90	6.00	1.905	11.80	8.60	CL-ML	FL
62	99+380 (LHS)	3.10	29.01	67.89	25.50	19.55	5.95	1.895	12.05	8.60	CL-ML	FL
63	99+380 (LHS)	1.61	9.45	88.95	29.60	21.11	8.50	1.868	12.00	8.60	CL	FL
64	99+380 (LHS)	1.91	9.40	88.70	29.00	22.06	6.95	1.838	13.25	8.60	CL-ML	FL
65	99+380 (LHS)	1.81	8.68	89.52	28.70	21.71	7.00	1.853	12.95	8.60	CL-ML	FL
66	99+380 (LHS)	3.25	9.75	87.00	29.70	22.71	6.99	1.906	11.70	8.60	CL-ML	FL
67	99+380 (LHS)	3.12	10.54	86.35	30.00	21.28	8.73	1.855	12.20	8.60	CL	FL
68	99+380 (LHS)	1.97	10.10	87.94	29.25	22.20	7.05	1.850	13.10	8.60	CL	FL
69	99+380 (LHS)	2.52	11.23	86.26	29.00	20.91	8.10	1.904	11.13	8.60	CL	FL
70	99+380 (LHS)	2.38	10.18	87.45	28.00	20.10	7.90	1.902	11.60	8.65	CL	IL
71	99+380 (LHS)	5.51	11.63	82.86	31.03	21.27	9.76	1.844	13.28	8.70	CL	IL
72	99+380 (LHS)	0.75	8.00	91.26	28.00	20.23	7.78	1.934	12.24	8.70	CL	IL
73	99+380 (LHS)	1.33	12.77	85.91	27.60	20.78	6.83	1.870	10.65	8.70	CL-ML	FL
74	99+380 (LHS)	1.65	12.29	86.07	28.70	21.10	7.61	1.873	10.68	8.70	CL	FL
75	99+380 (LHS)	2.01	9.11	88.89	28.68	20.00	8.69	1.825	11.10	8.70	CL	FL
76	99+380 (LHS)	4.67	11.85	83.49	27.90	19.85	8.05	1.876	12.10	8.70	CL	FL
77	99+380 (LHS)	0.83	10.43	88.75	28.70	21.90	6.80	1.902	10.30	8.70	CL-ML	FL
78	99+380 (LHS)	2.05	10.85	87.11	28.95	20.91	8.05	1.886	11.33	8.70	CL	FL

Table A-1 (Cont.)

79	99+380 (LHS)	3.93	11.39	84.69	28.85	21.61	7.25	1,869	12.30	8.70	CL	FL
80	99+380 (LHS)	0.59	7.67	91.74	28.80	21.25	7.55	1,916	12.60	8.75	CL	FL
81	99+380 (LHS)	3.53	7.53	88.95	28.50	20.40	8.10	1,924	11.00	8.75	CL	FL
82	99+380 (LHS)	2.38	9.62	88.01	29.60	22.40	7.20	1,860	13.42	8.80	CL	IL
83	99+380 (LHS)	2.86	11.61	85.53	28.90	20.64	8.26	1,906	9.90	8.80	CL	IL
84	99+380 (LHS)	1.91	11.30	86.80	29.60	21.43	8.18	1,841	10.70	8.80	CL	FL
85	99+380 (LHS)	1.60	10.88	87.53	29.40	21.00	8.40	1,748	13.55	8.80	CL	FL
86	99+380 (LHS)	1.24	7.90	90.87	29.15	19.86	9.30	1,859	12.75	8.80	CL	FL
87	99+380 (LHS)	5.22	10.06	84.72	28.10	20.29	7.81	1,862	11.55	8.80	CL	FL
88	99+380 (LHS)	4.51	9.37	86.13	28.55	21.61	6.95	1,912	11.48	8.80	CL-ML	FL
89	99+380 (LHS)	2.77	9.87	87.37	29.00	21.48	7.53	1,898	11.85	8.80	CL	FL
90	99+380 (LHS)	1.34	25.75	72.92	26.70	20.63	6.08	1,803	11.23	8.80	CL-ML	FL
91	99+380 (LHS)	1.33	12.74	85.94	29.40	21.75	7.66	1,887	10.78	8.80	CL	FL
92	99+380 (LHS)	0.00	22.52	77.49	25.70	18.90	6.80	1,917	10.83	8.80	CL-ML	FL
93	99+380 (LHS)	1.76	10.88	87.36	27.75	19.86	7.90	1,857	12.35	8.85	CL	FL
94	99+380 (LHS)	0.22	10.22	89.56	29.00	22.01	6.99	1,908	11.10	8.85	CL-ML	FL
95	99+380 (LHS)	2.13	10.74	87.13	29.00	20.98	8.02	1,907	11.65	8.90	CL	IL
96	99+380 (LHS)	2.68	11.04	86.29	30.00	20.87	9.13	1,826	10.28	8.90	CL	FL
97	99+380 (LHS)	3.43	11.97	84.61	28.45	20.27	8.18	1,856	11.90	8.95	CL	FL
98	99+380 (LHS)	0.75	10.88	88.37	29.00	21.70	7.30	1,834	12.30	8.95	CL	FL
99	99+380 (LHS)	0.28	10.78	88.95	29.35	21.82	7.53	1,942	12.00	8.98	CL	IL
100	99+380 (LHS)	5.55	13.18	81.28	28.45	20.91	7.55	1,925	10.50	9.00	CL	IL
101	99+380 (LHS)	3.55	29.26	67.19	25.90	19.54	6.37	1,890	12.35	9.00	CL-ML	FL
102	99+380 (LHS)	0.78	10.97	88.25	29.70	20.25	9.45	1,844	11.90	9.00	CL	FL
103	99+380 (LHS)	2.56	10.40	87.04	28.20	21.30	6.90	1,863	11.00	9.00	CL-ML	FL
104	99+380 (LHS)	0.33	7.57	92.11	29.05	21.51	7.54	1,867	11.63	9.00	CL	FL
105	99+380 (LHS)	2.52	10.06	87.42	28.55	20.73	7.82	1,909	11.48	9.00	CL	FL
106	99+380 (LHS)	4.56	17.05	78.39	27.05	20.48	6.58	1,843	13.60	9.00	CL-ML	FL

Table A-1 (Cont.)

107	99+380 (LHS)	0.09	21.84	78.08	26.70	20.75	5.95	1.882	10.58	9.00	CL-ML	FL
108	99+380 (LHS)	3.13	11.16	85.72	28.68	20.89	7.79	1.922	11.03	9.00	CL	FL
109	99+380 (LHS)	0.69	10.87	88.45	28.85	21.65	7.20	1.833	13.05	9.05	CL	FL
110	99+380 (LHS)	4.81	24.98	70.22	26.15	19.74	6.42	1.910	11.13	9.10	CL-ML	FL
111	99+380 (LHS)	0.14	20.34	79.53	26.20	20.65	5.55	1.867	10.88	9.10	CL-ML	FL
112	99+380 (LHS)	1.93	15.76	82.32	27.65	20.45	7.20	1.899	10.40	9.10	CL	FL
113	99+380 (LHS)	1.85	11.80	86.35	29.80	22.20	7.60	1.855	11.60	9.55	CL	FL
114	99+380 (LHS)	1.52	12.34	86.14	28.65	20.78	7.88	1.892	11.05	9.60	CL	IL
115	99+380 (LHS)	2.71	12.32	84.98	28.23	19.72	8.51	1.831	12.35	9.90	CL	FL
116	99+380 (LHS)	1.51	10.58	87.92	28.25	21.29	6.96	1.887	11.40	10.00	CL-ML	FL
117	99+380 (LHS)	2.95	10.38	86.68	29.65	22.86	6.79	1.913	11.45	10.00	CL-ML	FL
118	99+380 (LHS)	1.73	12.48	85.80	28.20	20.18	8.03	1.856	12.13	10.10	CL	FL
119	99+380 (LHS)	3.13	11.93	84.94	29.85	21.96	7.90	1.895	11.45	10.30	CL	IL
120	99+380 (LHS)	2.61	12.77	84.63	28.95	20.91	8.05	1.886	10.90	10.30	CL	IL
121	101+920 (LHS)	6.62	11.59	81.80	29.40	12.72	16.69	1.825	11.70	7.35	CL	FL
122	101+920 (LHS)	8.21	12.78	79.01	28.60	20.86	7.75	1.848	12.80	7.50	CL	IL
123	101+920 (LHS)	7.62	11.79	80.60	29.20	21.32	7.89	1.830	11.85	7.60	CL	FL
124	101+920 (LHS)	7.41	11.18	81.42	29.45	21.55	7.90	1.825	11.60	7.80	CL	FL
125	101+920 (LHS)	9.25	10.29	80.46	29.85	22.81	7.05	1.805	12.75	8.00	CL	FL
126	101+920 (LHS)	7.38	12.88	79.74	28.60	20.81	7.79	1.844	11.10	8.05	CL	IL
127	101+920 (LHS)	6.20	6.65	87.16	28.20	21.16	7.05	1.860	13.66	8.10	CL	IL
128	101+920 (LHS)	7.81	8.57	83.63	28.65	20.98	7.67	1.874	13.25	8.10	CL	IL
129	101+920 (LHS)	10.00	7.72	82.28	29.30	21.58	7.72	1.893	11.55	8.10	CL	FL
130	101+920 (LHS)	7.12	11.98	80.90	29.00	21.51	7.50	1.830	11.70	8.25	CL	FL
131	101+920 (LHS)	9.52	9.82	80.66	29.35	21.86	7.50	1.825	12.25	8.25	CL	FL
132	101+920 (LHS)	6.03	8.39	85.59	29.10	21.06	8.05	1.835	11.23	8.40	CL	FL
133	101+920 (LHS)	7.01	11.51	81.49	27.50	20.60	6.90	1.900	11.83	8.50	CL-ML	FL
134	101+920 (LHS)	6.88	12.68	80.44	29.80	21.91	7.89	1.810	12.10	8.50	CL	FL

Table A-1 (Cont.)

135	101+920 (LHS)	9.96	7.65	82.39	29.40	21.75	7.65	1.887	11.70	8.50	CL	FL
136	101+920 (LHS)	7.59	10.24	82.18	28.85	20.78	8.08	1.902	11.45	8.65	CL	FL
137	101+920 (LHS)	8.21	8.27	83.53	30.10	21.47	8.63	1.830	12.30	8.75	CL	FL
138	101+920 (LHS)	6.03	7.62	86.35	29.25	21.28	7.97	1.830	11.50	8.90	CL	FL
139	102+600 (RHS)	9.35	10.75	79.91	28.85	20.05	8.80	1.935	12.15	8.80	CL	FL
140	102+600 (RHS)	7.24	15.19	77.58	27.90	20.96	6.95	1.886	12.88	9.20	CL-ML	FL
141	102+600 (RHS)	6.92	15.10	77.99	27.70	19.91	7.79	1.915	10.85	9.20	CL	FL
142	102+600 (RHS)	9.02	10.26	80.73	29.25	22.18	7.08	1.832	12.20	9.30	CL	FL
143	102+600 (RHS)	6.19	13.09	80.73	28.70	20.88	7.83	1.904	11.35	9.30	CL	FL
144	102+600 (RHS)	7.02	20.07	72.92	27.80	19.95	7.85	1.959	10.90	9.40	CL	FL
145	102+600 (RHS)	6.61	13.03	80.37	27.95	20.21	7.75	1.914	10.30	9.40	CL	FL
146	102+600 (RHS)	6.39	12.23	81.39	29.20	21.00	8.20	1.923	10.70	9.40	CL	FL
147	102+600 (RHS)	7.23	21.10	71.68	27.80	19.93	7.87	1.915	10.88	9.60	CL	FL
148	102+600 (RHS)	8.36	13.05	78.59	28.70	20.80	7.90	1.900	12.20	9.65	CL	FL
149	102+600 (RHS)	6.03	13.13	80.84	29.05	20.99	8.07	1.890	10.30	9.70	CL	FL
150	102+600 (RHS)	6.91	13.20	79.90	28.60	20.45	8.15	1.932	10.70	9.80	CL	FL
151	102+600 (RHS)	6.46	13.20	80.35	28.60	20.51	8.09	1.924	11.15	9.90	CL	FL
152	102+600 (RHS)	7.43	16.07	76.51	28.30	20.08	8.23	1.922	10.55	9.90	CL	FL
153	102+600 (RHS)	7.02	15.35	77.64	27.50	19.83	7.68	1.909	10.93	10.00	CL	FL
154	102+600 (RHS)	7.37	14.84	77.80	28.00	19.95	8.05	1.894	10.53	10.10	CL	FL
155	102+600 (RHS)	6.86	13.58	79.56	28.00	20.80	7.20	1.860	10.30	10.20	CL	FL
156	102+600 (RHS)	7.01	12.98	80.01	29.10	20.41	8.69	1.912	11.30	10.30	CL	FL
157	102+600 (RHS)	7.28	9.36	83.36	28.45	21.55	6.90	1.868	12.50	10.50	CL-ML	FL
158	103+930 (LHS)	0.68	13.49	85.83	27.90	21.05	6.85	1.910	10.80	8.90	CL-ML	FL
159	103+930 (LHS)	0.57	13.86	85.57	27.65	20.70	6.95	1.866	11.35	8.90	CL-ML	FL
160	103+930 (LHS)	0.63	11.92	87.46	28.20	20.28	7.93	1.884	10.65	8.90	CL	FL
161	103+930 (LHS)	0.09	11.96	87.96	28.35	20.30	8.05	1.875	10.83	8.90	CL	FL
162	103+930 (LHS)	0.45	14.11	85.45	28.65	20.58	8.08	1.896	10.80	8.90	CL	FL

Table A-1 (Cont.)

163	103+930 (LHS)	0.91	13.97	85.13	29.00	21.59	7.42	1.892	11.70	8.95	CL	FL
164	103+930 (LHS)	0.83	12.75	86.43	27.80	21.00	6.80	1.906	11.16	9.00	CL-ML	IL
165	103+930 (LHS)	0.78	13.74	85.49	28.47	22.45	6.02	1.907	10.65	9.00	CL-ML	IL
166	103+930 (LHS)	0.66	13.41	85.93	27.90	19.96	7.95	1.857	10.15	9.00	CL	FL
167	103+930 (LHS)	0.55	12.88	86.58	27.60	20.78	6.83	1.895	10.80	9.00	CL-ML	FL
168	103+930 (LHS)	0.71	12.30	87.00	29.80	22.70	7.10	1.885	11.90	9.10	CL	FL
169	103+930 (LHS)	1.37	13.69	84.95	28.10	20.36	7.75	1.891	10.85	9.40	CL	IL
170	103+930 (LHS)	0.81	14.33	84.87	28.85	21.08	7.78	1.915	10.65	9.40	CL	IL
171	103+930 (LHS)	0.50	13.40	86.10	43.00	29.00	14.00	1.600	21.90	9.40	CL	IL
172	103+930 (LHS)	0.96	12.75	86.29	28.60	21.30	7.30	1.864	10.20	9.40	CL	FL
173	103+930 (LHS)	0.33	13.68	86.00	27.48	20.07	7.41	1.900	10.60	9.40	CL	FL
174	103+930 (LHS)	0.67	12.42	86.92	28.35	20.99	7.37	1.899	11.20	9.40	CL	FL
175	103+930 (LHS)	0.46	13.86	85.69	28.60	20.90	7.70	1.897	10.95	9.40	CL	FL
176	103+930 (LHS)	1.32	12.61	86.08	27.50	20.39	7.12	1.890	10.80	9.40	CL	FL
177	103+930 (LHS)	0.83	13.45	85.73	29.71	22.40	7.32	1.848	10.30	9.50	CL	IL
178	103+930 (LHS)	0.82	13.39	85.80	30.05	22.46	7.60	1.895	12.00	9.50	CL	FL
179	103+930 (LHS)	0.64	13.17	86.20	28.30	20.80	7.50	1.881	10.45	9.50	CL	FL
180	103+930 (LHS)	0.83	12.34	86.83	28.27	20.99	7.28	1.905	10.60	9.60	CL	FL
181	103+930 (LHS)	0.77	11.59	87.64	29.05	22.48	6.58	1.923	11.65	9.60	CL-ML	FL
182	103+930 (LHS)	0.54	11.71	87.76	28.00	20.25	7.75	1.856	11.50	9.60	CL	FL
183	103+930 (LHS)	0.87	13.34	85.80	30.46	21.56	8.90	1.856	11.40	9.64	CL	IL
184	103+930 (LHS)	1.31	13.99	84.71	27.40	19.73	7.67	1.903	10.78	9.75	CL	FL
185	103+930 (LHS)	0.81	12.73	86.47	27.80	21.76	6.05	1.904	10.65	9.80	CL-ML	FL
186	103+930 (LHS)	0.61	12.85	86.55	29.50	22.52	6.99	1.875	10.70	9.90	CL-ML	IL
187	103+930 (LHS)	0.83	12.70	86.48	27.70	19.70	8.00	1.844	10.65	9.90	CL	FL
188	105+200 (RHS)	3.00	19.00	78.00	55.00	23.00	32.00	1.934	12.50	8.00	CH	FL
189	105+200 (RHS)	3.13	22.85	74.03	29.10	22.76	6.35	1.929	12.13	8.50	CL-ML	IL
190	105+200 (RHS)	1.71	22.59	75.71	28.70	22.55	6.15	1.909	11.65	8.50	CL-ML	IL

Table A-1 (Cont.)

191	105+200 (RHS)	2.05	22.94	75.02	27.00	19.88	7.13	1.885	11.65	8.70	CL	IL
192	105+200 (RHS)	2.37	23.84	73.80	29.00	22.40	6.60	1.912	12.10	8.80	CL-ML	IL
193	105+200 (RHS)	1.48	15.30	83.23	27.55	20.90	6.65	1.900	10.33	8.90	CL-ML	FL
194	105+200 (RHS)	1.56	15.02	83.43	29.35	21.56	7.79	1.907	10.45	8.90	CL	FL
195	105+200 (RHS)	2.45	22.70	74.86	27.50	20.50	7.00	1.857	11.38	9.00	CL-ML	IL
196	105+200 (RHS)	1.13	15.40	83.48	28.40	20.99	7.41	1.910	11.43	9.20	CL	FL
197	105+200 (RHS)	2.00	15.61	82.39	28.15	21.29	6.86	1.919	11.81	9.50	CL-ML	IL
198	105+200 (RHS)	1.03	18.82	80.15	28.10	20.80	7.30	1.872	11.70	9.50	CL	IL
199	105+200 (RHS)	2.52	23.10	74.39	27.55	20.35	7.20	1.915	11.35	9.50	CL	IL
200	105+200 (RHS)	2.10	21.66	76.24	26.30	19.80	6.50	1.908	11.00	9.50	CL-ML	FL
201	105+200 (RHS)	1.27	14.79	83.95	28.00	21.05	6.95	1.897	11.03	9.50	CL-ML	FL
202	105+200 (RHS)	2.44	15.16	82.40	28.00	20.82	7.18	1.880	10.25	9.50	CL	FL
203	105+200 (RHS)	3.81	23.78	72.42	26.80	20.10	6.70	1.895	11.38	9.60	CL-ML	IL
204	105+200 (RHS)	3.98	24.03	71.99	25.95	19.55	6.40	1.904	10.53	9.60	CL-ML	IL
205	105+200 (RHS)	1.82	22.55	75.63	26.60	19.63	6.98	1.876	11.60	9.60	CL-ML	IL
206	105+200 (RHS)	2.42	19.64	77.95	26.70	19.70	7.00	1.769	12.30	9.60	CL-ML	FL
207	105+200 (RHS)	2.23	20.81	76.96	28.75	21.42	7.34	1.861	12.33	9.60	CL	FL
208	105+200 (RHS)	1.62	16.81	81.57	27.30	20.27	7.03	1.920	11.00	9.60	CL	FL
209	105+200 (RHS)	1.03	16.01	82.96	27.45	21.37	6.08	1.880	10.20	9.60	CL-ML	FL
210	105+200 (RHS)	2.14	16.31	81.56	27.47	20.67	6.80	1.880	10.23	9.70	CL-ML	FL
211	105+200 (RHS)	2.11	18.82	79.08	26.25	19.52	6.74	1.885	12.00	9.70	CL-ML	FL
212	105+200 (RHS)	2.06	19.12	78.82	26.35	19.68	6.68	1.885	11.95	9.75	CL-ML	FL
213	105+200 (RHS)	1.26	24.06	74.69	27.80	21.38	6.42	1.892	10.80	9.80	CL-ML	IL
214	105+200 (RHS)	2.22	17.17	80.62	27.40	21.39	6.02	1.898	11.90	9.80	CL-ML	FL
215	105+200 (RHS)	3.41	20.51	76.08	27.60	19.52	8.08	1.898	10.63	9.80	CL	FL
216	105+200 (RHS)	3.39	17.26	79.36	27.45	20.36	7.10	1.810	11.20	9.80	CL	FL
217	105+200 (RHS)	1.24	24.37	74.40	25.80	20.96	4.85	1.928	11.15	9.80	CL-ML	FL
218	105+200 (RHS)	2.15	21.30	76.55	26.60	19.45	7.15	1.895	11.90	9.83	CL	FL

Table A-1 (Cont.)

219	105+200 (RHS)	1.75	18.76	79.50	30.20	21.25	8.95	1.897	12.30	9.85	CL	IL
220	105+200 (RHS)	1.52	19.89	78.60	27.55	20.01	7.55	1.883	11.95	9.85	CL	FL
221	105+200 (RHS)	1.15	15.30	83.56	29.55	21.15	8.40	1.848	11.80	9.90	CL	IL
222	105+200 (RHS)	2.00	16.20	81.80	26.98	19.00	7.98	1.905	10.70	9.90	CL	IL
223	105+200 (RHS)	3.78	24.02	72.21	30.05	20.91	9.15	1.848	13.40	9.90	CL	FL
224	105+200 (RHS)	1.38	24.59	74.04	27.30	21.16	6.15	1.914	11.30	9.90	CL-ML	FL
225	105+200 (RHS)	0.24	17.08	82.68	28.91	21.33	7.58	1.779	13.15	9.92	CL	IL
226	105+200 (RHS)	0.35	24.37	75.29	27.80	21.45	6.35	1.869	11.50	9.95	CL-ML	IL
227	105+200 (RHS)	3.92	23.79	72.29	25.70	19.81	5.90	1.885	10.53	9.98	CL-ML	IL
228	105+200 (RHS)	3.14	29.27	67.60	30.34	21.26	9.08	1.847	13.26	10.00	CL	IL
229	105+200 (RHS)	0.24	23.90	75.87	27.10	21.50	5.60	1.906	11.15	10.00	CL-ML	IL
230	105+200 (RHS)	0.28	28.68	71.05	28.70	20.95	7.75	1.848	11.55	10.00	CL	IL
231	105+200 (RHS)	2.53	20.92	76.56	27.40	20.53	6.87	1.870	11.95	10.00	CL-ML	IL
232	105+200 (RHS)	0.92	19.35	79.73	28.70	20.26	8.45	1.870	11.90	10.00	CL	FL
233	106+550 (LHS)	3.82	19.20	76.98	27.45	19.90	7.55	1.771	13.00	10.00	CL	FL
234	106+550 (LHS)	3.40	21.04	75.57	26.50	19.95	6.56	1.820	12.25	10.00	CL-ML	FL
235	106+550 (LHS)	2.38	22.39	75.23	27.20	21.95	5.25	1.900	11.20	10.00	CL-ML	FL
236	106+550 (LHS)	3.58	17.47	78.96	27.55	20.60	6.95	1.878	11.35	10.00	CL-ML	FL
237	106+550 (LHS)	0.00	20.17	79.83	26.60	20.35	6.25	1.850	11.00	10.00	CL-ML	FL
238	106+550 (LHS)	1.41	26.40	72.20	26.65	20.68	5.98	1.826	12.00	10.00	CL-ML	FL
239	106+550 (LHS)	0.00	23.57	76.44	25.85	19.11	6.75	1.912	10.95	10.00	CL-ML	FL
240	106+550 (LHS)	0.33	13.38	86.30	29.45	21.19	8.27	1.900	11.08	10.00	CL	FL
241	106+550 (LHS)	1.87	17.66	80.48	27.45	20.78	6.67	1.915	12.03	10.10	CL-ML	IL
242	106+550 (LHS)	0.17	25.42	74.42	28.85	21.00	7.85	1.829	10.63	10.10	CL	IL
243	106+550 (LHS)	1.98	16.98	81.04	28.30	20.95	7.35	1.864	11.15	10.10	CL	IL
244	106+550 (LHS)	2.45	16.48	81.07	27.80	20.90	6.90	1.895	11.62	10.10	CL-ML	FL
245	106+550 (LHS)	1.26	18.82	79.92	27.90	19.83	8.07	1.888	12.00	10.10	CL	FL
246	106+550 (LHS)	2.41	27.14	70.46	28.05	22.08	5.98	1.818	12.05	10.10	CL-ML	FL

Table A-1 (Cont.)

247	106+550 (LHS)	0.32	21.89	77.80	27.25	20.15	7.10	1.826	11.13	10.10	CL	FL
248	106+550 (LHS)	1.07	27.19	71.75	28.05	21.76	6.30	1.914	11.80	10.10	CL-ML	FL
249	106+550 (LHS)	1.51	15.11	83.38	28.00	20.74	7.26	1.910	10.83	10.10	CL	FL
250	106+550 (LHS)	0.00	24.77	75.23	27.00	21.80	5.20	1.884	10.20	10.15	CL-ML	FL
251	106+550 (LHS)	1.36	17.06	81.59	29.85	21.70	8.15	1.915	11.35	10.20	CL	IL
252	106+550 (LHS)	1.82	15.58	82.60	27.00	20.50	6.50	1.909	10.20	10.20	CL-ML	FL
253	106+550 (LHS)	0.16	20.29	79.55	26.85	20.55	6.30	1.848	10.58	10.20	CL-ML	FL
254	106+550 (LHS)	0.24	17.96	81.80	30.00	21.35	8.65	1.882	12.25	10.20	CL	FL
255	106+550 (LHS)	0.63	27.28	72.10	26.25	19.76	6.49	1.874	10.60	10.25	CL-ML	FL
256	106+550 (LHS)	0.86	17.38	81.76	27.35	21.21	6.15	1.896	12.65	10.30	CL-ML	FL
257	106+550 (LHS)	1.91	24.33	73.76	27.60	20.18	7.43	1.892	11.20	10.30	CL	FL
258	106+550 (LHS)	1.22	15.23	83.56	27.95	20.85	7.10	1.909	11.53	10.40	CL	IL
259	106+550 (LHS)	0.43	17.81	81.77	29.10	21.04	8.07	1.870	11.75	10.40	CL	IL
260	106+550 (LHS)	0.77	21.05	78.19	28.00	21.03	6.98	1.851	12.38	10.40	CL-ML	FL
261	106+550 (LHS)	2.76	15.04	82.20	27.95	20.53	7.42	1.824	12.95	10.40	CL	FL
262	106+550 (LHS)	1.33	25.30	73.38	25.00	20.23	4.78	1.936	12.35	10.40	CL-ML	FL
263	106+550 (LHS)	1.75	23.24	75.02	25.85	21.00	4.85	1.908	11.83	10.40	CL-ML	FL
264	106+550 (LHS)	2.23	17.67	80.11	27.15	21.24	5.92	1.900	11.75	10.60	CL-ML	FL
265	106+550 (LHS)	1.72	19.95	78.33	26.65	19.61	7.04	1.883	11.75	10.60	CL	FL
266	106+550 (LHS)	1.02	15.77	83.22	28.60	20.85	7.75	1.885	11.25	10.70	CL	IL
267	106+550 (LHS)	1.98	17.30	80.73	27.75	21.73	6.02	1.917	11.92	10.80	CL-ML	IL
268	106+550 (LHS)	1.02	16.66	82.32	30.36	20.91	9.45	1.870	11.30	10.80	CL	IL
269	106+550 (LHS)	1.90	15.87	82.23	28.90	21.51	7.39	1.922	11.80	10.80	CL	FL
270	106+550 (LHS)	0.96	15.67	83.37	29.95	21.74	8.22	1.890	11.00	11.00	CL	FL
271	106+550 (LHS)	0.84	15.73	83.44	30.35	21.39	8.97	1.828	10.95	11.05	CL	FL
272	106+550 (LHS)	1.93	15.45	82.62	27.65	20.53	7.13	1.885	10.35	11.30	CL	FL
273	108+100 (RHS)	1.18	10.01	88.81	29.50	20.52	8.99	1.916	10.73	8.80	CL	FL
274	108+100 (RHS)	1.23	12.84	85.93	28.65	20.93	7.73	1.857	11.10	8.80	CL	FL

Table A-1 (Cont.)

275	108+100 (RHS)	0.63	13.07	86.31	27.95	20.71	7.25	1.881	10.45	8.80	CL	FL
276	108+100 (RHS)	1.16	10.59	88.26	29.95	22.00	7.95	1.918	10.65	8.85	CL	IL
277	108+100 (RHS)	1.11	12.23	86.66	28.70	20.95	7.75	1.905	11.15	8.90	CL	IL
278	108+100 (RHS)	2.07	10.15	87.78	28.70	20.86	7.85	1.901	10.93	8.90	CL	FL
279	108+100 (RHS)	1.25	10.65	88.10	29.98	22.55	7.43	1.872	11.03	8.90	CL	FL
280	108+100 (RHS)	2.18	10.05	87.77	28.00	20.81	7.19	1.890	12.30	8.95	CL	FL
281	108+100 (RHS)	1.64	10.25	88.12	30.45	22.35	8.10	1.893	11.55	9.00	CL	IL
282	108+100 (RHS)	1.07	13.29	85.65	27.80	20.75	7.05	1.903	11.15	9.00	CL	IL
283	108+100 (RHS)	2.06	12.45	85.49	28.05	19.64	8.41	1.830	11.20	9.00	CL	FL
284	108+100 (RHS)	1.30	13.49	85.22	28.90	21.00	7.90	1.881	11.53	9.10	CL	IL
285	108+100 (RHS)	1.23	11.87	86.91	27.95	20.45	7.50	1.850	11.70	9.10	CL	IL
286	108+100 (RHS)	1.43	11.67	86.91	28.55	20.40	8.15	1.859	12.90	9.10	CL	IL
287	108+100 (RHS)	1.26	13.34	85.40	28.00	20.75	7.25	1.900	10.60	9.10	CL	FL
288	108+100 (RHS)	1.59	12.37	86.05	28.40	20.55	7.86	1.915	10.48	9.10	CL	FL
289	108+100 (RHS)	1.02	12.70	86.29	28.60	21.10	7.50	1.872	11.15	9.10	CL	FL
290	108+100 (RHS)	1.83	13.97	84.21	27.55	20.05	7.50	1.896	10.95	9.20	CL	FL
291	108+100 (RHS)	1.15	12.23	86.63	28.75	21.08	7.68	1.907	10.60	9.20	CL	FL
292	108+100 (RHS)	2.23	13.28	84.50	28.48	21.31	7.17	1.901	10.95	9.30	CL	IL
293	108+100 (RHS)	2.35	11.69	85.97	30.05	21.26	8.80	1.822	10.33	9.30	CL	FL
294	108+100 (RHS)	0.72	10.60	88.68	27.50	20.65	6.85	1.825	12.65	9.30	CL-ML	FL
295	108+100 (RHS)	2.37	13.39	84.25	28.10	20.80	7.30	1.903	11.23	9.30	CL	FL
296	108+100 (RHS)	0.35	11.98	87.68	28.55	20.65	7.90	1.874	12.08	9.40	CL	FL
297	108+100 (RHS)	0.92	11.69	87.40	27.65	21.25	6.40	1.852	12.50	9.40	CL-ML	FL
298	108+100 (RHS)	1.43	13.57	85.01	27.65	20.05	7.60	1.896	11.10	9.40	CL	FL
299	108+100 (RHS)	1.84	12.55	85.62	29.75	22.32	7.44	1.920	10.90	9.40	CL	FL
300	108+100 (RHS)	1.04	12.96	86.01	27.65	20.56	7.10	1.872	10.55	9.40	CL	FL
301	108+100 (RHS)	0.09	13.14	86.78	28.50	21.02	7.49	1.850	10.90	9.40	CL	FL
302	108+100 (RHS)	1.33	14.95	83.72	27.45	20.25	7.20	1.900	11.25	9.40	CL	FL

Table A-1 (Cont.)

303	108+100 (RHS)	1.80	14.85	83.36	29.54	21.46	8.09	1.920	10.88	9.50	CL	IL
304	108+100 (RHS)	1.35	12.06	86.59	28.60	21.14	7.47	1.874	10.85	9.50	CL	IL
305	108+100 (RHS)	1.08	13.92	85.01	29.40	23.04	6.36	1.900	10.80	9.50	CL-ML	FL
306	108+100 (RHS)	1.17	13.89	84.94	27.85	20.71	7.15	1.910	11.00	9.50	CL	FL
307	108+100 (RHS)	1.02	13.55	85.43	28.55	21.30	7.25	1.908	10.90	9.50	CL	FL
308	108+100 (RHS)	1.58	13.95	84.48	27.70	21.01	6.70	1.907	11.30	9.50	CL-ML	FL
309	108+100 (RHS)	0.00	14.44	85.56	27.65	19.95	7.71	1.854	10.85	9.50	CL	FL
310	108+100 (RHS)	1.07	13.57	85.37	28.95	21.50	7.45	1.919	10.30	9.60	CL	IL
311	108+100 (RHS)	1.25	14.01	84.75	28.95	21.03	7.93	1.827	10.25	9.60	CL	IL
312	108+100 (RHS)	1.04	12.35	86.61	28.88	21.28	7.60	1.879	11.40	9.60	CL	IL
313	108+100 (RHS)	0.90	12.23	86.88	28.60	21.78	6.83	1.764	13.58	9.60	CL-ML	FL
314	108+100 (RHS)	0.13	12.37	87.51	27.30	19.76	7.54	1.851	12.08	9.60	CL	FL
315	108+100 (RHS)	1.29	13.49	85.22	29.05	21.95	7.10	1.845	11.28	9.70	CL	IL
316	108+100 (RHS)	1.01	11.12	87.87	28.52	21.17	7.35	1.837	10.55	9.70	CL	IL
317	108+100 (RHS)	2.07	12.15	85.78	27.90	20.30	7.60	1.919	10.20	9.70	CL	FL
318	108+100 (RHS)	1.16	14.34	84.50	27.65	20.81	6.85	1.905	11.08	9.70	CL-ML	FL
319	108+100 (RHS)	1.23	12.04	86.74	29.00	22.05	6.96	1.918	10.85	9.70	CL-ML	FL
320	108+100 (RHS)	1.93	13.11	84.97	28.85	21.05	7.81	1.897	10.90	9.70	CL	FL
321	108+100 (RHS)	0.49	11.93	87.59	27.85	20.10	7.75	1.937	10.75	9.70	CL	FL
322	108+100 (RHS)	0.26	11.58	88.17	28.70	21.94	6.76	1.824	12.95	9.70	CL-ML	FL
323	108+100 (RHS)	1.45	11.03	87.53	27.90	20.16	7.75	1.869	13.10	9.70	CL	FL
324	108+100 (RHS)	1.69	13.76	84.56	28.90	21.05	7.85	1.939	11.08	9.80	CL	IL
325	108+100 (RHS)	2.33	13.14	84.54	27.85	20.08	7.78	1.871	10.08	9.80	CL	FL
326	108+100 (RHS)	1.82	12.47	85.72	27.90	20.23	7.68	1.868	11.05	9.80	CL	FL
327	108+100 (RHS)	2.30	12.88	84.83	27.65	20.75	6.91	1.894	11.65	9.80	CL-ML	FL
328	108+100 (RHS)	0.84	13.33	85.84	28.15	20.30	7.85	1.911	10.35	9.80	CL	FL
329	108+100 (RHS)	2.20	14.12	83.69	27.80	20.95	6.85	1.923	10.45	9.80	CL-ML	FL
330	108+100 (RHS)	1.33	13.14	85.53	29.10	21.80	7.30	1.893	10.65	9.80	CL	FL

Table A-1 (Cont.)

331	108+100 (RHS)	1.03	12.33	86.65	29.90	21.01	8.90	1.831	10.40	9.90	CL	FL
332	108+100 (RHS)	2.39	13.80	83.82	27.85	20.68	7.18	1.892	11.60	9.90	CL	FL
333	108+100 (RHS)	1.28	13.04	85.69	27.80	20.96	6.85	1.892	10.53	9.90	CL-ML	FL
334	108+100 (RHS)	1.89	13.50	84.62	28.95	21.30	7.66	1.844	11.55	10.00	CL	FL
335	108+100 (RHS)	1.61	14.63	83.77	27.70	20.06	7.64	1.921	14.75	10.00	CL	FL
336	108+100 (RHS)	0.80	13.49	85.72	27.80	21.75	6.05	1.883	11.60	10.00	CL-ML	FL
337	108+100 (RHS)	1.07	13.55	85.39	28.85	22.66	6.20	1.880	11.55	10.00	CL-ML	FL
338	108+100 (RHS)	0.66	12.72	86.63	28.20	21.78	6.43	1.905	12.08	10.00	CL-ML	FL
339	108+100 (RHS)	1.13	13.84	85.03	26.84	19.94	6.90	1.804	13.20	10.00	CL-ML	FL
340	108+100 (RHS)	1.25	12.50	86.25	28.90	21.11	7.79	1.840	11.90	10.10	CL	FL
341	108+100 (RHS)	1.24	13.69	85.08	28.15	19.98	8.18	1.931	11.05	10.10	CL	FL
342	108+100 (RHS)	1.03	12.49	86.49	27.90	21.32	6.58	1.912	10.73	10.10	CL-ML	FL
343	108+100 (RHS)	1.48	13.20	85.33	28.10	20.65	7.45	1.913	11.30	10.10	CL	FL
344	108+100 (RHS)	1.02	13.73	85.26	28.30	22.16	6.15	1.873	11.80	10.20	CL-ML	IL
345	108+100 (RHS)	1.07	14.76	84.18	28.90	22.46	6.45	1.888	11.58	10.20	CL-ML	IL
346	108+100 (RHS)	0.44	13.09	86.48	29.15	20.88	8.27	1.895	12.13	10.20	CL	FL
347	108+100 (RHS)	1.86	12.71	85.44	30.60	21.38	9.22	1.753	14.08	10.20	CL	FL
348	108+100 (RHS)	2.17	27.31	70.53	28.10	22.20	5.90	1.828	12.01	10.20	CL-ML	FL
349	108+100 (RHS)	2.21	13.27	84.53	28.00	20.93	7.08	1.915	10.55	10.30	CL	FL
350	108+100 (RHS)	1.19	13.56	85.26	28.55	20.85	7.70	1.916	10.58	10.40	CL	IL
351	108+100 (RHS)	1.38	12.71	85.91	28.70	23.24	5.47	1.827	11.98	10.40	CL-ML	FL
352	108+100 (RHS)	1.16	12.29	86.56	28.85	22.86	6.00	1.933	11.93	10.75	CL-ML	FL
353	108+100 (RHS)	2.36	12.74	84.90	30.50	21.73	8.77	1.835	12.25	10.90	CL	FL
354	108+100 (RHS)	1.90	13.31	84.80	29.80	20.93	8.88	1.845	12.40	10.95	CL	FL
355	108+100 (RHS)	1.23	13.94	84.84	27.95	20.31	7.65	1.885	12.23	11.60	CL	IL
356	109+850 (LHS)	0.32	4.08	95.61	28.59	21.69	6.91	1.886	12.50	6.70	CL-ML	FL
357	109+850 (LHS)	0.00	9.14	90.87	30.05	21.30	8.75	1.841	11.45	6.95	CL	IL
358	109+850 (LHS)	1.75	10.70	87.55	30.50	19.92	10.58	1.882	12.20	7.19	CL	FL

Table A-1 (Cont.)

359	109+850 (LHS)	0.52	9.75	89.73	27.80	20.78	7.03	1.907	11.20	7.20	CL	FL
360	109+850 (LHS)	0.85	8.11	91.05	32.64	18.79	13.85	1.702	13.80	7.23	CL	FL
361	111+000 (RHS)	0.85	11.74	87.42	28.50	21.65	6.85	1.916	11.28	9.10	CL-ML	FL
362	111+000 (RHS)	0.82	12.30	86.88	33.30	21.46	11.84	1.904	12.40	9.19	CL	FL
363	111+000 (RHS)	1.82	14.48	83.70	28.52	20.93	7.59	1.849	9.98	9.20	CL	IL
364	111+000 (RHS)	0.98	12.39	86.63	29.00	21.00	8.00	1.921	10.75	9.20	CL	IL
365	111+000 (RHS)	1.10	13.96	84.95	27.60	20.44	7.17	1.825	10.98	9.20	CL	FL
366	111+000 (RHS)	0.46	13.93	85.62	27.75	21.06	6.70	1.910	10.95	9.20	CL-ML	FL
367	111+000 (RHS)	0.60	13.79	85.61	27.80	20.73	7.08	1.877	10.85	9.20	CL	FL
368	111+000 (RHS)	0.59	13.68	85.74	28.60	20.88	7.73	1.842	11.63	9.20	CL	FL
369	111+000 (RHS)	0.87	14.08	85.06	29.83	21.11	8.72	1.785	11.25	9.20	CL	FL
370	111+000 (RHS)	0.70	10.32	88.99	28.85	19.91	8.95	1.846	10.35	9.20	CL	FL
371	111+000 (RHS)	1.21	11.80	87.00	29.25	21.05	8.20	1.863	11.60	9.25	CL	IL
372	111+000 (RHS)	0.08	13.54	86.39	29.15	21.03	8.12	1.871	10.68	9.30	CL	FL
373	111+000 (RHS)	0.83	13.40	85.77	29.00	21.37	7.63	1.895	10.95	9.30	CL	FL
374	111+000 (RHS)	0.30	11.33	88.38	27.86	20.80	7.07	1.900	10.80	9.35	CL	FL
375	111+000 (RHS)	1.66	13.53	84.82	28.50	22.41	6.09	1.837	10.65	9.80	CL-ML	IL
376	111+000 (RHS)	1.04	12.23	86.73	27.90	20.57	7.33	1.913	10.95	9.80	CL	IL
377	111+000 (RHS)	0.46	14.25	85.30	27.80	20.32	7.48	1.899	12.40	9.80	CL	FL
378	111+000 (RHS)	0.00	14.12	85.89	28.45	21.46	7.00	1.860	11.38	9.80	CL-ML	FL
379	111+000 (RHS)	1.69	12.07	86.25	27.50	20.97	6.53	1.903	11.25	9.80	CL-ML	FL
380	111+000 (RHS)	0.82	15.33	83.86	27.95	21.02	6.93	1.931	11.05	9.80	CL-ML	FL
381	111+000 (RHS)	1.44	14.56	84.01	27.80	21.38	6.43	1.910	10.90	9.80	CL-ML	FL
382	111+000 (RHS)	0.48	13.37	86.15	29.05	21.08	7.97	1.907	10.25	9.80	CL	FL
383	111+000 (RHS)	0.33	13.87	85.81	28.20	20.50	7.70	1.838	10.40	9.80	CL	FL
384	111+000 (RHS)	0.79	13.55	85.67	30.18	21.33	8.85	1.760	11.90	9.80	CL	FL
385	111+000 (RHS)	0.00	11.80	88.20	45.00	26.00	19.00	1.650	22.10	9.83	CL	IL
386	111+000 (RHS)	0.21	13.73	86.06	29.90	21.93	7.98	1.895	12.11	9.88	CL	FL

Table A-1 (Cont.)

387	111+000 (RHS)	0.31	15.14	84.56	29.50	21.16	8.35	1.878	12.30	9.90	CL	IL
388	111+000 (RHS)	1.92	12.14	85.95	28.55	21.41	7.15	1.840	11.70	9.90	CL	FL
389	111+000 (RHS)	1.61	12.17	86.23	28.40	20.55	7.86	1.850	12.45	9.90	CL	FL
390	111+000 (RHS)	0.86	12.57	86.58	28.35	22.13	6.22	1.869	11.81	10.30	CL-ML	IL
391	111+000 (RHS)	1.10	12.71	86.20	28.60	21.81	6.80	1.870	11.95	10.30	CL-ML	IL
392	111+000 (RHS)	1.32	14.68	84.01	28.85	20.49	8.37	1.845	11.75	10.30	CL	FL
393	111+000 (RHS)	1.59	13.24	85.18	27.38	21.12	6.26	1.917	11.20	10.30	CL-ML	FL
394	111+000 (RHS)	0.84	15.42	83.75	29.15	21.10	8.05	1.861	10.65	10.40	CL	IL
395	111+000 (RHS)	0.86	14.15	85.00	30.36	21.39	8.98	1.841	11.28	10.40	CL	IL
396	111+000 (RHS)	0.62	12.86	86.52	30.60	22.15	8.45	1.900	11.90	10.40	CL	FL
397	111+000 (RHS)	1.01	14.00	85.00	28.20	22.19	6.02	1.880	12.08	10.40	CL-ML	FL
398	114+900 (LHS)	0.96	11.29	87.76	27.95	20.44	7.51	1.900	10.85	8.50	CL	FL
399	114+900 (LHS)	1.21	10.93	87.87	28.30	20.73	7.57	1.909	10.60	8.50	CL	FL
400	114+900 (LHS)	0.91	12.35	86.75	29.65	21.61	8.05	1.860	11.00	8.50	CL	FL
401	114+900 (LHS)	0.62	12.95	86.44	28.49	20.77	7.72	1.864	10.68	8.50	CL	FL
402	114+900 (LHS)	1.25	10.15	88.60	27.80	20.09	7.71	1.860	11.60	8.55	CL	FL
403	114+900 (LHS)	0.98	12.17	86.86	28.70	20.88	7.82	1.919	10.25	8.90	CL	IL
404	114+900 (LHS)	0.93	10.38	88.69	26.95	19.53	7.43	1.859	12.05	8.90	CL	FL
405	116+240 (LHS)	13.26	7.05	79.70	29.62	21.52	8.10	1.836	12.92	6.90	CL	IL
406	116+240 (LHS)	11.22	8.07	80.71	30.00	21.66	8.35	1.882	12.12	7.20	CL	FL
407	116+240 (LHS)	13.08	14.82	72.11	25.70	19.65	6.05	1.915	11.55	7.25	CL-ML	IL
408	116+240 (LHS)	18.24	13.61	68.15	28.07	22.36	5.71	1.900	13.96	7.30	CL-ML	IL
409	116+240 (LHS)	13.85	8.49	77.66	28.91	20.61	8.31	1.861	11.94	7.30	CL	FL
410	116+240 (LHS)	15.93	9.88	74.19	29.90	21.70	8.21	1.925	11.43	7.50	CL	IL
411	116+240 (LHS)	13.11	8.98	77.92	29.50	21.43	8.08	1.884	10.30	7.60	CL	FL
412	116+240 (LHS)	11.94	12.85	75.22	27.52	20.80	6.72	1.875	13.92	7.75	CL-ML	IL
413	116+240 (LHS)	11.09	9.28	79.64	29.15	21.51	7.65	1.846	12.85	7.75	CL	IL
414	116+240 (LHS)	11.05	7.27	81.69	28.85	21.46	7.40	1.839	12.93	7.90	CL	IL

Table A-1 (Cont.)

415	116+240 (LHS)	10.12	7.73	82.16	28.85	21.25	7.60	1.886	11.60	7.90	CL	IL
416	116+240 (LHS)	21.28	9.88	68.84	28.60	21.86	6.74	1.933	11.25	7.90	CL-ML	FL
417	116+240 (RHS)	12.87	5.00	82.13	31.10	21.85	9.25	1.870	13.30	6.95	CL	FL
418	116+240 (RHS)	12.29	4.84	82.87	29.95	21.44	8.51	1.863	13.45	7.00	CL	FL
419	117+540 (RHS)	3.52	9.17	87.32	30.80	21.54	9.27	1.820	13.00	8.70	CL	FL
420	117+540 (RHS)	1.58	8.98	89.44	28.55	21.51	7.05	1.853	13.00	8.70	CL	FL
421	117+540 (RHS)	1.70	9.66	88.65	29.95	22.87	7.08	1.858	13.10	8.70	CL	FL
422	117+540 (RHS)	1.10	8.77	90.13	28.00	20.41	7.59	1.896	11.10	8.70	CL	FL
423	117+540 (RHS)	2.46	9.33	88.21	29.00	21.05	7.95	1.892	12.00	8.70	CL	FL
424	117+540 (RHS)	1.79	9.03	89.19	30.10	22.13	7.97	1.859	11.53	8.70	CL	FL
425	117+540 (RHS)	0.75	8.86	90.40	25.60	21.08	4.52	1.891	11.68	8.70	CL-ML	FL
426	117+540 (RHS)	0.62	7.71	91.67	28.70	21.50	7.20	1.906	10.60	8.70	CL	FL
427	117+540 (RHS)	0.54	8.18	91.29	28.65	21.46	7.20	1.918	11.75	8.70	CL	FL
428	117+540 (RHS)	2.53	9.82	87.66	27.85	20.93	6.92	1.861	11.39	8.70	CL-ML	FL
429	117+540 (RHS)	0.30	7.63	92.08	30.10	22.18	7.93	1.884	11.72	8.70	CL	FL
430	117+540 (RHS)	0.76	8.60	90.65	29.30	21.25	8.05	1.906	12.50	8.80	CL	FL
431	117+540 (RHS)	0.60	8.10	91.30	28.95	21.83	7.13	1.924	11.70	8.80	CL	FL
432	117+540 (RHS)	1.82	8.79	89.39	29.50	22.03	7.47	1.895	10.28	8.80	CL	FL
433	117+540 (RHS)	1.60	9.54	88.87	29.40	21.51	7.90	1.888	12.01	8.85	CL	FL
434	117+540 (RHS)	1.72	8.55	89.74	30.30	22.29	8.01	1.901	11.53	8.85	CL	FL
435	117+540 (RHS)	2.14	7.84	90.03	29.95	21.40	8.56	1.925	10.70	8.90	CL	IL
436	117+540 (RHS)	0.42	8.50	91.09	27.91	19.80	8.12	1.906	10.28	8.90	CL	IL
437	117+540 (RHS)	0.93	8.99	90.09	29.50	22.22	7.28	1.938	11.85	8.90	CL	IL
438	117+540 (RHS)	1.66	8.51	89.83	27.73	19.73	8.00	1.903	10.75	8.90	CL	FL
439	117+540 (RHS)	0.19	6.81	93.00	29.70	21.20	8.50	1.844	11.60	8.90	CL	FL
440	117+540 (RHS)	2.45	9.85	87.71	28.20	20.41	7.80	1.903	11.65	8.90	CL	FL
441	117+540 (RHS)	2.81	8.85	88.35	28.70	20.70	8.00	1.904	11.65	8.90	CL	FL
442	117+540 (RHS)	0.00	6.87	93.13	28.90	21.65	7.25	1.848	12.30	8.90	CL	FL

Table A-1 (Cont.)

443	117+540 (RHS)	4.90	5.22	89.88	28.55	21.55	7.00	1.905	12.00	9.00	CL-ML	FL
444	117+540 (RHS)	3.52	9.52	86.96	29.20	21.71	7.50	1.929	11.43	9.00	CL	FL
445	117+540 (RHS)	0.41	10.06	89.53	28.50	20.68	7.82	1.852	10.70	9.10	CL	FL
446	117+540 (RHS)	0.70	10.54	88.77	29.20	20.89	8.32	1.832	11.45	9.10	CL	FL
447	117+540 (RHS)	0.86	11.40	87.74	28.25	20.73	7.52	1.906	11.23	9.10	CL	FL
448	117+540 (RHS)	2.55	10.70	86.75	28.95	21.06	7.90	1.880	12.08	9.10	CL	FL
449	117+540 (RHS)	2.37	7.39	90.25	29.25	21.35	7.91	1.810	11.30	9.20	CL	FL
450	117+540 (RHS)	2.29	7.41	90.30	29.95	22.99	6.97	1.888	10.58	9.20	CL-ML	FL
451	117+540 (RHS)	0.00	7.45	92.56	30.25	22.62	7.64	1.834	11.95	9.30	CL	FL
452	117+540 (RHS)	0.39	12.69	86.92	28.91	21.12	7.79	1.852	10.70	9.50	CL	IL
453	117+540 (RHS)	1.42	11.83	86.75	29.00	21.66	7.34	1.832	10.70	9.50	CL	IL
454	117+540 (RHS)	1.54	11.93	86.53	28.85	21.19	7.67	1.864	12.38	9.50	CL	FL
455	117+540 (RHS)	1.05	11.32	87.64	29.15	21.30	7.85	1.890	11.60	9.50	CL	FL
456	117+540 (RHS)	1.00	11.40	87.60	28.05	21.58	6.48	1.768	13.64	9.50	CL-ML	FL
457	117+540 (RHS)	0.84	11.93	87.24	28.05	20.18	7.88	1.901	10.95	9.50	CL	FL
458	117+540 (RHS)	3.55	8.94	87.51	29.60	21.05	8.56	1.833	11.10	9.60	CL	FL
459	117+540 (RHS)	0.81	12.93	86.26	28.45	22.35	6.10	1.904	11.62	10.40	CL-ML	FL
460	117+540 (RHS)	0.00	11.00	89.00	32.00	22.00	10.00	1.760	13.00	10.50	CL	FL
461	117+540 (RHS)	1.06	10.95	87.99	28.10	20.77	7.33	1.920	12.00	10.60	CL	FL
462	117+540 (RHS)	1.10	12.11	86.80	26.85	19.44	7.42	1.867	12.10	10.80	CL	FL
463	117+540 (RHS)	1.02	11.77	87.21	27.56	20.85	6.71	1.881	13.15	11.00	CL-ML	FL
464	119+100 (LHS)	2.33	12.47	85.21	28.49	20.93	7.57	1.874	10.65	9.20	CL	IL
465	119+100 (LHS)	3.86	28.39	67.76	26.05	19.69	6.36	1.897	12.06	9.20	CL-ML	FL
466	119+100 (LHS)	4.97	13.00	82.04	29.00	20.90	8.10	1.883	11.28	9.20	CL	FL
467	119+100 (LHS)	4.24	11.28	84.48	29.98	21.53	8.45	1.865	12.20	9.25	CL	FL
468	119+100 (LHS)	5.98	13.11	80.92	28.05	20.20	7.85	1.914	10.70	9.30	CL	FL
469	119+100 (LHS)	2.97	12.57	84.47	28.04	20.19	7.86	1.908	10.90	9.40	CL	IL
470	119+100 (LHS)	1.94	11.27	86.79	27.48	19.70	7.78	1.914	11.65	9.50	CL	IL

Table A-1 (Cont.)

471	119+100 (LHS)	7.67	20.70	71.64	28.35	20.10	8.25	1.925	10.05	9.50	CL	FL
472	119+100 (LHS)	5.48	12.17	82.36	29.03	21.74	7.29	1.859	11.53	9.60	CL	IL
473	119+100 (LHS)	3.25	20.14	76.61	26.80	19.55	7.25	1.860	12.10	9.60	CL	FL
474	119+100 (LHS)	2.18	12.59	85.23	33.35	21.29	12.06	1.898	12.20	9.65	CL	FL
475	119+100 (LHS)	3.33	12.10	84.57	28.65	21.37	7.28	1.917	10.50	9.70	CL	IL
476	119+100 (LHS)	5.42	12.97	81.62	28.55	20.80	7.75	1.910	11.00	9.70	CL	FL
477	119+100 (LHS)	4.58	12.95	82.47	29.10	20.90	8.20	1.864	10.80	9.80	CL	FL
478	119+100 (LHS)	3.94	12.56	83.51	29.30	21.38	7.92	1.840	12.18	9.82	CL	FL
479	119+100 (LHS)	1.46	12.42	86.12	30.20	22.31	7.89	1.890	12.01	9.90	CL	IL
480	119+100 (LHS)	4.21	19.11	76.68	26.60	20.35	6.25	1.882	12.75	9.90	CL-ML	FL
481	119+100 (LHS)	1.54	13.66	84.81	28.25	21.00	7.25	1.905	10.95	9.90	CL	FL
482	119+100 (LHS)	4.21	24.37	71.42	25.75	19.80	5.95	1.888	11.95	10.10	CL-ML	IL
483	119+100 (LHS)	1.40	12.34	86.27	28.40	21.56	6.85	1.853	11.65	10.15	CL-ML	FL
484	119+100 (LHS)	2.88	16.69	80.44	26.45	20.05	6.40	1.913	11.89	10.20	CL-ML	FL
485	119+300 (LHS)	1.36	14.25	84.39	27.80	21.30	6.50	1.930	12.10	8.70	CL-ML	IL
486	119+300 (LHS)	0.65	13.09	86.27	28.95	21.53	7.42	1.886	11.08	8.70	CL	IL
487	119+300 (LHS)	0.63	13.13	86.25	28.65	20.93	7.73	1.885	10.95	8.70	CL	IL
488	119+300 (LHS)	0.61	14.28	85.12	28.25	20.67	7.58	1.896	11.40	8.70	CL	IL
489	119+300 (LHS)	0.51	12.86	86.63	28.85	20.95	7.90	1.922	10.58	8.70	CL	IL
490	119+300 (LHS)	0.80	17.57	81.64	28.90	20.93	7.98	1.842	11.70	9.40	CL	IL
491	119+300 (LHS)	1.10	13.91	84.99	28.10	22.03	6.07	1.845	11.03	9.40	CL-ML	IL
492	119+300 (LHS)	0.90	13.50	85.61	28.30	20.50	7.81	1.866	10.70	9.40	CL	IL
493	119+300 (LHS)	2.16	12.10	85.74	27.90	20.08	7.83	1.879	10.98	9.40	CL	FL
494	119+300 (LHS)	0.92	12.96	86.13	28.08	20.59	7.49	1.911	11.05	9.40	CL	FL
495	119+300 (LHS)	2.69	12.05	85.26	28.20	20.86	7.34	1.924	10.00	9.95	CL	FL
496	119+300 (LHS)	0.19	14.93	84.89	27.55	20.70	6.85	1.844	10.80	9.95	CL-ML	FL
497	119+300 (LHS)	2.29	14.18	83.54	28.27	20.72	7.55	1.908	10.48	10.00	CL	IL
498	119+300 (LHS)	1.39	15.17	83.45	27.80	20.66	7.15	1.900	10.45	10.00	CL	IL

Table A-1 (Cont.)

499	119+300 (LHS)	1.71	14.28	84.02	28.00	20.85	7.15	1.902	10.55	10.00	CL	IL
500	119+300 (LHS)	0.92	13.10	85.99	29.50	22.10	7.40	1.897	10.60	10.00	CL	IL
501	119+300 (LHS)	1.38	13.75	84.88	27.75	19.87	7.88	1.904	10.93	10.00	CL	IL
502	119+650 (LHS)	0.32	11.44	88.25	28.50	20.86	7.64	1.929	11.45	9.30	CL	IL
503	119+650 (LHS)	4.03	23.86	72.12	25.65	19.90	5.75	1.910	10.90	9.30	CL-ML	IL
504	119+650 (LHS)	1.63	13.55	84.83	27.90	21.18	6.73	1.901	11.15	9.30	CL-ML	IL
505	119+650 (LHS)	0.99	11.51	87.51	29.10	22.91	6.20	1.800	11.78	9.30	CL-ML	FL
506	119+650 (LHS)	1.03	11.53	87.45	28.68	20.81	7.87	1.939	10.90	9.30	CL	FL
507	119+650 (LHS)	0.88	13.67	85.46	27.95	21.85	6.10	1.888	11.40	10.00	CL-ML	IL
508	119+650 (LHS)	1.38	13.35	85.28	28.85	21.88	6.97	1.845	10.85	10.00	CL-ML	IL
509	119+650 (LHS)	2.15	17.36	80.49	29.00	19.95	9.05	1.932	14.30	10.20	CL	FL
510	119+650 (LHS)	3.87	17.79	78.35	26.55	20.50	6.05	1.866	11.33	10.20	CL-ML	FL
511	120+000 (LHS)	0.74	12.46	86.81	28.15	21.63	6.53	1.845	10.78	9.00	CL-ML	IL
512	120+000 (LHS)	0.50	22.50	77.00	28.00	21.21	6.79	1.838	12.10	9.00	CL-ML	FL
513	120+000 (LHS)	1.41	24.11	74.49	26.60	19.33	7.27	1.787	13.45	9.00	CL	FL
514	120+000 (LHS)	0.54	10.64	88.83	27.87	20.55	7.32	1.936	11.15	9.00	CL	FL
515	120+000 (LHS)	1.24	13.57	85.20	28.90	21.82	7.09	1.908	10.88	9.20	CL	FL
516	120+000 (LHS)	1.82	10.87	87.32	29.75	22.86	6.90	1.846	12.15	9.20	CL-ML	FL
517	120+000 (LHS)	0.74	18.11	81.15	28.90	22.55	6.35	1.930	12.10	9.60	CL-ML	FL
518	120+000 (LHS)	0.49	20.08	79.44	26.60	20.08	6.53	1.870	11.33	9.60	CL-ML	FL
519	120+000 (LHS)	1.17	12.36	86.48	28.84	21.49	7.35	1.874	12.10	9.80	CL	FL
520	120+000 (LHS)	1.69	13.69	84.63	28.75	21.00	7.75	1.903	12.00	9.80	CL	FL
521	120+000 (LHS)	0.74	27.39	71.88	25.70	19.13	6.58	1.895	11.85	9.80	CL-ML	FL
522	120+000 (LHS)	1.36	13.30	85.34	27.75	20.63	7.13	1.898	11.25	10.00	CL	IL
523	120+000 (LHS)	0.77	13.00	86.23	28.00	20.64	7.36	1.872	10.80	10.00	CL	IL
524	120+000 (LHS)	0.83	12.37	86.80	29.90	22.40	7.50	1.923	11.65	10.00	CL	FL
525	120+500 (LHS)	18.55	14.08	67.38	28.85	21.23	7.63	1.903	9.50	8.60	CL	FL
526	120+500 (LHS)	16.79	8.45	74.76	31.00	21.50	9.50	1.910	10.30	8.70	CL	IL

Table A-1 (Cont.)

527	120+500 (LHS)	15.05	10.65	74.30	29.00	20.91	8.09	1.940	10.60	8.80	CL	FL
528	120+500 (LHS)	10.14	10.66	79.21	30.00	23.13	6.87	1.823	12.28	8.80	CL-ML	FL
529	120+500 (LHS)	18.28	12.19	69.54	29.30	21.81	7.50	1.880	11.50	8.90	CL	FL
530	120+500 (LHS)	18.03	11.28	70.70	28.15	22.31	5.85	1.927	10.88	8.90	CL-ML	FL
531	120+500 (LHS)	10.22	6.46	83.33	28.90	21.25	7.65	1.885	11.55	9.00	CL	IL
532	120+500 (LHS)	13.84	12.04	74.13	29.13	21.23	7.90	1.890	9.70	9.20	CL	FL
533	120+500 (LHS)	11.09	11.77	77.15	27.90	21.54	6.37	1.905	11.93	9.20	CL-ML	FL
534	120+500 (LHS)	10.26	18.96	70.78	30.70	22.88	7.83	1.880	11.75	9.60	CL	FL
535	120+500 (LHS)	13.84	8.97	77.19	29.80	20.68	9.12	1.845	12.18	9.70	CL	IL
536	120+500 (LHS)	14.77	13.51	71.73	28.15	21.73	6.42	1.929	11.40	9.70	CL-ML	IL
537	120+500 (LHS)	18.22	17.50	64.28	29.00	21.16	7.85	1.913	10.38	9.70	CL	IL
538	120+500 (LHS)	15.45	11.47	73.09	29.00	21.01	8.00	1.930	11.50	9.70	CL	IL
539	120+500 (LHS)	10.07	20.30	69.64	29.25	21.78	7.48	1.870	11.95	10.00	CL	FL
540	120+900 (LHS)	0.15	15.75	84.10	27.70	20.75	6.95	1.863	11.55	9.30	CL-ML	FL
541	120+900 (LHS)	1.57	12.63	85.81	29.22	20.87	8.35	1.915	11.23	9.30	CL	FL
542	120+900 (LHS)	1.24	13.75	85.02	30.30	22.17	8.13	1.878	11.15	9.30	CL	FL
543	120+900 (LHS)	1.38	14.55	84.08	27.50	20.58	6.93	1.921	10.80	9.30	CL-ML	FL
544	120+900 (LHS)	1.25	14.25	84.51	28.55	21.28	7.27	1.875	10.45	9.30	CL	FL
545	120+900 (LHS)	1.83	14.83	83.34	29.25	22.82	6.44	1.899	10.75	9.60	CL-ML	FL
546	120+900 (LHS)	1.18	13.17	85.66	28.40	20.55	7.85	1.915	10.98	9.60	CL	FL
547	120+900 (LHS)	1.10	13.53	85.38	28.70	20.85	7.85	1.858	10.95	9.60	CL	FL
548	120+900 (LHS)	0.72	12.89	86.40	28.95	20.93	8.03	1.879	10.33	9.60	CL	FL
549	120+900 (LHS)	0.98	14.84	84.19	30.41	21.44	8.97	1.812	11.40	9.60	CL	FL
550	121+900 (LHS)	2.61	13.94	83.46	28.70	21.15	7.55	1.906	10.90	8.90	CL	FL
551	121+900 (LHS)	2.75	13.05	84.21	29.00	22.13	6.88	1.930	10.90	9.10	CL-ML	IL
552	121+900 (LHS)	2.97	13.85	83.18	28.80	21.16	7.64	1.806	11.20	9.25	CL	IL
553	121+900 (LHS)	2.04	14.40	83.57	28.95	21.04	7.91	1.910	11.35	9.40	CL	IL
554	121+900 (LHS)	2.93	13.04	84.03	28.73	21.70	7.03	1.903	10.40	9.40	CL	FL

Table A-1 (Cont.)

555	121+900 (LHS)	2.96	13.77	83.27	27.70	20.80	6.90	1.922	10.50	10.00	CL-ML	FL
556	123+300 (RHS)	14.64	14.23	71.14	27.90	21.30	6.60	1.927	10.25	10.10	CL-ML	FL
557	123+300 (RHS)	14.73	14.33	70.95	28.40	21.45	6.95	1.855	10.95	10.60	CL-ML	FL
558	123+300 (RHS)	15.00	25.00	60.00	39.00	28.00	11.00	1.945	10.00	13.00	CL	IL
559	124+500 (RHS)	0.89	8.87	90.24	33.80	21.39	12.41	1.888	11.80	7.00	CL	FL
560	124+500 (RHS)	0.00	8.41	91.59	30.30	21.08	9.22	1.868	10.95	7.05	CL	IL
561	124+500 (RHS)	0.16	6.50	93.34	29.56	20.41	9.15	1.808	13.95	7.10	CL	IL
562	124+500 (RHS)	0.94	7.35	91.72	28.85	21.01	7.85	1.882	10.60	7.10	CL	FL
563	124+500 (RHS)	0.00	9.41	90.59	29.00	20.55	8.45	1.842	10.60	7.15	CL	IL
564	124+500 (RHS)	0.49	7.88	91.63	30.48	21.57	8.91	1.792	14.05	7.15	CL	IL
565	124+500 (RHS)	0.00	4.96	95.05	31.20	21.34	9.86	1.797	13.48	7.20	CL	IL
566	124+500 (RHS)	0.42	6.57	93.02	30.85	20.50	10.35	1.802	11.83	7.30	CL	IL
567	124+500 (RHS)	0.82	4.30	94.88	29.00	19.51	9.49	1.810	13.00	7.30	CL	IL
568	124+500 (RHS)	0.96	7.77	91.28	31.77	20.19	11.59	1.699	13.85	7.30	CL	FL
569	124+500 (RHS)	0.92	8.09	91.00	33.54	20.39	13.15	1.703	13.80	7.31	CL	FL
570	124+500 (RHS)	0.83	7.18	92.00	31.85	22.86	8.99	1.874	11.20	7.40	CL	FL
571	124+500 (RHS)	0.84	8.35	90.81	30.50	21.92	8.59	1.839	11.15	7.45	CL	IL
572	124+500 (RHS)	0.75	6.92	92.34	28.60	20.90	7.70	1.872	10.95	7.50	CL	IL
573	124+500 (RHS)	0.96	8.94	90.11	29.00	20.66	8.35	1.876	11.45	7.50	CL	IL
574	124+500 (RHS)	0.00	8.31	91.70	30.25	21.30	8.95	1.905	11.85	7.53	CL	IL
575	124+500 (RHS)	0.96	8.31	90.73	27.57	17.14	10.43	1.702	13.90	7.53	CL	FL
576	124+500 (RHS)	0.52	10.50	88.98	29.50	21.22	8.28	1.863	11.93	7.60	CL	FL
577	124+500 (RHS)	0.81	10.14	89.05	29.70	20.91	8.80	1.860	13.23	7.60	CL	FL
578	124+500 (RHS)	0.71	8.73	90.56	30.55	21.30	9.26	1.859	10.48	7.70	CL	IL
579	124+500 (RHS)	0.18	9.21	90.62	29.30	21.41	7.90	1.879	11.08	7.70	CL	FL
580	124+500 (RHS)	1.74	8.81	89.46	29.45	22.25	7.21	1.848	13.21	7.70	CL	FL
581	124+500 (RHS)	2.38	8.97	88.65	29.90	20.27	9.63	1.830	11.30	7.70	CL	FL
582	124+500 (RHS)	0.10	6.65	93.25	30.95	20.85	10.10	1.810	12.35	7.70	CL	FL

Table A-1 (Cont.)

583	124+500 (RHS)	0.93	6.65	92.43	28.20	20.28	7.93	1.932	11.03	7.75	CL	IL
584	124+500 (RHS)	1.27	10.54	88.19	30.50	22.15	8.36	1.887	11.70	7.80	CL	IL
585	124+500 (RHS)	1.25	11.40	87.35	28.30	19.55	8.75	1.910	11.20	7.80	CL	IL
586	124+500 (RHS)	1.21	10.92	87.87	30.48	20.89	9.59	1.890	12.25	7.80	CL	IL
587	124+500 (RHS)	0.04	8.03	91.94	30.75	21.45	9.30	1.907	12.30	7.80	CL	IL
588	124+500 (RHS)	0.88	11.85	87.28	30.48	21.02	9.46	1.909	11.85	7.80	CL	IL
589	124+500 (RHS)	1.00	8.33	90.68	29.20	21.33	7.88	1.792	13.25	7.80	CL	IL
590	124+500 (RHS)	2.37	10.57	87.07	29.95	21.20	8.75	1.861	11.93	7.80	CL	FL
591	124+500 (RHS)	2.06	10.01	87.93	29.00	20.01	8.99	1.927	11.05	7.80	CL	FL
592	124+500 (RHS)	0.41	9.35	90.24	27.00	20.45	6.55	1.863	12.15	7.80	CL-ML	FL
593	124+500 (RHS)	1.46	9.53	89.02	29.35	22.25	7.10	1.848	13.10	7.80	CL	FL
594	124+500 (RHS)	2.86	9.25	87.89	29.40	21.20	8.20	1.869	11.60	7.80	CL	FL
595	124+500 (RHS)	0.29	9.43	90.29	28.98	21.11	7.87	1.902	11.40	7.80	CL	FL
596	124+500 (RHS)	1.20	10.75	88.06	29.00	20.49	8.52	1.902	11.80	7.90	CL	IL
597	124+500 (RHS)	0.74	7.57	91.70	28.14	20.05	8.09	1.939	12.03	7.90	CL	IL
598	124+500 (RHS)	1.61	10.73	87.67	27.75	20.20	7.55	1.867	10.23	7.90	CL	FL
599	124+500 (RHS)	1.10	11.81	87.10	28.85	20.19	8.66	1.905	11.18	7.90	CL	FL
600	124+500 (RHS)	2.74	9.96	87.31	29.65	21.18	8.48	1.900	11.75	7.90	CL	FL
601	124+500 (RHS)	0.28	7.64	92.08	29.80	21.97	7.83	1.922	11.10	7.90	CL	FL
602	124+500 (RHS)	2.62	9.72	87.67	29.00	21.00	8.00	1.891	11.10	7.90	CL	FL
603	124+500 (RHS)	0.42	9.35	90.23	27.70	20.45	7.25	1.868	10.40	7.90	CL	FL
604	124+500 (RHS)	0.64	10.76	88.61	30.15	22.23	7.93	1.895	11.98	7.92	CL	FL
605	124+500 (RHS)	0.00	8.95	91.05	28.40	21.55	6.85	1.948	12.20	7.95	CL-ML	IL
606	124+500 (RHS)	2.60	8.10	89.31	29.50	21.35	8.16	1.900	11.85	7.95	CL	FL
607	124+500 (RHS)	0.87	8.08	91.05	32.03	18.29	13.75	1.702	13.80	7.97	CL	FL
608	124+500 (RHS)	2.84	10.64	86.53	28.90	21.00	7.90	1.897	10.83	8.00	CL	IL
609	124+500 (RHS)	0.37	10.50	89.13	28.75	20.97	7.78	1.895	10.38	8.00	CL	IL
610	124+500 (RHS)	1.73	9.04	89.24	29.25	20.78	8.48	1.850	12.10	8.00	CL	IL

Table A-1 (Cont.)

611	124+500 (RHS)	0.00	5.69	94.32	29.45	22.78	6.68	1.822	12.70	8.00	CL-ML	IL
612	124+500 (RHS)	0.52	11.86	87.62	29.20	21.55	7.65	1.815	12.98	8.00	CL	IL
613	124+500 (RHS)	0.00	7.67	92.33	28.68	21.04	7.64	1.936	10.70	8.00	CL	IL
614	124+500 (RHS)	0.42	11.90	87.69	29.35	21.58	7.77	1.870	10.53	8.00	CL	IL
615	124+500 (RHS)	0.71	11.77	87.52	28.40	21.60	6.80	1.880	10.10	8.00	CL-ML	IL
616	124+500 (RHS)	0.13	10.74	89.13	28.70	21.41	7.30	1.845	11.58	8.00	CL	FL
617	124+500 (RHS)	2.60	10.73	86.68	29.60	21.28	8.33	1.893	10.65	8.00	CL	FL
618	124+500 (RHS)	1.92	9.45	88.63	28.75	21.80	6.95	1.830	13.40	8.00	CL-ML	FL
619	124+500 (RHS)	1.55	8.11	90.35	30.55	21.96	8.60	1.862	11.88	8.00	CL	FL
620	124+500 (RHS)	0.00	7.78	92.23	30.10	22.07	8.03	1.907	11.40	8.00	CL	FL
621	124+500 (RHS)	0.66	7.74	91.61	28.90	21.96	6.95	1.940	10.85	8.00	CL-ML	FL
622	124+500 (RHS)	0.96	8.23	90.81	29.05	21.68	7.38	1.938	11.40	8.00	CL	FL
623	124+500 (RHS)	1.59	9.08	89.34	28.65	20.35	8.31	1.919	11.45	8.00	CL	FL
624	124+500 (RHS)	0.40	9.84	89.77	28.40	20.70	7.70	1.854	12.15	8.00	CL	FL
625	124+500 (RHS)	0.00	6.37	93.63	28.60	21.55	7.05	1.823	12.30	8.10	CL	IL
626	124+500 (RHS)	0.34	9.95	89.72	28.90	22.96	5.94	1.801	11.80	8.10	CL-ML	FL
627	124+500 (RHS)	2.73	8.11	89.17	29.05	21.43	7.62	1.898	11.85	8.10	CL	FL
628	124+500 (RHS)	0.37	7.94	91.70	29.70	21.85	7.86	1.841	11.45	8.10	CL	FL
629	124+500 (RHS)	0.53	7.89	91.59	28.80	21.92	6.88	1.925	11.70	8.10	CL-ML	FL
630	124+500 (RHS)	2.49	9.15	88.37	29.05	21.65	7.40	1.830	10.55	8.10	CL	FL
631	124+500 (RHS)	0.31	7.55	92.15	28.55	21.18	7.38	1.933	11.10	8.10	CL	FL
632	124+500 (RHS)	0.30	7.18	92.53	29.25	21.45	7.80	1.854	11.55	8.10	CL	FL
633	124+500 (RHS)	0.36	7.45	92.20	29.10	21.45	7.65	1.854	11.68	8.10	CL	FL
634	124+500 (RHS)	0.32	7.61	92.07	29.40	21.68	7.73	1.889	10.30	8.10	CL	FL
635	124+500 (RHS)	0.81	6.81	92.38	28.40	20.13	8.28	1.851	11.70	8.15	CL	FL
636	124+500 (RHS)	1.08	8.66	90.26	28.85	21.42	7.43	1.920	12.03	8.20	CL	IL
637	124+500 (RHS)	0.00	7.77	92.24	28.65	20.96	7.70	1.824	13.31	8.20	CL	IL
638	124+500 (RHS)	1.88	7.29	90.84	30.20	21.66	8.54	1.883	11.85	8.20	CL	FL

Table A-1 (Cont.)

639	124+500 (RHS)	0.96	10.86	88.18	29.70	21.11	8.59	1.900	12.00	8.20	CL	FL
640	124+500 (RHS)	0.00	6.05	93.95	29.65	21.66	8.00	1.848	12.48	8.20	CL	FL
641	124+500 (RHS)	0.53	7.41	92.07	29.20	22.10	7.10	1.898	11.10	8.20	CL	FL
642	124+500 (RHS)	1.25	10.09	88.66	29.35	22.84	6.52	1.844	12.23	8.20	CL-ML	FL
643	124+500 (RHS)	0.43	10.87	88.70	29.90	23.16	6.74	1.884	11.20	8.20	CL-ML	FL
644	124+500 (RHS)	0.98	8.82	90.20	32.28	19.83	12.45	1.705	13.75	8.28	CL	FL
645	124+500 (RHS)	0.32	5.46	94.22	29.30	21.43	7.87	1.878	13.60	8.30	CL	IL
646	124+500 (RHS)	0.00	7.92	92.08	28.60	20.70	7.90	1.813	13.20	8.30	CL	IL
647	124+500 (RHS)	0.00	6.53	93.48	29.00	22.10	6.91	1.922	10.70	8.30	CL-ML	IL
648	124+500 (RHS)	0.70	8.80	90.51	28.87	21.12	7.76	1.937	12.07	8.30	CL	IL
649	124+500 (RHS)	0.82	9.25	89.94	29.90	22.03	7.87	1.895	11.75	8.30	CL	FL
650	124+500 (RHS)	1.66	7.51	90.84	29.90	21.30	8.60	1.880	11.70	8.30	CL	FL
651	124+500 (RHS)	0.03	7.17	92.81	27.90	20.50	7.40	1.797	11.30	8.30	CL	FL
652	124+500 (RHS)	0.80	8.10	91.10	29.00	22.18	6.83	1.925	11.75	8.30	CL-ML	FL
653	124+500 (RHS)	0.78	8.15	91.07	28.30	21.60	6.70	1.910	11.60	8.30	CL-ML	FL
654	124+500 (RHS)	0.42	7.99	91.59	30.05	22.25	7.80	1.921	10.50	8.30	CL	FL
655	124+500 (RHS)	0.52	8.41	91.07	28.50	21.30	7.20	1.811	10.43	8.30	CL	FL
656	124+500 (RHS)	0.30	7.36	92.35	29.95	22.33	7.63	1.890	11.70	8.30	CL	FL
657	124+500 (RHS)	0.22	8.40	91.38	28.20	22.05	6.15	1.872	13.25	8.30	CL-ML	FL
658	124+500 (RHS)	0.80	9.87	89.34	28.40	20.50	7.91	1.840	11.05	8.30	CL	FL
659	124+500 (RHS)	0.00	8.37	91.63	29.70	21.85	7.85	1.921	11.65	8.40	CL	IL
660	124+500 (RHS)	0.73	7.21	92.06	29.23	21.07	8.16	1.930	11.45	8.40	CL	FL
661	124+500 (RHS)	1.80	8.92	89.29	29.20	21.28	7.93	1.866	12.18	8.40	CL	FL
662	124+500 (RHS)	0.76	10.29	88.96	26.90	21.52	5.38	1.920	11.40	8.40	CL-ML	FL
663	124+500 (RHS)	0.92	7.85	91.23	28.80	21.30	7.50	1.904	12.40	8.40	CL	FL
664	124+500 (RHS)	0.69	8.19	91.12	29.00	21.81	7.19	1.852	9.85	8.40	CL	FL
665	124+500 (RHS)	0.00	6.76	93.25	28.95	21.16	7.80	1.914	11.78	8.40	CL	FL
666	124+500 (RHS)	0.61	7.81	91.58	28.90	22.00	6.90	1.930	11.50	8.40	CL-ML	FL

Table A-1 (Cont.)

667	124+500 (RHS)	0.66	9.27	90.08	29.65	21.86	7.80	1.872	11.13	8.40	CL	FL
668	124+500 (RHS)	1.02	10.75	88.24	28.40	22.01	6.40	1.765	13.70	8.40	CL-ML	FL
669	124+500 (RHS)	0.63	10.97	88.41	29.80	21.83	7.97	1.890	12.03	8.40	CL	FL
670	124+500 (RHS)	0.66	10.35	89.00	26.80	19.55	7.25	1.839	11.50	8.40	CL	FL
671	124+500 (RHS)	1.23	8.64	90.14	30.40	21.21	9.20	1.850	12.37	8.50	CL	IL
672	124+500 (RHS)	1.87	8.82	89.32	28.45	20.66	7.80	1.861	11.38	8.50	CL	IL
673	124+500 (RHS)	0.76	8.55	90.69	29.13	21.74	7.40	1.940	12.03	8.50	CL	IL
674	124+500 (RHS)	0.14	8.96	90.91	30.40	21.94	8.46	1.848	10.58	8.50	CL	FL
675	124+500 (RHS)	1.37	6.94	91.70	28.70	20.94	7.76	1.869	12.80	8.50	CL	FL
676	124+500 (RHS)	0.80	9.69	89.52	30.10	21.60	8.51	1.912	11.35	8.50	CL	FL
677	124+500 (RHS)	1.15	8.35	90.51	29.20	20.35	8.85	1.845	12.75	8.50	CL	FL
678	124+500 (RHS)	0.46	6.87	92.68	29.10	21.76	7.35	1.911	11.95	8.50	CL	FL
679	124+500 (RHS)	0.40	9.64	89.97	29.85	22.80	7.05	1.896	12.13	8.50	CL	FL
680	124+500 (RHS)	0.00	10.23	89.77	29.25	22.61	6.65	1.905	10.63	8.50	CL-ML	FL
681	124+500 (RHS)	0.62	10.08	89.30	30.10	21.78	8.32	1.915	10.65	8.50	CL	FL
682	124+500 (RHS)	1.22	8.14	90.64	28.75	21.41	7.35	1.910	11.05	8.50	CL	FL
683	124+500 (RHS)	0.08	7.59	92.33	28.65	21.93	6.73	1.868	13.45	8.50	CL-ML	FL
684	124+500 (RHS)	0.98	9.93	89.10	28.95	21.23	7.72	1.858	13.15	8.60	CL	IL
685	124+500 (RHS)	0.00	7.92	92.09	29.50	21.15	8.35	1.906	10.80	8.60	CL	IL
686	124+500 (RHS)	1.13	10.81	88.06	27.80	20.60	7.20	1.879	10.65	8.60	CL	IL
687	124+500 (RHS)	0.81	9.59	89.61	29.38	20.98	8.41	1.867	13.45	8.60	CL	FL
688	124+500 (RHS)	1.11	8.71	90.19	29.60	21.11	8.50	1.889	12.05	8.60	CL	FL
689	124+500 (RHS)	0.70	7.19	92.12	29.50	21.28	8.23	1.913	12.20	8.60	CL	FL
690	124+500 (RHS)	0.00	8.66	91.34	30.91	21.93	8.98	1.836	11.00	8.60	CL	FL
691	124+500 (RHS)	0.00	7.13	92.88	29.60	21.68	7.92	1.933	11.20	8.60	CL	FL
692	124+500 (RHS)	0.67	8.12	91.22	28.85	22.05	6.80	1.928	11.70	8.60	CL-ML	FL
693	124+500 (RHS)	0.17	7.99	91.84	28.90	22.00	6.90	1.874	13.53	8.60	CL-ML	FL
694	124+500 (RHS)	0.98	10.56	88.47	27.35	20.60	6.75	1.875	10.60	8.60	CL-ML	FL

Table A-1 (Cont.)

695	124+500 (RHS)	0.71	10.84	88.46	28.30	19.77	8.53	1.872	11.08	8.60	CL	FL
696	124+500 (RHS)	0.23	10.07	89.71	28.80	22.75	6.05	1.812	12.15	8.60	CL-ML	FL
697	124+500 (RHS)	0.92	10.98	88.11	27.66	20.34	7.32	1.823	12.53	8.60	CL	FL
698	124+500 (RHS)	1.43	8.96	89.61	29.89	21.43	8.46	1.871	11.75	8.70	CL	IL
699	126+200 (LHS)	0.00	19.00	81.00	60.00	37.00	23.00	1.530	26.00	7.77	CH	FL
700	126+200 (LHS)	0.10	24.80	75.10	48.00	30.00	18.00	1.560	20.60	7.78	CL	FL
701	126+200 (LHS)	2.00	15.00	83.00	45.00	31.00	14.00	1.580	24.80	7.80	CL	FL
702	126+200 (LHS)	0.00	15.90	84.10	59.00	35.00	24.00	1.550	23.80	7.80	CH	FL
703	126+200 (LHS)	1.00	26.90	72.10	46.00	34.00	12.00	1.590	20.20	7.83	CL	FL
704	126+200 (LHS)	0.00	9.00	91.00	54.00	32.00	22.00	1.610	23.40	7.95	CH	FL
705	126+200 (LHS)	14.00	14.00	72.00	44.00	28.00	16.00	1.920	14.40	8.00	CL	FL
706	126+200 (LHS)	0.00	12.70	87.30	52.00	33.00	19.00	1.530	27.60	8.00	MH	FL
707	126+200 (LHS)	0.00	18.00	82.00	56.00	29.00	27.00	1.640	22.20	8.02	CH	FL
708	126+200 (LHS)	1.00	26.60	72.40	50.00	34.00	16.00	1.550	23.30	8.17	MH	IL
709	126+200 (LHS)	0.00	19.10	80.90	54.00	28.00	26.00	1.590	23.20	8.17	CH	FL
710	126+200 (LHS)	0.00	22.50	77.50	57.00	36.00	21.00	1.500	24.20	8.67	MH	FL
711	127+350 (RHS)	0.73	6.55	92.72	28.90	21.05	7.85	1.913	11.18	6.70	CL	IL
712	127+350 (RHS)	0.71	9.36	89.94	28.95	20.29	8.66	1.851	11.35	7.00	CL	IL
713	127+350 (RHS)	0.40	7.79	91.81	30.98	21.36	9.63	1.774	13.58	7.00	CL	IL
714	127+700 (RHS)	4.00	7.00	89.00	71.00	41.00	30.00	1.540	24.40	2.00	CH	FL
715	127+700 (RHS)	0.00	7.00	93.00	70.00	42.00	28.00	1.710	14.40	3.00	CH	FL
716	127+700 (RHS)	6.00	13.00	81.00	56.00	37.00	19.00	1.660	19.10	3.00	MH	FL
717	127+700 (RHS)	0.00	11.30	88.70	60.00	25.00	35.00	1.480	24.10	3.32	CH	IL
718	127+700 (RHS)	8.00	6.00	86.00	69.00	44.00	25.00	1.780	14.60	4.00	CH	IL
719	127+700 (RHS)	9.00	11.00	80.00	71.00	43.00	28.00	1.630	20.40	4.00	CH	IL
720	127+700 (RHS)	0.00	20.00	80.00	63.00	33.00	30.00	1.560	27.70	6.57	CH	FL
721	128+100 (LHS)	0.00	12.50	87.50	70.00	31.00	39.00	1.520	20.20	4.05	CH	IL
722	128+100 (LHS)	0.00	16.00	84.00	57.00	31.00	26.00	1.490	25.90	4.60	CH	FL

Table A-1 (Cont.)

723	128+100 (LHS)	0.00	12.20	87.80	63.00	34.00	29.00	1.530	29.20	5.70	CH	FL
724	128+100 (LHS)	0.00	15.90	84.10	61.00	34.00	27.00	1.530	27.80	5.82	CH	FL
725	128+100 (LHS)	3.00	20.00	77.00	67.00	40.00	27.00	1.761	15.40	6.00	CH	FL
726	128+100 (LHS)	0.00	11.80	88.20	66.00	35.00	31.00	1.500	29.20	6.00	CH	FL
727	128+100 (LHS)	0.00	15.00	85.00	29.00	19.00	10.00	1.850	13.00	6.00	CL	FL
728	128+100 (LHS)	0.00	16.60	83.40	54.00	32.00	22.00	1.550	19.70	6.02	CH	IL
729	128+100 (LHS)	0.00	15.00	85.00	42.00	24.00	18.00	1.630	18.80	6.02	CL	IL
730	128+100 (LHS)	0.00	19.00	81.00	61.00	34.00	27.00	1.580	23.30	6.03	CH	FL
731	128+100 (LHS)	0.39	3.33	96.28	31.58	23.23	8.35	1.888	12.26	6.20	CL	FL
732	128+500 (LHS)	0.00	18.50	81.50	63.00	40.00	23.00	1.520	29.30	5.21	CH	IL
733	128+500 (LHS)	0.00	21.40	78.60	67.00	38.00	29.00	1.540	22.00	6.00	CH	FL
734	128+500 (LHS)	0.00	19.50	80.50	53.00	33.00	20.00	1.500	21.40	6.05	MH	IL
735	128+500 (LHS)	2.64	2.64	94.73	28.60	20.73	7.88	1.895	11.80	7.00	CL	IL
736	128+500 (LHS)	2.73	7.02	90.26	30.32	21.05	9.27	1.907	13.94	7.10	CL	FL
737	128+500 (LHS)	0.00	24.30	75.70	62.00	35.00	27.00	1.570	29.50	7.12	CH	FL
738	128+500 (LHS)	1.28	6.88	91.84	29.20	20.85	8.35	1.900	11.70	7.15	CL	FL
739	128+500 (LHS)	1.14	9.54	89.33	28.50	20.93	7.57	1.916	10.55	7.20	CL	FL
740	128+500 (LHS)	0.00	18.60	81.40	60.00	35.00	25.00	1.490	24.20	7.23	CH	FL
741	128+500 (LHS)	2.25	2.25	95.50	28.60	20.71	7.89	1.873	10.70	7.25	CL	IL
742	128+500 (LHS)	2.86	10.29	86.85	29.70	22.16	7.54	1.915	11.50	7.25	CL	FL
743	128+500 (LHS)	0.10	20.88	79.03	27.00	21.51	5.50	1.715	13.00	7.30	CL-ML	IL
744	128+500 (LHS)	1.20	7.11	91.70	29.20	21.01	8.20	1.875	10.50	7.30	CL	IL
745	128+500 (LHS)	1.01	4.23	94.76	27.30	21.23	6.07	1.886	12.38	7.30	CL-ML	FL
746	128+500 (LHS)	1.14	7.58	91.29	29.74	20.79	8.96	1.871	10.45	7.35	CL	IL
747	128+500 (LHS)	1.87	9.63	88.51	27.48	19.91	7.57	1.906	12.85	7.35	CL	FL
748	128+500 (LHS)	1.86	8.16	89.98	29.25	21.41	7.85	1.806	11.45	7.35	CL	FL
749	128+500 (LHS)	0.70	19.10	80.20	55.00	32.00	23.00	1.540	20.40	7.36	CH	FL
750	128+500 (LHS)	0.00	8.35	91.66	30.80	21.86	8.95	1.869	10.50	7.40	CL	IL

Table A-1 (Cont.)

751	128+500 (LHS)	0.09	20.37	79.55	26.00	20.10	5.90	1.736	12.70	7.40	CL-ML	IL
752	128+500 (LHS)	1.48	9.87	88.65	28.75	20.88	7.88	1.887	10.90	7.40	CL	IL
753	128+500 (LHS)	2.56	10.01	87.44	29.80	21.68	8.13	1.908	11.40	7.40	CL	FL
754	128+500 (LHS)	1.03	9.52	89.46	28.70	20.91	7.80	1.883	10.85	7.45	CL	FL
755	128+500 (LHS)	0.12	10.33	89.55	30.30	21.45	8.86	1.841	10.30	7.50	CL	IL
756	128+500 (LHS)	0.52	11.82	87.67	28.80	21.56	7.25	1.890	10.20	7.50	CL	IL
757	128+500 (LHS)	0.25	12.34	87.42	28.95	21.88	7.08	1.895	10.90	7.50	CL	IL
758	128+500 (LHS)	2.50	9.85	87.65	28.70	20.70	8.00	1.849	10.93	7.50	CL	FL
759	128+500 (LHS)	0.12	10.32	89.57	29.25	21.32	7.93	1.852	12.05	7.60	CL	IL
760	128+500 (LHS)	0.12	10.32	89.57	29.25	21.32	7.93	1.852	12.05	7.60	CL	IL
761	128+500 (LHS)	0.27	10.03	89.71	30.32	20.91	9.41	1.885	10.65	7.60	CL	IL
762	128+500 (LHS)	0.13	22.51	77.36	26.40	20.52	5.89	1.717	12.43	7.60	CL-ML	IL
763	128+500 (LHS)	0.13	21.79	78.09	27.40	21.31	6.10	1.754	12.35	7.60	CL-ML	IL
764	128+500 (LHS)	1.80	21.07	77.13	29.85	23.26	6.60	1.918	12.25	7.60	CL-ML	IL
765	128+500 (LHS)	2.27	18.06	79.67	29.30	23.15	6.15	1.917	12.25	7.65	CL-ML	IL
766	128+500 (LHS)	1.58	19.64	78.78	28.80	22.43	6.38	1.911	12.65	7.70	CL-ML	IL
767	128+500 (LHS)	1.70	14.08	84.22	30.60	19.78	10.82	1.906	13.10	7.71	CL	FL
768	128+500 (LHS)	0.21	19.14	80.66	27.45	20.54	6.91	1.729	13.13	7.75	CL-ML	IL
769	128+600 (RHS)	1.20	13.78	85.02	29.90	21.45	8.45	1.900	11.10	9.60	CL	FL
770	128+600 (RHS)	1.09	14.09	84.83	27.50	21.00	6.50	1.900	10.70	9.60	CL-ML	FL
771	128+600 (RHS)	1.38	13.34	85.29	27.75	20.86	6.90	1.895	10.70	9.60	CL-ML	FL
772	128+600 (RHS)	1.31	13.88	84.81	28.10	21.20	6.90	1.914	11.50	9.60	CL-ML	FL
773	128+600 (RHS)	0.78	13.69	85.54	27.58	21.27	6.31	1.836	11.05	10.00	CL-ML	FL
774	128+600 (RHS)	0.89	13.31	85.80	27.70	21.63	6.08	1.878	11.85	10.05	CL-ML	FL
775	128+600 (RHS)	0.86	13.88	85.27	28.20	22.46	5.75	1.897	11.00	10.10	CL-ML	FL
776	128+600 (RHS)	0.59	14.74	84.68	27.00	19.68	7.33	1.855	11.60	10.10	CL	FL
777	128+600 (RHS)	0.05	13.99	85.96	28.90	21.03	7.88	1.877	11.55	10.10	CL	FL
778	128+600 (RHS)	0.28	13.47	86.26	28.95	21.06	7.90	1.886	10.68	10.10	CL	FL

Table A-1 (Cont.)

779	128+600 (RHS)	0.14	12.62	87.24	27.80	20.75	7.05	1.872	10.75	10.10	CL	FL
780	128+600 (RHS)	0.89	12.75	86.36	27.70	21.11	6.59	1.884	11.15	10.25	CL-ML	IL
781	128+600 (RHS)	0.92	13.13	85.95	28.65	20.66	8.00	1.932	11.55	10.40	CL	FL
782	128+600 (RHS)	1.81	14.39	83.80	30.00	21.25	8.75	1.930	10.20	10.60	CL	IL
783	129+000 (LHS)	0.00	11.00	89.00	59.00	28.00	31.00	1.580	24.50	8.30	CH	FL
784	129+000 (LHS)	0.41	12.25	87.34	29.15	21.80	7.35	1.875	10.70	8.40	CL	IL
785	129+000 (LHS)	0.27	12.82	86.92	27.55	21.40	6.16	1.850	11.75	8.40	CL-ML	FL
786	129+000 (LHS)	0.66	11.37	87.97	28.10	21.40	6.70	1.915	10.53	8.40	CL-ML	FL
787	129+000 (LHS)	1.14	11.00	87.87	28.50	26.57	1.93	1.909	10.98	8.40	ML	FL
788	129+000 (LHS)	0.48	11.09	88.44	28.70	20.90	7.80	1.889	11.43	8.50	CL	FL
789	129+000 (LHS)	0.74	11.59	87.68	28.45	21.25	7.20	1.902	11.28	8.60	CL	IL
790	129+000 (LHS)	0.49	15.20	84.32	29.91	22.25	7.66	1.900	11.75	8.60	CL	FL
791	129+000 (LHS)	0.38	13.73	85.90	27.85	20.38	7.48	1.870	10.98	8.60	CL	FL
792	129+000 (LHS)	1.04	11.97	87.00	30.15	22.25	7.90	1.885	11.98	8.60	CL	FL
793	129+000 (LHS)	0.88	11.69	87.44	30.20	22.45	7.75	1.880	12.23	8.60	CL	FL
794	129+000 (LHS)	1.02	10.92	88.07	29.00	21.26	7.75	1.849	10.90	8.60	CL	FL
795	129+000 (LHS)	0.00	12.80	87.20	49.00	27.00	22.00	1.600	23.40	8.61	CL	IL
796	129+000 (LHS)	1.01	11.14	87.85	29.20	21.38	7.82	1.855	11.15	8.70	CL	IL
797	129+000 (LHS)	0.29	13.15	86.56	28.35	21.23	7.12	1.882	10.80	8.70	CL	FL
798	129+000 (LHS)	0.43	14.03	85.55	28.50	21.18	7.32	1.906	11.15	8.70	CL	FL
799	129+000 (LHS)	0.68	11.30	88.03	27.85	20.80	7.05	1.923	11.38	8.80	CL	IL
800	129+000 (LHS)	0.64	11.33	88.03	27.81	19.97	7.84	1.877	11.10	8.80	CL	IL
801	129+000 (LHS)	0.42	13.47	86.12	27.51	19.80	7.71	1.860	10.38	8.85	CL	IL
802	129+000 (LHS)	0.56	10.12	89.33	30.78	21.52	9.27	1.868	12.95	8.90	CL	FL
803	129+000 (LHS)	0.59	11.98	87.44	29.90	21.63	8.27	1.902	12.35	8.90	CL	FL
804	129+000 (LHS)	0.61	11.47	87.92	31.30	23.07	8.23	1.854	11.10	8.90	CL	FL
805	129+000 (LHS)	0.31	11.69	88.01	29.25	22.86	6.40	1.829	12.25	8.90	CL-ML	FL
806	129+000 (LHS)	0.32	11.31	88.38	28.50	21.34	7.16	1.938	10.93	8.90	CL	FL

Table A-1 (Cont.)

807	129+000 (LHS)	0.49	11.15	88.36	29.90	21.25	8.65	1.900	11.10	8.90	CL	FL
808	129+000 (LHS)	0.78	11.81	87.42	29.25	21.55	7.70	1.956	10.25	8.90	CL	FL
809	129+000 (LHS)	0.71	11.35	87.95	26.60	19.50	7.10	1.842	11.60	9.00	CL	FL
810	129+000 (LHS)	0.21	15.47	84.33	28.05	20.78	7.28	1.858	12.00	9.00	CL	FL
811	129+000 (LHS)	0.00	14.30	85.71	27.65	19.90	7.75	1.853	11.50	9.00	CL	FL
812	129+000 (LHS)	0.09	12.73	87.19	29.25	22.05	7.20	1.878	10.30	9.00	CL	FL
813	129+000 (LHS)	0.34	13.80	85.86	27.95	20.18	7.77	1.863	11.25	9.00	CL	FL
814	129+000 (LHS)	0.39	13.32	86.29	28.15	20.60	7.55	1.865	10.80	9.00	CL	FL
815	129+000 (LHS)	0.40	14.19	85.42	28.60	20.95	7.65	1.885	10.73	9.10	CL	IL
816	129+000 (LHS)	0.19	14.99	84.82	28.85	21.04	7.82	1.906	10.83	9.10	CL	FL
817	129+000 (LHS)	0.15	11.56	88.29	28.55	22.55	6.00	1.819	12.40	9.10	CL-ML	FL
818	129+000 (LHS)	0.74	11.57	87.69	28.85	11.81	17.05	1.923	11.45	9.15	CL	FL
819	129+000 (LHS)	0.86	11.96	87.19	28.88	21.13	7.75	1.889	10.48	9.20	CL	FL
820	129+000 (LHS)	0.53	12.40	87.08	30.50	22.10	8.40	1.895	12.05	9.30	CL	IL
821	129+000 (LHS)	0.77	15.56	83.67	28.55	21.10	7.45	1.867	11.60	9.40	CL	IL
822	129+000 (LHS)	0.30	15.46	84.24	27.60	20.40	7.20	1.872	10.60	9.40	CL	FL
823	129+000 (LHS)	0.37	14.70	84.94	27.85	20.90	6.95	1.908	10.80	9.50	CL-ML	IL
824	129+000 (LHS)	0.31	14.58	85.11	28.73	21.33	7.40	1.844	10.98	9.50	CL	IL
825	129+000 (LHS)	0.89	12.98	86.13	28.40	20.70	7.70	1.872	11.25	9.50	CL	FL
826	129+000 (LHS)	0.56	15.25	84.19	28.20	20.30	7.90	1.870	10.30	9.70	CL	IL
827	129+000 (LHS)	1.55	14.82	83.64	27.80	20.66	7.15	1.915	10.70	9.80	CL	FL
828	129+000 (LHS)	1.69	14.35	83.97	27.90	20.81	7.10	1.943	11.35	10.00	CL	FL
829	129+000 (LHS)	0.93	13.99	85.09	28.50	21.45	7.05	1.922	11.13	10.00	CL	FL
830	129+000 (LHS)	0.09	15.56	84.36	27.70	20.55	7.15	1.855	10.90	10.00	CL	FL
831	129+000 (LHS)	0.44	14.03	85.54	27.63	20.35	7.28	1.831	10.23	10.10	CL	IL
832	129+000 (LHS)	0.59	15.63	83.78	26.45	19.95	6.50	1.860	13.20	10.20	CL-ML	FL
833	129+000 (LHS)	0.52	12.79	86.69	28.75	21.76	7.00	1.901	11.23	10.20	CL-ML	FL
834	129+000 (LHS)	0.63	13.64	85.74	28.05	20.35	7.70	1.848	11.00	10.20	CL	FL

Table A-1 (Cont.)

835	129+000 (LHS)	0.52	13.17	86.31	27.70	20.78	6.93	1.850	11.15	10.40	CL-ML	FL
836	129+000 (LHS)	0.46	13.25	86.29	27.70	21.06	6.64	1.824	11.27	10.40	CL-ML	FL
837	129+000 (LHS)	0.37	12.85	86.78	27.00	19.50	7.50	1.840	12.30	10.60	CL	FL
838	129+000 (LHS)	0.12	15.46	84.42	29.35	21.68	7.67	1.874	11.85	10.70	CL	FL
839	129+650 (LHS)	11.00	5.00	84.00	85.00	50.00	35.00	1.455	24.80	1.00	CH	FL
840	130+200 (RHS)	21.81	7.31	70.88	26.46	20.76	5.70	1.859	13.62	6.10	CL-ML	IL
841	130+200 (RHS)	16.35	4.01	79.65	31.35	22.63	8.73	1.871	13.94	6.90	CL	FL
842	130+200 (RHS)	15.35	4.41	80.24	30.65	21.39	9.27	1.856	13.83	7.20	CL	FL
843	131+100 (LHS)	3.48	30.18	66.35	26.40	19.82	6.58	1.925	10.63	8.80	CL-ML	FL
844	131+100 (LHS)	0.13	35.53	64.35	29.80	21.52	8.28	1.909	10.70	9.00	CL	FL
845	131+100 (LHS)	1.20	31.06	67.74	27.95	22.16	5.79	1.894	12.48	9.20	CL-ML	FL
846	131+100 (LHS)	0.30	32.70	67.01	27.70	20.67	7.03	1.913	11.15	9.30	CL	FL
847	131+100 (LHS)	0.00	34.76	65.24	25.80	20.31	5.49	1.920	11.40	9.50	CL-ML	FL
848	131+100 (LHS)	0.59	31.68	67.73	27.50	20.10	7.40	1.826	13.15	9.60	CL	FL
849	131+100 (LHS)	0.09	37.19	62.73	29.45	21.59	7.86	1.915	10.70	9.60	CL	FL
850	131+100 (LHS)	0.00	37.72	62.28	29.00	20.65	8.35	1.816	12.70	9.80	CL	FL
851	131+100 (LHS)	0.00	32.83	67.17	25.70	20.71	5.00	1.921	10.63	9.80	CL-ML	FL
852	131+100 (LHS)	0.60	35.19	64.21	27.10	19.88	7.23	1.899	11.15	9.90	CL	FL
853	131+100 (LHS)	0.38	32.68	66.94	27.85	21.36	6.50	1.877	11.75	10.00	CL-ML	FL
854	131+100 (LHS)	0.50	36.25	63.26	28.90	20.74	8.17	1.815	12.55	10.00	CL	FL
855	131+100 (LHS)	0.00	47.85	52.15	28.75	22.45	6.30	1.841	11.00	10.00	CL-ML	FL
856	131+100 (LHS)	0.00	30.00	70.00	28.00	23.00	5.00	1.870	12.50	10.00	CL-ML	FL
857	131+100 (LHS)	0.66	32.46	66.89	29.75	20.83	8.93	1.828	13.23	10.10	CL	FL
858	131+100 (LHS)	0.07	30.91	69.03	26.85	20.13	6.72	1.864	11.75	10.10	CL-ML	FL
859	131+100 (LHS)	0.00	32.48	67.52	25.80	20.90	4.90	1.899	10.88	10.15	CL-ML	FL
860	131+100 (LHS)	3.45	30.18	66.38	27.10	20.35	6.75	1.900	11.15	10.30	CL-ML	IL
861	131+100 (LHS)	1.21	33.22	65.57	26.55	20.23	6.32	1.887	11.95	10.40	CL-ML	FL
862	132+800 (RHS)	3.00	42.85	54.15	30.53	24.34	6.19	1.830	11.05	10.40	CL-ML	FL

Table A-1 (Cont.)

863	132+800 (RHS)	1.36	44.76	53.88	27.60	20.25	7.35	1.805	9.80	10.50	CL	IL
864	132+800 (RHS)	6.90	41.40	51.70	33.25	26.52	6.74	1.827	10.83	10.50	CL-ML	FL
865	132+800 (RHS)	2.52	44.84	52.65	27.40	19.05	8.35	1.800	10.45	10.70	CL	IL
866	132+800 (RHS)	2.44	44.79	52.78	27.95	20.91	7.05	1.805	9.50	11.20	CL	FL
867	132+800 (RHS)	1.84	44.94	53.23	26.10	18.63	7.47	1.808	10.05	11.80	CL	IL
868	132+800 (RHS)	2.42	43.53	54.06	26.70	19.76	6.94	1.824	9.85	12.00	CL-ML	IL
869	132+800 (RHS)	3.00	44.27	52.74	26.60	20.85	5.75	1.813	9.60	12.20	CL-ML	IL
870	132+800 (RHS)	0.50	48.85	50.65	27.30	21.66	5.64	1.848	10.83	12.60	CL-ML	FL
871	132+800 (RHS)	0.65	48.70	50.65	26.75	21.00	5.76	1.859	10.85	12.60	CL-ML	FL
872	132+800 (RHS)	0.75	47.70	51.55	27.50	21.41	6.10	1.844	10.75	12.80	CL-ML	FL
873	132+800 (RHS)	0.00	48.40	51.60	27.60	21.49	6.11	1.850	11.23	13.20	CL-ML	FL
874	134+700 (RHS)	23.23	9.70	67.08	29.35	21.51	7.84	1.855	13.10	8.25	CL	FL
875	134+700 (RHS)	23.39	9.93	66.69	29.20	21.44	7.76	1.830	13.20	8.30	CL	FL
876	134+700 (RHS)	23.13	9.92	66.95	30.85	22.71	8.15	1.846	13.08	8.45	CL	FL
877	134+700 (RHS)	22.22	9.87	67.92	29.45	21.65	7.80	1.836	13.05	8.50	CL	FL
878	134+700 (RHS)	23.01	9.75	67.25	30.20	22.30	7.91	1.840	13.16	8.50	CL	FL
879	134+700 (RHS)	23.38	9.60	67.02	30.10	22.38	7.72	1.850	13.20	8.50	CL	FL
880	134+700 (RHS)	22.80	10.88	66.33	29.10	23.32	5.78	1.913	10.90	8.60	CL-ML	FL
881	134+700 (RHS)	22.21	10.38	67.42	29.60	21.33	8.28	1.885	11.50	8.90	CL	FL
882	134+700 (RHS)	22.86	6.55	70.59	29.80	21.45	8.35	1.830	11.20	8.92	CL	IL
883	134+700 (RHS)	23.77	10.48	65.75	30.20	20.75	9.45	1.940	10.40	9.02	CL	FL
884	134+700 (RHS)	24.26	11.21	64.54	29.90	21.53	8.37	1.915	10.73	9.10	CL	FL
885	134+700 (RHS)	23.22	12.96	63.83	29.55	21.62	7.93	1.910	11.30	9.20	CL	IL
886	134+700 (RHS)	19.21	8.33	72.47	30.50	22.15	8.35	1.920	10.20	9.30	CL	FL
887	134+700 (RHS)	22.12	9.97	67.91	29.60	21.68	7.93	1.853	13.30	9.30	CL	FL
888	134+700 (RHS)	20.40	7.40	72.21	29.69	21.05	8.65	1.910	12.15	9.40	CL	IL
889	134+700 (RHS)	22.65	12.23	65.13	29.40	21.30	8.10	1.920	10.85	9.40	CL	FL
890	134+700 (RHS)	20.45	8.48	71.08	30.00	21.40	8.60	1.925	10.75	9.40	CL	FL

Table A-1 (Cont.)

891	134+700 (RHS)	22.14	12.42	65.45	27.85	21.75	6.10	1.920	10.98	9.40	CL-ML	FL
892	134+700 (RHS)	23.26	13.89	62.86	28.50	22.63	5.87	1.940	10.93	9.40	CL-ML	FL
893	134+700 (RHS)	22.91	14.00	63.10	28.50	22.35	6.16	1.930	11.15	9.40	CL-ML	FL
894	134+700 (RHS)	22.20	13.03	64.78	28.40	21.86	6.55	1.937	11.30	9.60	CL-ML	FL
895	134+700 (RHS)	27.42	10.96	61.63	30.30	21.17	9.13	1.900	11.65	9.69	CL	FL
896	134+700 (RHS)	24.10	6.45	69.46	29.80	20.81	9.00	1.860	11.75	9.70	CL	IL
897	134+700 (RHS)	23.50	11.77	64.74	29.75	21.88	7.88	1.915	12.25	9.70	CL	IL
898	134+700 (RHS)	21.70	12.37	65.94	30.45	21.73	8.72	1.935	12.30	9.70	CL	FL
899	134+700 (RHS)	22.84	12.03	65.14	30.15	21.65	8.50	1.940	11.68	9.70	CL	FL
900	134+700 (RHS)	21.95	12.11	65.95	29.20	22.33	6.87	1.944	11.35	9.70	CL-ML	FL
901	134+700 (RHS)	25.72	10.92	63.37	29.90	22.08	7.82	1.930	11.60	9.90	CL	FL
902	134+700 (RHS)	22.29	12.15	65.57	29.15	20.98	8.17	1.910	11.35	10.10	CL	FL
903	134+700 (RHS)	22.07	12.05	65.88	29.60	21.33	8.28	1.900	11.63	10.60	CL	FL
904	134+700 (RHS)	21.83	21.78	56.40	30.25	21.93	8.32	1.900	10.70	11.60	CL	FL
905	144+700 (RHS)	9.13	10.43	80.44	29.60	22.60	7.00	1.842	12.00	9.25	CL-ML	FL
906	144+700 (RHS)	5.73	11.13	83.14	28.60	20.90	7.70	1.950	12.30	9.30	CL	FL
907	144+700 (RHS)	4.14	25.62	70.25	27.69	21.07	6.62	1.928	11.00	9.30	CL-ML	FL
908	144+700 (RHS)	3.70	24.11	72.20	25.70	20.01	5.70	1.909	11.78	9.40	CL-ML	IL
909	144+700 (RHS)	5.51	17.72	76.78	27.12	19.71	7.41	1.894	10.55	9.40	CL	FL
910	144+700 (RHS)	4.67	19.50	75.84	29.95	21.90	8.05	1.931	10.30	9.50	CL	FL
911	144+700 (RHS)	4.27	23.83	71.91	25.80	19.83	5.98	1.922	12.00	9.50	CL-ML	FL
912	144+700 (RHS)	4.64	13.38	81.99	27.48	20.63	6.85	1.921	10.53	9.50	CL-ML	FL
913	144+700 (RHS)	4.72	12.88	82.40	27.90	20.05	7.85	1.890	10.95	9.50	CL	FL
914	144+700 (RHS)	4.91	12.79	82.30	28.60	20.80	7.80	1.916	10.85	9.60	CL	IL
915	144+700 (RHS)	4.11	16.33	79.57	27.95	20.53	7.42	1.908	10.80	9.60	CL	FL
916	144+700 (RHS)	4.10	21.72	74.19	29.25	20.51	8.74	1.878	12.95	9.65	CL	FL
917	144+700 (RHS)	4.11	24.80	71.10	25.60	19.51	6.10	1.904	12.33	9.70	CL-ML	IL
918	144+700 (RHS)	5.43	16.57	78.01	27.05	21.04	6.02	1.895	11.70	9.70	CL-ML	FL

Table A-1 (Cont.)

919	144+700 (RHS)	4.36	13.15	82.50	29.00	20.76	8.25	1.860	10.58	9.70	CL	FL
920	144+700 (RHS)	4.32	17.90	77.79	26.80	20.50	6.30	1.871	10.68	9.70	CL-ML	FL
921	144+700 (RHS)	3.49	12.30	84.22	28.50	21.08	7.42	1.821	11.35	9.70	CL	FL
922	144+700 (RHS)	5.58	12.13	82.30	28.10	20.33	7.77	1.945	11.13	9.80	CL	IL
923	144+700 (RHS)	5.59	26.14	68.27	27.63	20.46	7.18	1.905	10.40	9.80	CL	IL
924	144+700 (RHS)	4.10	19.29	76.62	26.95	20.25	6.70	1.846	11.58	9.90	CL-ML	FL
925	144+700 (RHS)	4.69	22.44	72.88	28.24	19.78	8.47	1.936	11.05	10.00	CL	FL
926	144+700 (RHS)	4.70	17.31	77.99	28.10	20.89	7.21	1.927	10.65	10.00	CL	FL
927	144+700 (RHS)	5.82	13.11	81.08	28.60	20.60	8.00	1.920	10.53	10.00	CL	FL
928	144+700 (RHS)	5.35	13.10	81.56	28.65	20.40	8.25	1.914	10.58	10.00	CL	FL
929	144+700 (RHS)	5.78	14.11	80.11	27.90	20.50	7.40	1.930	10.20	10.00	CL	FL
930	144+700 (RHS)	4.42	17.98	77.60	26.90	19.75	7.15	1.848	12.20	10.20	CL	FL
931	144+700 (RHS)	2.88	29.90	67.22	28.45	22.49	5.97	1.818	12.00	10.50	CL-ML	FL
932	144+700 (RHS)	3.85	27.78	68.38	27.10	20.26	6.85	1.900	11.80	10.60	CL-ML	IL
933	144+700 (RHS)	3.63	28.83	67.55	26.95	20.22	6.74	1.935	11.60	10.80	CL-ML	IL
934	144+700 (RHS)	3.49	30.10	66.42	27.00	20.11	6.89	1.900	11.23	10.80	CL-ML	IL
935	144+700 (RHS)	3.60	11.80	84.61	30.25	21.38	8.87	1.845	12.18	10.90	CL	FL
936	144+700 (RHS)	4.81	12.79	82.41	28.80	20.95	7.85	1.875	10.65	10.90	CL	FL
937	144+700 (RHS)	3.39	27.16	69.45	26.75	20.16	6.59	1.900	12.10	11.10	CL-ML	FL
938	144+700 (RHS)	3.77	28.62	67.61	26.05	19.62	6.44	1.935	11.10	11.10	CL-ML	FL
939	144+700 (RHS)	4.00	11.00	85.00	39.00	26.00	13.00	1.900	15.00	11.50	CL	FL
940	146+000 (LHS)	0.79	16.31	82.91	25.80	20.01	5.79	1.880	12.25	8.70	CL-ML	FL
941	146+000 (LHS)	0.76	16.46	82.79	26.30	18.75	7.55	1.860	12.15	8.70	CL	FL
942	146+000 (LHS)	0.76	15.12	84.13	26.70	20.48	6.22	1.908	12.25	8.80	CL-ML	FL
943	146+000 (LHS)	1.01	14.69	84.30	28.50	20.30	8.21	1.904	10.50	9.00	CL	IL
944	146+000 (LHS)	0.70	16.41	82.89	28.70	21.30	7.40	1.850	11.85	9.20	CL	IL
945	146+000 (LHS)	0.97	14.49	84.55	30.66	22.10	8.57	1.835	11.05	9.20	CL	IL
946	146+000 (LHS)	2.05	9.09	88.86	34.00	22.08	11.92	1.906	13.20	9.28	CL	FL

Table A-1 (Cont.)

947	146+000 (LHS)	0.64	14.91	84.46	26.50	20.41	6.09	1.907	12.20	9.30	CL-ML	FL
948	146+000 (LHS)	0.81	14.17	85.03	27.65	20.20	7.46	1.909	11.35	9.50	CL	IL
949	146+000 (LHS)	0.92	14.13	84.96	27.60	19.87	7.73	1.889	10.70	9.50	CL	IL
950	146+000 (LHS)	0.62	15.17	84.22	26.10	19.83	6.28	1.908	12.35	9.50	CL-ML	FL
951	146+000 (LHS)	0.65	16.01	83.34	26.15	20.35	5.80	1.901	12.35	9.60	CL-ML	FL
952	146+000 (LHS)	0.85	10.13	89.02	31.50	20.02	11.48	1.882	11.80	9.65	CL	FL
953	146+000 (LHS)	0.70	15.43	83.88	27.10	19.86	7.25	1.855	12.10	9.70	CL	FL
954	146+000 (LHS)	0.91	16.13	82.97	29.66	21.15	8.51	1.785	11.20	9.80	CL	FL
955	146+000 (LHS)	0.84	14.43	84.74	30.10	21.42	8.68	1.815	11.25	9.84	CL	FL
956	146+000 (LHS)	0.91	14.24	84.85	28.90	21.10	7.80	1.932	11.20	9.90	CL	FL
957	146+000 (LHS)	0.57	15.04	84.39	28.48	19.85	8.63	1.915	11.83	9.90	CL	FL
958	146+000 (LHS)	0.40	14.93	84.67	28.45	20.82	7.64	1.894	11.35	9.90	CL	FL
959	146+000 (LHS)	0.69	14.75	84.57	28.70	21.00	7.71	1.903	10.88	9.90	CL	FL
960	146+000 (LHS)	0.74	16.26	83.00	27.65	20.63	7.02	1.904	12.03	10.00	CL	FL
961	146+000 (LHS)	1.26	14.40	84.35	29.40	21.76	7.65	1.889	11.43	10.00	CL	FL
962	146+000 (LHS)	1.42	14.69	83.90	28.60	20.71	7.90	1.892	10.88	10.00	CL	FL
963	146+000 (LHS)	1.96	14.55	83.49	27.80	21.30	6.50	1.890	11.00	10.00	CL-ML	FL
964	146+000 (LHS)	0.94	14.43	84.64	29.38	21.22	8.16	1.770	11.35	10.10	CL	FL
965	146+000 (LHS)	0.85	13.72	85.44	29.15	23.03	6.13	1.914	10.73	10.20	CL-ML	IL
966	146+000 (LHS)	0.82	13.00	86.19	27.85	20.95	6.90	1.883	12.43	10.20	CL-ML	IL
967	146+000 (LHS)	0.96	12.79	86.25	28.00	21.00	7.00	1.855	10.98	10.20	CL-ML	IL
968	146+000 (LHS)	0.72	17.64	81.65	27.60	21.48	6.12	1.898	12.35	10.20	CL-ML	FL
969	146+000 (LHS)	0.00	14.28	85.72	29.80	22.80	7.00	1.830	10.10	10.20	CL-ML	FL
970	146+000 (LHS)	1.03	14.04	84.93	27.95	21.86	6.10	1.886	11.45	10.20	CL-ML	FL
971	146+000 (LHS)	0.96	13.55	85.49	29.60	23.34	6.26	1.928	12.25	10.20	CL-ML	FL
972	146+000 (LHS)	0.73	20.50	78.78	27.52	19.14	8.38	1.850	12.40	10.20	CL	FL
973	146+000 (LHS)	0.28	15.62	84.10	28.10	20.40	7.70	1.851	11.20	10.20	CL	FL
974	146+000 (LHS)	1.61	14.28	84.11	28.40	21.25	7.15	1.886	10.20	10.20	CL	FL

Table A-1 (Cont.)

975	146+000 (LHS)	0.74	14.14	85.13	28.10	20.82	7.28	1.885	11.20	10.20	CL	FL
976	146+000 (LHS)	1.01	14.72	84.27	28.25	21.17	7.09	1.926	11.43	10.40	CL	FL
977	146+000 (LHS)	0.68	13.81	85.51	29.20	22.95	6.26	1.870	11.05	10.45	CL-ML	FL
978	146+000 (LHS)	1.63	14.20	84.17	28.90	20.88	8.03	1.895	10.75	10.50	CL	IL
979	146+000 (LHS)	0.97	15.37	83.67	29.94	21.08	8.86	1.832	11.05	10.50	CL	IL
980	146+000 (LHS)	0.72	14.34	84.95	27.90	20.93	6.98	1.852	12.25	10.60	CL-ML	FL
981	146+000 (LHS)	1.56	14.80	83.65	27.65	20.71	6.95	1.952	11.08	10.80	CL-ML	IL
982	148+250 (RHS)	0.51	25.65	73.85	25.70	20.20	5.51	1.883	10.18	9.40	CL-ML	FL
983	148+250 (RHS)	0.00	25.78	74.22	25.70	19.88	5.83	1.924	10.85	9.40	CL-ML	FL
984	148+250 (RHS)	0.49	28.68	70.84	26.35	19.85	6.50	1.847	10.90	9.50	CL-ML	FL
985	148+250 (RHS)	0.02	23.99	75.99	31.35	23.63	7.73	1.877	11.75	9.50	CL	FL
986	148+250 (RHS)	0.04	25.26	74.71	29.80	22.60	7.20	1.873	11.80	9.50	CL	FL
987	148+250 (RHS)	0.59	11.43	87.99	27.60	20.26	7.34	1.858	11.60	9.50	CL	FL
988	148+250 (RHS)	0.71	25.40	73.89	25.95	20.30	5.66	1.904	12.08	9.50	CL-ML	FL
989	148+250 (RHS)	2.78	12.69	84.54	27.60	20.65	6.95	1.907	11.70	9.50	CL-ML	FL
990	148+250 (RHS)	0.00	17.20	82.80	43.00	28.00	15.00	1.610	24.00	9.57	CL	IL
991	148+250 (RHS)	0.62	24.22	75.16	29.90	21.30	8.60	1.830	10.20	9.60	CL	IL
992	148+250 (RHS)	0.00	13.18	86.82	28.30	20.48	7.83	1.817	11.85	9.60	CL	IL
993	148+250 (RHS)	0.00	23.19	76.82	26.35	19.30	7.05	1.889	11.18	9.60	CL	IL
994	148+250 (RHS)	0.96	20.14	78.91	29.30	20.21	9.10	1.880	12.05	9.60	CL	FL
995	148+250 (RHS)	2.89	29.06	68.05	27.95	22.25	5.70	1.823	11.80	9.60	CL-ML	FL
996	148+250 (RHS)	0.59	26.06	73.36	24.40	19.85	4.55	1.905	12.08	9.60	CL-ML	FL
997	148+250 (RHS)	0.26	13.07	86.68	28.55	20.83	7.73	1.892	10.95	9.60	CL	FL
998	148+250 (RHS)	0.09	14.54	85.37	28.51	20.18	8.33	1.792	12.40	9.70	CL	IL
999	148+250 (RHS)	1.35	26.10	72.55	27.95	21.98	5.97	1.912	11.75	9.75	CL-ML	IL
1000	148+250 (RHS)	2.98	26.41	70.62	28.00	22.00	6.00	1.805	11.70	9.76	CL-ML	FL
1001	148+250 (RHS)	2.70	12.33	84.97	29.10	20.83	8.28	1.920	11.05	9.80	CL	IL
1002	148+250 (RHS)	2.63	12.23	85.15	28.20	21.33	6.88	1.906	11.15	9.80	CL-ML	FL

Table A-1 (Cont.)

1003	148+250 (RHS)	0.42	24.85	74.73	25.90	20.15	5.75	1.900	10.90	9.80	CL-ML	FL
1004	148+250 (RHS)	1.49	26.12	72.39	27.60	21.51	6.10	1.917	12.15	9.80	CL-ML	FL
1005	148+250 (RHS)	0.00	21.30	78.70	53.00	33.00	20.00	1.570	20.90	9.80	MH	FL
1006	148+250 (RHS)	2.44	27.43	70.13	28.95	22.90	6.05	1.805	12.25	9.82	CL-ML	FL
1007	148+250 (RHS)	0.29	12.79	86.92	29.20	23.23	5.97	1.815	11.75	9.85	CL-ML	FL
1008	148+250 (RHS)	0.48	29.51	70.01	27.90	20.05	7.85	1.840	10.25	9.90	CL	IL
1009	148+250 (RHS)	0.90	17.98	81.13	28.75	21.03	7.73	1.885	11.65	9.90	CL	IL
1010	148+250 (RHS)	0.04	25.23	74.74	30.60	23.00	7.60	1.876	11.89	9.90	CL	FL
1011	148+250 (RHS)	0.36	13.12	86.53	28.15	21.10	7.05	1.887	10.28	9.90	CL	FL

Where, IL and FL represents the Institute Laboratory and Field Laboratory, respectively.

Table A-2. A sample representation of California Bearing Ratio estimation in the laboratory as per IS: 2720 (Part 16)

		Penetration measuring proving ring reading	Load measuring proving ring reading	Load (kg)
Sample no.	01	0.5	4.4	27.64
Quantity of water (ml)	473.02	1.0	8.4	48.49
Quantity of dry soil (gm)	4288.50	1.5	12.4	69.35
Test condition	Soaked	2.0	17.0	91.24
Compaction type	Static	2.5	20.2	108.97
Surcharge weight (kg)	5	3.0	24.2	129.82
Soaking period (days)	4	4.0	29.2	155.88
		5.0	31.4	168.39
		7.5	35.3	188.20
		10.0	37.0	195.50

$$\text{CBR at 2.5 mm penetration} = \frac{108.97 * 100}{1370} = 7.95 \%$$

$$\text{CBR at 5.0 mm penetration} = \frac{168.39 * 100}{2055} = 8.19 \%$$