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Morphometric, Hydrogeologic and Hydrochemical Analyses of Solar Saltwork Pond Region, in Meha Area, Northwest Sharqat City, Iraq

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ABSTRACT

The study determines the shape, area, and discharge properties and other factors of morphometric analysis and drainage pattern to characterize the optimum location for salt harvesting in the salt ponds in Meha area, northwest Sharqat city, Iraq. The morphometric analysis confirms the idea of the upward leakage of salt rich water from the deep ground water along the surface of deep fault. The hydrogeological data of groundwater leakage encourage the method of harvesting salt by evaporation ponds. Also, the relationship between hydrochemical parameters, their variation with the period of evaporation, increasing of Na⁺ and Cl⁻ percentages, and decreasing of other component support the salt production in the area.

KEYWORDS

Morphometry; Hydrogeology; Hydrogeochemistry; Salt Pond; Iraq

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References

- [1] J. K. Warren, "Evaporites, Sediments, Resources and Hydrocarbons," Springer, Berlin, 2006. doi:10.1007/3-540-32344-9
- [2] M. Kurlansky, "Salt: A World History," Walker & Company, Mount Sterling, 2002.
- [3] A. I. Al-Juboury, S. Q. Al-Naqib and A. M. S. Al-Juboury, "Sedimentology, Mineralogy and Depositional Environments of the Clastic Units, Fath' a Formation, (Middle Miocene), South of Mosul, Iraq," *Dirasat, Pure Sciences*, Vol. 28, No. 1, 2001, pp. 80-106.
- [4] A. Al-Sayyab, F. S. Al-Omari, D. Al-Rawi, Z. D. Al-Sheikh, N. Al-Ansari and J.A. Al-Jassim, "Geology of Iraq," Dar Al-Kutib Publication House, Mosul, 1983.
- [5] S. Z. Jassim, R. Raiswell and S. H. Bottrell, "Genesis of the Middle Miocene Stratabound Sulphur Deposits of Northern Iraq," *Journal of the Geological Society*, Vol. 156, No. 1, 1999, pp. 25-39. doi:10.1144/gsjgs.156.1.0025
- [6] M. Al-Mubarak and R. Youkhana, "The Regional Geological Mapping of Al-Fatha-Mosul Area," State Organization for Minerals (SOM) Library Reports, Baghdad, 1977.
- [7] S. A. Salih, J. H. Alaiwi and I. H. Abdulkarim, "Hydrochemistry of Spring Water in Al-Khalifa Slattern, North of Iraq and Optimum Method to Produce Salt," *Tikrit Journal for Pure Science*, Vol. 8, No. 1, 2002, pp. 278-293.
- [8] S. Y. Samaan, "Geochemistry and Mineralogy of Samawa Saltern, South of Iraq," M.Sc. Thesis, Baghdad University, Baghdad, 1985.
- [9] S. A. Al-Sinawi and A. A. Saadallah, "Geology of Salt and Salt Bearing Formations in Iraq," In: A. H. Coogan, Ed., 4th Symposium on Salt, Northern Ohio Geological Society, Cleveland, 1974, pp. 147 -

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- [10] M. A. M. Al-Jubori, " Sharqat City, Study in Urban Geog- raphy," M.Sc. Thesis, Mosul University, Mosul, 1989.
- [11] M. A. M. Al-Jubori, " Watercourse Flow Pattern of the Tigris River between the Two Zabs," Ph.D. Thesis, Mosul University, Mosul, 1998.
- [12] S. M. Abu Saada, " Hydrology of Arid and Semiarid Regions," Kuwait, 1983.
- [13] T. Buday and S. Z. Jassim, " The Regional Geology of Iraq, Vol. 2: Tectonism, Magmatism and Metamorphism," Publication of the Geological Survey of Iraq, Baghdad, 1987.
- [14] M. M. A. Al-Sahhaf and K. M. Al-Hassan, " Hydromophometry of Al-Khawsar Basin, Study of Applied Geomorphology," Al-Ani Press, Baghdad, 1990.
- [15] R. E. Horton, " Erosional, Development of Streams and Their Drainage Basins, Hydrophysical Approach to Morphology," Geological Society of American Bulletin, Vol. 56, No. 3, 1945, pp. 275-370. doi:10.1130/0016-7606(1945)56[275:EDOSAT]2.0.CO;2
- [16] A. N. Strahler, " Quantitative Analysis of Water Shed, Geomorphology Traps," American Geophysical Union, Vol. 38, No. 6, ss1954, pp. 912-920.
- [17] H. R. Sallama, " Geomorphological Analysis of Morphometric Properties of Water Basins in Jordan," Dirasat Journal, Vol. 7, No.1, 1980, pp. 97-132.
- [18] P. Macula, " Modern Idea in Geomorphology," 6th Edition, University of Baghdad, Baghdad, 1986.
- [19] A. N. Strahler, " Geomorphology," Dar Al-Zaman Press, Baghdad, 1964.
- [20] M. F. Al-Moula, " Morphometric Study for Specifying Location of Dam in Wadi Al-Tharthar Basin North of Hatra Using Remote Sensing Techniques," M. Sc. Thesis, University of Mosul, Mosul, 2002.
- [21] S. T. Jabbori, " Hydrology and Water Management," Dar Al-Kutub press, University of Mosul, 1988.
- [22] A. B. Al-Nakkash and M. A. Al-Sahhaf, " Geomorphology," National Library in Baghdad, Baghdad, 1989.
- [23] M. M. Ashor, " Morphometric Analysis Methods for Water Drainage Nets," Qatar University, Doha, 1986.
- [24] B. A. K. Al-Ghitaa, " Hydrology and Application," Ministry of Higher Education, Organization of