Summary of Paper No. 3

*** Title in English: Surface e pression of the Syrian Arc Kattaniya in erted basin in the Abu oash area northeast Western Desert Egypt: Structural style and tectonic history.**

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English Summary

The present study concerns the structural interpretation and tectonic e olution of the Syrian Arc structures of the Kattaniya asin northeast Western Desert Egypt. Published subsurface data on this basin indicates a positi e in ersion of Jurassic-Early retaceous e tensional structures during the ate retaceous time. In the northeastern part of the Kataniya asin the Abu oash area offers uni ue and e cellent e posures to e amine the structural style and constrain any deformational e ents. pper retaceous strata of the Abu oash area are deformed by a series of NE-trending left-stepped en echelon obli ue folds which are se uentially dissected by faults of the following de elopment order ENE- and WNW-trending right lateral wrenches NE-trending re erse faults N S to NNW-trending left-lateral faults and NW-tending normal faults. The Abu oash area is subdi ided into nine structural assemblages locating on both sides of the airo-Ale oad. Detailed surface mapping and structural analysis indicate that these structural assemblages were de eloped throughout a transpressional wrenching mechanism (obli ue in ersion) with different con ergence angles (α 45 at the northern margin and α 3 at the southern margin). In summary the tectonic history of the northeastern segment of the Kattaniya in erted basin is dominated by an e tension during the Jurassic-Early retaceous times. Such an e tension was re u enated during the ate retaceous as manifested by the angular relationships within Turonian strata of the Abu oash Formation. This e tensional phase was followed by a compressional phase. Tectonic in ersion started during the Santonian time reaching its paro ysm by the ate Senonian. In ersion gradually abated and there is e idence for complete cessation at the latest Senonian and non-deposition of the ower Eocene sediments. During the iddle- ate Eocene this compressional regime had completely ceased. ater during ligo- iocene times the study area recorded a NE-e tension and was crossed by NW-trending normal faults.

Keywords: Syrian arc Egypt Structural analysis Tectonic in ersion Kattaniya basin Abu oash.