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Seismic – Wireline logs sequence stratigraphic analyses and geologic evolution for the Upper Cretaceous succession of Abu Gharadig basin, Egypt

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2 **Geologic Evolution for the Upper Cretaceous Succession**
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9 **ABSTRACT**

10 The Upper Cretaceous megasequence in the northern part of the Egyptian Western Desert
11 has been classified into four 2nd order depositional sequences. These sequences started with
12 the Cenomanian SQ-I topped by the Turonian – Santonian SQ-II. However, both SQ-III and
13 SQ-IV represent the Campanian- Maastrichtian time span. The interpreted 2nd order SQ-I and
14 SQ-II have been further subdivided into six smaller 3rd order sequences (SQ-1 to SQ-6). The
15 depositional history started during the Early Cenomanian times, characterized by wide marine
16 invasion enabled the deposition of the shallow marine Bahariya Formation (SQ-1). The Upper
17 Cenomanian times, witnessed a rapid subsidence, simultaneously with new marine
18 transgressive phase. This is resulted in the deposition of SQ-2, consuming the entire
19 sediments of the Abu Roash G Member. During the Turonian – Coniacian times the northern
20 parts of Egypt showed successive oscillating transgressive – regressive marine cycles led to
21 equivocal sedimentary bodies of the Turonian-Coniacian Abu Roash Formation (SQ-3, SQ-4,
22 and SQ-5). During the Santonian age, the northern parts of Egypt were subjected to tectonic
23 crustal shortening, producing large scale folds. As a result, a new tectonically-overprinted
24 marine depositional cycle started and marked by rapid phase of basin subsidence. This was

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