

Supplementary Materials: The following supporting information can be downloaded at: www.mdpi.com/xxx/s1.

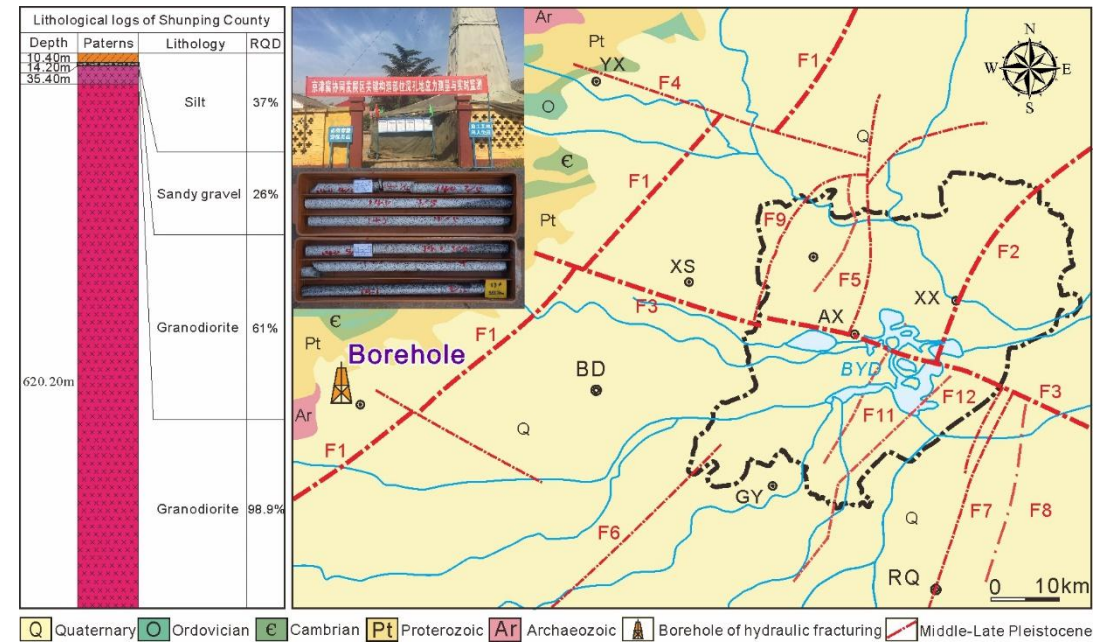


Figure S1. In-situ stress measured borehole in Shunping county of Hebei province and the lithological logs. The Middle-Late Pleistocene active faults: F1: Baoding-Shijiazhuang Fault, F2: Niudong Fault, F3: Xushui-Dacheng Fault, F4: Dingxing Fault, F5 and F9: The Boundary Fault of Rongcheng uplift, F6: Gaoyang-Boye Fault, F7: Renqiu Fault, F8: Maxi Fault, F10: an unnamed Secondary Fault, F11: Chu'an Fault, F12: Renxi Fault. Cities: YX: Yixian, RQ: Renqiu, XS: Xushui, AX: An'xin, XX: Xiongxin, BD: Baoding, GY: Gaoyang. River: BYD: Baiyangdian.

Table S1. Results hydraulic fracturing in situ stress measurements in Shunping county of Hebei province *.

Depth/m	P_b /MPa	P_r /MPa	P_s /MPa	σ_H /MPa	σ_h /MPa	σ_v /MPa	P_0 /MPa
88.00	22.20	14.24	9.40	13.23	9.40	2.33	0.73
97.00	34.12	19.06	11.36	14.20	11.36	2.57	0.82
111.00	22.65	13.39	9.28	13.49	9.28	2.94	0.96
176.00	25.54	15.19	10.91	15.93	10.91	4.66	1.61
205.00	29.40	19.81	12.63	16.18	12.63	5.43	1.90
226.00	31.92	20.19	13.53	18.29	13.53	5.99	2.11
257.00	25.92	19.38	11.75	13.45	11.75	6.81	2.42
286.00	32.08	19.16	12.36	15.21	12.36	7.58	2.71
324.00	30.10	18.66	12.43	15.54	12.43	8.59	3.09
367.00	30.08	17.79	12.48	16.13	12.48	9.73	3.52
391.00	34.36	21.01	15.06	20.41	15.06	10.36	3.76
432.50	33.49	21.54	15.35	20.33	15.35	11.46	4.18
495.00	36.30	20.68	15.49	20.99	15.49	13.12	4.80
567.00	33.22	21.45	16.07	21.24	16.07	15.03	5.52
586.00	33.45	24.59	19.73	28.89	19.73	15.53	5.71
604.00	33.51	22.89	19.40	29.42	19.40	16.01	5.89

* Being noted that: P_b , P_r , and P_s denote the breakdown, reopening and shut-in pressure, respectively. σ_H , σ_h and σ_v denote the maximum, minimum horizontal and vertical principal stresses, respectively. P_0 is the natural pore pressure.