

Geologic Mapping - TAM State Test 2015

School/Team Name: _____ Team # _____

Student Names: _____

Answer Sheet

- 1) (10pt) DRAW ANSWER ON PAGE 4
- 2) (0.5pt) 40 m (meters)
- 3) (2pt) 100m±10m (meters)
- 4) (1pt) a) 3 (4 also ok) (number)
(2pt) b) DRAW YOUR ANSWER ON **MAP 1**
- 5) (1pt) geographical: 1 (number)
(1pt) projected: 2 (number)
- 6) (0.5pt) a) T_{rt} (name/symbol)
(0.5+0.5pt) b) 1) Anticline exposes older unit at the center, 2) T= Triassic
_____ (short answer)
- 7) (1pt) a) Qal (name)
(1pt) b) Qc (name)
(1pt) c) Kbr (name)
- 8) (1 pt) J, T, and K units are from the Mesozoic, Q units are from Cenozoic
_____ (short answer)
- 9) (0.5pt) A. Anticline (symmetric) (name)
(0.5pt) B. Syncline (symmetric) (name)
(0.5pt) C. Thrust fault (name)
(0.5pt) D. Thrust fault (name)
(0.5pt) E. Asymmetrical anticline (name)
(0.5pt) F. Syncline (name)
(0.5pt) G. Normal fault (name)
- 10) (0.5pt) a) F (T/F)
(0.5pt) b) T (T/F)
(0.5pt) c) T (T/F)
(0.5pt) d) T (T/F)
(0.5pt) e) F (T/F)
(0.5pt) f) F (T/F)
- 11) (5pt) 1) deposition of all units but Xx
2) compressive field stress begins and causes:
a) deformation of units listed in 1)
(anticlines and synclines form)
b) thrust faults form
3) change in stress field occurs: now extensional, normal fault G forms
4) it's likely that Xx is a quaternary deposit and that that is the latest event occurred (long answer)
- 12) (1pt) a) valley (word)
(2pt) b) W (word)
(0.5pt) c) yes (yes/no)
(0.5pt) d) steeply (word)
- 13) a) (1 pt) Ke,Kp,Kb,Kd (name/s)
b) (0.5 pt) 1. anticline (word)
(0.5 pt) 2. normal fault (word)
- 14) a) (1pt) 320/25 or N50W/25 or S50E/25 ±5 for dip (value)
b) (4pt) DRAW ON STERONET ON PAGE 4
- 15) (0.5pt) a) _____ (drawing)
(1pt) b) Kbr is thrusting over Kw
_____ (short answer)
(0.5pt) c) Qal (name)

- (1pt) a) Qc (name)
 (0.5+0.5pt) b) unconsolidated sediments over a slope (short answer)
 16) (1pt) over Qal/next to the river (short answer)
 17) (1pt) d (letter a-c)
 18) (0.5 pt each) a) Fill in the table below:

Basin	Major resource extracted	Dominant rock type
Permian	oil	sandstone
Val Verde	gas	limestone
East Texas	gas	shale/mudstone

- (1pt) b) limestone is carbonate / calcareous, other 2 are siliclastic
 (1pt) c) shale/mudstone (name)
 (1pt) d) shale/mudstone (name)
 19) (1pt) likely East Texas and Maverick Reservoir since those are areas of unconventional reservoirs which are produced by fracking. (short answer)
 20) (0.5 pt) a) Fill in the table below:

Basin	Dominant rock type
Anadarko	Sandstone and unconsolid. sand
Fort Worth	Carbonates and evaporites
Gulf Coast	Sandstone and unconsolid. sand
Maverick	limestone

- (0.5 pt) b) Fort Worth (name)
 21) Salt domes (name)
 22) (0.5pt) a) 1. Edwards (E) (name)
 (0.5pt) 2. Edwards-Trinity (ET)
 (0.5pt) 3. Queen City and Sparta (QCS)
 (1pt) b) Karstic (word)

- 23) Confined aquifers correspond with the locations of:
 (0.5pt) 1) clay, mud, and silt and
 (0.5pt) 2) marl which act as
 (1pt) aquifers/impermeable layers (long answer)
 24) (1pt) 0.006, basically flat (number)
 25) (0.5) a) D (letter B-E)
 (0.5) b) B (letter B-E)
 26) (1pt) a) Disconformity (name)
 (1pt) b) Not an unconformity (name)
 (1pt) c) Not an unconformity (name)
 27) (2pt) d (letter a-e)
 28) (1pt) a) geographical (word)
 (1pt) b) 105.883 31.616 (number)
 29) (1pt) Paleozoic (name)
 30) (1pt) Inverse (name)
 31) (1pt) a) Qal (name)
 (1pt) b) quaternary units are yellow (short answer)
 32) (1pt) 1:250,000 (number)
 33) (1pt) B (letter A-C)
 34) (0.5pt) Albritton and Smith 1965 Geology of the Sierra Blanca area, Hudspeth County TX, USGS (short answer)
 35) (1pt) a) Pcb and Pc (names)
 (5pt) b) facies migration during transgression or regression, floods episodes in the floodplain (short answer)
 (1pt) c) pinch out (name)
 (1pt) d) marine (word)

Geologic Mapping - TAM State Test 2015

- 36) (0.5 pt) a) D-L (dimension limestone), C-S (crushed stone), Cem (cement), S-o (sulfur) and possibly Talc (optional) (short answer)
 (0.5 pt) b) Bn(Bolson), Bg (Bone Spring) and L (short answer)
 (0.5 pt) c) unconfined (short answer)
- 37) (0.5pt) A. Strike (word)
 (0.5pt) B. Strike (word)
 (0.5pt) C. Strike (word)
 (0.5pt) D. Dip (word)
 (0.5pt) E. Dip (word)
 (0.5pt) F. Unit thickness (word)
 (0.5pt) G. Strike (word)

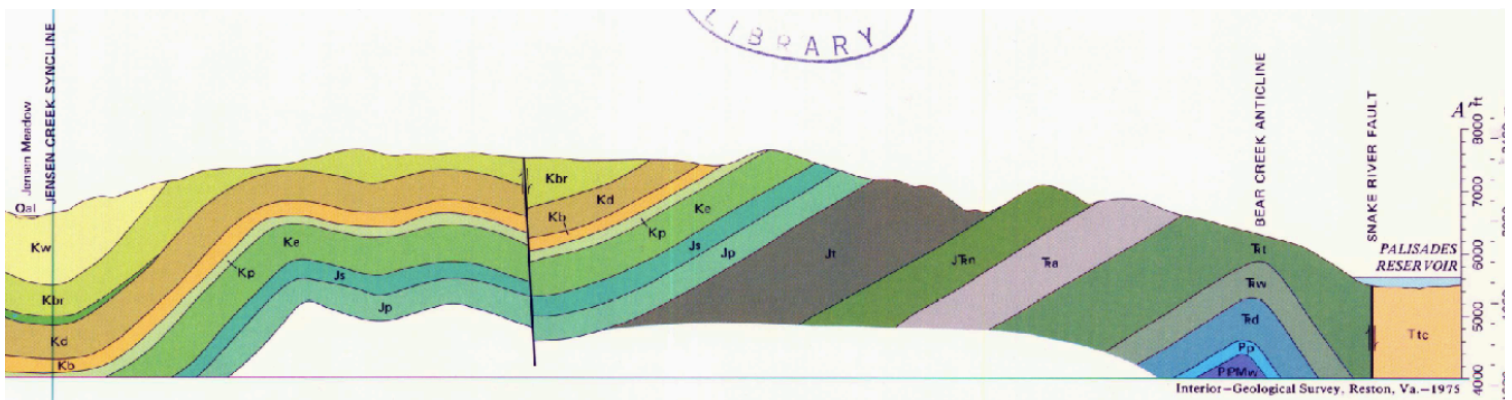
38) (1pt) DIP (the angle between the plane and the horizontal (short answer)

39) a) (0.5pt) putting dye/tracer in the creek (short answer)

b) (1pt) 1. measure water flux rates (short answer)
 (1pt) 2. identify recharging area of spring outlets in a karstic system (short answer)

c) (0.5pt) 1. ET, T, L, N (any2) (names)
 (0.5pt) 2. G, YJ, CW, QCS, BRa, O, D, PRa, ET, Bn (any 2)

➔ 1) DRAW A-A' CROSS SECTION HERE



→ 14) b) STERONEET:

