Jalen Powell

2/15/2021

Lab 7: Geological Maps

1. Where is this geological quadrangle map located (and in what state)?

* Niota, Tennessee

1. What is the name of the oldest geological formation on the Niota geological quadrangle map? (Hint – See the legend.)

* Rome formation

1. What is the name of the youngest geological formation on the Niota geological quadrangle map? (Hint – See the legend.)

* Ottosee shale

1. Where on the map is the location of the oldest formation?

* Northwest Corner

1. What is the approximate strike and dip direction of the Kingsport formation near the Dupont Mine?

* N45E, 20SE

1. What formation/unit is the thickest in the Niota geological quadrangle map?  (Hint – See the Niota map’s cross sections A-A’ and B-B’)

* Conasauga shale

1. What kind of fault is the Saltville fault?

* Thrust Fault

1. If a deep well were drilled at the Niota School, northwest of Niota, Tennessee, what sequence of formations would be penetrated to a depth of ~1000’ below sea level? (Name the top four units in order from top to bottom.) (The school is near the bottom of the map)

* Mascot dolomite, Kingsport formation, Longview dolomite, Chepultepec dolomite

1. What formation/unit is being mined at the Anderson Mine? (Anderson Mine is in the northeast section of the map)

* Kingsport Formation

1. Examine the formations cropping out in the area where line A-A’ crosses Rogers Creek Ridge (northwestern part of map). In that area, Ohc encircles Oh.  What kind of structural fold (on a small scale) is this?  (Hint – See the cross section A-A’)

* Basin