ANSWERS TO OPTIONAL HOMEWORK: TAXONOMY

Pedon 1:
--appears to be a argillic/kandic, 35-115 cm (5-6% absolute clay increase)
--clay activity is expressed per kg soil, so: 3.3/0.11= 30 cmol/kg clay: high activity: so, argillic
--BS at 180 cm= 25%
: ORDER= Ultisol
: GREAT GROUP:
--2 chroma colors at 155 cm: NOT aquic: UDULT
--clay decrease at 115 cm
--not plinthic, fragic, kandic, pale, or rhodic (assuming no 3 value colors): HAPLUDULTS
: Particle size control section: upper 50 cm of argillic
: family particle size: assuming silt is <10%: "sandy"

Pedon 2:
--clay increase (kandic/argillic) starts at 53 cm
--clay NOT meet low activity requirements in >50% of Bt: argillic
--aquic conditions directly beneath the A
:ORDER: Ultisol
:GREAT GROUP:
-- Aquult
--no clay decrease at 150 cm; no plinthite, fragic, abrupt text. change, or kandic, so
: PALEAQUULT
: soil temp: THERMIC
: soil moisture: AQUIC
: particle size control section: 53-103 (upper 50 cm of argillic)
: particle size family: (about 15% clay; not Lithic or Arenic): coarse loamy

Pedon 3:
This pedon seems a bit screwy, so I am just guessing on this one…

--has ochric/high-base argillic, with "aridic" moisture and "Mesic" temperature
--order: Need to use the ORDER key on this—"ARIDISOLS" comes before Alfisols….
--since you cant see the whole horizon layout (and I don't know what "abrupt.." has to do with this), I am guessing—particle size control section is 15-65 (upper 50), and "fine" particle size class…..

Pedon 4:
--This *appears* to be a Mollisol (mollic/high BS all the way to R).
--Particle size control section—entire argillic (20-40 cm): since this has a shallow Lithic contact (40 cm), the particle size family would be called "clayey" rather than "fine"
--Moisture regime (dry for > 90 but less than 180, wet during winter): XERIC