PEDON DESCRIPTION -- NEON Site CLBJ

Print Date: Oct 11 2017
Description Date: Apr 4 2017
Describer: Sidney Paulson
NEON Plot ID: CLBJ_034
Site ID: S2017TX497034
Pedon ID: S2017TX497034

Site Note:
Pedon Note: Additional describers and sampling team members: Alan Deubler and Tyson Morley
Lab Source ID: KSSL
Lab Pedon #: 17N0657
Soil Name as Described/Sampled: Pidcoke
Classification: Loamy-skeletal, carbonatic, thermic Lithic Haplustolls

Soil Name as Correlated:

Classification:
Pedon Type: taxadjunct to the series
Pedon Purpose: laboratory sampling site
Taxon Kind: taxadjunct
Associated Soils:
Physiographic Division: Interior Plains
Physiographic Province: Central Lowland Province
Physiographic Section: Osage plain

State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on shoulder of interfluve of moderately dissected ridge on undulating low hills
Upslope Shape: linear
Cross Slope Shape: linear

Particle Size Control Section: 0 to 26 cm.
Description origin: NASIS
Diagnostic Features: free carbonates 0 to 26 cm.
mollic epipedon 0 to 18 cm.
secondary carbonates 12 to 26 cm.
lithic contact 26 to 26 cm.

Country: United States
State: Texas
County: Wise
MLRA: 84B -- West Cross Timbers
Soil Survey Area: TX497 -- Wise County, Texas
Map Unit: ByE -- Brackett-Aledo complex, 5 to 20 percent slopes
Pit Location:

Quad Name: Pecan Creek, Texas

Std Latitude: 33.3213000
Std Longitude: -97.5774400

Latitude: 33 degrees 19 minutes 16.68 seconds north
Longitude: 97 degrees 34 minutes 38.78 seconds west
Datum: WGS84
UTM Zone: 14
UTM Easting: 632411 meters
UTM Northing: 3687810 meters

Primary Earth Cover: Grass/herbaceous cover
Secondary Earth Cover: Grassland rangeland
Existing Vegetation: blazing star, broomweed, compassplant, dropseed, milkweed, ragweed, seep muhly, sideoats grama, skunkbush sumac, Texas wintergrass, vervain
Parent Material: residuum weathered from limestone
Bedrock Kind: Limestone
Bedrock Depth: 26 centimeters
Bedrock Hardness: strongly cemented
Bedrock Fracture Interval: 10 to less than 45 centimeters
Surface Fragments:
Description database: KSSL

Top Depth (cm)	Bottom Depth (cm)	Restriction Kind	Restriction Hardness
26	51	bedrock, lithic	Strongly cemented

Cont. Site ID: S2017TX497034 **Pedon ID:** S2017TX497034

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
6.0	324.0	45	17.0	27.1	6.5	1,011	221	well		

A--0 to 12 centimeters (0.0 to 4.7 inches); brown (10YR 4/3) loam, dark brown (10YR 3/3), moist; 25 percent clay; moderate fine subangular blocky structure; slightly hard, friable; 2 percent nonflat subrounded indurated 2 to 20-millimeter Limestone fragments; violent effervescence, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03308

Bk--12 to 26 centimeters (4.7 to 10.2 inches); brown (10YR 5/3) extremely gravelly loam, brown (10YR 4/3), moist; 25 percent clay; moderate fine subangular blocky structure; slightly hard, friable; 5 percent fine distinct irregular strongly cemented carbonate concretions with clear boundaries around rock fragments; 65 percent nonflat subrounded indurated 2 to 75-millimeter Limestone fragments; violent effervescence, by HCl, 1 normal; abrupt irregular boundary. Lab sample # 17N03309

R--26 to 51 centimeters (10.2 to 20.1 inches); strongly cemented Limestone bedrock, fractured at intervals of 10 to less than 45 centimeters; structureless massive; Strongly cemented; violent effervescence, by HCl, 1 normal.

PEDON DESCRIPTION -- NEON Site CLBJ

Print Date: Oct 11 2017
Description Date: Apr 6 2017
Describer: Sidney Paulson
NEON Plot ID: CLBJ_039
Site ID: S2017TX497039
Pedon ID: S2017TX497039

Site Note:

Pedon Note: Additional describers and sampling team members: Alan Deubler and Chance Robinson

Lab Source ID: KSSL
Lab Pedon #: 17N0658

Soil Name as Described/Sampled: Windthorst

Classification: Fine, mixed, active, thermic Udic Paleustalfs

Soil Name as Correlated:

Classification:
Pedon Type: correlates to named soil
Pedon Purpose: laboratory sampling site
Taxon Kind: family
Associated Soils:

Physiographic Division: Interior Plains
Physiographic Province: Central Lowland Province
Physiographic Section: Osage plain

State Physiographic Area:

Local Physiographic Area:

Geomorphic Setting: on footslope of base slope of moderately dissected ridge on undulating very low hills
Upslope Shape: linear
Cross Slope Shape: linear
Particle Size Control Section: 19 to 69 cm.
Description origin: NASIS

Diagnostic Features: ochric epipedon 0 to 19 cm.
argillic horizon 19 to 115 cm.
abrupt textural change 19 to 19 cm.
redox concentrations 75 to 115 cm.
free carbonates 115 to 206 cm.
secondary carbonates 115 to 206 cm.

Country: United States
State: Texas
County: Wise
MLRA: 84B -- West Cross Timbers
Soil Survey Area: TX497 -- Wise County, Texas
Map Unit: WeC3 -- Weatherford-Duffau complex, 2 to 8 percent slopes, severely eroded

Pit Location:

Quad Name: Pecan Creek, Texas

Std Latitude: 33.3292700
Std Longitude: -97.5835800

Latitude: 33 degrees 19 minutes 45.37 seconds north
Longitude: 97 degrees 35 minutes 0.89 seconds west
Datum: WGS84
UTM Zone: 14
UTM Easting: 631828 meters
UTM Northing: 3688686 meters

Primary Earth Cover: Grass/herbaceous cover
Secondary Earth Cover: Grassland rangeland
Existing Vegetation: dropseed, eastern redcedar, greenbrier, Indiangrass, little bluestem, post oak, pricklypear, ragweed, Scribner's rosette grass, Texas ash

Parent Material: slope alluvium derived from sandstone and siltstone over gravelly colluvium derived from limestone and sandstone

Bedrock Kind:

Bedrock Depth:

Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2017TX497039 **Pedon ID:** S2017TX497039

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
6.0	312.0	36	17.0	27.1	6.5	1,011	221	moderately well		

A--0 to 19 centimeters (0.0 to 7.5 inches); brown (7.5YR 4/2) fine sandy loam, dark brown (7.5YR 3/2), moist; 10 percent clay; moderate fine subangular blocky structure; slightly hard, friable; common very fine roots throughout and common fine roots throughout; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03310

Bt1--19 to 48 centimeters (7.5 to 18.9 inches); red (2.5YR 5/6) sandy clay, red (2.5YR 4/6), moist; 38 percent clay; strong medium prismatic parts to moderate fine angular blocky structure; hard, firm; common very fine roots throughout and common medium roots throughout and common fine roots throughout and common coarse roots top of horizon; 70 percent prominent 5YR 4/3), moist, clay films on all faces of peds; noneffervescent, by HCl, 1 normal; gradual smooth boundary. Lab sample # 17N03311

Bt2--48 to 75 centimeters (18.9 to 29.5 inches); light red (2.5YR 7/6) clay loam, light red (2.5YR 6/6), moist; 39 percent clay; moderate medium prismatic parts to moderate medium angular blocky structure; hard, very firm; common very fine roots throughout and common fine roots throughout; 90 percent prominent 7.5YR 4/3), moist, clay films on all faces of peds; 10 percent fine prominent irregular 10YR 6/6), moist, and 10YR 7/6), dry, masses of oxidized iron with clear boundaries Throughout; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03312

Bt3--75 to 115 centimeters (29.5 to 45.3 inches); yellowish red (5YR 5/6) clay, yellowish red (5YR 4/6), moist; 45 percent clay; strong medium angular blocky structure; hard, very firm; common very fine roots between peds; 40 percent distinct pressure faces on top faces of peds and 70 percent prominent 5YR 4/3), moist, clay films on all faces of peds; 3 percent fine prominent irregular very weakly cemented 10YR 2/1), dry, and 10YR 2/1), moist, iron-manganese nodules with clear boundaries Throughout and 15 percent fine prominent irregular 10YR 7/6), dry, and 10YR 6/6), moist, masses of oxidized iron with clear boundaries Throughout; noneffervescent, by HCl, 1 normal; abrupt smooth boundary. Lab sample # 17N03313

2Bk--115 to 149 centimeters (45.3 to 58.7 inches); reddish brown (5YR 5/4) gravelly clay loam, reddish brown (5YR 4/4), moist; 37 percent clay; weak fine subangular blocky structure; hard, firm; few very fine roots between peds; 1 percent faint carbonate coats on rock fragments; 2 percent fine prominent cylindrical strongly cemented carbonate concretions with clear boundaries throughout; 5 percent nonflat subrounded indurated 2 to 5-millimeter Limestone fragments and 10 percent nonflat subrounded indurated 5 to 20-millimeter Limestone fragments and 10 percent nonflat subrounded indurated 20 to 75-millimeter Limestone fragments; violent effervescence, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03314

2BCk--149 to 206 centimeters (58.7 to 81.1 inches); reddish yellow (5YR 6/6) sandy clay loam, yellowish red (5YR 5/6), moist; 27 percent clay; weak medium subangular blocky structure; hard, firm; very few very fine roots between peds; 1 percent fine prominent cylindrical strongly cemented carbonate concretions with clear boundaries on vertical faces of peds and 3 percent medium prominent irregular carbonate masses with clear boundaries throughout; 1 percent nonflat subrounded indurated 2 to 20-millimeter Limestone fragments; violent effervescence, by HCl, 1 normal. Lab sample # 17N03315

PEDON DESCRIPTION -- NEON Site CLBJ

Print Date: Oct 11 2017
Description Date: Apr 4 2017
Describer: Sidney Paulson
NEON Plot ID: CLBJ_044
Site ID: S2017TX497044
Pedon ID: S2017TX497044

Site Note:

Pedon Note: Additional describers and sampling team members: Alan Deubler and Tyson Morley
Lab Source ID: KSSL
Lab Pedon #: 17N0659
Soil Name as Described/Sampled: Duffau
Classification: Fine-loamy, siliceous, active, thermic Oxyaquic Haplustalfs

Soil Name as Correlated:

Classification:
Pedon Type: taxadjunct to the series
Pedon Purpose: laboratory sampling site
Taxon Kind: taxadjunct
Associated Soils:
Physiographic Division: Interior Plains
Physiographic Province: Central Lowland Province
Physiographic Section: Osage plain
State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on footslope of head slope of moderately dissected ridge on undulating very low hills
Upslope Shape: linear
Cross Slope Shape: concave

Particle Size Control Section: 36 to 86 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon 0 to 36 cm.
argillic horizon 36 to 146 cm.
abrupt textural change 36 to 36 cm.
redox concentrations 36 to 146 cm.
aquic conditions 84 to 146 cm.
episaturation 84 to 146 cm.
densic contact 164 to 164 cm.

Country: United States
State: Texas
County: Wise
MLRA: 84B -- West Cross Timbers
Soil Survey Area: TX497 -- Wise County, Texas
Map Unit: DuB -- Duffau fine sandy loam, 1 to 3 percent slopes
Pit Location:

Quad Name: Smyrna, Texas

Std Latitude: 33.4163800
Std Longitude: -97.6572700

Latitude: 33 degrees 24 minutes 58.97 seconds north
Longitude: 97 degrees 39 minutes 26.17 seconds west
Datum: WGS84
UTM Zone: 14
UTM Easting: 624844 meters
UTM Northing: 3698254 meters

Primary Earth Cover: Grass/herbaceous cover
Secondary Earth Cover: Grassland rangeland
Existing Vegetation: little bluestem, plum
Parent Material: residuum weathered from sandstone
Bedrock Kind: Sandstone and siltstone
Bedrock Depth: 164 centimeters
Bedrock Hardness: noncemented
Bedrock Fracture Interval: 10 to less than 45 centimeters
Surface Fragments:
Description database: KSSL

Top Depth (cm)	Bottom Depth (cm)	Restriction Kind	Restriction Hardness
164	203	bedrock, densic	Noncemented

Cont. Site ID: S2017TX497044 **Pedon ID:** S2017TX497044

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
1.0	308.0	116	17.0	27.1	6.5	1,011	221	moderately well		

Ap--0 to 18 centimeters (0.0 to 7.1 inches); brown (7.5YR 4/4) fine sandy loam, dark brown (7.5YR 3/4), moist; 8 percent clay; moderate fine subangular blocky structure; slightly hard, friable; many very fine roots throughout and common fine roots throughout; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03316

E--18 to 36 centimeters (7.1 to 14.2 inches); 55 percent light brown (7.5YR 6/4) and 45 percent brown (7.5YR 4/4) fine sandy loam, 55 percent brown (7.5YR 5/4) and 45 percent dark brown (7.5YR 3/4), moist; 8 percent clay; moderate fine subangular blocky structure; slightly hard, friable; common very fine roots throughout and common medium roots throughout; noneffervescent, by HCl, 1 normal; clear wavy boundary. Lab sample # 17N03317

Bt1--36 to 69 centimeters (14.2 to 27.2 inches); red (2.5YR 5/6) sandy clay loam, red (2.5YR 4/6), moist; 30 percent clay; moderate medium subangular blocky structure; hard, firm; common very fine roots throughout and common medium roots throughout and common fine roots throughout; 75 percent distinct clay films on all faces of peds; 1 percent fine prominent irregular very weakly cemented 10YR 2/1), moist, and 10YR 2/1), dry, iron-manganese nodules with clear boundaries Throughout and 10 percent fine prominent irregular 10YR 6/3), dry, and 10YR 5/3), moist, iron depletions with clear boundaries Throughout; noneffervescent, by HCl, 1 normal; gradual smooth boundary. Lab sample # 17N03318

Bt2--69 to 84 centimeters (27.2 to 33.1 inches); red (2.5YR 5/6) sandy clay loam, red (2.5YR 4/6), moist; 33 percent clay; moderate medium prismatic parts to moderate medium subangular blocky structure; hard, firm; common very fine roots throughout and few fine roots throughout; 80 percent distinct clay films on all faces of peds; 1 percent fine prominent irregular very weakly cemented 10YR 2/1), moist, and 10YR 2/1), dry, iron-manganese nodules with clear boundaries Throughout and 25 percent medium prominent irregular 10YR 6/3), dry, and 10YR 5/3), moist, iron depletions with clear boundaries Throughout; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03319

Bt3--84 to 146 centimeters (33.1 to 57.5 inches); light gray (2.5Y 7/2) sandy clay, light brownish gray (2.5Y 6/2), moist; 38 percent clay; moderate medium prismatic parts to moderate coarse subangular blocky structure; hard, very firm; few very fine roots throughout; 90 percent distinct clay films on all faces of peds; 2 percent fine prominent irregular very weakly cemented 10YR 2/1), moist, and 10YR 2/1), dry, iron-manganese nodules with clear boundaries Throughout and 5 percent fine prominent irregular 10YR 6/6), moist, and 10YR 7/6), dry, masses of oxidized iron with clear boundaries Throughout and 15 percent fine prominent irregular 2.5YR 5/8), dry, and 2.5YR 4/8), moist, masses of oxidized iron with clear boundaries Throughout; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03320

BC--146 to 164 centimeters (57.5 to 64.6 inches); reddish yellow (7.5YR 6/6) very fine sandy loam, strong brown (7.5YR 5/6), moist; 14 percent clay; 20 percent medium prominent irregular (10YR 6/1) mottles; weak coarse subangular blocky structure; hard, firm; very few very fine roots throughout; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03321

Cd--164 to 203 centimeters (64.6 to 79.9 inches); reddish yellow (7.5YR 6/6) stratified very fine sandy loam, strong brown (7.5YR 5/6), moist; 5 percent clay; 10 percent medium prominent irregular (2.5Y 7/1) mottles; structureless massive; hard, firm, Noncemented; noneffervescent, by HCl, 1 normal. Lab sample # 17N03322. Interbedded siltstone strata (silty clay loam texture) within horizon is 5 cm in thickness

PEDON DESCRIPTION -- NEON Site CLBJ

Print Date: Oct 11 2017
Description Date: Apr 4 2017
Describer: Travis Waiser
NEON Plot ID: CLBJ_048
Site ID: S2017TX497048
Pedon ID: S2017TX497048

Site Note:

Pedon Note: Additional describers and sampling team members: Wayne Gabriel and Chance Robinson
Lab Source ID: KSSL
Lab Pedon #: 17N0660
Soil Name as Described/Sampled: Keeter
Classification: Fine, mixed, active, thermic Udic Paleustalfs

Soil Name as Correlated:

Classification:
Pedon Type: taxadjunct to the series
Pedon Purpose: laboratory sampling site
Taxon Kind: taxadjunct
Associated Soils:
Physiographic Division: Interior Plains
Physiographic Province: Central Lowland Province
Physiographic Section: Osage plain

State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on summit of crest of moderately dissected ridge on undulating very low hills
Upslope Shape: linear
Cross Slope Shape: convex

Particle Size Control Section: 16 to 56 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon 0 to 16 cm.
argillic horizon 16 to 56 cm.
abrupt textural change 16 to 16 cm.
redox concentrations 56 to 84 cm.
densic contact 84 to 84 cm.

Country: United States
State: Texas
County: Wise
MLRA: 84B -- West Cross Timbers
Soil Survey Area: TX497 -- Wise County, Texas
Map Unit: KtC -- Keeter very fine sandy loam, 1 to 6 percent slopes
Pit Location:

Quad Name: New Harp, Texas

Std Latitude: 33.3928000
Std Longitude: -97.5791200

Latitude: 33 degrees 23 minutes 34.08 seconds north
Longitude: 97 degrees 34 minutes 44.83 seconds west
Datum: WGS84
UTM Zone: 14
UTM Easting: 632147 meters
UTM Northing: 3695736 meters

Primary Earth Cover: Grass/herbaceous cover
Secondary Earth Cover: Grassland rangeland
Existing Vegetation: honey mesquite, little bluestem, plum, pricklypear, ragweed, Texas wintergrass
Parent Material: residuum weathered from sandstone and siltstone
Bedrock Kind: Sandstone
Bedrock Depth: 84 centimeters
Bedrock Hardness: noncemented
Bedrock Fracture Interval: 10 to less than 45 centimeters
Surface Fragments:
Description database: KSSL

Top Depth (cm)	Bottom Depth (cm)	Restriction Kind	Restriction Hardness
84	147	bedrock, densic	Noncemented

Cont. Site ID: S2017TX497048 **Pedon ID:** S2017TX497048

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
2.0	290.0	286	17.0	27.1	6.5	1,011	221	well		

A--0 to 16 centimeters (0.0 to 6.3 inches); brown (10YR 5/3) fine sandy loam, brown (10YR 4/3), moist; 12 percent clay; weak medium subangular blocky parts to weak fine subangular blocky structure; soft, friable; many very fine roots throughout and common medium roots throughout and common fine roots throughout; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03323

Bt1--16 to 37 centimeters (6.3 to 14.6 inches); red (2.5YR 5/6) clay, red (2.5YR 4/6), moist; 42 percent clay; weak coarse prismatic parts to moderate medium subangular blocky structure; hard, firm; common very fine roots throughout and common medium roots throughout and common fine roots throughout; common very fine pores; prominent clay films; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03324

Bt2--37 to 56 centimeters (14.6 to 22.0 inches); yellowish red (5YR 5/6) clay loam, yellowish red (5YR 4/6), moist; 32 percent clay; weak coarse prismatic parts to moderate medium subangular blocky structure; slightly hard, friable; common very fine roots throughout and common fine roots throughout; common very fine and common very fine pores; distinct clay films; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03325

BC--56 to 84 centimeters (22.0 to 33.1 inches); yellowish red (5YR 5/6) loam, yellowish red (5YR 4/6), moist; 26 percent clay; 35 percent medium prominent irregular (2.5Y 7/3) mottles; weak coarse prismatic parts to moderate medium subangular blocky structure; slightly hard, friable; common very fine roots throughout and common fine roots throughout; common very fine and common very fine pores; 10 percent fine prominent irregular 2.5YR 5/6), dry, and 2.5YR 4/6), moist, masses of oxidized iron with sharp boundaries Throughout; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03326

Cd--84 to 147 centimeters (33.1 to 57.9 inches); pale yellow (2.5Y 8/2) very fine sandy loam, light gray (2.5Y 7/2), moist; 15 percent clay; structureless massive; Noncemented; few very fine roots in cracks; noneffervescent, by HCl, 1 normal. Lab sample # 17N03327

PEDON DESCRIPTION -- NEON Site CLBJ

Print Date: Oct 11 2017
Description Date: Apr 4 2017
Describer: Sidney Paulson
NEON Plot ID: CLBJ_049
Site ID: S2017TX497049
Pedon ID: S2017TX497049

Site Note:

Pedon Note: Additional describers and sampling team members: Alan Deubler and Tyson Morley

Lab Source ID: KSSL
Lab Pedon #: 17N0661
Soil Name as Described/Sampled: Duffau
Classification: Fine-loamy, siliceous, active, thermic Udic Paleustalfs

Soil Name as Correlated:

Classification:
Pedon Type: correlates to named soil
Pedon Purpose: laboratory sampling site
Taxon Kind: series
Associated Soils:
Physiographic Division: Interior Plains
Physiographic Province: Central Lowland Province
Physiographic Section: Osage plain

State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on backslope of side slope of moderately dissected ridge on undulating very low hills
Upslope Shape: linear
Cross Slope Shape: linear
Particle Size Control Section: 39 to 89 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon 0 to 39 cm.
argillic horizon 39 to 212 cm.
abrupt textural change 39 to 39 cm.
redox concentrations 155 to 212 cm.

Country: United States
State: Texas
County: Wise
MLRA: 84B -- West Cross Timbers
Soil Survey Area: TX497 -- Wise County, Texas
Map Unit: WeC -- Duffau-Windthorst complex, 1 to 5 percent slopes, moderately eroded
Pit Location:

Quad Name: Smyrna, Texas

Std Latitude: 33.4133100
Std Longitude: -97.6359900

Latitude: 33 degrees 24 minutes 47.92 seconds north
Longitude: 97 degrees 38 minutes 9.56 seconds west
Datum: WGS84
UTM Zone: 14
UTM Easting: 626827 meters
UTM Northing: 3697939 meters

Primary Earth Cover: Grass/herbaceous cover
Secondary Earth Cover: Savanna rangeland
Existing Vegetation: blackjack oak, eastern redcedar, greenbrier, little bluestem, post oak, purpletop tridens, Scribner's rosette grass, winged sumac
Parent Material: residuum weathered from sandstone
Bedrock Kind: Sandstone and siltstone

Bedrock Depth:

Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2017TX497049 **Pedon ID:** S2017TX497049

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
6.0	305.0	279	17.0	27.1	6.5	1,011	221	well		

A--0 to 20 centimeters (0.0 to 7.9 inches); brown (7.5YR 4/4) loamy fine sand, dark brown (7.5YR 3/4), moist; 5 percent clay; weak fine subangular blocky structure; soft, very friable; many very fine roots throughout and common medium roots throughout and common fine roots throughout; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03328

E--20 to 39 centimeters (7.9 to 15.4 inches); strong brown (7.5YR 5/6) loamy fine sand, strong brown (7.5YR 4/6), moist; 6 percent clay; weak fine subangular blocky structure; soft, very friable; common very fine roots throughout and common medium roots throughout and common fine roots throughout; noneffervescent, by HCl, 1 normal; clear wavy boundary. Lab sample # 17N03329

Bt1--39 to 68 centimeters (15.4 to 26.8 inches); red (2.5YR 4/6) sandy clay loam, dark red (2.5YR 3/6), moist; 29 percent clay; strong coarse prismatic parts to moderate medium subangular blocky structure; hard, firm; common very fine roots throughout and common fine roots throughout; 90 percent distinct clay films on all faces of peds; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03330

Bt2--68 to 155 centimeters (26.8 to 61.0 inches); red (2.5YR 5/8) sandy clay loam, red (2.5YR 4/8), moist; 26 percent clay; moderate medium prismatic parts to moderate medium subangular blocky structure; hard, firm; common very fine roots throughout and common fine roots throughout; 70 percent distinct clay films on all faces of peds; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03331

BCt--155 to 212 centimeters (61.0 to 83.5 inches); reddish yellow (5YR 6/8) fine sandy loam, yellowish red (5YR 5/8), moist; 15 percent clay; weak medium subangular blocky parts to weak fine subangular blocky structure; slightly hard, friable; very few very fine roots throughout; 10 percent distinct clay films on vertical faces of peds; 15 percent fine distinct irregular 7.5YR 6/6), moist, and 7.5YR 7/6), dry, masses of oxidized iron with sharp boundaries Throughout; noneffervescent, by HCl, 1 normal. Lab sample # 17N03332

PEDON DESCRIPTION -- NEON Site CLBJ

Print Date: Oct 11 2017
Description Date: Apr 5 2017
Describer: Sidney Paulson
NEON Plot ID: CLBJ_050
Site ID: S2017TX497050
Pedon ID: S2017TX497050

Site Note:
Pedon Note: Additional describers and sampling team members: Alan Deubler and Tyson Morley
Lab Source ID: KSSL
Lab Pedon #: 17N0662
Soil Name as Described/Sampled: Windthorst
Classification: Fine, mixed, active, thermic Udic Paleustalfs

Soil Name as Correlated:

Classification:
Pedon Type: correlates to named soil
Pedon Purpose: laboratory sampling site
Taxon Kind: family
Associated Soils:
Physiographic Division: Interior Plains
Physiographic Province: Central Lowland Province
Physiographic Section: Osage plain

State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on backslope of side slope of moderately dissected ridge on undulating very low hills
Upslope Shape: linear
Cross Slope Shape: linear

Particle Size Control Section: 18 to 68 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon 0 to 18 cm.
argillic horizon 18 to 152 cm.
redox depletions with chroma 2 or less 18 to 35 cm.
redox concentrations 35 to 152 cm.
redox depletions with chroma 2 or less 64 to 152 cm.
redox concentrations 180 to 195 cm.
densic contact 195 to 195 cm.

Country: United States
State: Texas
County: Wise
MLRA: 84B -- West Cross Timbers
Soil Survey Area: TX497 -- Wise County, Texas
Map Unit: KtC3 -- Keeter very fine sandy loam, 2 to 6 percent slopes, ero ded
Pit Location:
Quad Name: New Harp, Texas
Std Latitude: 33.3793600
Std Longitude: -97.6222800

Latitude: 33 degrees 22 minutes 45.70 seconds north
Longitude: 97 degrees 37 minutes 20.21 seconds west
Datum: WGS84
UTM Zone: 14
UTM Easting: 628152 meters
UTM Northing: 3694192 meters

Primary Earth Cover: Grass/herbaceous cover
Secondary Earth Cover: Savanna rangeland
Existing Vegetation: eastern redcedar, little bluestem, plum, ragweed, Scribner's rosette grass
Parent Material: residuum weathered from sandstone and siltstone
Bedrock Kind: Sandstone
Bedrock Depth: 195 centimeters
Bedrock Hardness: noncemented
Bedrock Fracture Interval: 10 to less than 45 centimeters
Surface Fragments:
Description database: KSSL

Top Depth (cm)	Bottom Depth (cm)	Restriction Kind	Restriction Hardness
195	223	bedrock, densic	Noncemented

Cont. Site ID: S2017TX497050 **Pedon ID:** S2017TX497050

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
6.0	316.0	324	17.0	27.1	6.5	1,011	221	moderately well		

A--0 to 10 centimeters (0.0 to 3.9 inches); dark brown (7.5YR 3/3) fine sandy loam, very dark brown (7.5YR 2.5/3), moist; 10 percent clay; moderate fine subangular blocky structure; slightly hard, friable; common very fine roots throughout and common fine roots throughout; noneffervescent, by HCl, 1 normal; clear wavy boundary. Lab sample # 17N03333

E--10 to 18 centimeters (3.9 to 7.1 inches); brown (7.5YR 5/3) fine sandy loam, brown (7.5YR 4/3), moist; 8 percent clay; moderate fine subangular blocky structure; slightly hard, friable; common very fine roots throughout and common fine roots throughout; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03334

Bt1--18 to 35 centimeters (7.1 to 13.8 inches); red (2.5YR 5/6) sandy clay, red (2.5YR 4/6), moist; 41 percent clay; moderate fine prismatic parts to moderate medium angular blocky structure; very hard, very firm; common very fine roots throughout and common fine roots throughout; 30 percent distinct clay films on all faces of peds; 5 percent fine prominent irregular 7.5YR 7/2), dry, and 7.5YR 6/2), moist, iron depletions with sharp boundaries On surfaces along root channels; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03335

Bt2--35 to 64 centimeters (13.8 to 25.2 inches); red (2.5YR 5/6) sandy clay, red (2.5YR 4/6), moist; 43 percent clay; strong fine prismatic parts to strong medium angular blocky structure; very hard, very firm; common very fine roots throughout; 80 percent prominent 7.5YR 4/3), moist, clay films on all faces of peds; 30 percent medium prominent irregular 7.5YR 6/4), moist, and 7.5YR 7/4), dry, masses of oxidized iron with sharp boundaries Throughout; noneffervescent, by HCl, 1 normal; gradual smooth boundary. Lab sample # 17N03336

Bt3--64 to 104 centimeters (25.2 to 40.9 inches); brownish yellow (10YR 6/6) clay, yellowish brown (10YR 5/6), moist; 48 percent clay; strong medium prismatic parts to strong fine prismatic parts to strong fine angular blocky structure; very hard, very firm; common very fine roots throughout; 35 percent distinct pressure faces on top faces of peds and 100 percent prominent 7.5YR 4/3), moist, clay films on all faces of peds; 5 percent fine prominent irregular 10YR 6/2), moist, and 10YR 7/2), dry, iron depletions with sharp boundaries Throughout and 25 percent medium prominent irregular 2.5YR 4/6), dry, and 2.5YR 3/6), moist, masses of oxidized iron with sharp boundaries Throughout; 1 percent nonflat subrounded very weakly cemented 2 to 20-millimeter Sandstone fragments; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03337. Interior color of cemented sandstone fragments is pale yellowish pink (7.5YR 9.5/2 moist and dry)

Bt4--104 to 152 centimeters (40.9 to 59.8 inches); red (2.5YR 5/8) sandy clay loam, red (2.5YR 4/8), moist; moderate medium subangular blocky parts to moderate fine subangular blocky structure; hard, friable; few very fine roots throughout; 10 percent distinct clay films; 10 percent fine prominent irregular 7.5YR 7/1), dry, and 7.5YR 6/1), moist, iron depletions with sharp boundaries Throughout and 35 percent medium prominent irregular 7.5YR 6/6), dry, and 7.5YR 5/6), moist, masses of oxidized iron with sharp boundaries Throughout; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03338

CB1--152 to 180 centimeters (59.8 to 70.9 inches); pink (7.5YR 7/4) loamy fine sand, light brown (7.5YR 6/4), moist; 4 percent clay; structureless massive; slightly hard, very friable; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03339

CB2--180 to 195 centimeters (70.9 to 76.8 inches); pinkish gray (7.5YR 7/2) sandy clay loam, pinkish gray (7.5YR 6/2), moist; 20 percent clay; structureless massive; hard, firm; 15 percent fine prominent irregular 2.5YR 4/6), dry, and 2.5YR 3/6), moist, masses of oxidized iron with sharp boundaries Along lamina or strata surfaces and 30 percent medium prominent irregular 7.5YR 7/8), dry, and 7.5YR 6/8), moist, masses of oxidized iron with sharp boundaries Along lamina or strata surfaces; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03340

Cd--195 to 223 centimeters (76.8 to 87.8 inches); pink (7.5YR 7/4) loamy fine sand, light brown (7.5YR 6/4), moist; 3 percent clay; structureless massive; slightly hard, very friable, Noncemented; noneffervescent, by HCl, 1 normal. Lab sample # 17N03341

PEDON DESCRIPTION -- NEON Site CLBJ

Print Date: Oct 11 2017
Description Date: Apr 5 2017
Describer: Chance Robinson
NEON Plot ID: CLBJ_051
Site ID: S2017TX497051
Pedon ID: S2017TX497051

Site Note:

Pedon Note: Additional describers and sampling team members: Travis Waiser and Wayne Gabriel

Lab Source ID: KSSL
Lab Pedon #: 17N0663
Soil Name as Described/Sampled: Duffau
Classification: Fine-loamy, siliceous, active, thermic Aquic Haplustalfs

Soil Name as Correlated:

Classification:
Pedon Type: taxadjunct to the series
Pedon Purpose: laboratory sampling site
Taxon Kind: taxadjunct
Associated Soils:
Physiographic Division: Interior Plains
Physiographic Province: Central Lowland Province
Physiographic Section: Osage plain

State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on backslope of side slope of stabilized bench of gully on moderately dissected ridge on undulating very low hills
Upslope Shape: linear
Cross Slope Shape: linear
Particle Size Control Section: 19 to 69 cm.
Description origin: NASIS

Diagnostic Features: ochric epipedon 0 to 19 cm.
argillic horizon 19 to 201 cm.
redox concentrations 19 to 201 cm.
redox depletions with chroma 2 or less 43 to 201 cm.
aquic conditions 43 to 201 cm.
endosaturation 43 to 201 cm.

Country: United States
State: Texas
County: Wise
MLRA: 84B -- West Cross Timbers
Soil Survey Area: TX497 -- Wise County, Texas
Map Unit: DvC4 -- Duffau-Gullied land complex, 3 to 8 percent slopes, severely eroded

Pit Location:

Quad Name: Pecan Creek, Texas

Std Latitude: 33.3694500
Std Longitude: -97.5946200

Latitude: 33 degrees 22 minutes 10.02 seconds north
Longitude: 97 degrees 35 minutes 40.63 seconds west
Datum: WGS84
UTM Zone: 14
UTM Easting: 630740 meters
UTM Northing: 3693127 meters

Primary Earth Cover: Grass/herbaceous cover
Secondary Earth Cover: Savanna rangeland
Existing Vegetation: blackjack oak, eastern redcedar, post oak
Parent Material: residuum weathered from sandstone
Bedrock Kind: Sandstone and siltstone
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2017TX497051 **Pedon ID:** S2017TX497051

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
5.0	304.0	47	17.0	27.1	6.5	1,011	221	moderately well		

A--0 to 19 centimeters (0.0 to 7.5 inches); yellowish brown (10YR 5/4) fine sandy loam, dark yellowish brown (10YR 4/4), moist; 16 percent clay; weak fine subangular blocky structure; slightly hard, friable; many very fine roots throughout and many fine roots throughout; common very fine pores; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03342

Bt1--19 to 43 centimeters (7.5 to 16.9 inches); white (2.5Y 8/1) sandy clay loam, light gray (2.5Y 7/1), moist; 28 percent clay; weak coarse subangular blocky structure; moderately hard, friable; common very fine roots throughout and common medium roots throughout and many fine roots throughout; 20 percent distinct clay films on vertical faces of peds; 45 percent medium prominent irregular 10YR 6/8), moist, and 10YR 7/8), dry, masses of oxidized iron with clear boundaries Throughout; noneffervescent, by HCl, 1 normal; abrupt smooth boundary. Lab sample # 17N03343

Bt2--43 to 75 centimeters (16.9 to 29.5 inches); white (2.5Y 8/1) sandy clay loam, light gray (2.5Y 7/1), moist; 32 percent clay; strong medium prismatic parts to weak medium subangular blocky structure; very hard, very firm; common very fine roots between peds and common fine roots between peds; 60 percent prominent 10YR 5/2), dry, and 10YR 4/2), moist, clay films on vertical faces of peds; 3 percent fine prominent irregular very weakly cemented 10YR 2/1), moist, and 10YR 2/1), dry, iron-manganese nodules with clear boundaries Infused into matrix along faces of peds and 3 percent fine prominent irregular N 8/), dry, and N 7/), moist, iron depletions with clear boundaries Throughout and 35 percent medium prominent irregular 10YR 7/8), dry, and 10YR 6/8), moist, masses of oxidized iron with clear boundaries Throughout; noneffervescent, by HCl, 1 normal; gradual smooth boundary. Lab sample # 17N03344

Bt3--75 to 168 centimeters (29.5 to 66.1 inches); white (2.5Y 8/1) sandy clay loam, light gray (2.5Y 7/1), moist; 32 percent clay; strong coarse prismatic parts to weak medium subangular blocky structure; very hard, very firm; few very fine roots between peds and few fine roots between peds; 50 percent prominent 10YR 5/2), dry, and 10YR 4/2), moist, clay films on vertical faces of peds; 1 percent fine prominent irregular very weakly cemented 10YR 2/1), moist, and 10YR 2/1), dry, iron-manganese nodules with clear boundaries Throughout and 5 percent fine prominent irregular N 8/), dry, and N 7/), moist, iron depletions with clear boundaries Infused into matrix along faces of peds and 45 percent medium prominent irregular 10YR 7/8), dry, and 10YR 6/8), moist, masses of oxidized iron with clear boundaries Throughout; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03345

BCt--168 to 201 centimeters (66.1 to 79.1 inches); yellow (10YR 7/8) sandy clay loam, brownish yellow (10YR 6/8), moist; 28 percent clay; 15 percent medium prominent irregular (2.5Y 8/1) and 15 percent medium prominent irregular (2.5Y 7/1) mottles; weak coarse prismatic structure; very hard, very firm; 20 percent distinct clay films on vertical faces of peds; 2 percent fine prominent irregular very weakly cemented 10YR 2/1), moist, and 10YR 2/1), dry, iron-manganese nodules with clear boundaries Throughout and 3 percent fine prominent irregular N 7/), moist, and N 8/), dry, iron depletions with clear boundaries Infused into matrix along faces of peds; noneffervescent, by HCl, 1 normal. Lab sample # 17N03346

PEDON DESCRIPTION -- NEON Site CLBJ

Print Date: Oct 11 2017
Description Date: Apr 4 2017
Describer: Travis Waiser
NEON Plot ID: CLBJ_052
Site ID: S2017TX497052
Pedon ID: S2017TX497052

Site Note:

Pedon Note: Additional describers and sampling team members: Wayne Gabriel and Chance Robinson
Lab Source ID: KSSL
Lab Pedon #: 17N0664
Soil Name as Described/Sampled: Windthorst
Classification: Fine, mixed, active, thermic Udic Paleustalfs

Soil Name as Correlated:

Classification:
Pedon Type: correlates to named soil
Pedon Purpose: laboratory sampling site
Taxon Kind: family
Associated Soils:
Physiographic Division: Interior Plains
Physiographic Province: Central Lowland Province
Physiographic Section: Osage plain

State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on backslope of side slope of moderately dissected ridge on undulating very low hills
Upslope Shape: linear
Cross Slope Shape: linear

Particle Size Control Section: 30 to 80 cm.

Description origin: NASIS

Diagnostic Features: ochric epipedon 0 to 30 cm.
argillic horizon 30 to 140 cm.
abrupt textural change 30 to 30 cm.
redox concentrations 56 to 180 cm.
redox depletions with chroma 2 or less 102 to 140 cm.
densic contact 180 to 180 cm.

Country: United States
State: Texas
County: Wise
MLRA: 84B -- West Cross Timbers
Soil Survey Area: TX497 -- Wise County, Texas
Map Unit: KtC -- Keeter very fine sandy loam, 1 to 6 percent slopes
Pit Location:

Quad Name: New Harp, Texas

Std Latitude: 33.3996100
Std Longitude: -97.6197700

Latitude: 33 degrees 23 minutes 58.60 seconds north
Longitude: 97 degrees 37 minutes 11.17 seconds west
Datum: WGS84
UTM Zone: 14
UTM Easting: 628356 meters
UTM Northing: 3696440 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Hardwoods
Existing Vegetation: blackjack oak, eastern redcedar, greenbrier, post oak
Parent Material: residuum weathered from sandstone and siltstone
Bedrock Kind: Sandstone and siltstone
Bedrock Depth: 180 centimeters
Bedrock Hardness: noncemented
Bedrock Fracture Interval: 10 to less than 45 centimeters
Surface Fragments: 1.0 percent nonflat subrounded strongly cemented 2- to 75-millimeter Sandstone fragments
Description database: KSSL

Top Depth (cm)	Bottom Depth (cm)	Restriction Kind	Restriction Hardness
180	204	bedrock, densic	Noncemented

Cont. Site ID: S2017TX497052 **Pedon ID:** S2017TX497052

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
5.0	316.0	38	17.0	27.1	6.5	1,011	221	well		

A1--0 to 12 centimeters (0.0 to 4.7 inches); dark gray (10YR 4/1) fine sandy loam, very dark gray (10YR 3/1), moist; 12 percent clay; weak fine subangular blocky structure; loose, very friable; many very fine roots throughout and common medium roots throughout and common fine roots throughout and common coarse roots throughout; 1 percent nonflat subrounded strongly cemented 2 to 20-millimeter Sandstone fragments; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03347. Interior color of cemented sandstone fragments is red (2.5YR 4/6 moist and dry)

A2--12 to 22 centimeters (4.7 to 8.7 inches); grayish brown (10YR 5/2) fine sandy loam, dark grayish brown (10YR 4/2), moist; 11 percent clay; moderate medium subangular blocky structure; slightly hard, friable; common very fine roots throughout and common medium roots throughout and common fine roots throughout and common coarse roots throughout; 1 percent nonflat subrounded strongly cemented 2 to 20-millimeter Sandstone fragments; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03348. Interior color of cemented sandstone fragments is red (2.5YR 4/6 moist and dry)

E--22 to 30 centimeters (8.7 to 11.8 inches); brown (10YR 5/3) fine sandy loam, brown (10YR 4/3), moist; 10 percent clay; moderate medium subangular blocky structure; slightly hard, friable; common very fine roots throughout and common medium roots throughout and common fine roots throughout; 1 percent nonflat subrounded strongly cemented 2 to 20-millimeter Sandstone fragments; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03349. Interior color of cemented sandstone fragments is red (2.5YR 4/6 moist and dry)

Bt1--30 to 56 centimeters (11.8 to 22.0 inches); reddish brown (5YR 5/3) clay loam, reddish brown (5YR 4/3), moist; 33 percent clay; moderate medium subangular blocky structure; hard, firm; common very fine roots throughout and common medium roots throughout and common fine roots throughout and common coarse roots throughout; common very fine and common fine pores; distinct clay films; 2 percent nonflat subrounded strongly cemented 2 to 20-millimeter Sandstone fragments; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03350. Interior color of cemented sandstone fragments is either red (2.5YR 4/6 moist and dry) or white (N 9.5/ moist or dry)

Bt2--56 to 102 centimeters (22.0 to 40.2 inches); light yellowish brown (10YR 6/4) clay loam, yellowish brown (10YR 5/4), moist; 37 percent clay; moderate medium prismatic parts to moderate medium subangular blocky structure; hard, firm; common very fine roots throughout and common very coarse roots throughout and common medium roots throughout and common fine roots throughout; common very fine and common fine pores; distinct clay films; 25 percent medium prominent irregular 2.5YR 4/6), moist, and 2.5YR 5/6), dry, masses of oxidized iron with sharp boundaries Throughout; 2 percent nonflat subrounded strongly cemented 2 to 20-millimeter Sandstone fragments; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03351. Interior color of cemented sandstone fragments is either red (2.5YR 4/6 moist and dry) or white (N 9.5/ moist or dry)

Bt3--102 to 140 centimeters (40.2 to 55.1 inches); red (10R 5/6) clay loam, red (10R 4/6), moist; 39 percent clay; weak coarse prismatic parts to moderate medium subangular blocky structure; hard, firm; common very fine roots throughout and common fine roots throughout; distinct clay films; 10 percent fine prominent irregular 10YR 7/6), dry, and 10YR 6/6), moist, masses of oxidized iron with sharp boundaries Throughout and 35 percent medium prominent irregular 10YR 7/2), dry, and 10YR 6/2), moist, iron depletions with sharp boundaries Throughout; 2 percent nonflat subrounded strongly cemented 2 to 20-millimeter Sandstone fragments; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03352. Interior color of cemented sandstone fragments is either red (2.5YR 4/6 moist and dry) or white (N 9.5/ moist or dry)

BC--140 to 180 centimeters (55.1 to 70.9 inches); reddish yellow (7.5YR 6/8) loam, strong brown (7.5YR 5/8), moist; 23 percent clay; weak medium subangular blocky structure; hard, firm; common very fine roots between peds; 5 percent fine prominent irregular 2.5YR 4/6), moist, and 2.5YR 5/6), dry, masses of oxidized iron with sharp boundaries Throughout; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03353

Cd--180 to 204 centimeters (70.9 to 80.3 inches); pale yellow (5Y 8/2) loam, light gray (5Y 7/2), moist; 16 percent clay; structureless massive; Noncemented; common very fine roots in cracks; very slight effervescence, by HCl, 1 normal. Lab sample # 17N03354

PEDON DESCRIPTION -- NEON Site CLBJ

Print Date: Oct 11 2017
Description Date: Apr 3 2017
Describer: Sidney Paulson
NEON Plot ID: CLBJ_054
Site ID: S2017TX497054
Pedon ID: S2017TX497054

Site Note:

Pedon Note: Additional describers and sampling team members: Alan Deubler, Chance Robinson, and Tyson Morley
Lab Source ID: KSSL
Lab Pedon #: 17N0665
Soil Name as Described/Sampled: Weatherford
Classification: Fine-loamy, siliceous, active, thermic Ultic Haplustalfs

Soil Name as Correlated:

Classification:
Pedon Type: correlates to named soil
Pedon Purpose: laboratory sampling site
Taxon Kind: series
Associated Soils:
Physiographic Division: Interior Plains
Physiographic Province: Central Lowland Province
Physiographic Section: Osage plain

State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on backslope of side slope of moderately dissected ridge on undulating very low hills
Upslope Shape: linear
Cross Slope Shape: linear

Particle Size Control Section: 42 to 92 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon 0 to 42 cm.
argillic horizon 42 to 132 cm.
abrupt textural change 42 to 42 cm.
redox concentrations 42 to 132 cm.
densic contact 132 to 132 cm.

Country: United States
State: Texas
County: Wise
MLRA: 84B -- West Cross Timbers
Soil Survey Area: TX497 -- Wise County, Texas
Map Unit: WeC -- Duffau-Windthorst complex, 1 to 5 percent slopes, moderately eroded
Pit Location:

Quad Name: New Harp, Texas

Std Latitude: 33.4082330
Std Longitude: -97.6036170

Latitude: 33 degrees 24 minutes 29.64 seconds north
Longitude: 97 degrees 36 minutes 13.02 seconds west
Datum: WGS84
UTM Zone: 14
UTM Easting: 629845 meters
UTM Northing: 3697416 meters

Primary Earth Cover: Grass/herbaceous cover
Secondary Earth Cover: Savanna rangeland
Existing Vegetation: blackjack oak, dropseed, eastern poison ivy, greenbrier, little bluestem, post oak, ragweed, sand lovegrass, Scribner's rosette grass
Parent Material: residuum weathered from sandstone
Bedrock Kind: Sandstone and siltstone
Bedrock Depth: 132 centimeters
Bedrock Hardness: noncemented
Bedrock Fracture Interval: 10 to less than 45 centimeters
Surface Fragments:
Description database: KSSL

Top Depth (cm)	Bottom Depth (cm)	Restriction Kind	Restriction Hardness
132	207	bedrock, densic	Noncemented

Cont. Site ID: S2017TX497054 **Pedon ID:** S2017TX497054

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
6.0	290.0	235	17.0	27.1	6.5	1,011	221	well		

A1--0 to 13 centimeters (0.0 to 5.1 inches); brown (7.5YR 4/4) fine sandy loam, dark brown (7.5YR 3/4), moist; 8 percent clay; moderate fine subangular blocky structure; slightly hard, friable; many very fine roots throughout and common medium roots throughout and common fine roots throughout; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03355

A2--13 to 31 centimeters (5.1 to 12.2 inches); brown (7.5YR 5/4) fine sandy loam, brown (7.5YR 4/4), moist; 6 percent clay; moderate medium subangular blocky parts to moderate fine subangular blocky structure; slightly hard, friable; common very fine roots throughout and common fine roots throughout and common coarse roots throughout; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03356

E--31 to 42 centimeters (12.2 to 16.5 inches); reddish yellow (7.5YR 6/6) fine sandy loam, strong brown (7.5YR 5/6), moist; 10 percent clay; moderate medium subangular blocky parts to moderate fine subangular blocky structure; slightly hard, friable; common very fine roots throughout and common fine roots throughout; noneffervescent, by HCl, 1 normal; clear wavy boundary. Lab sample # 17N03357

Bt1--42 to 57 centimeters (16.5 to 22.4 inches); dark reddish brown (5YR 3/4) sandy clay loam, dark reddish brown (5YR 3/4), moist; 31 percent clay; moderate medium subangular blocky parts to moderate fine subangular blocky structure; hard, firm; common very fine roots throughout; 60 percent distinct clay films on all faces of peds; 1 percent fine prominent irregular very weakly cemented 10YR 2/1), moist, and 10YR 2/1), dry, iron-manganese nodules with clear boundaries In matrix; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03358

Bt2--57 to 74 centimeters (22.4 to 29.1 inches); yellowish red (5YR 5/6) sandy clay loam, yellowish red (5YR 4/6), moist; 34 percent clay; moderate medium subangular blocky structure; hard, very firm; common very fine roots throughout and common medium roots throughout; 80 percent distinct clay films on all faces of peds; 3 percent fine prominent irregular very weakly cemented 10YR 2/1), moist, and 10YR 2/1), dry, iron-manganese nodules with clear boundaries Throughout and 10 percent fine distinct irregular 2.5YR 5/8), dry, and 2.5YR 4/8), moist, masses of oxidized iron with sharp boundaries Throughout and 20 percent medium prominent irregular 10YR 6/6), dry, and 10YR 5/6), moist, masses of oxidized iron with sharp boundaries Throughout; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03359

Bt3--74 to 132 centimeters (29.1 to 52.0 inches); yellow (10YR 7/6) sandy clay loam, brownish yellow (10YR 6/6), moist; 34 percent clay; 25 percent medium prominent irregular (10YR 7/1) mottles; strong fine prismatic parts to moderate medium angular blocky structure; hard, very firm; few very fine roots throughout; 60 percent prominent skeletans on vertical faces of peds and 90 percent prominent clay films on all faces of peds; 4 percent fine prominent irregular very weakly cemented 10YR 2/1), moist, and 10YR 2/1), dry, iron-manganese nodules with clear boundaries Throughout and 10 percent fine prominent irregular 2.5YR 3/6), moist, and 2.5YR 4/6), dry, masses of oxidized iron with sharp boundaries Throughout; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03360

Cd1--132 to 170 centimeters (52.0 to 66.9 inches); white (10YR 8/1) stratified very fine sandy loam, light gray (10YR 7/1), moist; 7 percent clay; 15 percent medium prominent irregular (5YR 5/6) mottles; structureless massive; very hard, friable, Noncemented; noneffervescent, by HCl, 1 normal; gradual smooth boundary. Lab sample # 17N03361. Interbedded siltstone strata at 144 cm

Cd2--170 to 207 centimeters (66.9 to 81.5 inches); yellow (5Y 7/6) stratified silty clay loam, olive yellow (5Y 6/6), moist; 33 percent clay; 10 percent fine prominent platy (7.5YR 6/6) mottles; structureless massive; hard, very firm, Noncemented; very slight effervescence, by HCl, 1 normal. Lab sample # 17N03362. Interbedded sandstone strata at 190 cm

PEDON DESCRIPTION -- NEON Site CLBJ

Print Date: Oct 11 2017

Description Date: Apr 5 2017

Describer: Travis Waiser

NEON Plot ID: CLBJ_058

Site ID: S2017TX497058

Pedon ID: S2017TX497058

Site Note:

Pedon Note: Additional describers and sampling team members: Wayne Gabriel and Chance Robinson

Lab Source ID: KSSL

Lab Pedon #: 17N0666

Soil Name as Described/Sampled: Duffau

Classification: Fine-loamy, siliceous, active, thermic Udic Paleustalfs

Soil Name as Correlated:

Classification:

Pedon Type: correlates to named soil

Pedon Purpose: laboratory sampling site

Taxon Kind: series

Associated Soils:

Physiographic Division: Interior Plains

Physiographic Province: Central Lowland Province

Physiographic Section: Osage plain

State Physiographic Area:

Local Physiographic Area:

Geomorphic Setting: on backslope of side slope of moderately dissected ridge on undulating very low hills

Upslope Shape: linear

Cross Slope Shape: linear

Particle Size Control Section: 16 to 66 cm.

Description origin: NASIS

Diagnostic Features: ochric epipedon 0 to 16 cm.
argillic horizon 16 to 155 cm.
abrupt textural change 16 to 16 cm.
redox concentrations 105 to 201 cm.

Country: United States

State: Texas

County: Wise

MLRA: 84B -- West Cross Timbers

Soil Survey Area: TX497 -- Wise County, Texas

Map Unit: WeC -- Duffau-Windthorst complex, 1 to 5 percent slopes, moderately eroded

Pit Location:

Quad Name: Pecan Creek, Texas

Std Latitude: 33.3746200

Std Longitude: -97.5785600

Latitude: 33 degrees 22 minutes 28.63 seconds north

Longitude: 97 degrees 34 minutes 42.82 seconds west

Datum: WGS84

UTM Zone: 14

UTM Easting: 632226 meters

UTM Northing: 3693721 meters

Primary Earth Cover: Tree cover

Secondary Earth Cover: Hardwoods

Existing Vegetation: blackjack oak, cedar sedge, eastern poison ivy, eastern redcedar, greenbrier, post oak

Parent Material: residuum weathered from sandstone

Bedrock Kind: Sandstone and siltstone

Bedrock Depth:

Bedrock Hardness:

Bedrock Fracture Interval:

Surface Fragments:

Description database: KSSL

Cont. Site ID: S2017TX497058 **Pedon ID:** S2017TX497058

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
4.0	287.0	132	17.0	27.1	6.5	1,011	221	well		

A--0 to 16 centimeters (0.0 to 6.3 inches); brown (10YR 5/3) fine sandy loam, brown (10YR 4/3), moist; 10 percent clay; weak medium subangular blocky parts to weak fine subangular blocky structure; soft, friable; common very fine roots throughout and common medium roots throughout and common fine roots throughout; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03363

Bt1--16 to 42 centimeters (6.3 to 16.5 inches); red (2.5YR 5/6) clay loam, red (2.5YR 4/6), moist; 35 percent clay; moderate medium subangular blocky structure; hard, firm; common very fine roots throughout and common medium roots throughout and common fine roots throughout; common very fine pores; 70 percent distinct clay films on all faces of peds; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03364

Bt2--42 to 62 centimeters (16.5 to 24.4 inches); red (2.5YR 5/6) clay loam, red (2.5YR 4/6), moist; 32 percent clay; moderate medium subangular blocky structure; hard, firm; common very fine roots throughout and common medium roots throughout and common fine roots throughout and few coarse roots throughout; common very fine pores; 50 percent distinct clay films on all faces of peds; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03365

Bt3--62 to 105 centimeters (24.4 to 41.3 inches); yellowish red (5YR 5/6) sandy clay loam, yellowish red (5YR 4/6), moist; 22 percent clay; moderate medium subangular blocky structure; slightly hard, friable; common very fine roots throughout and common medium roots throughout and common fine roots throughout; common very fine and common fine pores; 5 percent distinct organic stains on surfaces along root channels and 40 percent distinct clay films on vertical faces of peds; noneffervescent, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03366

Bt4--105 to 155 centimeters (41.3 to 61.0 inches); reddish yellow (7.5YR 6/6) sandy clay loam, strong brown (7.5YR 5/6), moist; 20 percent clay; 2 percent fine prominent platy (2.5Y 7/2) mottles; moderate medium subangular blocky structure; slightly hard, friable; common very fine roots throughout; 15 percent faint clay films on surfaces along root channels; 2 percent fine prominent irregular weakly cemented 10YR 2/1), dry, and 10YR 2/1), moist, iron-manganese nodules with clear boundaries Throughout and 5 percent fine distinct irregular 10YR 6/8), moist, and 10YR 7/8), dry, masses of oxidized iron with sharp boundaries Throughout; 1 percent fine prominent irregular 5Y 8/1), moist, and 5Y 8/1), dry, barite masses with clear boundaries throughout; noneffervescent, by HCl, 1 normal; diffuse smooth boundary. Lab sample # 17N03367

BC--155 to 201 centimeters (61.0 to 79.1 inches); pale yellow (2.5Y 8/2) loam, light gray (2.5Y 7/2), moist; 15 percent clay; weak medium subangular blocky structure; moderately hard, friable; common very fine roots between peds; 2 percent fine prominent irregular weakly cemented 10YR 2/1), dry, and 10YR 2/1), moist, iron-manganese nodules with clear boundaries Throughout and 10 percent fine distinct irregular 10YR 6/8), moist, and 10YR 7/8), dry, masses of oxidized iron with sharp boundaries Throughout; noneffervescent, by HCl, 1 normal. Lab sample # 17N03368

PEDON DESCRIPTION -- NEON Site CLBJ

Print Date: Oct 11 2017
Description Date: Apr 5 2017
Describer: Sidney Paulson
NEON Plot ID: CLBJ_059
Site ID: S2017TX497059
Pedon ID: S2017TX497059

Site Note:

Pedon Note: Additional describers and sampling team members: Alan Deubler and Tyson Morley

Lab Source ID: KSSL
Lab Pedon #: 17N0667
Soil Name as Described/Sampled: Wise
Classification: Coarse-loamy, siliceous, active, thermic Udic Haplustepts

Soil Name as Correlated:

Classification:
Pedon Type: taxadjunct to the series
Pedon Purpose: laboratory sampling site
Taxon Kind: taxadjunct
Associated Soils:
Physiographic Division: Interior Plains
Physiographic Province: Central Lowland Province
Physiographic Section: Osage plain

State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on backslope of side slope of moderately dissected ridge on undulating low hills
Upslope Shape: linear
Cross Slope Shape: linear

Particle Size Control Section: 25 to 80 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon 0 to 18 cm.
free carbonates 0 to 165 cm.
cambic horizon 18 to 53 cm.
densic contact 80 to 80 cm.

Country: United States
State: Texas
County: Wise
MLRA: 84B -- West Cross Timbers
Soil Survey Area: TX497 -- Wise County, Texas
Map Unit: VeC -- Venus loam, 3 to 8 percent slopes
Pit Location:
Quad Name: Smyrna, Texas
Std Latitude: 33.3758300
Std Longitude: -97.6317400
Latitude: 33 degrees 22 minutes 32.99 seconds north
Longitude: 97 degrees 37 minutes 54.26 seconds west
Datum: WGS84
UTM Zone: 14
UTM Easting: 627277 meters
UTM Northing: 3693789 meters
Primary Earth Cover: Grass/herbaceous cover
Secondary Earth Cover: Grassland rangeland
Existing Vegetation: blazing star, buffalograss, little bluestem, live oak, plum, pricklypear, ragweed, Scribner's rosette grass, silver bluestem, Texas persimmon, Texas wintergrass
Parent Material: colluvium derived from limestone and sandstone over residuum weathered from sandstone
Bedrock Kind: Sandstone and siltstone
Bedrock Depth: 80 centimeters
Bedrock Hardness: noncemented
Bedrock Fracture Interval: 10 to less than 45 centimeters
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2017TX497059 **Pedon ID:** S2017TX497059

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
8.0	342.0	310	17.0	27.1	6.5	1,011	221	well		

A--0 to 18 centimeters (0.0 to 7.1 inches); very pale brown (10YR 7/3) fine sandy loam, pale brown (10YR 6/3), moist; 8 percent clay; 20 percent medium faint irregular (10YR 4/2) mottles; weak fine subangular blocky structure; slightly hard, friable; many very fine roots throughout and many fine roots throughout; slight effervescence, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03369

Ab--18 to 31 centimeters (7.1 to 12.2 inches); dark grayish brown (10YR 4/2) fine sandy loam, very dark grayish brown (10YR 3/2), moist; 12 percent clay; strong medium subangular blocky parts to strong fine subangular blocky structure; slightly hard, friable; many very fine roots throughout and many fine roots throughout; strong effervescence, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03370

Bw--31 to 53 centimeters (12.2 to 20.9 inches); dark yellowish brown (10YR 4/4) fine sandy loam, dark yellowish brown (10YR 3/4), moist; 12 percent clay; moderate medium subangular blocky structure; slightly hard, friable; common very fine roots throughout and common fine roots throughout; 2 percent nonflat subangular indurated 2 to 5-millimeter Limestone fragments and 10 percent nonflat subangular strongly cemented 5 to 75-millimeter Sandstone fragments; strong effervescence, by HCl, 1 normal; gradual smooth boundary. Lab sample # 17N03371. Sandstone fragments are laterally discontinuous at bottom of horizon

BC--53 to 80 centimeters (20.9 to 31.5 inches); light yellowish brown (10YR 6/4) loamy fine sand, yellowish brown (10YR 5/4), moist; 4 percent clay; weak medium subangular blocky parts to weak fine subangular blocky structure; slightly hard, very friable; few very fine roots throughout and common fine roots top of horizon; violent effervescence, by HCl, 1 normal; clear smooth boundary. Lab sample # 17N03372

Cd1--80 to 165 centimeters (31.5 to 65.0 inches); white (2.5Y 8.5/1) loamy fine sand, white (2.5Y 8.5/1), moist; 1 percent clay; 5 percent fine prominent platy (10YR 5/8) and 5 percent fine prominent platy (10YR 4/2) mottles; structureless massive; hard, very friable, Noncemented; slight effervescence, by HCl, 1 normal; gradual smooth boundary. Lab sample # 17N03373

Cd2--165 to 206 centimeters (65.0 to 81.1 inches); white (2.5Y 8.5/1) loam, white (2.5Y 8.5/1), moist; 5 percent fine prominent platy (10YR 5/8) and 5 percent fine prominent platy (10YR 4/2) mottles; structureless massive; Noncemented; noneffervescent, by HCl, 1 normal. Lab sample # 17N03374