APPENDIX 1. STRATIGRAPHIC SECTIONS OF POPOTOSA FORMATION NEAR THE LITTLE SAN PASCUAL MOUNTAINS

Background information. Grain sizes follow the Udden-Wentworth scale for clastic sediments (Udden, 1914; Wentworth, 1922) and are based on field estimates. Sand textures are abbreviated as follows: very fine-lower, vfL; very fine-upper, vfU; fine-lower, fL; fine-upper, fU; medium-lower, mL; medium-upper, mU; coarse-lower, cL; coarse-upper, cU; very coarse-lower, vcL; very coarse-upper, vcU. Pebble sizes are abbreviated as: very fine, vf; fine, f; medium, m; coarse, c; and very coarse, vc. The term "clast(s)" refers to the grain size fraction greater than 2 mm in diameter. Descriptions of bedding thickness follow Ingram (1954). "Micro-laminations" are 0.1-1 mm in thickness. Sand composition is estimated using a hand lens.

North-fork Redhouse Canyon stratigraphic section. This section consists of piedmont facies of the Popotosa Fm that are locally derived. Measured at the northwest corner of the Little San Pascual Mountains (near UTM coordinates 327600 m E, 3734750 m N), Socorro County, New Mexico. Section begins in the bottom of the arroyo and trends east up a small gully with good exposure of the Popotosa Fm on its basin floor. Measured and described by Dan Koning on October 27, 2021, using an abney level, brunton compass, Jacob's staff, and hand-held GPS unit.

Unit	Description	Thickness (m) (Unit)	(Total)
	Depositional environment: piedmont slope with input from small drainages with varying source areas. Although clasts are predominately from Permian strata, there are notable up-section changes in the gravel composition and unit colors. Angular clasts, plus the variable compositions, indicate that the source-drainages were relatively short and local. Drainages were probably derived from northerly part of eastern flank of the Little San Pascual Mtns. Much exhumation occurred after deposition of these strata, which were likely in middle-late Miocene. Lack of chert gravel indicates that presumably 7-5 Ma chert precipitation happened after deposition of these gravels. Gray limestone indicates that part of Pennsylvanian was exposed. Lack of cross-stratification indicates paucity of deep channels – mostly coalescing alluvial fans (medial fan position).		
	Top of section at the following UTM coordinates: 327,670 m E, 3,734,749 m N (zone 13, NAD 83).		
Unit 6c	**Reddish to yellowish sandy pebble conglomerate –** Vague, very thin-thin, tabular to broadly lenticular beds. Pebbles are very fine to very coarse, angular to subangular (mostly subangular), and moderately sorted within a bed. Gravel composed of reddish brown Yeso-Abo siltstones-very fine sandstones, ~25% silicified carbonates-siltstones that are light yellow-light gray, and ~25% gray limestone (effervescent in HCl). Matrix is yellowish (mostly) to light reddish brown sand that is mL-vcU, subangular-subrounded, poorly sorted, and a sedimentary-lithic arenite. Strongly cemented by calcium carbonate. Sampled a sand bed with orange staining and non-orange staining: NFRH-6c.	1.8	11.2
Unit 6b	**Yellowish-oranges sandstone –** Internally massive and fU-mL (mostly mL). Sharp, slightly scoured upper contact. ***Moderate-quality bed attitude of 308 degrees \ 28 degrees NE***	0.1	9.4
Unit 6a	**Yellowish sandy pebbles –** Very thin-thin, tabular to broadly lenticular beds. Pebbles are vf-vc (mostly coarse) and there are 1-2% cobbles. Gravel is composed of light yellow-light gray siltstone-silicified carbonates (10-20% fizz in HCl) with 10% red Yeso-Abo siltstones-very fine sandstones. Matrix sand is white to pale brown (2.5Y 8/1-3), fU-vcU (mostly cU), subrounded (lesser subangular), poorly sorted, sedimentary-lithic arenite. Sharp upper contact. Well cemented by calcium carbonate.	1.2	9.3
Unit 5b	**Reddish sandstone –** Massive to vaguely horizontal-planar laminated. Reddish brown to light reddish brown (5YR 5-6/4), fU-mL sandstone that is well sorted and quartzo-	0.3	8.1

Unit	Description	Thickness (m) (Unit)	(Total)
	feldspathic. Scoured upper contact. **Sample NFRH-SS-Unit_5b.** Bedding? Thin section label of NR-5b. No sample left over.		
Unit 5a	**Reddish sandy pebble conglomerate** – Vague, approximately thin beds. Gravel is clast-supported, angular-subangular, high-poorly sorted, and composed of reddish Permian clasts (siltstone-very fine sandstone) and 15-20% light gray Paleozoic limestone-dolomites (most of these clasts effervesce in HCl) with minor silicified carbonate-siltstone. Upper contact not exposed.	1.4	7.8
Unit 4	**Yellowish sandstone** – One thick, relatively massive bed. Yellow (10YR-2.5Y 7/6), fL-mL (mostly fU-mL), subangular-subrounded, well sorted sand composed of quartz, light-colored feldspar sand, and 10% lithic grains. Upper contact is sharp and planar. @ 6.1 m: 6 cm-thick, tabular(?) pebble-conglomerate bed composed of clast-supported, vf-c pebbles (minor vc) that are subangular-angular and composed of light gray (lesser light yellow) silicified carbonate-siltstone w/ 15% reddish brown Permian clasts (Abo or Yeso). **Sample NFRH-SS-Unit_04.**	0.7	6.4
Unit 3c	**Reddish sandy pebble conglomerate –** Vague, very thin-medium, tabular to broadly lenticular beds. Gravel are clast-supported, imbricated, subangular, poorly sorted, and comprised of pebbles with 10% cobbles of gray limestone. Overall, gravel composed of red Permian clasts (siltstone-very fine sandstone) with 10-15% gray limestone. Matrix is light reddish brown (2.5YR 7/3-6/4) sand that is fU-vcU (mostly cU), subrounded-subangular, poorly sorted, and sedimentary-lithic arenite. Upper contact is planar and characterized by a 2 cm-thick gradation, but mostly poorly exposed. Strongly cemented by calcium carbonate.	0.5	5.7
Unit 3b	**Reddish sandstone –** Horizontal-laminated. Sandstone is light reddish brown (5YR 6/4), fL-fU (1/3 is fU-mL), well-sorted, and quartz-rich. **Sample NFRH-SS-3b.**	0.2	5.2
Unit 3a	**Reddish sandy pebble conglomerate –** Pebbles are vf-vc, subangular, and poorly sorted. Clasts are composed of reddish brown Permian clasts (siltstone-very fine sandstone, some of which are well-laminated) and 10% gray limestone. Matrix is light reddish brown (2.5YR 7/3), fU-vcU, subrounded-subangular, sedimentary-lithic arenite. Strongly cemented by CaCO3. Upper contact is gradational over 2-3 cm.	0.3	5.0
Unit 2b	**Yellowish sandy pebble-conglomerate –** Very thin-thin, tabular bedding. Pebbles are vf-vc, mostly clast-supported, angular-subangular, moderately sorted, and imbricated. At top of unit lies a 2 cm-thick, tabular, yellow sand (fU and quartzose). Gravel are composed of yellowish siltstone to silicified dolomite (no HCl effervescence, even when powdered); 25% reddish brown, siltstone-very fine sandstone clasts. Matrix sand is white (2.5Y 8/1), vfU-vcU (mostly cU-vcU), subrounded-subangular, poorly sorted, sedimentary-lithic arenite. Strongly cemented by calcium carbonate. Upper contact is gradational over 3-5 cm (here, yellow sand is not present); upper contact is sharp where yellow sandstone is present. **Photo NFRH_SS_Unit_2b_ph_01 to 02: Conglomerate of unit 2b lies between the blue ruler and the acid bottle. Photo NFRH_SS_Unit_2b_ph_03 to 04: Close-up of clast types in the Unit 2b conglomerate; note the NWward (apparent) clast imbrication. The high amount of dolomitic carbonate clasts indicates that the Torres Member is eroding in the upper reaches of the paleo-drainage. The silicified clasts suggests that the deposit post-dates 6-8 Ma.**	0.7	4.7
Unit 2a	**Yellowish sandstone –** The bed is tabular and internally massive. Base not exposed. Yellow (10YR 7/6), vfL-fU, subrounded, well sorted sand with 5% scattered, floating pebbles of angular-subangular dolomite-limestone. Upper contact is a transitional zone spanning 3.9-4.1 m. In the transitional zone, thin, lenticular sandy pebble beds are present; gravel are composed of reddish brown, siltstone-very fine sandstone with 1/3 yellow-gray carbonate clasts (1 true, gray limestone) that are partly to wholly silicified. 1% rhizoliths that are 2-3 mm wide and 2-3 cm long; the rhizoliths are orientated vertical	0.6	4.0

Unit	Description	Thickness (m) (Unit)	(Total)
	and horizontal. **Sample NFRH-SS-2a. Photo NFRH_SS_Unit_2b_ph_01. Sandstone of 2a lies below the acid bottle.**		
Unit 1b	**Reddish conglomeratic sandstone –** Very poorly bedded. 40-55% vf-vc pebbles that are matrix-supported. 10% medium-thick, lenticular, clast-supported, sandy conglomerate beds; gravel consists of pebbles with minor cobbles of red Permian clasts (siltstone-very fine sandstone) and 1-5% yellowish Permian clasts. Matrix of conglomeratic sandstone is 2.5YR 4/6, fL-mU sand (5-10% vf sand and 3-8% mud); sand is subangular-subrounded, poorly sorted, and a sedimentary-lithic arenite. @3.4 m: Fault is present, separating Unit 1b from 2a. It trends about 320 degrees and is probably SW-side down. It has several meters of throw because it does not repeat strata (unit 1a and 1b are distinct and not present to the east of here).	0.7	3.4
Unit 1a	**Reddish sandy conglomerate –** Reddish brown (brick-red) and in vague, medium-thick, tabular to lenticular beds that are clast-supported. Gravel are angular-subangular(m), poorly sorted, and comprised of vf-vc pebbles with 5-7% cobbles. Clasts are composed entirely of red, Permian very fine sandstones-siltstones (derived from Abo Formation and Meseta Blanca Fm, the latter being more abundant because the clasts are well-laminated); no dolomite seen; 11x21 cm is the maximum clast size. Matrix is vf-vc sand that is subangular, poorly sorted, and a sedimentary-lithic arenite. Strongly calcite-cemented. Sharp upper contact (not enough exposure to determine contact geometry). Imbrication on Iphone. **Photos SP_197_ph_01 through_03 (first time there). From Oct 27, Photo NFRH_SS_Unit_1a_ph_01 and Photos NFRH_SS_Unit_1a. _ph_02 to ph_03: vertical pencil for scale.**	2.7	2.7
	Base of section at UTM coordinates: 327.654 m E, 3,734,742 m. Measured strata are mostly well-cemented and well consolidated. Measured along a trend of 056° and used a dip of 30° NE. This trend\dip is based on the average of two good bedding attitudes (strike\dip): 116°\30°N and 123°\32°N. Average of these two bed attitudes: 120°\31°N.		

Fox Canyon stratigraphic section. This section consists of basin floor and alluvial fan facies of the Popotosa Fm. Very sparse gravels in the basin floor facies have a provenance that is relatively far afield, but the alluvial fan facies are relatively local in provenance (from northern Little San Pascual Mountains). Measured at the northwest corner of the Little San Pascual Mountain 7.5-minute quadrangle, Socorro County, New Mexico. Section begins at the bottom of the north fork in Fox Canyon, just beyond the north-south fork confluence, and continues eastward up the north fork to ~the East Strand of the Little San Pascual fault. Section measured on the north wall of the canyon. Measured and described by Dan Koning on November 5-6, 2021, using an abney level, brunton compass, Jacob's staff, and hand-held GPS unit. Claire Koning took notes and Adele Koning measured the axb axes of the largest gravel clasts.

Unit	Description	Thickness (m) (Unit)	(Total)
	Depositional environment: Intertonguing alluvial fan – basin floor facies.		
	Top of section at the following UTM coordinates: 327,222 E m E, 3,733,873 m N (zone 13, NAD 83).		
Unit 12	**Sandy pebble-conglomerate –** 15% cobbles and 1-3% boulders. Sandy pebbles are in very thin to thin, tabular beds. Sandy cobbles are in medium-thick, tabular beds. Gravel are moderately to poorly sorted, subangular, and the carbonate clasts appear to be mostly 2.5-5Y 7-8/1 dolomites derived from the Torres Member of the El Vallo Formation; estimate trace-1% Glorieta sandstone clasts. Matrix sand is reddish brown to light reddish brown (2.5YR 5-7/4), fL-vcU, subrounded, and poorly sorted. The fL-fU sand	2.3	143.6

Unit	Description	Thickness (m) (Unit)	(Total)
	fraction is mostly quartzo-feldspathic (definitely quartz-rich) whereas the m-vc sand grains consist of sedimentary detritus. Moderately cemented by calcium carbonate. @143.3-143.6 m: Most cobbles are boulders are in this limestone-dominated bed. **@143.3-143.6 m: Clast count (raw values, not percentages):** light gray-gray limestones-dolomites: 63; reddish Pa-Py siltstones-very fine sandstones: 32; mL, green, quartzose sandstone (Cretaceous): 01; very fine-grained, light yellow-gray sandstone (from Yeso Group): 01 **@143.3-143.6 m is a paleoflow measurement:** 254° average, 245° median, std dev of 34°, count of 29. **@143.3-143.6 m is a clast size measurement:** Median of 10 cm, average of 10 cm. n-14. **@142.7-143.0 m: Clast count (raw values, not percentages):** Gray-light gray limestone-dolomite: 58; reddish Pa-Py siltstones-very fine sandstones: 56; very fine-grained, yellow sandstones (Arroyo Alamillo Fm or El Vallo Fm): 01. **@142.7-143.0 m is a paleoflow measurement:** 248° average, 245° median, std dev of 25°, count of 34. Sand sample: FoxCan-SS-12_1.5. Thin section label of FoxCan-SS-12_1.5. **Photo FoxCanSS_Unit_12_ph_01to03**: Photo of outcrop. Ruler is at bae of the lower cobbly bed, at about 142 m. **Photo FoxCanSS_Unit_12_ph_04:** Close-up photo of a micritic, light gray (with yellowish tinge) dolomite; I think these are coming from the Torres Member of the El Vallo Fm. This is about 2 ft left of the ruler in photos FoxCanSS_Unit12_ph_01 to _03. @~143 m: Gravel are dominated by reddish Py-Pa siltstone-very fine sandstone clasts. @142.2-142.8 m: cobbly bed. Paleoenvironment interpretation: Alluvial fan spilling around north end of LSPM. Most gravel is locally derived from the north end of the LSPM, which must have had at least a few hundred feet of relief. North end of the LSPM probably consisted of extensive Yeso-Arroyo Alamillo Fm with higher ridges capped by Glorietta-San Andres. The lack of Glorieta clasts in this unit suggest that the Glorieta-San Andres ridges were eroded away. However, minute amounts of Cretaceous clasts indicate that part of the north-end drainage system tapped into Cretaceous strata further to the east.		
	No exposure	5.5	141.3
Unit 11	**Sandy conglomerate with subordinate gravelly sandstone – Poorly to moderately exposed.** **@136 m: Change trend to go 010°, which is parallel to strike. Use 0° dip.**	10	135.8
Unit 11	**Sandy pebble-conglomerate with 25-35% gravelly sandstone –** Thin to medium (minor very thin), tabular to broadly lenticular beds. Gravel consists of pebbles with 10-15% cobbles; clasts are subangular and poorly-moderately sorted (in a bed). Most of the carbonate clasts are 2.5-5Y 7-8/1 dolomite that matches the dolomite beds in the Torres Member of the El Vallo Fm (Yeso Group). Gravel matrix is a reddish brown to light reddish brown sand (2.5YR 5-6/4) that is vfU-vcU, subrounded-subangular (mostly subrounded), poorly sorted, and a sedimentary-lithic arenite. @125.0-125.8 m: Sand sample: FoxCan-SS-11 **@125.0-125.8 m: Clast count (raw values, not percentages):** Light gray, dolomite-rich carbonates (Torres Mbr): 50; reddish Pa-Py siltstone-very fine sandstone: 25;	4.8	125.8

Unit	Description	Thickness (m) (Unit)	(Total)
	medium-gray limestone (San Andres Fm?): 09; gray to light yellowish gray, vfL-fL, quartzose sandstones: 2; gray-green, mL-mU quartzose sandstone (Cretaceous?): 01; reddish vf-f, quartzose sandstone: 01; drussy quartz: 01. @125-126 m: **Photo FoxCanSS_Unit11_ph_01**. Photo of cobble-rich bed at @125.0-125.8 m (10-15% cobbles). Horizontal ruler for scale. **@125-126 m: Paleoflow measurement**: 282° average, 284° median, std dev of 35°, count of 79. **@123.7-124.6 m: Clast size measurement:** Median value of 10 cm and average value of 12 cm. n=5. **@122.5-121.9 m: Clast size measurement:** Median value of 11 cm and average value of 12 cm. n=5 **Photo FoxCanSS_Unit11_ph_03 to 05**. Lower, well-exposed part of Unit 11. Adele is at the cobble bed at 123.7-124.6 m. @121.9-122.5 m: 30-40% cobbles. @123.7-124.6 : cobbly bed. @125.0-125.8 m: 10-15% cobbles. Paleoenvironment interpretation: Alluvial fan spilling around north end of LSPM. Most gravel is locally derived from the north end of the LSPM, which must have had at least a few hundred feet of relief. However, minute amounts of Cretaceous clasts indicate that part of the north-end drainage system tapped into Cretaceous strata further to the east.		
	Base of third segment is at this UTM coordinate (NAD83, zone 13): 327183 m E, 3733868 m N. Measured up-section from here using a 132° trend and 15°E dip. This is based on a good apparent		
	Covered. Using Google Earth, I measure 76 m with an apparent dip of 15E°. This gives a stratigraphic height of 20 m	20	121.0
	Top of second segment is at this UTM coordinate (NAD83, zone 13): 327140 m E, 3733931 m N.		
Unit 10	**Sandstone –** Poorly bedded, very thin to medium (mostly thin), tabular beds. 1-5% sand bodies that are lenticular and thin. Strata are light reddish brown to reddish yellow (5YR 6/4-6/6) sand. Sand is vfU-mL, subrounded-subangular, and low-well sorted. Sand is composed of quartz, possible feldspar, and 1-2% sedimentary-lithic grains. In upper part of unit, there are bioturbated beds that are internally massive. Sand here is vfL-mL (mostly fU). Sample taken in upper part of unit 10 – can't locate. Sample taken 1.5 m above base of Unit 10 (98.1 m): FoxCan-SS-10_1.5; thin section taken from here is called FoxC-10u Sample taken 0.9 m above base of Unit 10 (97.5 m): FoxCan-SS-10_0.9 Paleoenvironment interpretation: Basin floor abutting north end of LSPM, which appear to have had little relief. No gravel present. Provenance in Glorieta-San Andres-Mesozoic-Baca strata to NE of LSPM.	4.5	101.1
Unit 9	**Sandstone –** Tabular, laminated to medium beds that are relatively vague and vaguely bioturbated. Strata consist of light reddish brown to yellowish red (5YR 6/4-5/6), vfL-	4.9	96.6

Unit	Description	Thickness (m) (Unit)	(Total)
	fU sand and slightly clayey vfL-fU sand. Subordinate lenticular-broadly lenticular beds of fU-mU sand with 1-10% cL-vcU sand grains. @91.7-93.7 m: In basal 2 m of unit 9 are 1% conglomeratic beds exhibiting pebbles that are subangular-rounded; estimated clast percentages of these pebbles: rounded limestone with 5% chert (pale gray-yellow and subrounded-rounded, not Paleozoic chert/jasperoid), 1-3% yellowish, vfL-vfU sandstone (Permian), 1-3% fU-mL quartzose, greenish sandstone (Cretaceous), 1% Pa-Py, reddish siltstone-very fine sandstone), 1 possible granitic clast. Paleoflow from clast imbrications: 255° (2 clasts), 279°, 268° ➔ gives an average of 264° (n=4). , Sample taken 0.1-0.2 m above base of Unit 9 (5.0-5.1 m). **Photo FoxCanSS_Unit_09over 8f_ph** Take photograph with ruler at base **Photo FoxCanSS_Unit_09con_ph** Take close-up photo of pebble conglomerate with blue ruler (which is horizontal). Note the roundness of the gravel. Paleoenvironment interpretation: Basin floor abutting north end of LSPM. Little relief on LSPM. Sparse gravel present whose composition indicates a provenance in Glorieta-San Andres-Mesozoic-Baca strata to NE of LSPM.		
Unit 8f	**Sandstone –** Massive or vaguely laminated to thinly bedded. Sand is light reddish brown (5YR 6/4) and fL-fU, subrounded-subangular, well sorted, and composed of quartz, minor feldspar, and 1-2% lithic grains. Sample taken 0.3 m above base of Unit 8f (90.5 m) and 0.7 m above the base of Unit 8f (90.9 m): Sample FoxCan-SS-8f_0.3 and FoxCan-SS-8f_0.7	1.5	91.7
Unit 8e	**Sandstone –** Massive and bioturbated. Sand is light reddish brown (5YR 6/4), fL-fU (minor mL), well sorted, and composed of quartz, possible feldspar, and 1-2% sedimentary-lithic grains. Picture with Jacob staff. Photo FoxCanSS_Unit08e_ph	0.7	90.2
	Covered. Traversed between wpts 170 and 172 using a trend of 140° and a dip of 18°. @ wpt 172, changed trend to 118° and use 18° dip. UTM coordinates of these waypoints (NAD83, zone 13). Wpt 170 is 327084 m E, 3733962; Wpt 172 is 327099 m E, 3733950 m N. From wpt 172, I shoot 6 m stratigraphic meters until next exposure.	13	90.5
Unit 8e	**Sandstone –** Similar to unit 8c.	0.4	77.5
Unit 8d	**Sandstone –** Low-angle cross-laminated. Sand consists of mL-mU sand w/ 10-15% coarse-very coarse sand grains and 1-3% vf-m pebbles. Sand is composed of quartz and minor feldspar and minor sedimentary lithic grains. Pebbles are composed of limestone, 5% vfL-fl quartzose, yellow sandstone (probably Meseta Blanca or Yeso Fm), 5% reddish Pa-Py siltstone-very fine sandstone, 1-3% green, fL-fU sandstone (probably Cretaceous), 2-5% subrounded-rounded chert [visual estimates].\ Sample FoxCan-SS-08d. Thin section label: FoxC-8d	0.1	77.1
Unit 8c	**Sandstone –** Similar to Unit 8a but bedding is less distinct. 1% reddish brown clay lamina mixed with variable sand. Sand grain size is vfL-fU. True attitude: 010°\20°E **Photo FoxCanSS_Unit_08_ph_01 to ph_02**: Clare for scale.	5.1	77.0

Unit	Description	Thickness (m) (Unit)	(Total)
Unit 8b	**Sandstone –** 33 cm-thick bed of light reddish brown (5YR 6/4), fU-mU sand. Lower 9 cm and upper ~10 cm is cross-laminated both have (planar foresets). Sand is low-well sorted and subrounded-subangular. Sand composed of quartz, feldspar, and lithic grains.	0.3	71.9
Unit 8a	**Sandstone –** Tabular, laminated to thin (minor medium) beds. Sandstone is light brown to strong brown (7.5YR 6/4-5/6) and composed of quartz, minor feldspar, and 1-5% litics-mafics. Unit 8 Paleoenvironment interpretation: Basin floor abutting north end of LSPM. Little relief on LSPM. No gravel present. Provenance in Glorieta-San Andres-Mesozoic-Baca strata to NE of LSPM.	0.6	71.6
	Base of second segment: 327068 m E, 3733972 m N. Above here, used a trend of 140° and dip of 16°E based on zip-a-dipping a true attitude of 010\20E (strike\dip).		
	Covered (not exposure). ***130 m measured between Segment 1 and Segment 2 using Google Earth.*** **Using an apparent dip of** ***16°E, this translates to a stratigraphic height of 36 m. If the apparent dip was 17°E, then the height would be 38 m.***	36	71
	End of Day 1 (Nov. 5, 2021). Top of first segment is at this UTM coordinate (NAD83, zone 13): 326946 m E, 3734024 m N.		
Unit 7b	**Sandy conglomerate –** Poorer exposure, but same unit as below	2.9	34.8
Unit 7b	**Sandy conglomerate and minor pebbly sand –** Beds are thin-medium, tabular-broadly lenticular. Gravel are clast- to sand-supported, subangular (minor subrounded), poorly sorted, and comprised of vf-vc pebbles with 15-17% cobbles and 1-2% boulders. Sand is light reddish brown (2.5YR 7/4), fL-vcU but mostly coarse-very coarse (1-2% vfL-vfU sand and 0.5-2% clay), subrounded-subangular, poorly sorted, and a sedimentary-lithic arenite. Moderately cemented by calcium carbonate. **@31.3-31.7 m: Clast count (raw values, not percentages):** Gray limestone: 101; reddish Pa-Py siltstone-very fine sandstone: 26; yellow limestone: 06; very fine-grained, yellow sandstone (Meseta Blanca or Yeso): 05; Glorieta Sandstone (fU-mU and tan): 02; fine-grained felsic volcanic rock: 01. **@31.4-31.9 m: Clast size measurement:** Median of 10 cm and average of 11 cm; n=8. **@31.3-31.7 m: Paleoflow measurement (252° average and 253° median; standard deviation of 50° and n-22).** **@26.3-26.8 m: Clast count (raw values, not percentages):** Gray limestone: 79; reddish Pa-Py siltstone-very fine sandstone: 46; yellow limestone: 0; very fine-grained, yellow sandstone (Meseta Blanca or Yeso): 04; Glorieta Sandstone (fU-mU and tan): 01. Unit 7 Paleoenvironment interpretation: Alluvial fan spilling around north end of LSPM. Some relief on LSPM. No gravel present. Provenance mostly local from northern LSPM. Northern LSPM were capped by San Andres-Glorieta. **Photos FoxCanSS_Unit7b_ph_01 to 03:** Lower part of Unit 7b. Slope former (where Mona is standing) is part of Unit 6. **Photos FoxCanSS_Unit7b_ph_04:** Field shot of me in lower pat of Unit 7b – use for NM Lite Geology.	6.0	31.9

Unit	Description	Thickness (m) (Unit)	(Total)
	@ base of unit (25.9 m)*: Change trend and dip to 155-160° and dip of 14°E. This is at the following UTM coordinate (NAD83, zone 13): 326942 m E, 3734024 m N.*		
Unit 7a	**Pebbly sandstone and sandy pebble-conglomerate –** Thin, tabular-broadly lenticular beds. Pebbles are vf-vc, subangular, and composed of ~40% reddish brown Pa-Py clasts vs. 60% gray limestone, low-moderate to hi-poorly sorted. Gravel-matrix sand is light reddish brown (2.5YR 6/4), poorly sorted and vfU-mL (relatively quartz-rich) through mU-vcU (subrounded sedimentary-lithic arenite). Top is gradational and traversed at the following UTM coordinate (NAD83, zone 13): 326942 m E, 3734024 m N.	1.8	25.9
Unit 6	**Sandstone –** Massive and light reddish brown to reddish brown (2.5-5YR 5-6/4). Sand is fL-fU locally minor mL-vcU sand grains) and has 0-10% scattered Paleozoic-sedimentary rock pebbles (pebbles mostly seen in lower part). Upper contact is sharp and slightly scoured.	1.6	24.1
Unit 5	**Interbedded conglomerate and gravelly sandstone (subequal) –** Located just above prominent cave. Very thin to thick, lenticular-tabular beds (mostly thin-medium and lenticular to broadly lenticular). Gravel are sand- to clast-supported, angular-subangular, poorly sorted pebbles with 12-15% cobbles and 1% boulders. Roughly 1/3 of limestone clasts may correspond to Yeso Group (Torres Mbr of Los Vallos Fm) dolomites. Gravel matrix is a fL-vcU sand (mostly mL-vcU. With 25% fL-fU sand) that is reddish brown to light reddish brown (2.5YR 5-6/4), mostly subrounded, and poorly sorted; fL-mL sand is rounded to subangular and has perhaps 8-10% feldspar; mU-vcU sand is composed of sedimentary lithic grains. Upper contact not well-exposed. Moderately cemented by calcium carbonate. Unit 7 Paleoenvironment interpretation: Alluvial fan spilling around north end of LSPM. Some relief on LSPM. Provenance mostly local from northern LSPM. Northern LSPM had ridges capped by San Andres-Glorieta. @20.5 m: Sand sample taken: FoxCan-SS-05_20.5 @19.2-19.5 m: Paleoflow measured. **@19.2-19.5 m: Clast count (raw values, not percentages):** Gray limestone: 80; reddish Py-Pa siltstone-very fine sandstone: 42; tan fU-mU Glorieta sandstone: 01; yellow limestone: 05; reddish limestone with fine quartz grains: 01; coarse to very coarse sandstone: 01. ***@19.3 m: Change trend and dip to 110° and dip of 20°E. This is at the following UTM coordinate (NAD83, zone 13): 326931 m E, 3734023 m N.*** ***@16-19.3 m: Apparent attitude of (strike\dip): 020\20 SE. This is close enough to true strike to make it a true attitude. Using a zip-a-dip, this translates to a 14° dip along a bearing of 155°.*** **@18.7-19.5 m: Clast size measurement: 11 cm average and 10 cm median.** **@18.7-19.5 m: Paleoflow measurement (265° average and 270° median; standard deviation of 54° and n=52.** ***I use the base of Unit 5 to step across the area of "The Cave." West coordinate: 326916 m E, 3734058 m N; East coordinate: 326931 m E, 3734034 m N.*** **@16.3-17.5 m: Clast count (raw values, not percentages):** Gray limestone: 84; reddish Py-Pa siltstone-very fine sandstone: 32; tan fU-mU Glorieta sandstone: 03.	6.6	22.5

Unit	Description	Thickness (m) (Unit)	(Total)
	Photo FoxCanSS_Unit05overo4_ph: Claire and Adele for scale. **Photo FoxCanSS_Units04to07_ph_01 to _02**: View of upper Unit 4, all of Unit 5, Unit 6 sand, and unit 7 conglomerate. "The Cave" is in the lower part of photo.		
Unit 4	**Sandstone –** Well-defined, very thin to thin (minor laminated), tabular beds that are reddish yellow to light red (2.5-5YR 6/6). 1-3% laminated to very thin, reddish brown, clayey very fine-fine sand. 5% silt beds. 10-15% vfL-fL sand beds. Non-clayey sand is fU-mU and fL-mL (seems bimodal), subrounded-subangular, well sorted, and composed of quartz with 7-15% feldspar and 1-5% lithics-mafics. Upper contact interfingers with pebbly sand of Unit 5 between 15.5-16.3 m. Prominent cave developed in upper 2 m of unit to the east. @12.5 m: Sampled a m-grained sand 1.5 m above base of unit. **Photo FoxCanSS_Unit04_ph_01to02:** Photo with Jake staff at 12.5-13.5 m. note the relatively thin, tabular, well-bedded nature of the basin floor facies. Good attitude of unit 4 is: 030°\16° SE. ***@11 m (base of unit 4), change to 120° trend and 16° SE dip.***	4.9	15.9
Unit 3	**Sandstone interbedded with 25-35% sandy pebbles-pebbly sand beds –** Gravelly sediment is in broadly lenticular bodies 10-30 cm thick; these are internally very thinly bedded to horizontal-planar laminated. Gravel in pebbly beds is comprised of very fine to coarse pebbles (minor very coarse) with trace-10% cobbles; gravel is subangular-subrounded and composed of Paleozoic carbonates with 1-40% red Py-Pa siltstone-very fine sandstone. Sand in pebbly sediment is mostly mL-vcU, subrounded, and composed of sedimentary-lithic grains. Non-pebbly sand is fL-mL with 1-15% mU-vcU lithic grains; fL-mL sand is light reddish brown to yellowish red (5YR 6/4-5/6), subrounded to subangular and composed of quartz with 5-15% feldspar. **Sampled: FoxCan-SS-03, probably at 10.2-11 m.** **Photo FoxCanSS_Unit03_ph_01to02:** Photograph of sample area with sample bag. **Paleocurrent measurement at 9.0-9.5 m (in a particularly Py-Pa-rich bed):** Average paleoflow is 333° and median paleoflow is 334 degrees; 009° standard deviation and count = 10 clasts. @10.2-11 m: Relatively abundant thin, lenticular pebble beds. Unit3 Paleoenvironment interpretation: Distal alluvial fan derived from northern LSPM.	3	11.0
	Poor exposure	0.5	8.0
Unit 2b	**Conglomerate with slightly more diverse clast composition** – As below, but more variety of clast types. In the carbonate gravel fraction, I estimate 10-20% may correspond to Permian dolomites (Torres Mbr of Los Vallos Fm, Yeso Group). Upper contact not well exposed. Moderately cemented by calcium carbonate. **@4.2-5.7 m: Clast count (raw values, not percentages):** gray limestone: 120; Pa-Py red siltstone-very fine sandstone: 15; yellow limestone: 1; green, quartzose sandstone (fL): 1.	4.4	7.5

Unit	Description	Thickness (m) (Unit)	(Total)
	@ 5 m: **Unit 2 Paleoflow on EXCEL spreadsheet. Average paleoflow is 297° and median paleoflow is 301 degrees; 028° standard deviation and count = 50 clasts.** **@4.5-5 m: Unit 2 Paleoflow on EXCEL spreadsheet. Average paleoflow is 282° and median paleoflow is 310 degrees; 070° standard deviation and count = 51 clasts.** Unit2b Paleoenvironment interpretation: Distal alluvial fan spilling around north end of LSPM. Some relief on LSPM. A Cretaceous clast (green fL sandstone) indicates that the drainage tapped into Cretaceous strata NE of the LSPM. Northern LSPM had ridges capped by San Andres-Glorieta. Some of the clasts may have been coming from the region NE of the LSPM, but if most of limestone is San Andres than that implies not too much exposure of Yeso to NE. So I think most of the clasts were from the LSPM.		
Unit 2a	**Conglomerate whose clast composition is predominately limestone –** Beds are thin to thick (mostly medium) and tabular-broadly lenticular. Gravel are mostly clast-supported, subrounded-angular, and comprised of medium to very coarse pebbles (minor very fine-fine) with 15-20% cobbles. Gravel matrix consists of light reddish brown to light red (2.5YR 6/4-6/6) sand that is fl_mL (minor mU-vcU), subrounded-subangular, and poorly sorted; fL-mLsand is composed of quartz and lesser feldspar; mU-vcU sand is composed wholly of lithic grains. Moderately cemented by calcium carbonate. **@ 2.5-3.3 m: Clast count (raw values, not percentages):** gray limestone: 90; Pa-Py red siltstone-very fine sandstone: 5; tan, fU-mU sandstone (probably Glorieta Sandstone): 3; intraformational sandstone: 2. **Clast sizes (axb axes):** 17x9; 11x7; 14x10; 12x11; 27x20; 19x8 cm. Median of b axis: 9.5 cm. Average of b axis: 10.8 cm. Unit2b Paleoenvironment interpretation: Distal alluvial fan spilling around north end of LSPM. Some relief on LSPM.	0.9	3.1
Unit 1	**Sandstone –** Thin-medium, tabular beds and yellowish red (5YR 5/6). Sand is fL-mL, subrounded-subangular, well sorted, and composed of quartz with 10% feldspar. @1.3-1.6 m: One 30 cm-thick thick bed of yellowish red (5YR 5/6) sand. Texture is mL-mU w/ 4-5% cL-cU (0.5-2% vcL-vcU) grain size, subrounded (minor subangular), and moderately to well sorted. Sand is composed of quartz with 10-12% feldspar and 7-8% mafic-lithic grains; the lithic grains include volcanics, green sandstone, and chert. Also, 0.5-1% scattered, vf-vc pebbles of limestone and subordinate tuff (either Hells Mesa Tuff or upper Lemitar Tuff), and minor chert. **Photo FoxCanSS_Unit_01_ph**: Photo incorporates ~0.6-1.9 m of strat section. Field book for scale. Sampled medium sand at 1.3-1.6 m: FoxCan-SS-01_1.3to1.6. Thin section label: FoxC-01u. Sampled f-grained sand at 1.1 m: FoxCan-SS-01_1.1	2.4	2.4
	Base of section at UTM coordinates: 326,874 m E, 3,734,092 N m (NAD 83, zone 13). This is in a gully on the immediate footwall of a small, west-down fault (about 1 m of throw); base of section is 1 m below a cairn built on the west wall of the gully.		

Unit	Description	Thickness (m) (Unit) (Total)
	Measured along-strike for units 1-2. Conglomeratic strata are moderately cemented, but sandstone intervals are poorly cemented (although well consolidated).	

San Pascualito Buttes stratigraphic section. This section consists of eolian and fluvial facies of the Popotosa Fm that are derived further afield than the conglomerates of the North-Fork Redhouse Canyon section. Measured at the northwest corner of the Little San Pascual Mountain 7.5-minute quadrangle, Socorro County, New Mexico. Section begins about halfway up the side of the southeastern butte and trends east to the top of the eastern hogback. Measured and described by Dan Koning on October 28, 2021, using an abney level, brunton compass, Jacob's staff, and hand-held GPS unit.

Unit	Description	Thickness (m) (Unit)	(Total)
	Depositional environment: Basin floor. Lower part is eolian because of well sorted, sandy texture (no gravels nor clays) and thick cross stratification sets. Middle units are probably sheetflood-reworked eolian deposits; minor cross-lamination suggests small dune forms in the sand sheet. Upper, conglomeratic facies was deposited by a west-flowing river. This river was probably partly sourced in the Little San Pascual Mtns, but also tapped terrain with San Andres-Glorieta, possible Triassic strata, and minor Baca strata; this second source was probably located between the Little San Pascual Mtns and Las Campanas Hills.		
	Top of section at the following UTM coordinates: 326,820 m E, 3,735,308 m N (zone 13, NAD 83).		
Unit 9	**Sandy conglomerate –** Thin-medium, tabular to broadly lenticular beds. Gravel are weakly imbricated and comprised of pebbles with 10-15% cobbles. Clasts are subrounded (minor rounded), low-moderate to high-poorly sorted, and composed of Paleozoic limestone with 10% reddish Abo-Yeso clasts. Conglomerate matrix is pale red to weak red (10R 7/3-5/4), fU-vcU, subrounded-subangular, poorly sorted, and has a composition of quartz-rich sedimentary-lithic arenite. Well-cemented by calcium carbonate. **Clast count**: Raw values (actual numbers, not percentages): Paleozoic limestone: 89; reddish brown Abo-Yeso siltstone-very fine sandstone: 8; intermediate volcanic rocks: 2; tan, quartzose fU sandstone (Glorieta Sandstone?): 2; rounded, light brown-light gray chert: 3; green, vfL-fL sandstone (likely Pennsylvanian, but could be Cretaceous): 4; felsic? volcanic rock: 1; granite: 1. Granite and rounded chert are probably from Baca Fm, although rounded chert could be from Triassic strata. Infer a headwater reach dominated by Pennsylvanian limestone with minor Yeso-Abo, minor San Andres-Glorieta, and minor Triassic?, and minor Baca Fm. Either a much-younger Little San Pascual Mtn range or else a different headwater reach located between Las Campanas and the Little San Pascual Mtns – maybe both. Sample of matrix: SanPascButte-09 Clast imbrication on Iphone; additional paleoflow (upward bearing and downward plunge): 242\69E; 229\26E; 243\33 E.	1.5	49.2
Unit 8	**Sandy conglomerate with minor sandstone-pebbly sandstone –** Predominately conglomerate with 25-35% pebbly sandstone and sandstone; sandstone is mostly concentrated in basal 1 m of unit. Sandstone-pebbly sandstone beds are thin-medium and tabular. Conglomerate strata are in thin-medium (mostly medium), tabular beds. Gravel consists of vf-vc pebbles with 10% fine-coarse cobbles. Gravel are poorly sorted and subrounded-subangular. Conglomerate matrix is fU-vcU sand that is weak red (2.5YR 5/2), subrounded-subangular, high-poorly sorted, and a sedimentary-lithic arenite. The sandstone-pebbly sandstone beds are internally horizontal-planar laminated to internally cross laminated (planar foresets); sand is reddish brown (2.5YR 5/3), subrounded, well sorted, and composed of quartz with ~5% obvious orangish Kspar; 1-10% mU-vcU grains of similar composition as pebble fraction. Strongly cemented by calcium carbonate. Upper contact is a scour with 1 dm of relief; below the scour is 30 cm of sandstone as described above.	2.2	47.7

Unit	Description	Thickness (m) (Unit)	(Total)
	@ 46.7-46.8 m: Clast count site. Raw values (actual numbers, not percentage) are as follows. Abo to Yeso Fm, reddish brown siltstone to very fine sandstone: 38; intermediate volcanic rocks: 28; fL-mL, quartzose sandstone that is tan to green (no certain Cretaceous clasts, but possible): 7; Limestone: 80; milky quartz: 1. Note absence of rounded chert. Clast imbrication on Iphone: Average of 253°, Median of 244°, standard deviation of 44°, n=43. These were not corrected for stratal tilts. Sampled sand and pebbly sand: SanPascButte-08. Thin section label of SPB-08. Photo SanPasc_Unit_08to09_ph_01 to _03: Handheld GPS unit for scale. Note how there is more abundant sandstone beds in the lower 1 m of the exposure. The highest tabular sandstone bed above the receiver corresponds to the top of Unit 8. Photo SanPasc_Unit_08_ph_01 to _02: Close-up photos of the gravel where I did the Unit 8 clast count. In the second photo, the reddish brown, "pitted" clast my finger is pointing to corresponds to the intermediate volcanic clasts.		
Unit 7	**Sandstone beneath conglomerate –** Very thin to medium, tabular beds that are internally horizontal-planar laminated. Sand is fU, subrounded-subangular, well sorted, and composed of quartz with 10% feldspar. Moderate effervescence in HCl acid. Upper contact corresponds to an erosional scour with ~0.5 m of relief. Lower contact not observed. Poor to moderate exposure. Photo SanPasc_Unit_07_ph: Acid bottle for scale. Very thin to thin, tabular beds of fU sandstone.	2.0	45.5
	No exposure ***@ 39 m: Change trend and dip to 070 and 22***	7.2	43.5
Unit 6b	**Sandstone –** Massive sandstone that is fL-fU (minor mL), subrounded, well sorted, and composed of quartz with 15% orangish feldspar. Similar color as Unit 6a. No effervescence with HCl acid, but moderately cemented. Not a ledge-former. Sample SanPascButte-06b. Thin section label of SCB-06b.	3.3	38.3
Unit 6	**No exposure**	2.0	35.0
Unit 6a	**Sandstone –** Massive to vaguely laminated; upper 0.4 m has well-defined cross-laminatinos. Sandstone is dark reddish brown (2.5YR 3/4), fL-mL, subrounded, well sorted, and composed of quartz with 10-12% yellowish-orangish feldspars. No effervescence with HCl acid but moderately cemented. Not a ledge-former. Sample SanPascButte-06a	1.5	33.0
	No exposure	3.0	31.5
Unit 5	Sandstone – One thick to very thick bed corresponding to a low ledge. Sand is dark reddish brown (2.5YR 3/4), fL-fU, subrounded(?), well sorted, and composed of quartz with 10-15% feldspar (discolored). Moderate effervescence in HCl acid. 1-20% cementation nodules that are 0.5-1.0 cm wide; these increase in abundance down-section. Sample SanPascButte-05: Sampled about 40% of the way up the unit. Photo SanPasc_Unit_05_ph_01: Photograph of lower part of Unit 5. Pen for scale.	1.5	28.5

Unit	Description	Thickness (m) (Unit)	(Total)
	Photo SanPasc_Unit_05_ph_02: Photograph of upper part of Unit 5. Pen for scale. Note that there are less nodular cementation features in the upper part.		
	No exposure	3.2	27.0
Unit 4	**Fine-grained sandstone –** Medium-thick, tabular beds of sandstone; internally horizontal-planar laminated in lower 1 m; above is internally massive. Sandstone is reddish brown to dark reddish brown (2.5YR 4/3-3/4), fL-fU, subrounded, well sorted, and composed of quartz with ~10% feldspar (discolored). @22.7-23.2 m: Subdued ledge-former in Unit 4 is comprised of fU-mL sand; ledge is massive to vaguely laminated. Bedding attitude from this ledge (strike\dip): 333°\24 E°. Sample Unit 4-base: Sample taken from lower part of unit. Photo SanPasc_Unit_04_ph_01: Backpack is in upper part of Unit 4. Photo SanPasc_Unit_04_ph_02 to _03: I **think** (not certain) that hammer is on the subdued ledge at 22.7-23.2 m. Note the 3-5% nodular-cementation.	1.1	24.3
Unit 4	**Poorly exposed, inferred to be similar to Unit 4**	1.7	23.2
Unit 3	**Poorly exposed sandstone** – Scattered outcrops are similar to those of Unit 3, but have better defined cross-laminations.	6.8	21.5
Unit 3	**Sandstone ledge** – 1.5-2 m thick, tabular ledge of sandstone that caps the western hogback traversed in the strat section. It is internally massive to vaguely cross-laminated. Sand is reddish brown (2.5YR 5/3), subrounded to rounded, well sorted, and composed of quartz, 10-15% feldspar, and 3% dark lithics-mafics. Non- to weakly effervescent in HCl acid. There are 1% lenticular zones, 2-3 cm thick, that have abundant 2-5 mm-wide cementation-nodules. Photo SanPasc_Unit_03_ph: Close-up of part of the sandstone ledge corresponding to Unit 3. Note the 1% lenticular zones, 2-3 cm thick, that have abundant 2-5 mm-wide cementation-nodules. Jake staff and abney level for scale. ***@ 13 m (base of Unit 3), step 8 m right (southeast) from this UTM coordinate (NAD 83, zone 13): 326731 m E, 3735281m N. The new (southern) coordinate is: 326734 m E, 3735275m N.*** ***@15 m, change trend to 077° and dip to 23° ENE. This change is at the following UTM coordinates (NAD 83, zone 13): 326743 m E, 3735280 m N.***	1.2	14.7
	No exposure	0.7	13.5
Unit 2	**Massive Sandstone** – Massive to nodular-textured sandstone that is inferred to reflect high degrees of bioturbation. Unit is in a tabular body. Sparse "definite" burrow forms 1-2 cm wide (photos 3-4, for example). Sandstone is weak red to reddish brown (2.5YR 5/2-3), fU-mL, rounded (mostly) to subrounded, well sorted, and composed of quartz and 10% feldspar (altered to a yellow-orange color). The bioturbation may have facilitated the nodular cementation? Some areas seem to have nodular cementation that are independent of burrowing (e.g., photos 5-6). Moderate HCl effervescence outside of nodules; nodules have strong HCl effervescence. Upper contact not exposed. Photos SanPasc_Unit_02_ph_01 to_03: Pen for scale; taken ~30 cm above base of unit; I think this cementation is preserving pervasive burrowing. Photos SanPasc_Unit_02_ph_03 to_04: Photo taken in shade of definitive burrow; this is near the middle of the unit, near where I sampled. Photos SanPasc_Unit_02_ph_05 to_06: Ambiguous burrow vs. cementation-related nodule. This is about 1 m below the upper contact.	3.5	12.8

Unit	Description	Thickness (m) (Unit)	(Total)
	Sample SanPascButte-02: Taken near middle of unit 2.		
Unit 1b	**Cross-stratified Sandstone –** Cross-laminated, reddish brown (5YR 4/3), fU-mL sandstone in a tabular body. Differs from Unit 1a in that it has ≤1% cementation-related nodules. Sand is rounded-subrounded, well sorted, and composed of quartz with 5-10% feldspar (weathered and altered) and 2-7% dark mafics-lithics, Slightly micaceous or perhaps calcite crystal faces. Moderate HCl effervescence at 4.2-9.3 m. Upper contact is gradational over 10 cm. Average foreset attitude (strike\dip): 168°\35°*E*. Raw data:173°\37°*E*, 169°\32°*E*, 162°\37° NE. So paleowind direction of: 078°. Photos SanPasc_Unit_01b_ph_01 to _03: Middle part of Unit 1b; note lack of cementatation-nodules. Pen for scale. Photos SanPasc_Unit_01b_ph_04 to _05: Hammer in bush. This is the middle part of Unit 1b, which is compriseMed of cross-stratified sandstone. Photos SanPasc_Unit_01b_ph_06 to _10: Hat and hammer placed on the upper contact of unit 1, which is gradational over 1 dm. The overlying unit lacks visible cross-stratification. Sample SanPascButte-01b-top: Sample taken 0.5-1 m below top of Unit 1b.	5.1	9.3
Unit 1a	**Cross-stratified sandstone –** Well-defined cross-laminations; 3-5% cementation nodules (there is not precipitation of visible CaCO3, but the nodules do effervesce). Sandstone is reddish brown to dark reddish brown (2.5YR 4/3-3/4), fU-mL, subrounded (mostly) to rounded, well sorted, and composed of quartz, ~10% feldspar (discolored), 1-5% mafics-lithics, and 1-2% mica or possibly calcite crystal faces). 3-5% cementation-related nodules, mostly 1-4 cm wide. No HCl effervescence between 0-2 m, except in nodules. Above, there is moderate HCl effervescence. Gradational contact between Units 1a and 1b. Foreset attitude (strike\dip): 159°\43°E. Raw data:164°\44°E, 163°\34°E, 150°\50° NE. Averaging the strikes give 159°, so the paleowind direction was ~069°. Foresets are a few dm tall. Sample SanPascButte-01a: Sample taken 1 m above base. Thin section label SFB-1a. Photos SanPasc_Unit_01a_ph: Unit 1a cross-stratification. Note cementation-nodules. Pencil for scale.	4.2	4.2
	Base of section at UTM coordinates: 326717 m E, 3,735281 N m (NAD 83, zone 13). From here used a trend and dip of 061° and 16° NE based on nearby attitude of (strike\dip) of 331°\16°NE . Strata are high-moderately to well cemented.		

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