DESCRIPTION OF UNITS

[Compound units described in descending order; total thickness of each compound unit and cumulative thickness (cum) from base of member to top of unit given in parentheses after description]

Color | Lithology | Sedimentary structures | Description of units

Unit 116

SANGRE DE CRISTO FORMATION, CRESTONE CONGLOMERATE MEMBER (eroded top; over 120 m of poorly exposed conglomerate and sandstone above end of section)

Unit 115

Conglomerate, clast-supported, red, unsorted and massive; 6.1 m (cum 1012.4 m)

Sandstone, conglomeratic, light-red, stratified; red silty partings; 18.9 m (cum 1006.3 m)

Conglomerate, clast-supported, red, unsorted and massive; contains lenses of sandstone locally; 9.2 m. Pebble count: 35 pct red syenite, 37 pct pink to red felsite, 13 pct light-colored granitic rocks, 3 pct dark-colored gneiss and miscellaneous metamorphic rocks, 10 pct quartzite, and 2 pct vein quartz (cum 987.4 m)

Sandstone and lesser conglomerate, pink, interbedded, medium-bedded; 10 m (cum 978.2 m)

Conglomerate, clast-supported, red, unsorted and massive; 7.7 m (cum 968.2 m)

Sandstone, silty, red, stratified; 0.5 m. Sandstone, conglomeratic, light-red; 0.8 m. Sandstone, light-red, medium- to thick-bedded; silty partings; 3.6 m. Sandstone and conglomerate, light-red, interbedded, medium-bedded; 4.9 m (9.8 m; cum 960.5 m)

Unit 110

Conglomerate, clast-supported, red, unsorted and massive; 0.5 m. Sandstone, silty, red, stratified; 0.8 m. Conglomerate, clast-supported, red, unsorted and massive; 3.9 m (5.2 m; cum 950.7 m)

Siltstone, red; 0.8 m. Sandstone, coarse-grained, pink, locally conglomeratic, medium-bedded; contains thin siltstone beds; 3.6 m (4.4 m; 945.5 m)

Conglomerate, clast-supported, red, unsorted and massive; 5.2 m (cum 941.1 m)

Sandstone, conglomeratic, light-red, stratified and medium-bedded; 3.7 m (cum 935.9 m)

Conglomerate, clast-supported, red, unsorted and massive, weakly stratified in lower meter; 6.1 m (cum 932.2 m)

Unit 105

Sandstone, conglomeratic, pink, thick-bedded; silty partings locally; 4.1 m (cum 926.1 m)

Siltstone, red, poorly cemented; 3.4 m. Sandstone, light-red, stratified; 1 m (4.4 m; 922.0 m)

Conglomerate, clast-supported, red, unsorted and massive; pebbles and cobbles rounded; 5.4 m (cum 917.6 m)

Sandstone and conglomerate, light-red, stratified; silty partings; 1 m. Sandstone, conglomeratic, light-red, massive; 4.9 m. Conglomerate and sandstone, light-red, interbedded and stratified; dark-red siltstone parting at base; 5.2 m (11.1 m; cum 912.2 m)

Conglomerate, clast-supported, red, unsorted and massive; contains thin beds of stratified sandstone locally; 33.9 m (cum 901.1 m)

Unit 100

Siltstone, red, poorly exposed; 2.6 m. Sandstone, conglomeratic, light-red, grades down into conglomerate; 4.9 m. Conglomerate, clast-supported, light-red, sorted and stratified; clasts to boulder size; 0.8 m (8.3 m; cum 867.2 m)

Sandstone, pink, massive; 1 m. Sandstone, red, stratified; contains shaley partings; 1.8 m. Sandstone, pink, coarse-grained, stratified; 0.8 m (3.6 m; cum 858.9 m)

Conglomerate, clast-supported, red, unsorted and massive; clasts to boulder size; contains thin lenses of sandstone locally; 12.3 m (cum 855.3 m)

Siltstone, red; 6.9 m. Sandstone, coarse-grained, pink, crossbedded; 1.1 m. Siltstone, red; 2.7 m. Sandstone, conglomeratic, light-red, stratified; 1.3 m. Siltstone, red, poorly cemented; 5.4 m (17.4 m; cum 843.0 m)

Conglomerate, clast-supported, red, unsorted and massive; contains sandstone lenses locally; erosional base; 53.9 m (cum 825.6 m)

Unit 95

Sandstone, conglomeratic, light-red, thin-bedded; bedding thickens upward; trough and low-angle crossbedding; contains silty partings locally; 9 m (cum 771.7 m)

Shale, silty, red, poorly exposed; 3.3 m. Sandstone, conglomeratic, pink, thick-bedded; contains silty partings; 5.5 m (8.8 m; cum 762.7 m)

Shale and siltstone, red; 2 m. Sandstone and siltstone, red, thin-bedded; 2.4 m. Sandstone, conglomeratic, pink, stratified; contains scattered pebbles and cobbles; 1.8 m (6.2 m; cum 753.9 m)

Shale, silty, red, poorly exposed; 3.1 m. Sandstone, coarse-grained, pink, laminated; calcareous cement in lower part; 3.8 m (6.9 m; cum 747.7 m)

Siltstone and shale, red; contains thin lenses of calcareous sandstone and sandy limestone; unfossiliferous; 1.8 m. Sandstone, light-red, laminated; contains red silty lens; 0.5 m. Siltstone, red, thin-bedded; contains gray calcareous lenses; 1.6 m. Sandstone, conglomeratic, pink, medium- to thick-bedded; low-angle crossbedding; calcareous cement; 4.1 m. Sandstone, red, thin-bedded, crossbedded; contains siltstone bed; 2.1 m (10.1 m; cum 740.8 m)

Unit 90

Conglomerate, clast-supported, red, unsorted and massive; contains thin sandstone lenses in upper half; lower 20 m inversely graded; 55.5 m. Conglomerate, matrix-supported, red, reverse-graded; contains angular stones and accretionary mudballs ranging up to pebble size; 1.8 m (57.3 m; cum 730.7 m)

Sandstone, medium-grained, gray, thin-bedded, locally crossbedded, poorly exposed; 3.4 m. Conglomerate and sandstone, light-red, interbedded; 3.1 m. Sandstone and conglomerate, light-red, stratified and interbedded, medium-bedded; 4 m (10.5 m; cum 673.4 m)

Conglomerate, clast-supported, red, unsorted and massive; contains clasts ranging to boulder size; weakly stratified; contains thin lenses of sandstone locally; 49.6 m. Pebble count: 26 pct red syenite, 26 pct red felsite, 16 pct light-colored granitic rocks, 8 pct dark gneiss and miscellaneous metamorphic rocks, 23 pct quartzite, and 1 pct vein quartz. Sandstone and conglomerate, light-red, stratified; 0.7 m. Conglomerate, clast-supported, red, unsorted and massive; 0.7 m (51.0 m; cum 662.9 m)

Conglomerate and sandstone, clast-supported, red, sorted and stratified, medium-bedded; low-angle crossbedding; 26.6 m (cum 611.9 m)

Conglomerate, clast-supported, red, unsorted and massive, weakly stratified locally; 24.9 m. Sandstone and conglomerate, light-red, stratified; 0.5 m. Conglomerate, clast-supported, red, unsorted and stratified; contains thin sandstone partings; 1.9 m (27.3 m; cum 585.3 m)

Unit 85

Conglomerate and conglomeratic sandstone, clast-supported, red, sorted and stratified, medium-bedded; sandstone laminated; 7.5 m (cum 558.0 m)

Unit 84

Conglomerate, clast-supported, red, unsorted and massive; clasts up to cobble size; 6.3 m (cum 550.5 m)

Conglomerate and sandstone, clast-supported, red, sorted and stratified, medium-bedded; 15.1 m (cum 544.2 m)

Conglomerate, clast-supported, red, unsorted and massive; clasts up to cobble size; 5.8 m (cum 529.1 m)

Conglomerate and sandstone, clast-supported, light-red, sorted and stratified; 2.3 m. Sandstone, conglomeratic, light-red, stratified; contains lags of pebbles on scoured surfaces; grades down into conglomerate; 1.8 m. Conglomerate, clast-supported, light-red, sorted and stratified; pebble-sized clasts; 0.6 m. Sandstone, light-red, medium- to thick-bedded; contains silty partings; 5 m. Conglomerate and sandstone, clast-supported, light-red, sorted and stratified, medium-bedded; 5 m. Sandstone, coarse-grained, light-red, thin- to thick-bedded; low-angle crossbedding; 17 m. Sandstone, coarse-grained, light-red, thin- to medium-bedded; low-angle crossbedding; contains beds of pebbly conglomerate; 29.3 m (61.0 m; cum 523.3 m)

Unit 80

Conglomerate, clast-supported, red, unsorted and massive; upper 3 m stratified; contains sandstone lenses locally; 15 m. Conglomerate, clast-supported, red, unsorted and massive; contains stratified sandy lenses locally; 10.4 m. Conglomerate, matrix-supported, red, unsorted and massive; 3.3 m. Conglomerate, clast-supported, red, unsorted and massive; contains thin sandy lenses; 2.3 m. Sandstone, red, thin- to medium-bedded; 0.7 m. Conglomerate, matrix-supported, red, unsorted and massive; 1.7 m. Sandstone, red, conglomeratic in lower part; grades down into conglomerate; 2 m. Conglomerate, clast-supported, red, unsorted and massive; clasts up to cobble size; 0.9 m (36.3 m; cum 462.3 m)

Sandstone, conglomeratic, pink, thin- to medium-bedded; grades down into conglomerate; 20.5 m. Conglomerate, clast-supported, red, unsorted and massive; 1.1 m. Sandstone, coarse-grained, light-red, thin- to medium-bedded; small-scale trough crossbedding; contains lenses of sorted conglomerate; 11.7 m (33.3 m; cum 426.0 m)

Conglomerate, clast-supported, red, unsorted and massive; subround clasts up to 0.7 m across; 37.5 m (38.2 m; cum 392.7 m)

Sandstone, coarse-grained, pink, conglomeratic locally, thin- to medium-bedded; silty partings; 22.8 m. Sandstone and conglomerate, pink, interbedded, thin-bedded; 10.4 m (33.2 m; cum 354.5 m)

Conglomerate, clast-supported, red, unsorted and massive; 5.9 m (cum 321.3 m)

Unit 75

Sandstone, coarse-grained, light-red, stratified; contains scattered pebbles; 6.5 m. Sandstone, conglomeratic locally, pink, thin-bedded; low-angle crossbedding and planar crossbedding; 13.6 m (20.1 m; cum 315.4 m)

Conglomerate, clast-supported, red, unsorted and massive; 3 m (cum 295.3 m)

Sandstone, coarse-grained, light-red, thick-bedded; low-angle crossbedding; silty partings locally; 6.6 m. Sandstone and conglomerate, light-red, interbedded and stratified, thin-bedded; 2.9 m (9.5 m; cum 292.3 m)

Conglomerate, clast-supported, red, unsorted and massive; rounded pebbles and cobbles; 0.7 m. Conglomerate, clast-supported, red, unsorted and massive; clasts up to boulder size; contains weakly stratified lenses of conglomerate and sandstone locally; 6.9 m. Conglomerate, matrix-supported, red, unsorted and massive; subangular to subround clasts mostly of pebble size; sandy matrix; 8.5 m (16.1 m; cum 282.8 m)

Sandstone, dark-red; 0.3 m. Sandstone, red, low-angle crossbedding; contains local lenses of gravelly conglomerate; 4.2 m. Covered; 4.2 m. Conglomerate and sandstone, clast-supported, red, sorted and stratified, interbedded; 3.2 m. Covered; 4 m. Conglomerate and sandstone, clast-supported, red, sorted and stratified, interbedded; sandstone weakly laminated; 4.5 m. Covered; 3.3 m. Conglomerate and sandstone, clast-supported, red, sorted and stratified, interbedded, thin-bedded; 5.9 m (29.6 m; cum 266.7 m)

Unit 70

Conglomerate, clast-supported, red, unsorted and massive, weakly stratified; clasts to cobble size; contains sandy lenses locally; 9.6 m. Conglomerate, matrix-supported, red, unsorted and massive; clasts more abundant toward top; 3.4 m (13.0 m; cum 237.1 m)

Sandstone, light-red, stratified; 5 m (cum 224.1 m)

Conglomerate, clast-supported, red, sorted and stratified; clasts up to cobble size; 0.4 m. Conglomerate and sandstone, clast-supported, pink, sorted and stratified, interbedded; grades down into conglomerate; 3.4 m. Conglomerate, clast-supported, red, unsorted and massive; 1.3 m (5.1 m; cum 219.1 m)

Sandstone and conglomerate, light-red, interbedded and stratified; 3.6 m. Sandstone, conglomeratic locally, light-red, thin-bedded; low-angle crossbedding; 4.5 m (8.1 m; cum 214.0 m)

Conglomerate, clast-supported, red, unsorted and massive; contains one sandy lens; poorly exposed; 3.4 m (cum 205.9 m)

Unit 65

Sandstone, light-red, stratified; contains conglomerate lenses; 3.9 m (cum 202.5 m)

Conglomerate, clast-supported, red, unsorted and massive; rounded cobbles and boulders; 9.9 m (cum 198.6 m)

Conglomerate and sandstone, clast-supported, light-red, sorted and stratified, interbedded, thin- to medium-bedded; imbricate clasts locally; 25.5 m. Pebble count: 8 pct red syenite, 42 pct pink and red felsite, 16 pct light-colored granitic rocks, 4 pct dark-colored gneiss and miscellaneous metamorphic rocks, 27 pct quartzite, and 3 pct vein quartz. Sandstone, light-red, laminated; 7.7 m (33.2 m; cum 188.7 m)

Conglomerate, clast-supported, red, unsorted and massive; contains thin sandy lenses; poorly exposed; 5.2 m. Conglomerate, clast-supported, red, unsorted and massive; contains thin lenses of sandstone and siltstone; 3.5 m. Sandstone and conglomerate, light-red, interbedded and stratified; 1.3 m. Conglomerate, clast-supported, red, unsorted and massive; 2 m. Conglomerate and sandstone, clast-supported, light-red, sorted and stratified, interbedded; grades down into conglomerate; 1.3 m. Conglomerate, clast-supported, red, unsorted and massive; 1.3 m. Sandstone, conglomeratic, light-red, low-angle crossbedding; 1.3 m. Conglomerate, clast-supported, red, unsorted and massive; contains one sandstone lens; sandy matrix; 6 m (21.9 m; cum 155.5 m)

Sandstone and conglomerate, light-red, interbedded and stratified, medium-bedded; 19.7 m (cum 133.6 m)

Unit 60

Conglomerate, clast-supported, red, unsorted and massive, clasts rounded; contains thin lenses of laminated sandstone; 14.5 m (cum 113.9 m)

Unit 59

Sandstone and conglomerate, pink, interbedded and stratified; 2.4 m. Sandstone, light-red, laminated; 1.1 m. Conglomerate, clast-supported, light-red, sorted and stratified; contains sandstone lenses; 2.7 m. Sandstone, conglomeratic, light-red, stratified; 1.3 m. Conglomerate, clast-supported, red, unsorted and massive; 1.3 m (8.8 m; cum 99.4 m)

Sandstone, coarse-grained, light-red, thin-bedded; interbedded siltstone; 2.9 m. Conglomerate and sandstone, clast-supported, light-red, sorted and stratified, interbedded, light red; 2.8 m (5.7 m; cum 90.6 m)

Conglomerate, clast-supported, red, unsorted and massive; 1.4 m. Conglomerate and conglomeratic sandstone, clast-supported, red, sorted and stratified, interbedded; grades down into conglomerate; 1.4 m. Conglomerate, clast-supported, red, unsorted and massive, reverse-graded; 0.6 m (5.1 m; cum 84.9 m)

Siltstone, red; 0.5 m. Sandstone, pink, thin-bedded; contains conglomerate lenses; grades down into conglomerate; 7.7 m. Conglomerate, clast-supported, red, sorted and stratified; 0.6 m (8.8 m; cum 79.8 m)

Sandstone and siltstone, red, crossbedded; 0.6 m. Conglomerate, matrix-supported, red, unsorted and massive; 0.6 m (1.2 m; cum 71.0 m)

Unit 55

Sandstone, conglomeratic, light-red, thin-bedded, crossbedded; silty near upper contact; 8.4 m. Sandstone, light-red, thin-bedded; contains lenses of conglomerate; poorly exposed; 11.3 m (19.7 m; cum 69.8 m)

Conglomerate, clast-supported, red, unsorted and massive; contains clasts up to boulder size; 1.6 m (cum 50.1 m)

Conglomerate, clast-supported, red, sorted and stratified; contains lenses of sandstone; syenite clasts up to 0.7 m across; grades down into sandstone; 1.6 m. Sandstone, light-red, stratified; low-angle crossbedding; contains lenses and beds of conglomerate; 5.5 m. Conglomerate, clast-supported, red, sorted and stratified in upper part, unsorted and massive in lower part; clasts up to cobble size; 2.4 m (9.5 m; cum 48.5 m)

Conglomerate, clast-supported, light-red, sorted and stratified; rounded pebbles and cobbles; contains lenses and beds of conglomeratic sandstone and siltstone; low-angle crossbedding; 7.4 m. Sandstone, coarse-grained, light-red, thin-bedded, low-angle crossbedding; contains pebble-conglomerate lenses; crossbedding defined by black iron oxide minerals; 7.4 m (14.8 m; cum 39.0 m)

Unit 50

Conglomerate, clast-supported, red, unsorted and massive, clasts up to boulder size; contains numerous sandstone lenses in upper part; 8.9 m. Pebble count: 13 pct red syenite, 43 pct pink and red felsite, 16 pct light-colored granitic rocks, 10 pct dark gneiss and other metamorphic rocks, 16 pct quartzite, and 1 pct vein quartz. Sandstone, light-red, stratified; 0.6 m. Conglomerate, clast-supported, red, unsorted and massive, upper part weakly stratified; grades down into sandstone; 2.9 m. Sandstone, light-red, stratified; 0.9 m. Sandstone, light-red, trough crossbedding; 1 m. Conglomerate, clast-supported, red, unsorted and massive; erosional base; 1.2 m (15.5 m; cum 24.2 m)

Sandstone, pink, stratified, poorly exposed; 4 m (cum 8.7 m)

Conglomerate, clast-supported, red, unsorted and massive; rounded pebbles and cobbles; contains sandstone lenses locally; 2.3 m. Conglomerate, matrix-supported, red, unsorted and massive; sparse clasts up to pebble size; 1.8 m. Sandstone, conglomeratic, red; rounded granite boulders up to 0.7 m across in lower part; 0.6 m. Arbitrarily chosen as base of the Crestone Conglomerate Member (4.7 m; cum 4.7 m)

SANGRE DE CRISTO FORMATION, LOWER MEMBER

Unit 45

Conglomerate and sandstone, clast-supported, light-red, sorted and stratified, interbedded; 1.5 m. Sandstone, coarse-grained, dark-red, laminated, poorly exposed; 2.5 m. Conglomerate, clast-supported, light-red, sorted and stratified; 0.7 m. Sandstone and siltstone, red, interbedded, thin-bedded; 2.6 m. Conglomerate, clast-supported, light-red, sorted and weakly stratified, graded; erosional base; 1.3 m (8.6 m; cum 606.6 m)

Sandstone, coarse-grained, conglomeratic locally, light-red, planar crossbedding; contains dark-red laminated siltstone beds; 6.6 m. Sandstone, light-red, thin- to medium-bedded; grades down into sandstone and conglomerate; 1.6 m. Sandstone and conglomerate, light-red, interbedded and stratified; rounded pebbles; 0.9 m. Sandstone, conglomeratic, light-red, stratified; planar crossbedding; contains silty partings; 2.9 m (12.0 m; cum 598.0 m)

Siltstone and sandstone, red, interbedded; 0.5 m. Conglomerate, clast-supported, red, unsorted and massive; 0.3 m. Sandstone, red, stratified; grades down into conglomerate; 0.6 m. Conglomerate, clast-supported, red, unsorted and massive; 0.3 m. Conglomerate, matrix-supported, red, unsorted and massive; angular pebbles; 0.4 m. Sandstone, conglomeratic, pink, medium-grained near top, weakly bedded; 1.5 m (3.6 m; cum 586.0 m)

Offset section 400 m south to elevation 12,100 ft on spur south of peak 12,659

Conglomerate, matrix-supported, red, unsorted and massive; large clasts of gneiss (1.1 m; cum 582.4)

Unit 40

Sandstone, coarse-grained, red, medium-bedded, silty near top; contains conglomerate lenses; 6.5 m. Conglomerate, clast-supported, red, poorly sorted and stratified; clasts up to 0.2 m across; gradational base; 3.6 m (10.1 m; cum 581.3 m)

Siltstone, sandy, dark-red; contains lenses of pebble conglomerate in upper part; 1.1 m. Sandstone, medium-grained, light-red, medium-bedded; contains scattered pebbles; laminated in upper part; contains silty beds; grades down into conglomerate; 4.2 m. Conglomerate, clast-supported, red, unsorted and massive; 1.2 m. Sandstone, conglomeratic, pink, stratified; sparse clasts up to 0.2 m across; 1.5 m. Conglomerate, matrix-supported, red, unsorted and massive; contains sparse pebbles; 0.8 m. Sandstone, conglomeratic, pink, weakly stratified; contains lenses of pebble and cobble conglomerate; 2.5 m. Conglomerate, clast-supported, pink, unsorted and massive; rounded clasts; erosional base; 1.1 m. Conglomerate, clast-supported, pink, unsorted and massive; rounded clasts; upper part sandy; 1.1 m (13.5 m; cum 571.2 m)

Sandstone, coarse-grained, dark-red, thin-bedded; contains lenses of conglomerate; contains mud chips; 1.9 m. Sandstone, pink, thin- to medium-bedded; planar crossbedding; contains locally interbedded lenses of pebble conglomerate and beds of shale; poorly exposed; 14.3 m. Conglomerate, clast-supported, pink, poorly sorted and weakly stratified; rounded pebbles and cobbles; 4.7 m. Sandstone, coarse-grained, pink, stratified; contains conglomerate lenses; 7.2 m. Sandstone, conglomeratic, pink; 9 m (37.1 m; cum 557.7 m)

Conglomerate, clast-supported, red, unsorted and massive; rounded pebbles; contains sandstone lenses; 3.8 m (cum 520.6 m)

Sandstone, coarse-grained, pink, laminated; contains local lenses and beds of rounded pebble and cobble conglomerate; poorly exposed; 12.3 m (cum 516.8 m)

Unit 35

Siltstone, weakly laminated, red; 0.6 m; sandstone, conglomeratic, pink, stratified; low-angle crossbedding; 12.7 m. Conglomerate, clast-supported, pink, sorted and stratified; 0.3 m. Sandstone, conglomeratic, pink, stratified; contains lenses of rounded pebble conglomerate; grades down into conglomerate; 1.3 m. Conglomerate, red, clast-supported, unsorted and massive; 1.2 m (16.1 m; cum 504.5 m)

Sandstone, medium- to coarse-grained, pink, thin- to medium-bedded; low-angle crossbedding; upper part silty; 1.8 m. Conglomerate, matrix-supported, red, unsorted and massive; clasts angular; sandy matrix; 1.3 m (3.1 m; cum 488.4 m)

Siltstone, wavy-laminated, dark-red; 1.4 m. Sandstone, coarse-grained, laminated; low-angle crossbedding; 3.5 m. Sandstone, coarse-grained, pink, laminated; trough crossbedding; 0.7 m. Sandstone, conglomeratic, pink, laminated; trough crossbedding; contains silty beds; 0.6 m. Conglomerate, matrix-supported, red, unsorted and graded; erosional base; 0.5 m. Sandstone, conglomeratic, pink, laminated; trough crossbedding; contains silty beds; 1 m. Conglomerate, matrix-supported, red, unsorted and massive; clasts angular; 0.7 m (8.4 m; cum 485.3 m)

Unit 30

Sandstone, conglomeratic, pink, low-angle crossbedding; contains lenses of pebble and cobble conglomerate; silty at base; 5.2 m. Sandstone, conglomeratic, pink, medium-bedded, weakly stratified; 2.1 m. Conglomerate, clast-supported, red, unsorted and massive; erosional base; 2.4 m (9.7 m; cum 476.9 m)

Sandstone, dark-red, laminated and ripple cross-laminated, silty locally; 1.6 m. Conglomerate, clast-supported, red, unsorted and massive; rounded clasts of igneous and metamorphic rocks; 2.4 m. Conglomerate, matrix-supported, red, unsorted and massive, graded and silty at top; contains accretionary mudballs; 0.8 m (4.8 m; cum 467.2 m)

Sandstone, laminated, pink, low-angle crossbedding; laminae defined by black iron oxide minerals; contains lenses of pebble and cobble conglomerate; silty at base, grades down into conglomerate; 4.5 m. Conglomerate, matrix-supported, red, unsorted and massive to laminated; clasts up to pebble size; 0.3 m. Sandstone, pink, laminated, low-angle crossbedding; contains lenses of pebble conglomerate; 9.3 m. Covered; 6.3 m. Sandstone, coarse-grained, pink, laminated; low-angle crossbedding; contains lenses of pebble conglomerate; 7.8 m. Conglomerate, matrix-supported, red, unsorted and massive; clasts to pebble size; 0.4 m. Sandstone, coarse-grained, red, graded to laminated; trough crossbedding; 0.9 m (29.5 m; cum 462.4 m)

Unit 25

Sandstone, silty, red, laminated; 0.6 m. Sandstone, coarse-grained, pink, massive to laminated; 1.7 m. Sandstone and conglomerate, pink, interbedded; lenticular bedding; 1.7 m. Sandstone, pink, laminated, low-angle crossbedding; 1.7 m. Sandstone, coarse-grained, silty top, pink, trough crossbedding; base of beds scoured; 4.8 m (10.5 m; cum 432.9 m)

Siltstone and shale, dark-red; 0.3 m. Sandstone, pink, massive; 0.3 m. Conglomerate, matrix-supported, dark-red, unsorted and massive, clasts up to pebble size, dark-red; 0.4 m. Sandstone, coarse-grained, pink, laminated; 1.7 m (2.7 m; cum 422.4 m)

Siltstone, dark-red; 0.3 m. Sandstone, coarse-grained, pink, laminated, crossbedded; contains lenses and beds of pebble conglomerate; 4.6 m. Sandstone, coarse-grained, pink, massive; 1.3 m. Sandstone, conglomeratic, pink, massive; 1 m. Sandstone, conglomeratic, pink, massive; 0.8 m (8.0 m; cum 419.7 m)

Siltstone, dark-red; 0.3 m. Sandstone, coarse-grained, red, laminated; contains scattered pebbles; silty locally; 8.1 m (8.4 m; cum 411.7 m)

NOTE: Offset to underlying units 800 m north at elevation 12,320 ft where Rito Alto Trail crosses southwest spur of Eureka Mountain; begin section at top of unit 28, 30 m west of trail

Unit 20

Sandstone, conglomeratic, pink, stratified; low-angle crossbedding; 9.8 m (cum 403.3 m)

Unit 19

Siltstone, red, laminated; grades down into sandstone; 3.2 m. Sandstone, coarse-grained, dark-red, thin-bedded, laminated; 1.6 m. Conglomerate, clast-supported, dark-red, sorted and stratified, lenticular; clasts up to cobble size; 0.5 m. Sandstone, coarse-grained, dark-red, thin-bedded, crossbedded; grades down into conglomerate; 5.1 m. Conglomerate, clast-supported, red, sorted and stratified; clasts up to cobble size; poorly exposed; 3.7 m (14.1 m; cum 393.5 m)

Siltstone, fissile, dark-red; one lens of crossbedded sandstone; poorly exposed; grades down into sandstone; 10.7 m. Sandstone, conglomeratic, red, thin-bedded, crossbedded; beds of siltstone; grades down into sandstone; 4.9 m. Sandstone, thin-bedded, red, crossbedded; contains siltstone beds; gradational base; poorly exposed; 7.6 m (23.2 m; cum 379.4 m)

Siltstone, red; two green beds; thin sandstone lenses; poorly exposed; grades down into siltstone; 2.1 m. Siltstone, shaley, red; contains pink lens of crossbedded sandstone and some gray-green beds; 9.5 m. Conglomerate, clast-supported, sorted and stratified, pebble-size clasts, beds of conglomeratic sandstone, both thin-bedded, crossbedded, and pink; 20.2 m (31.8 m; cum 356.2 m)

Siltstone, dark-red; contains sparse crossbedded sandstone; 2.5 m. Sandstone, conglomeratic, red, thin-bedded; contains beds of dark-red siltstone; 10.5 m. Sandstone, conglomeratic, red, thin-bedded, crossbedded; erosional base; 4.1 m (17.1 m; cum 324.4 m)

Shale, silty, red; 1.9 m. Mudstone, red; grades down into conglomerate and sandstone; 2.3 m. Conglomerate and sandstone, dark-red, interbedded, clast-supported, sorted and stratified; trough crossbedding; 4.2 m (8.4 m; cum 307.3 m)

Siltstone, red; 2.3 m. Sandstone, coarse-grained, dark-red, thin-bedded, crossbedded; 1.9 m. Siltstone, shaley, dark-red, sparse beds of crossbedded sandstone; grades down into sandstone; 10.4 m. Sandstone, thin-bedded, light-red, crossbedded; grades down into conglomeratic sandstone; 3.2 m. Sandstone, conglomeratic, light-red; trough crossbedding; with lenses of pebble conglomerate; 0.9 m (18.7 m; cum 298.9 m)

Siltstone, shaley, dark-red; grades down into sandstone; 2.9 m. Sandstone, red, thin-bedded; grades down into conglomeratic sandstone; 1.7 m. Sandstone, conglomeratic, red; low-angle crossbedding; 2.2 m (6.8 m; cum 280.2 m)

Shale, dark-red; contains siltstone lens, grades down into siltstone; 2.2 m. Siltstone, dark-red; grades down into conglomerate and sandstone; 1.9 m. Conglomerate and sandstone, interbedded, light-red, clast-supported, sorted and stratified, crossbedded; 5.9 m (10.0 m; cum 273.4 m)

Siltstone, shaley, dark-red; grades down into sandstone; 1.4 m. Sandstone, light-red, thin-bedded; grades down into conglomeratic sandstone; 4.4 m. Sandstone, conglomeratic, red, thin-bedded, crossbedded, contains dark-red siltstone beds; 7.4 m. Conglomerate, clast-supported, red, sorted and stratified; clasts up to pebble size; 0.5 m (13.7 m; cum 263.4 m)

Unit 18

Siltstone, dark-red, thin-bedded; contains sparse sandstone beds, grades down into sandstone; 10 m. Sandstone, coarse-grained, red, crossbedded; bedding thickens downward; gradational base; 1.7 m (11.7 m; cum 249.7 m)

Shale, red; grades down into sandstone; 1.2 m. Sandstone, coarse-grained, red, thick-bedded, crossbedded; gradational base; 4.4 m (5.6 m; cum 236.0 m)

Siltstone, dark-red, thin-bedded; contains sparse sandstone beds and ripple marks; grades down into sandstone; 4.5 m. Sandstone, coarse-grained, light-red, thin-bedded; gradational base; 5.9 m (10.4 m; cum 232.4 m)

Unit 15

Siltstone, shaley, dark-red, contains ripple marks; 1.6 m. Sandstone, conglomeratic, red, thick-bedded; small-scale crossbedding; grades down into sandstone; 18.1 m. Sandstone, coarse-grained, light-red, thin-bedded; contains siltstone beds and abundant detrital muscovite; 4 m (23.7 m; cum 222.0 m)

Shale, red; 0.7 m. Sandstone and siltstone, red, interbedded and thin-bedded; contains ripple marks; grades down into siltstone; 1.2 m. Siltstone, shaley, red, grades down into sandstone; 1 m. Sandstone, thin-bedded, contains ripple marks, small-scale crossbedding; grades down into siltstone; 5.1 m. Siltstone, red; grades down into sandstone; 0.8 m. Sandstone, red, thin-bedded; contains ripple marks, small-scale crossbedding; 7.4 m (16.2 m; cum 198.3 m)

Shale and siltstone, dark-red, interbedded; contains minor sandstone; grades down into siltstone; 5.3 m. Siltstone, red, thin-bedded, grades down into sandstone; 2.3 m. Sandstone, coarse-grained, red, medium-bedded, grades down into dark-red sandstone; 2.6 m. Sandstone, dark-red, thin-bedded; contains ripple marks and ripple cross-lamination; gradational base; 8.2 m (18.4 m; cum 182.1 m)

Siltstone, fissile, red; contains one sandstone bed; grades down into siltstone; 1.9 m. Siltstone, fissile, red, contains crossbedded sandstone and ripple marks; grades down into sandstone; 4.3 m. Sandstone, thin-bedded, red; contains lenses of pebble and cobble conglomerate; grades down into siltstone; 1 m. Siltstone, shaley, red, contains sparse beds and lenses of sandstone and pebble-to-cobble conglomerate; grades down into sandstone; 3.5 m. Sandstone, silty, dark-red, thin-bedded; grades down into conglomeratic sandstone; 1.1 m. Sandstone, conglomeratic, red, thick-bedded, crossbedded; grades down into conglomerate; 1.1 m. Conglomerate, clast-supported, red, sorted and stratified; subround to round pebbles and cobbles; 1 m (13.9 m; cum 163.7 m)

Siltstone and shale, both fissile and red; 0.8 m. Sandstone, conglomeratic, red, thin-bedded, crossbedded; poorly exposed; 5.0 m (6.7 m; cum 149.8 m)

Unit 10

Siltstone, red, beds of shale and sandstone; grades down into sandstone; 1.3 m. Sandstone, conglomeratic, red, thin-bedded; grades down into conglomerate; 1.6 m. Conglomerate, clast-supported, red, sorted and stratified; well-rounded pebbles and cobbles; 0.6 m (3.5 m; cum 143.1 m)

Siltstone, shaley, red; 0.3 m. Sandstone, red, thin-bedded, crossbedded; siltstone beds abundant; grades down into conglomeratic sandstone; 7.6 m. Sandstone, conglomeratic, light-red, stratified; trough crossbedding; grades down into conglomerate; 18.6 m. Conglomerate, clast-supported, light-red, sorted and weakly stratified; pebbles and cobbles abundant; 3 m. Sandstone, coarse-grained, red, crossbedded; 6.5 m (36.0 m; cum 139.6 m)

Siltstone, fissile, dark-red; 3.5 m. Siltstone, red; contains lenses of coarse-grained, crossbedded sandstone; 2.2 m. Siltstone and sandstone, red, interbedded, thin-bedded; sandstone coarse-grained; contains crossbedding and ripple marks; grades down into siltstone; 9.3 m. Siltstone, green; grades down into sandstone; 0.6 m. Sandstone, coarse-grained, red, thin-bedded, crossbedded; contains beds and lenses of siltstone and conglomerate; 3.4 m (19.0 m; cum 103.6 m)

Shale and siltstone, dark-red, interbedded; contains sandstone lens; grades down into siltstone; 3 m. Siltstone, fissile, red; sparse sandstone beds; grades down into sandstone; 12.3 m. Sandstone, red, thin- to thick-bedded; ripple marks in siltstone beds; gradational base; 9.8 m (25.1 m; cum 84.6 m)

Shale, siltstone, and sandstone, dark-red, interbedded and thin-bedded; sandstone crossbedded; grades down into siltstone; 16.7 m. Siltstone, dark-red, thin-bedded; contains lenses of gravelly conglomerate; grades down into conglomerate; 1.4 m. Conglomerate, clast-supported, pink, sorted and stratified, crossbedded; rounded pebbles and cobbles of igneous and metamorphic rocks; 3 m (21.1 m; cum 59.5 m)

Unit 5

Siltstone, shaley, red, thin-bedded; 1.6 m. Sandstone, conglomeratic, light-red, thin-bedded; trough crossbedding; grades down into shale; 3.3 m. Shale, silty, red; contains gray calcareous nodules; 1.1 m. Sandstone, conglomeratic, light-red, thin-bedded; 1.1 m. Siltstone, red, thin-bedded; contains lenses of crossbedded conglomeratic sandstone; grades down into sandstone; 3 m. Sandstone, conglomeratic, red, thin-bedded; contains ripple marks; grades down into shale; 0.4 m. Shale, silty, dark-red; contains lens of conglomeratic sandstone; 1.7 m. Sandstone, conglomeratic, red, thin-bedded; low-angle crossbedding, ripple marks; grades down into shale; 1.2 m. Shale, silty, dark-red; grades down into siltstone; 1 m. Siltstone, shaley, dark-red; 1.2 m. Sandstone, conglomeratic, red, thin-bedded; 3.8 m. Sandstone, red, thin-bedded, crossbedded; contains ripple marks; grades down into siltstone; 0.8 m. Siltstone, shaley, dark-red, thin-bedded; 0.6 m. Sandstone, conglomeratic, red, stratified and lenticular; 1.7 m (22.5 m; cum 38.4 m)

Siltstone, shaley in upper part, red; contains lens of conglomeratic sandstone; grades down into sandstone; 6.6 m. Sandstone, light-red, thin-bedded; contains abundant detrital muscovite; 4 m. Conglomerate, clast-supported, light-red, sorted, massive to weakly stratified; angular pebble-size clasts; base of lower member; 5.3 m (15.9 m; cum 15.9 m)

MINTURN FORMATION, UPPER PART

Sandstone, coarse-grained, pink, medium-bedded; planar and trough crossbedding; silty beds; some gray siltstone lenses have plant remains, brachiopods and crinoid columnals; grades down into sandstone; 40.2 m. Sandstone, coarse-grained, pink; trough crossbedding; ripple marks; 23.8 m (64.0 m; cum 79.7 m)

Limestone (marker limestone), silty, gray, weathers light brown; contains crinoid columnals, brachiopods and stromatolites; grades down into siltstone; 0.8 m. Siltstone, shaley, gray-brown; 0.6 m. Sandstone, coarse-grained, light-red, thin-bedded; 1.1 m (2.5 m; cum 15.7 m)

Unit 1

Shale, gray-brown; contains thin siltstone beds; 2 m. Shale, silty, red; contains siltstone beds and ripple marks; grades down into siltstone; 1.7 m. Siltstone, red, thin-bedded; contains thin crossbed