| Unit | | Feet |
|---|---|---|
| 26 | Shale, green gray, highly micaceous, sandy, soft. | 1.5 |
| 25 | Grit, locally conglomeratic, mostly grayish maroon but greenish with maroon mottling near bottom and top; thin-bedded to massive, strongly cross-bedded. | 50 |
| 24 | Shale, dark greenish-gray, micaceous. | 3.5 |
| 23 | Grit, with minor interbedded gritty shale and thin-bedded arkose near top. Grit greenish gray, thin-bedded; shale dark greenish-gray, micaceous; arkose at top creamy white. Plant impressions in grit and shale in upper half of unit. | 34 |
| 22 | Shale, dark greenish-gray, micaceous; with a little interbedded gray arkose in thin beds. Plant impressions in arkose. | 16.5 |
| 21 | Coal cyclothem. Consists, from the bottom upward, of 2½ feet gritty root clay with abundant root impressions and large stigmaria casts; 3 to 6 inches of carbonaceous matter and carbonaceous shale; and 1 foot of black dolomite, slightly gritty and locally slightly calcareous. | 4 |
| 20 | Shale, dark gray, micaceous; contains abundant plant impressions. | 2 |
| 19 | Sandstone, gray, slightly calcareous, very thin-bedded; contains plant stem impressions. | 1 |
| 18 | Arkose, chalky gray, very thin-bedded; and minor interbedded dark-gray micaceous shale; lenses of arkose in the shale are slightly dolomitic. | 14 |
| 17 | Shale, dark brownish-gray, nonmicaceous, soft, massive. | 4 |
| 16 | Impure dolomite. Consists, from the bottom upward, of 4 feet of coarse dolomitic grit and conglomerate with small lenses brown sandy dolomite; 3-inch black shale parting; 2 feet of black crystalline dolomite; 3½ feet of dark brown-gray dolomitic shale, and clay shale with nodules of black dolomite; 15 inches of dark-gray, brown-weathering, crystalline, slightly sandy dolomite; 18 inches of gray clay shale; and 1 foot of sandy brown dolomite. | 13.5 |
| 15 | Shale, maroon, sandy, massive but flaky. | 6 |
| 14 | Grit and arkose interlensed; grayish maroon, thin-bedded, cross-bedded. | 10 |
| 13 | Dolomitic grit: Coarse grit in dolomite matrix; brown and gray, massive; 1½ feet from top is a 1-foot bed of black, thin-bedded dololmite that contains abundant *Chaetetes*. (50 feet to west unit thickens to 11 feet; and 500 feet to northwest it is 15 feet of slightly gritty dolomite.) | 8 |
| 12 | Conglomerate, green and pinkish, with lenses of grayish-maroon and green, thin-bedded grit; cross-bedded. | 20 |

| Unit | | Feet |
|---|---|---|
| | Fault, 30 feet repeated. Offset to base of 20-foot conglomerate. | |
| 11 | Interbedded shale and arkose, and minor grit. Shale dark gray, micaceous, some of it gritty. Grit and arkose gray and greenish gray, thin-bedded. A few thin beds brown dolomitic grit. Plant impressions in shale and arkose. Unit poorly exposed. | 30 |
| 10 | Dolomite and dolomitic grit. Dark-gray, crystalline dolomite interlensed with brown dolomitic grit. | 3 |
| | Fault, 15 feet repeated, offset south down slope to base of 3-foot dolomite. | |
| 9 | Grit and shaly grit, greenish gray, thin-bedded, ripple-marked. | 8 |
| 8 | Conglomerate and coarse conglomeratic grit, greenish and pinkish gray, massive, cross-bedded. | 38 |
| 7 | Arkosic shale, green, thin-bedded; contains plant impressions. | 3 |
| 6 | Conglomeratic grit, greenish and pinkish gray, massive, cross-bedded. | 26 |
| 5 | Shale, grayish green, micaceous, sandy, massive. Some maroon mottling near top. | 14.5 |
| 4 | Dolomite, gray, tan-weathering, finely crystalline, medium-bedded, slightly sandy. | 7 |
| 3 | Shaly arkose, green, thin-bedded. | 2 |
| 2 | Grit, greenish and pinkish gray, thin-bedded. | 15 |
| 1 | Covered; pieces of gray, micaceous shale and thin-bedded grit in soil. | 40 |
| | Top of Resolution dolomite member. | |
| | Top of White Quail limestone member to top of Resolution dolomite member: | 1,104 |

*Section of Minturn formation from top of Resolution dolomite member to top of Hornsilver dolomite member; from top of Resolution Mountain down slope to south.*

(Except for Resolution member, section not measured in detail; thicknesses computed from structure sections.)

| Unit | | Feet |
|---|---|---|
| | Minturn formation: | |
| | Resolution dolomite member: | |
| 11 | Dolomite, gray, finely crystalline, medium-bedded; weathers light gray and locally with short pencil-shaped cavities perpendicular to bedding; some beds highly fossiliferous; some beds sandy or gritty; contains a little dark-gray to black chert, irregularly distributed. | 15-22 |

| Unit | | Feet |
|---|---|---|
| 10 | Shale and interbedded arkose and grit; shale, black, locally dolomitic; arkose and grit dark-gray and brown, thin-bedded | 15-35 |
| 9 | Dolomite, cherty, dark gray, fine-grained; weathers buff-gray; chert is blue black, very abundant | 10 |
| 8 | Dark shale; dolomite nodules in it at places | 2-4 |
| 7 | Dolomite, dark gray, finely crystalline, medium-bedded; weathers brownish gray, with criss-crossing grooves on bedding planes | 7-12 |
| 6 | Arkosic grit, green, cross-bedded, lenticular | 0-4 |
| 5 | Dolomite, dark gray, finely crystalline, medium-bedded; gritty in streaks; weathers brownish gray, with crisscrossing grooves on bedding planes | 9-10 |
| | Average thickness of Resolution dolomite member: | 80 |
| 4 | Conglomerate and lenses of coarse grit; mostly green, but some lenses and irregular areas yellow or brownish; massive, cross-bedded | 175 |
| 3 | Dolomite zone: Three beds of dark-gray dolomite, each 8 to 15 feet thick, separated by gray and brownish shale and thin-bedded grit. Dolomite beds weather brownish, with pitted surfaces. All three are gritty, contain lenses and thin beds of black shale, and grade locally into dolomitic grit and grit | 75 |
| 2 | Grit and shale, gray, yellowish, and greenish; mostly thin- to thick-bedded, but some massive; cross-bedded | 150 |
| 1 | Grit and conglomeratic grit, massive in lower part, mostly gray but some yellowish and pinkish | 400 |
| | Top of Hornsilver dolomite member. | |
| | Top of Resolution dolomite member to top of Hornsilver dolomite member | 880 (±50) |

*Section of Minturn formation from top of Hornsilver dolomite member to base of Wearyman dolomite member; on south slope of Hornsilver Mountain.*

Minturn formation:

Hornsilver dolomite member:

| | | |
|---|---|---|
| 4 | Dolomite, gray to dark gray, weathers brown; medium-crystalline, slightly porous; thin-bedded, with irregular knobby or nodular structure. Recrystallized fossil fragments on bedding planes | 10 |

| Unit | | Feet |
|---|---|---|
| 3 | Dolomite, light gray and weathers same; medium-crystalline, slightly porous; massive but has nodular structure, and weathers to smoothly rounded forms. | 15 |
| 2 | Grit and shale, with lenses of coarse conglomerate; mostly gray, some green and yellowish; thin-bedded to massive. A bed of dark-gray dolomite less than 5 feet thick lies 70 feet above base of unit, and one 8 feet thick lies 180 feet above base. Unit not measured in detail; thickness computed from structure section. | 300 |
| | Wearyman dolomite member: | |
| 1 | Reef dolomite; light gray, light-weathering, medium-crystalline, slightly porous, massive; contains recrystallized fossil fragments, mostly corals, crinoids, and pelecypods. Pinches and swells, 15 to 75 feet thick; average thickness: | 35 |
| | Top of Hornsilver dolomite member to base of Wearyman dolomite member: | 360 (±35) |

*Section of Minturn formation from base of Wearyman dolomite member to base of formation, and section of Belden shale.*

(Measured from southwest slope of Hornsilver Mountain southward down ridge between Coal and Silver Creeks to foot of slide scarp near mouth of Silver Creek.)

Minturn formation:

| | | |
|---|---|---|
| 171 | Grit, light gray, cross-bedded; with minor gray and greenish shale, and local lenses of green conglomerate, particularly near base: Unit not measured in detail, thickness computed from structure section. | 275 |
| 170 | Dolomite reef, light- to dark-gray, brown-gray-weathering, finely crystalline, massive, siliceous dolomite. Weathers rough, with many pits and furrows, and siliceous tracery. Contains *Chaetetes* colonies up to 12 inches in diameter. Some chert in irregular patches. Top of reef grades into reefy but bedded dolomite which thins from 10 feet near reef to less than 3 feet 500 feet away. | 50 |
| 169 | Grit, gray, thin-bedded, cross-bedded. | 42 |
| 168 | Covered; float and soil indicate brownish-gray, micaceous, thin-bedded grit and interbedded green-brown micaceous shale. | 22 |
| 167 | Conglomerate and conglomeratic grit, light green-gray; pebbles 2 inches in maximum diameter; unit poorly exposed. | 35 |

| Unit | | Feet |
|---|---|---|
| 166 | Covered; float indicates light-green and green-gray, thin-bedded grit and interbedded green, arkosic, micaceous shale, and local lenses of greenish conglomerate. | 95 |
| 165 | Shale, dark green-gray, micaceous and mostly sandy; and interbedded gray and green-brown, pink- to brown-weathering, thin-bedded, micaceous arkose and grit. Unit mostly covered. | 37 |
| 164 | Grit, light gray and green gray, pink- to brown-weathering, thin-bedded, cross-bedded; contains thin streaks of conglomerate with ½-inch white quartz pebbles. | 20 |
| 163 | Covered; shale soil. | 12 |
| | Fault, 40 feet repeated. | |
| 162 | Shale, brown and brown gray, micaceous, fissile. | 4 |
| 161 | Dolomite, dark gray, finely crystalline, medium-bedded; weathers brown, with furrowed surfaces. | 5 |
| 160 | Covered; greenish-gray clay shale in soil. | 10 |
| 159 | Grit; gray, mustard, and pinkish; thin-bedded; minor interbedded micaceous sandy shale. | 21 |
| 158 | Dolomite, dark gray, finely crystalline, thin-bedded, sandy; weathers brown and smooth; basal 1 foot very gritty. | 5.5 |
| 157 | Shale, dark brown, micaceous; some interbedded dolomitic grit in thin beds near top. Unit mostly covered. | 8 |
| 156 | Grit, light yellow-gray and white, coarse-grained, friable, massive; conglomeratic and greenish near base. | 18 |
| 155 | Arkose, green and brown, thin-bedded, with micaceous bedding planes; and interbedded greenish and brownish arkosic micaceous shale. Unit partly covered. | 38 |
| 154 | Shale, dark green-gray, micaceous, fissile; some brown-gray, thin-bedded arkose near top. | 11 |
| 153 | Dolomite, dark gray, brown-weathering, thin-bedded, nodular, slightly sandy and argillaceous. | 1 |
| 152 | Shale, dark green-gray, micaceous, slaty. | 3.5 |
| 151 | Dolomite, dark gray to black, finely crystalline, brown-weathering; lower 2 to 4 feet thin-bedded and black; middle 6 to 8 feet massive, black, and very cherty; top 2 feet thin-bedded and dark gray. | 12 |
| 150 | Conglomerate, grit, and conglomeratic grit, green, coarse-grained, thin-bedded to massive, cross-bedded; pebbles 4 inches in maximum diameter, mostly white pegmatite and quartz, in matrix of coarse-grained feldspathic grit. | 50 |

| Unit | | Feet |
|---|---|---|
| | Fault, 50 feet repeated. | |
| 149 | Covered, probably mostly greenish micaceous shale; some green and brown, thin-bedded, micaceous arkose and grit in float, and a little rusty dolomitic grit. | 35 |
| 148 | Grit, greenish and brownish gray, locally conglomeratic; thin-bedded, cross-bedded; grades into platy, micaceous arkose at top. | 28 |
| 147 | Interbedded sandstone and grit in thin beds; sandstone brown, tan-weathering, micaceous, very thin-bedded; grit greenish, coarse-grained, thin-bedded; unit mostly covered. | 22 |
| 146 | Shale, brown and green brown, micaceous, mostly sandy, thin-bedded. Unit mostly covered. | 14 |
| 145 | Grit, buff gray, limonite-specked, coarse-grained and conglomeratic, massive. | 6 |
| 144 | Shale and shaly sandstone, brown gray, all micaceous and thin-bedded. A few 2- to 5-foot beds brownish arkose and light-gray conglomerate and grit. Large root impressions in some of grit. Unit largely covered. | 41 |
| 143 | Conglomerate and coarse grit, gray, pinkish-weathering, thin-bedded to massive; unit poorly exposed, probably a few feet of shale in middle. | 40 |
| 142 | Arkose, light gray, pinkish-weathering, micaceous, thin-bedded and platy. | 13 |
| 141 | Grit, gray to dark green-gray, coarse-grained, thick bedded. | 5 |
| 140 | Covered; soil indicates brown micaceous shale and thin-bedded, brown micaceous arkose. | 17 |
| 139 | Interbedded shale and dolomite; shale dark brownish and greenish gray to black, fissile; dolomite dark gray, brown-weathering, mostly sandy, in thin beds and nodules. | 6 |
| 138 | Grit, green gray, coarse-grained, thin-bedded except top 15 feet thick-bedded; small lenses of rusty dolomitic grit at top. Grit is conglomeratic at base, and all of it contains scattered pebbles up to 2 inches in diameter. | 70 |
| 137 | Covered; soil suggests coarse-grained, friable, green conglomerate at top, and green micaceous shale at bottom. | 18 |
| 136 | Arkose, dark green-gray and pinkish gray, micaceous, medium-bedded; and some interbedded green, sandy, micaceous shale. | 11 |
| 135 | Conglomeratic grit, light gray, friable, massive, cross-bedded. | 13 |
| 134 | Arkose, gray to dark green-gray, fine-grained, micaceous, thin-bedded; some interbedded greenish shale. | 38 |

| Unit | | Feet |
|---|---|---|
| 133 | Dolomite and shale; dark green-gray to black, finely micaceous shale with black, brown-weathering dolomitic nodules that contain *Chaetetes.* | 3 |
| 132 | Grit, light gray to white, quartzitic. | 5 |
| 131 | Arkose and shaly arkose, green gray, limonite-specked, micaceous, thin-bedded. | 12 |
| 130 | Grit, light green-gray, coarse-grained, thin-bedded. | 9 |
| | Fault, 40 feet repeated. | |
| 129 | Conglomerate, green, massive, friable, cross-bedded. | 15 |
| 128 | Grit, brown to gray, thin-bedded, platy; weathers pinkish-gray; thin lenses are conglomeratic. | 20 |
| 127 | Shale, dark brown, sandy and micaceous, soft. | 6 |
| 126 | Arkose, maroon, thin-bedded. | 3 |
| 125 | Conglomerate, green; thin-bedded at top, massive in lower part. | 11 |
| 124 | Arkose, shaly, maroon, thin-bedded and platy, highly micaceous. | 16 |
| 123 | Shale, green and maroon, micaceous and slightly sandy; fissile. Some interbedded tan conglomeratic grit. | 18 |
| 122 | Grit, maroon, thin-bedded; contains conglomeratic streaks and some micaceous shale. | 26 |
| 121 | Conglomerate, greenish gray and pinkish gray, massive, cross-bedded. | 10 |
| 120 | Grit, maroon, thin-bedded. | 3 |
| 119 | Shale, green brown, micaceous; and some interbedded brown arkose. | 12 |
| 118 | Conglomerate, light green-gray, massive. | 8 |
| 117 | Arkose, maroon, micaceous, thin-bedded. | 13 |
| 116 | Shale, brown, micaceous. Some interbedded, thin-bedded, dark-gray and brown grit. | 30 |
| 115 | Conglomeratic grit, green gray, cross-bedded; has a lenticular structure. | 19 |
| 114 | Arkose, brown, micaceous, thin-bedded, platy; weathers reddish and greenish brown. Some interbedded brown and green micaceous shale. | 26 |
| 113 | Grit, greenish gray, thin-bedded; contains lenses of conglomerate. | 26 |
| 112 | Covered; probably mostly shale; some thin-bedded grit and arkose. | 44 |
| 111 | Arkose, reddish gray, thin-bedded, platy, micaceous; some interbedded shale. | 32 |
| 110 | Grit and interbedded arkose, dark brown and gray, reddish-weathering, thin-bedded. | 5 |

| Unit | | Feet |
|---|---|---|
| 109 | Grit, dark gray, pink-weathering; and interbedded brown and greenish shale. Mostly covered. | 42 |
| | (Offset 500 feet northwest to highest point on slide scarp.) | |
| 108 | Grit, conglomeratic, pinkish and greenish gray, coarse-grained, massive. | 5 |
| 107 | Sandy shale, greenish and brownish gray, micaceous, thin-bedded. | 5 |
| 106 | Shale, arkosic shale, and thin-bedded arkose; maroon with minor green mottling, micaceous, thin-bedded. | 11.5 |
| 105 | Conglomerate, buff and pinkish gray, massive; grades upward into cross-bedded conglomeratic grit; pebbles of pre-Cambrian rocks, 3 inches in maximum diameter, in grit matrix with argillaceous cement. Rock contains small grains of green phyllite. | 24 |
| 104 | Shale and interbedded graywacke in thin beds, maroon; shale is micaceous; graywacke consists of quartz and chlorite phyllite grains with hematitic cement; medium-grained, quartzitic. Small lenses of green shale near top of unit. | 7.5 |
| 103 | Grit, coarse-grained, conglomeratic, buff and pinkish, with maroon mottling near base; massive; contains abundant green phyllite grains; has argillaceous cement. | 4.5 |
| 102 | Shale and interbedded arkose, maroon, thin-bedded; shale is micaceous; arkose contains green phyllite and is locally a graywacke. | 12.5 |
| 101 | Conglomerate and coarse grit, buff and pinkish, massive, cross-bedded; contain abundant green chlorite phyllite fragments. | 21 |
| 100 | Shale and interbedded arkose and graywacke in ½- to 3-foot beds; maroon with minor green mottling; arkose and graywacke thin- to thick-bedded, quartzitic; abundant phyllite grains. | 18 |
| | (Offset 600 feet north on top of yellow shale.) | |
| 99 | Shale, yellow and green; mostly nonmicaceous clay shale, but thin beds are sandy and micaceous. | 5 |
| 98 | Shale, maroon; lower half is clay shale; upper half is sandy and micaceous. | 4.5 |
| 97 | Grit, mottled maroon and greenish tan, coarse-grained, massive, cross-bedded. Contains phyllite grains. | 8 |
| 96 | Shaly arkose, maroon, thin-bedded. | 4 |
| 95 | Arkose, maroon, thick-bedded; some streaks shaly, others gritty. | 4.5 |

| Unit | | Feet |
|---|---|---|
| 94 | Conglomerate and coarse grit, pinkish gray, massive; abundant grains and small fragments of green chlorite phyllite. | 16 |
| 93 | Interbedded arkose, grit, and shale; maroon and pink, medium- to thick-bedded; shale mostly sandy, some clay shale. | 20 |
| 92 | Conglomeratic grit, pinkish and greenish gray, massive, cross-bedded; abundant phyllite detritus. | 13 |
| 91 | Shaly arkose, maroon, massive but scaly. | 8.5 |
| | Fault, 12 feet repeated. | |
| 90 | Interbedded shale, arkose, graywacke and grit; maroon, medium-bedded; considerable phyllite in arkose and grit. Grit, coarse-grained, cross-bedded. | 9 |
| 89 | Grit, green, conglomeratic, massive, cross-bedded; color due to chlorite phyllite grains. | 7 |
| 88 | Interbedded shale and arkose, maroon; clay shale in lower part; micaceous and sandy shale in upper part; some yellow and green mottling in shale near base; arkose is in 1- to 3-foot beds. | 29 |
| 87 | Arkose, maroon, thick-bedded, with short, thick, lenses of pink and yellow, massive, conglomeratic grit, and thin lenses of maroon sandy shale. Phyllite fragments in grit. | 13 |
| | (Spur turns west.) | |
| 86 | Interbedded shale and arkose, maroon; shale micaceous, thin-bedded; arkose in 1- to 3-foot beds. | 22 |
| 85 | Grit, mottled pinkish and greenish gray, buff, and maroon; massive, cross-bedded; conglomeratic in lower half; some streaks of maroon micaceous shale. Abundant green chlorite phyllite. | 15 |
| 84 | Grit, pinkish and greenish gray, and buff; coarse-grained, cross-bedded; two massive beds each overlain by 2 to 3 feet of maroon shale. | 26.5 |
| 83 | Shale, arkose, and coarse grit in lenses and nodules; maroon. | 13.5 |
| 82 | Grit, buff, coarse-grained, massive; contains phyllite fragments. | 12 |
| 81 | Arkose and grit in irregular streaks and lenses; pink to maroon; upper 2 feet shaly. | 7 |
| 80 | Shale, maroon, micaceous; and lenses and thin beds of maroon arkose and greenish brown grit. Abundant phyllite in grit. | 22 |
| 79 | Grit, dull pink and buff, coarse-grained, massive, cross-bedded. | 9 |
| 78 | Shale, maroon, fissile; mostly clay shale, some micaceous. | 15.5 |

| Unit | | Feet |
|---|---|---|
| 77 | Grit, buff, coarse-grained, thick-bedded to massive. No phyllite. | 18 |
| 76 | Shale, gray and dark greenish-gray, but yellow green at top; mostly non-micaceous; contains an 18-inch bed of gray micaceous sandstone in middle of unit. | 10 |
| 75 | Conglomerate, and coarse, gritty sandstone and ripple-marked, fine-grained micaceous sandstone; all buff, lenticular, cross-bedded. | 15.5 |
| 74 | Sandstone, maroon, rusty-weathering, fine- to medium-grained, medium-bedded; and interbedded light-brown, soft, sandy micaceous shale. | 6 |
| 73 | Quartzite, tan, rusty-weathering, coarse-grained. | 1.5 |
| 72 | Shale, tan and greenish, sandy, micaceous, thin-bedded, friable. | 5 |
| 71 | Quartzite, tan to pink, rusty-weathering, fine- to coarse-grained, medium-bedded; contains limonite-stained interstitial clay. | 5.5 |
| 70 | Grit, tan with minor maroon mottling, quartizitic, coarse-grained; contains green phyllite grains. | 2 |
| 69 | Quartzite, maroon, rusty-weathering, fine-grained; abundant limonite speckles. | 1 |
| 68 | Shale, maroon; mostly micaceous, some sandy, some clay shale; a few beds of tan quartzite and arkose. | 16 |
| 67 | Dolomite, light yellowish- and greenish-gray; light-gray-weathering; medium-crystalline, medium-bedded. | 4 |
| 66 | Shaly dolomite, maroon, micaceous, sandy. (Possibly tuffaceous?). | 1 |
| 65 | Shale, maroon, micaceous, fissile; and 18-inch beds of maroon, hematitic, highly micaceous sandstone just above base and just below top. | 8 |
| 64 | Shale, grayish green, fissile; mostly micaceous, some is almost pure mica; a little clay shale. (Possibly tuffaceous?). | 11 |
| 63 | Quartzite, tan, gray, and pinkish, coarse- and uneven-grained, massive; abundant green phyllite grains and some argillaceous grains, and abundant interstitial argillaceous material, mostly with yellow or brown iron-stain. | 13 |
| 62 | Shale, gray to black, thin-bedded; weathers light green-gray; lower part contains thin beds and small lenses of light-gray sandstone, arkose, and grit. Upper beds contain abundant small plant remains such as seeds or seed casings and stem fragments. | 25.5 |

| Unit | | Feet |
|---|---|---|
| 61 | Sandstone and quartz grit, light buff- and pinkish-gray, coarse-grained, massive, cross-bedded; contains grains of green phyllite and some of argillaceous material. | 13 |
| 60 | Shale, dark gray, micaceous, fissile. | 8.5 |
| 59 | Quartzite, gray, fine-grained, vitreous, massive; contains light green-gray argillaceous interstitial matter. | 5 |
| 58 | Clay shale, gray, soft. | 1.5 |
| 57 | Dolomite, lower half light gray, medium crystalline; upper half black, finely crystalline. All weathers brown. | 1 |
| 56 | Shale, gray to dark greenish-gray, nonmicaceous; contains nodules and thin lenses of black, finely crystalline dolomite. | 6.5 |
| 55 | Quartzite, light gray except 1 foot pinkish gray at base; vitreous, medium-grained; 1 foot green shaly sandstone in middle, and 1 foot coarse-grained quartz grit at top. (Possibly tuffaceous)? | 8.5 |
| 54 | Shale, maroon, micaceous, hematitic; 6 inches maroon quartzite at base, and 6 inches maroon micaceous sandstone at top. | 4 |
| 53 | Shale, greenish gray, micaceous, fissile. | 6.5 |
| 52 | Quartzite, pinkish and greenish gray, coarse-grained, massive; contains conspicuous interstitial argillaceous matter. | 4 |
| 51 | Sandstone and quartz grit, light gray; lower half massive, cross-bedded; upper half in 1-foot beds separated by thin partings gray shale. Quartz grit contains abundant argillaceous matter as matrix to coarse angular grains. (Possibly tuffaceous?). | 22 |
| 50 | Shale, blue black, micaceous, fissile. | 2 |
| 49 | Dolomite, shaly, black, finely crystalline, brown-weathering. | 1.5 |
| 48 | Shale, gray, highly micaceous; becomes sandy upward, and top 2 feet of unit is light-gray shaly sandstone. | 7 |
| 47 | Quartzite, gray and tan, coarse-grained; contains some interstitial argillaceous matter; small lenses are conglomeratic. | 5 |
| 46 | Shale and dolomite; green clay shale with local maroon mottling contains gray to black dolomite in nodules, small lenses, and a few beds up to 10 inches thick. | 16 |
| 45 | Quartzite, greenish and pinkish gray, massive, cross-bedded; medium-grained except 2 feet coarse-grained quartz grit at base; contains abundant interstitial argillaceous matter. | 7.5 |

| Unit | | Feet |
|---|---|---|
| 44 | Shale, dark blue-gray, micaceous, fissile; 4-inch bed sandy dolomite 4 feet above base | 6 |
| 43 | Sandstone, light gray and green gray, quartzitic, thin- to thick-bedded, with partings of gray sandy micaceous shale. (Possibly tuffaceous?). | 10 |
| 42 | Dolomite and shale; black, nodular, dense dolomite in fissile black shale | 1 |
| 41 | Quartzite, light green-gray, thin-bedded, with partings of dark-gray, micaceous shale; ripple-marked. Argillaceous matter in quartzite | 6.5 |
| 40 | Shale, dark green-gray, micaceous | 3 |
| 39 | Sandstone, light gray, limonite-speckled, thin-bedded to massive; contains interstitial argillaceous matter; some is quartzitic; shaly near base | 9 |
| 38 | Dolomite, sandy dolomite and shale; 4 feet of black, dense, thin-bedded dolomite with shaly partings, overlain by 2 feet of lenticular, sandy dolomite and dark shale | 6 |
| 37 | Sandstone, gray, coarse-grained, massive, limonite-speckled | 7 |
| 36 | Dolomite and dolomitic shale, black, thin-bedded, dense | 6 |
| 35 | Sandstone, light gray, medium-grained, massive; has argillaceous cement | 10 |
| 34 | Sandstone and quartz grit, green gray, quartzitic; and interbedded gray micaceous shale; lower 4 feet is mostly shale | 14 |
| 33 | Sandstone and quartz grit, light gray, coarse-grained, massive, cross-bedded; has argillaceous cement. Upper part quartzitic; 1-foot shaly zone in middle of unit | 16 |
| 32 | Limestone and black calcareous shale; limestone dark brown to black, nodular, and partly dolomitic, contains bryozoans and productid brachiopods | 5.5 |
| 31 | Shale, black, carbonaceous, fissile | 1 |
| 30 | Sandstone, light gray, argillaceous, massive; a few plant or root impressions at top | 8 |
| 29 | Quartzite, sandstone, quartz grit, and conglomerate; light gray, massive, cross-bedded; 2-foot shaly streak in middle; quartz conglomerate at base grades upward into quartz grit with abundant green phyllite grains; and the grit grades upward into medium-grained sandstone and quartzite | 20 |
| 28 | Shale, dark green-gray, micaceous; some interbedded green quartzite in beds ½ to 12 inches thick, especially near base, and a few 1- to 4-inch beds of black dolomite | 26 |

| Unit | | Feet |
|---|---|---|
| 27 | Quartz grit, light gray, massive; consists of coarse, angular quartz grains and abundant interstitial white argillaceous matter | 28 |
| 26 | Quartzite, gray green, limonite-streaked, coarse-grained, massive, cross-bedded; contains fragments of black shale | 2 |
| 25 | Interbedded quartzite and shale in 4- to 10-inch beds; quartzite gray green, micaceous, medium-grained; shale gray to dark gray, mostly micaceous, but some thin seams are clay shale; plant stem impressions in shale and on quartzite bedding planes | 9.5 |
| 24 | Dolomite and shale; dolomite black, finely to coarsely crystalline, in 1- to 3-inch beds; shale dark gray to black, fissile, nonmicaceous, mostly carbonaceous; some of it contains ostracods and fish scales, and some contains plant impressions | 7.5 |
| 23 | Sandstone, tan, calcareous, fine-grained. (Here old log road.) | 1 |
| 22 | Quartzite and interbedded sandy micaceous shale; quartzite green gray; shale gray, contains plant impressions | 4 |
| 21 | Shale, dark gray to black, mostly micaceous, and thin beds of sandy shale; shale is carbonaceous near bottom and slightly calcareous near top | 7 |
| 20 | Sandstone, gray and green gray, some well-bedded, some shaly and nodular. Unit is made up of four pairs of beds, each pair consisting of a bed of nodular, shaly sandstone or arkosic grit, with small mica-covered nodules of black dolomite, overlain by a bed of well-bedded sandstone or quartzite | 10 |
| 19 | Shale, black, micaceous; contains a few small plant stem and seed-case(?) impressions | 3 |
| 18 | Quartzite, gray, limonite-speckled | 2 |
| 17 | Shale, dolomite, and calcareous shale; 2 feet of thin-bedded, black, slightly calcareous, shale at base grades upward into interbedded black, dense, dolomite and fissile black shale in 2- to 6-inch beds. Beds contain a few poorly preserved shells and a few ostracods(?) | 7.5 |
| 16 | Dolomite, gray to black, brown-weathering, thin-bedded and nodular, with partings of black micaceous and sandy shale | 3.5 |
| 15 | Interbedded quartzite and shale in 6- to 18-inch beds; quartzite dark gray at base but becomes lighter upward, and top bed is light pinkish-gray; shale is dark gray and micaceous in lower part, black and nonmicaceous in upper part | 5 |

| Unit | | Feet |
|---|---|---|
| 14 | Interbedded shale and dolomite; dolomite brownish and gray to black, fine- to coarse-grained; some highly micaceous, some sandy; in 2- to 12-inch beds that alternate with fissile black shale in 6- to 18-inch beds. A few ½ to 1-inch beds of light-gray quartzite in shale at base of unit. | 14.5 |
| 13 | Sandstone and quartz grit, light gray, limonite-specked, thick-bedded; grit at base grades upward into sandstone, which is quartzitic at top. | 8 |
| 12 | Shale, dark green-gray to black, micaceous, massive but scaly; contains a few ostracods(?). | 9 |
| 11 | Dolomite, sandy, tan. | 1 |
| 10 | Quartzite, gray, limonite-specked, massive; contains small streaks and lenses of dolomitic quartzite near base. | 4.5 |
| 9 | Limestone and shale; black, very fine-grained limestone and black calcareous shale in alternate beds 1 to 12 inches thick; a little dolomite near base of unit, and several ½- to 2-inch beds of dark-gray quartzite in top 18 inches. No fossils. | 13 |
| 8 | Dolomite, black, buff-weathering, very fine-grained; thick-bedded at base and thin-bedded in upper part, with partings of black calcareous shale between beds. Dark brown and shaly in lower 18 inches. | 7 |
| 7 | Quartzite, light blue-gray, rust-specked, fine-grained, thick-bedded; contains abundant interstitial white argillaceous material. | 5 |
| 6 | Shale, gray, micaceous, thin-bedded; sandy and contains thin beds of sandstone near top; plant impressions on micaceous bedding planes in upper sandy part. | 6 |
| 5 | Quartzite, gray, coarse-grained; slightly dolomitic at base. | 2 |
| 4 | Shale, dark green-gray to black; sandy at base and top; dolomitic in middle of unit. | 10 |
| 3 | Quartzite, white, fine- to coarse- and uneven-grained, massive, cross-bedded, locally conglomeratic. | 13 |
| | (Offset 200 feet north to edge Silver Creek.) | |
| 2 | Interbedded dark-gray, micaceous shale and thin-bedded light-gray sandstone. | 3 |
| 1 | Quartzite, light green-gray, fine-grained, vitreous. | 1.5 |
| | Base of Wearyman dolomite member to base of Minturn formation: | 2,564 |

| Unit | | Feet |
|---|---|---|
| | Belden shale: | |
| 18 | Shale, green gray to dark blue-gray, micaceous, thin-bedded, and minor dark-gray quartzite in ½- to 2-inch beds. | 6 |
| 17 | Dolomite, black, brown-weathering, dense, nodular, with many thin partings of black shale; 2 inches of black limestone at top. | 4.5 |
| 16 | Shale, black, micaceous; mostly covered. | 4 |
| 15 | Quartzite, gray, micaceous. | 2 |
| 14 | Interbedded black dolomite and black micaceous shale in beds 2 to 4 inches thick; base not exposed. | 3 |
| 13 | Covered. | 6 |
| 12 | Sandstone, calcareous, gray, buff-weathering, fine-grained, thick-bedded; contains white, argillaceous interstitial matter. Base not exposed. | 7.5 |
| 11 | Covered. | 11 |
| 10 | Interbedded black limestone and black shale in thin beds. Poorly exposed. | 3 |
| 9 | Shale, dark green-gray, micaceous, massive but flaky; calcareous at base. | 6 |
| 8 | Limestone and interbedded shale, black; mostly covered. | 5 |
| 7 | Clay shale, green gray, massive, slightly calcareous. | 5 |
| 6 | Quartzite, dark green-gray, rusty-weathering, medium-grained. | 2 |
| 5 | Shale, dark blue-gray to greenish-black, massive, nonmicaceous. | 3 |
| 4 | Limestone, black, weathers mottled gray and buff, medium-bedded, with partings of black shale. Some beds highly fossiliferous. | 8 |
| 3 | Calcareous shale and thin-bedded shaly limestone, blue black. | 2 |
| | Porphyry sill, 35 feet thick. (Offset to north side Silver Creek on top of sill.) | |
| 2 | Shale, dark green-gray, micaceous and sandy, baked at contact with sill. | 12 |
| 1 | Covered; soil indicates dark shale and limestone. | 35 |
| | Total | 125 |

Leadville dolomite.

## CARBONIFEROUS OR PERMIAN SYSTEM

### PENNSYLVANIAN SERIES OR PERMIAN SYSTEM

#### *Maroon formation*

As indicated above, the name Maroon formation will be applied in forthcoming reports to all the Pennsylvanian or Permian redbeds overlying the Minturn formation in the Gore and Mosquito Ranges. As so used, the Maroon corresponds to the Wyoming formation of Emmons,[80] to the "upper unit" of the Pennsylvanian and Permian(?) of Koschmann and Wells in the Kokomo district,[81] to the upper half to three-fourths of the Maroon as recognized by the Geological Survey[82] in recent years, and in part to the uppermost part of the Maroon as used by Brill.[83] The upper part doubtless includes beds equivalent to part of the State Bridge formation of Brill,[84] but the siltstone facies typical of the State Bridge is poorly developed in the Pando-Kokomo region.

The Maroon formation of the Pando-Kokomo region consists of unfossiliferous redbeds which, on Jacque Peak, at the north edge of the Kokomo district, reach a thickness of almost 2,000 feet. The top of the formation is not preserved, however, and the original thickness is unknown. In the section on the ridge west of Jacque Peak, given below, cross-bedded arkose is the principal constitutent, and arkose, grit, and conglomerate together constitute more than three-fourths of the section. The remainder is mostly micaceous and relatively coarse-grained siltstone; shale is present only in minor quantity. In going northward from Jacque Peak, the rocks of the Maroon formation become much coarser in grain, and on ridges a mile or two north of the peak the section is made up chiefly of conglomerate

[80]Emmons, S. F., U. S. Geol. Survey Geol. Atlas, Tenmile district special folio (no. 48), pp. 1-2, 1898.

[81]Koschmann, A. H., and Wells, F. G., Preliminary report on the Kokomo mining district, Colorado: Colo. Sci. Soc. Proc., vol. 15, pp. 59-70, 1946.

[82]Wilmarth, M. G., Lexicon of geologic names of the United States: U. S. Geol. Survey Bull. 896, pt. 2, pp. 1306-1307, 1938.

[83]Brill, K. G., Late Paleozoic stratigraphy, west-central and northwestern Colorado: Geol. Soc. America Bull., vol. 55, pp. 627-632, 1944.

[84]Brill, K. G., op. cit., pp. 635-638.

and coarse grit. Throughout the area, many of the beds, including even the coarse conglomerate, are limy, and many of the arkose and siltstone beds contain nodules, lenses, and thin beds of red or gray limestone.

As noted above, the upper 350 to 400 feet of the Minturn formation is bright brick red. In contrast, the lower 700 to 800 feet of the Maroon formation is a duller red, maroon, or brownish red. At some places the color changes abruptly at the top of the Jacque Mountain limestone, and at some it changes gradually in a zone 100 to 200 feet thick beginning just below or just above the limestone. The Maroon beds above the dull-red zone are bright red, like the uppermost part of the Minturn formation, or even a more intense red.

*Partial section of the Maroon formation, measured from top of Jacque Peak westward down ridge*

| Unit | | Feet |
|---|---|---|
| | Erosion surface | |
| | Maroon formation and intrusive sills. | |
| | Sill of Elk Mountain porphyry. Caps Jacque Peak. | |
| 90 | Conglomerate, pink with light green-gray streaks, massive, cross-bedded. Pebbles of pre-Cambrian rocks, 1 inch in maximum diameter. | 7.0 |
| 89 | Arkose, red with greenish-gray lenses, thin-bedded, cross-bedded; contains abundant coarse mica. | 11.0 |
| 88 | Limy siltstone and micaceous shale, red, thin-bedded; a few small lenses of sandstone and coarse grit, and many nodules and lenses of gray and reddish limestone and shaly limestone. One-foot bed of gray limestone 5 feet below top of unit. | 16.3 |
| 87 | Grit, limy, light pinkish gray, coarse-grained, thick-bedded. | 3.3 |
| | Sill of Elk Mountain porphyry, about 15 feet thick. | |
| 86 | Shale, red, with limy nodules and lenses; 18-inch bed of gray limestone 2 feet below top. Shale has thin, flaky bedding. | 17.2 |
| 85 | Grit, red, massive, cross-bedded, coarse-grained and locally conglomeratic; contains lenses of green-gray limy grit. | 5.0 |
| 84 | Arkose, red, fine-grained, and interbedded coarse grained, red and gray, limy grit and local lenses of conglomerate. Unit is thin-bedded and cross-bedded. | 21.2 |

| Unit | | Feet |
|---|---|---|
| 83 | Conglomerate, dark pink, massive, cross-bedded, slightly limy; pebbles 3 inches in maximum diameter. | 12.5 |
| 82 | Grit and coarse arkose, red, thick-bedded. | 10.2 |
| 81 | Siltstone, slightly limy, and interbedded fine-grained arkose and micaceous shale. All of rocks red and thin-bedded and contain nodules and a few thin lenses of gray limestone. | 24.2 |
| 80 | Sandstone, yellow, micaceous. | 3.0 |
| 79 | Arkose, red, muddy, highly micaceous, thin- to thick-bedded. | 5.8 |
| 78 | Arkose as above and interbedded flaky micaceous shale. Rocks were red but are partly mottled green and purple by metamorphism. | 6.6 |
| 77 | Grit, green as a result of metamorphism, coarse-grained, cross-bedded. | 5.6 |
| 76 | Shale, siltstone, and arkose in thin beds and lenses; all slightly limy and contain thin beds and nodules of limestone. Rocks are red, metamorphosed to green in most places. | 16.0 |
| 75 | Conglomeratic grit, streaked gray and purple, thick-bedded. | 2.0 |
| 74 | Arkose, banded red, purple, and gray; coarse-grained and contains lenses of grit. | 12.0 |
| 73 | Grit, red, in 3- to 5-foot beds interbedded with red shale and limy siltstone. Grit conglomeratic near base. | 18.0 |
| 72 | Grit, buff gray, limy, cross-bedded, coarsely conglomeratic in lenses. | 15.0 |
| | Sill of Elk Mountain porphyry, about 150 feet thick. | |
| 71 | Conglomerate, mottled pink and buff, massive, cross-bedded; pebbles ¼ to 1 inch in diameter in matrix of coarse-grained feldspathic grit. A few pebbles up to 2 inches in diameter. | 16.1 |
| 70 | Arkose and interbedded limy micaceous siltstone, very thin-bedded and all red except in irregular patches above sill where bleached gray or green gray. | 42.0 |
| | Sill of Elk Mountain porphyry, about 40 feet thick. | |
| 69 | Grit, originally red but metamorphosed green gray, cross-bedded. | 3.6 |
| 68 | Arkose, red but upper part bleached greenish; thin-bedded. | 5.6 |
| 67 | Siltstone, arkose and shale in thin beds with abundant 1- to 2-inch nodules gray and reddish limestone and a few 1- to 6-inch beds of gray limestone; red; a few beds of coarse-grained, red grit. | 38.0 |

| Unit | | Feet |
|---|---|---|
| 66 | Conglomeratic grit, red, massive, cross-bedded. | 5.5 |
| 65 | Arkose, red, thin-bedded, cross-bedded, highly micaceous, limy in streaks; a few thin beds of coarse grit and conglomerate. | 32.5 |
| 64 | Grit and interbedded arkose, red. Grit is limy and grayish in places; arkose is highly micaceous. | 27.7 |
| 63 | Conglomerate and grit, red, micaceous, friable, massive, cross-bedded; pebbles 2 inches in maximum diameter. | 11.0 |
| | Sill of Elk Mountain porphyry, about 200 feet thick. | |
| 62 | Conglomerate and coarse grit, pink, massive, cross-bedded, slightly limy. | 28.0 |
| 61 | Arkose and siltstone, red, micaceous, in 2- to 7-foot beds interbedded with red, cross-bedded grit and conglomeratic grit in 1- to 3-foot beds. Some of grit is limy and gray. | 105.0 |
| 60 | Conglomerate and coarse grit, pink and red; massive at base, thin-bedded at top. Contains gray limy lenses. | 26.5 |
| | Sill of Lincoln porphyry, 11 feet thick. | |
| 59 | Conglomerate, dark pink, massive; pebbles of pre-Cambrian rocks 4 inches in maximum diameter. Middle part of unit is limy and grayish. | 33.8 |
| 58 | Arkose, red, fine-grained, micaceous, and interbedded red micaceous siltstone. All thin-bedded | 32.0 |
| 57 | Grit, pink, thick-bedded. | 10.0 |
| | Sill of Elk Mountain porphyry, about 75 feet thick. | |
| 56 | Siltstone, red, thin-bedded, and thin beds red shale and fine-grained arkose. Nodules of gray limestone near top of unit. | 29.4 |
| 55 | Conglomerate, red, pebbles up to 3 inches in diameter. Contains thin beds of red grit and grades on strike into thin-bedded, coarse-grained grit. | 27.0 |
| 54 | Arkose, red, thin-bedded, cross-bedded. | 31.0 |
| 53 | Grit, pinkish gray, thick-bedded, cross-bedded; conglomeratic in lenses and at base. Bleached yellow for 5 feet above sill at base. | 16.5 |
| | Sill of Elk Mountain porphyry, about 85 feet thick. | |
| 52 | Conglomerate and coarse grit, red, thin-bedded, cross-bedded. | 52.0 |
| 51 | Arkose and micaceous siltstone, red, thin-bedded, cross-bedded, slightly limy; a few thin beds of coarse grit. | 21.5 |

| Unit | | Feet |
|---|---|---|
| 50 | Conglomerate, red, thick-bedded; angular pebbles of pre-Cambrian rocks, 2 inches in maximum diameter. | 3.7 |
| 49 | Siltstone, red, micaceous, very thin-bedded, cross-bedded. | 9.5 |
| 48 | Arkose, red, thin-bedded, cross-bedded. | 6.0 |
| 47 | Siltstone and interbedded arkose, red, thin-bedded, cross-bedded. | 37.5 |
| 46 | Grit, pink, thick-bedded to massive, conglomeratic near base; contains gray limy spots and lenses. | 22.0 |
| 45 | Grit and arkose in alternate thin beds, red. | 30.0 |
| 44 | Grit, conglomeratic, pink, thin-bedded to massive; bedding is lenticular. | 24.5 |
| 43 | Shale and thin-bedded siltstone, red, micaceous; contain small gray limy nodules. | 6.0 |
| 42 | Conglomerate, limy, mottled pink and gray, thick-bedded. | 2.3 |
| 41 | Siltstone, red, thin-bedded, cross-bedded; mostly limy and contains nodules and thin lenses of gray micaceous limestone. | 13.0 |
| 40 | Grit, pink, coarse-grained, slightly limy, thick-bedded. | 6.0 |
| 39 | Shale and siltstone and thin beds of grit, red, thin-bedded, highly micaceous. Unit poorly exposed. | 24.0 |
| 38 | Grit, red, micaceous, medium-bedded. | 5.5 |
| 37 | Siltstone, red, micaceous, slightly limy, very thin-bedded, platy. | 15.5 |
| 36 | Grit and conglomerate, red, thin-bedded; conglomerate in lenses in grit, contains pebbles up to 3 inches in diameter. | 39.0 |
| 35 | Grit, red, thin-bedded, cross-bedded; contains gray limy lenses 1 to 3 feet thick and up to 50 feet long, and thin lenses of conglomerate. | 25.0 |
| 34 | Limy siltstone, mottled maroon and light gray, thin-bedded, nodular. | 6.5 |
| 33 | Arkose, red, thin-bedded, micaceous, cross-bedded. | 8.0 |
| 32 | Grit, red, thin-bedded, cross-bedded; bleached dark gray near contact with sill. | 28.5 |
| | Sill of Elk Mountain porphyry, about 75 feet thick. | |
| 31 | Grit, red, thin-bedded. Contains many thin lenses of conglomerate. | 21.0 |
| 30 | Limestone and shale: nodules of red and gray limestone in matrix of red clay shale. No bedding but an irregular nodular structure. | 6.2 |
| 29 | Arkose, red, thin-bedded, cross-bedded. | 7.0 |

| Unit | | Feet |
|---|---|---|
| 28 | Grit, red, thin-bedded, cross-bedded; conglomeratic at base. | 3.5 |
| 27 | Limy siltstone: nodules of red limestone in red limy silstone, and a 5- to 10-inch bed of gray limestone at top of unit. | 4.0 |
| 26 | Arkose, red, thin-bedded, cross-bedded, very micaceous; contains some thin beds of coarse red grit. Above this unit the redbeds are bright brick red; below it for several hundred feet they are duller red, maroon, or brownish red. | 33.0 |
| 25 | Grit, conglomerate, and arkose in 1- to 3-foot beds, red, thin-bedded; all the rocks contain gray limy lenses. | 38.5 |
| 24 | Limestone, gray, fine-grained; no fossils except possible algal structure. | 1.0 |
| 23 | Limy siltstone, red, micaceous, thin-bedded. | 11.0 |
| 22 | Conglomerate, pink, very coarse; contains rounded boulders of pre-Cambrian rocks up to 18 inches in diameter; grades into very coarse grit at bottom and top. | 13.0 |
| 21 | Arkose and limy siltstone, dark maroon, thin-bedded, cross-bedded, highly micaceous. | 36.0 |
| 20 | Limestone, gray, fine-grained, nodular, rough-weathering; has algal(?) structure. | 1.3 |
| 19 | Grit, conglomeratic, maroon, thin-bedded, cross-bedded; limy and light gray in spots. | 17.0 |
| 18 | Arkose, maroon, highly micaceous, thin-bedded, cross-bedded, mostly coarse-grained; a few gray limy spots. | 38.5 |
| 17 | Grit, conglomeratic, maroon, thin-bedded, cross-bedded. | 11.5 |
| 16 | Limy siltstone and thin-bedded, fine-grained arkose, maroon. A few nodules and small lenses of impure gray limestone. | 36.0 |
| 15 | Limestone, light blue gray, fine-grained, rough-weathering. No fossils. | 2.5 |
| 14 | Limy siltstone, maroon, finely banded and thin-bedded, cross-bedded; contains nodules of red limestone near top and a 1-foot bed of gray limestone 7 feet below top. Limestone made up in large part of dark-gray limestone pellets 1 to 5 mm. in diameter, in a matrix of lighter gray limestone. Lower 7 feet of unit contains abundant limy nodules in siltstone or shale matrix. | 18.0 |
| 13 | Arkose, with some interbedded siltstone and grit in thin beds, and a few 6-inch beds of light gray silty limestone. Maroon, thin-bedded, cross-bedded. | 37.0 |

| Unit | | Feet |
|---|---|---|
| 12 | Grit, dark pink, thin-bedded, cross-bedded; conglomeratic in lenses, with pebbles up to 3 inches in diameter; irregular patches are limy and light gray. | 24.3 |
| 11 | Conglomerate, pink, massive, cross-bedded, loosely cemented; contains cobbles of pre-Cambrian rocks up to 7 inches in diameter; contains lenses of coarse-grained limy grit. | 36.5 |
| 10 | Arkose, maroon, thin-bedded, cross-bedded; contains thin lenses of grit and conglomerate. | 18.5 |
| 9 | Conglomerate and coarse grit, maroon, medium-bedded, lenticular, cross-bedded. | 10.5 |
| 8 | Arkose and minor limy siltstone, red, thin-bedded, cross-bedded, highly micaceous. | 19.0 |
| 7 | Grit, pink and maroon, thin-bedded, cross-bedded; conglomeratic in lenses, and a few thin beds of micaceous arkose. | 51.0 |
| 6 | Limy siltstone and minor thin-bedded arkose, maroon, thin-bedded. Contains local lenses of light-gray limy grit and conglomerate. | 66.2 |
| 5 | Grit, conglomeratic, maroon, thick-bedded, cross-bedded. | 12.7 |
| 4 | Limy siltstone, maroon, micaceous, thin-bedded; and some interbedded thin-bedded micaceous arkose. | 36.0 |
| 3 | Arkose, maroon, micaceous, thin-bedded, cross-bedded; thin beds and lenses of grit and siltstone. | 98.0 |
| 2 | Limy arkose, mottled maroon and light buff, thin-bedded, cross-bedded. | 33.5 |
| 1 | Arkose, maroon, thin-bedded, cross-bedded, fine- to coarse grained; contains lenses of grit and conglomerate near base. | 92.0 |
| | Total (= maximum thickness of Maroon formation remaining in the Pando-Kokomo region). | 1,953.3 |

Minturn formation.

Jacque Mountain limestone member.