Avon Rodgers Bedrock Compilation Sheet 2 (paper)

Map

NOTICE!

Bedrock quadrangle 1:24,000 scale compilation sheets for the Bedrock Geological Map of Connecticut, John Rodgers, 1985, Connecticut Geological and Natural History Survey, Department of Environmental Protection, Hartford, Connecticut, in Cooperation with the U.S. Geological Survey, 1:125,000 scale, 2 sheets. [minimum 116 paper quad compilations with mylar overlays constituting the master file set for geologic lines and units compiled to the State map, some quads have multiple sheets depicting iterations of mapping]. Compilations drafted by Nancy Davis, Craig Dietsch, and Nat Gibbons under the direction of John Rodgers.

Geologic unit designation table translates earlier map unit nomenclature to the units ultimately used in the State publication.

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BEDROCK GEOLOGY

AVON QUADRANGLE, CONNECTICUT

The Avon quadrangle is an area in age. of about 55½ square miles in north-

of Avon, Bloomfield, Canton, Farm-board. The group was named for ington, Simsbury, and West Hart-exposures at and near Newark, N. J.

result of differential erosion of the of Lehmann (1959). of subsequent deposition of glacial Haven arkose underlies most of the through much of the Collinsville In the quadrangle, the Talcott angular to subrounded grains of drift. The higher prominences, western half of the Avon quadran-quadrangle. basalt is a medium- to dark-greenish quartz and feldspar. Muscovite is and the Sugarloaf, are north- area by deposits of glacial drift, Haven arkose is exposed in three erally intensely fractured and breaks erally concentrated along the trending ridges of resistant basalt talus, and alluvium. The available places in the northeastern part of into roughly equidimensional frag-bedding planes with the plates and diabase; valleys between the exposures indicate that the formathe Avon quadrangle, (1) in the ments ranging from a few inches to orientated parallel to the bedding ridges are underlain by the less tion consists of light- to dark- valley of Lucy Brook, (2) about several feet in diameter. In many planes. Grains of magnetite are resistant sedimentary rocks. Much reddish brown arkosic siltstone, one-half mile south of Lucy Brook, exposures, the basalt shows pillow scattered through the rocks but are of the higher ground is covered by arkose, and arkosic conglomerate. and (3) below King Phillip Cave. structures; these are generally best most abundant in the gray shales. thick deposits of stratified drift and mation all the sedimentary rocks of mation all the sedimentary rocks of Diabase.—A sill-like diabase body, dant in the upper and lower parts. from about 50 to about 100 feet in by postglacial alluvium. The highTriassic age between the "lower intrusive into the lower part of the Where amygdules are abundant, the Avon quadrangle. It is thinnest est point, on Talcott Mountain, is lava flow" (Talcott basalt of this New Haven arkose, is exposed in a they give the rock a distinctive at the northern end of the quadabout 950 feet above sea level. report) and the underlying preseries of outcrops on a prominent "spotted" appearance. Calcite, rangle and thickens gradually Maximum relief is about 830 feet.

Triassic crystalline rocks.

Triassic crystalline rocks.

Triassic crystalline rocks.

Triassic crystalline rocks.

Triassic crystalline rocks. thirds of the quadrangle is into the part of the New Haven arkose is

The ridge has a steep west-facing partly fill many of the vesicles, the Avon quadrangle but exposures

plain of the Farmington River north rangle. farming or construction.

(1959) states that the age of the and ripple marks are common, and the basalt cliffs along the west face rock. Interstices between the formation is not known but sug- rain prints are found here and there and there and the lack of exposures of diabase of Talcott Mountain. The bench labradorite crystals are filled with tends from near New Haven, Conn., offsets of the diabase ridge. They gests, on the basis of several lines on fresh bedding-plane surfaces, south of Big Brook, however, sug- is 100 to 200 feet wide in the north- anhedral grains of clinopyroxene to central Massachusetts. seem to strike northwest and are of evidence, that it is early Paleo- particularly in the siltstones. gest that even if the bodies are con- ern part of the quadrangle and (augite and pigeonite) some of which Emerson (1898) named this lava upthrown on the northeast, and

zoic and possibly Early Ordovician The rocks in the New Haven nected, the intrusive has not pene-widens to about 1,000 feet west of central Connecticut that is bounded

Rocks of Late Triassic age in the amounts of muscovite, biotite, and amounts of muscovite, biotite, and ern Connecticut (Rodgers, 1959) at Holyoke basalt has been removed by latitudes 41°45′ and 41°52′30″ N.

Avon quadrangle belong to the magnetite. They are cemented by about the same stratigraphic posi- and the outcrop area of the formaand longitudes 72°45′ and 72°52′30″ Newark group, a name assigned by clay and very fine hematite particles tion. W. It is just northwest of Hart- Redfield (1856) to all Triassic rocks in the red rocks and by clay alone in Similarities in chemical and feet. ford and includes parts of the towns

exposed along the Atlantic sea

the bleached rocks. In the finemineralogical composition between

South of Hoe Pond, the formathe bleached rocks. In the fine-The age of the Newark group has but in the coarse-grained rocks it suggest that the diabase was em-The quadrangle is on the west been determined as Late Triassic on only thinly coats the grains. Bedside of the Connecticut Valley Lowland an area about 20 miles wide

the basis of fossil reptile, fish,
ding planes in the rocks are comding planes in the rocks are comland, an area about 20 miles wide invertebrate, and plant remains.

Invert and 100 miles long that extends

Recent discussions of the correlaof the interstitial cement as well as

Recent discussions of the correlafrom Long Island Sound to northtion of the Newark group with
by mica flakes oriented parallel to

Talcott basalt.—The Talcott basalt

Talcott basalt.—The Talcott basalt

Talcott basalt central Massachusetts. The lowTriassic formations in Europe are
the bedding planes.

by mica Hakes oriented parallel to is the lowest of the three lava flows laminated arkosic siltstone and the bedding planes. land is underlain by Triassic rocks; contained in reports by Bock (1952)

the adjacent unlands are underlain

The New Haven arkose is prob-

the adjacent uplands are underlain and Colbert (1946) who conclude ably at least 5,000 feet thick in the by older crystalline rocks. Bedthat the Newark group is of Late
Avon quadrangle. The thickness

Avon quadrangle. The thickness

Avon quadrangle. The thickness rock in the quadrangle is mostly

Triassic age and correlative with

Avon quadrangle. The thickness has been calculated on the ashas been calculated on the asred arkosic sedimentary rocks and rocks of Keuper age in Germany.

rocks of Keuper age in Germany.

rocks of Keuper age in Germany.

sumptions that the attitude of the and in the Avon quadrangle it is sumptions that the attitude of the sumptions that the sum that the attitude of the sum that the greenish gray basalts of Late

The Triassic rocks of Connecticut

The Triassic rocks of Connecticut

The Triassic rocks of Connecticut

formation is uniform across the almost continuously exposed in formation is uniform across the sumptions that the attitude of the sumptions that the sumptions that the attitude of the sumptions that the sum that th Triassic age. The lower part of the have attracted the attention of quadrangle and that concealed prominent cliffs along the west face

Finer grained rocks commonly have quadrangle and that concealed prominent cliffs along the west face

Triassic age. The lower part of the have attracted the attention of quadrangle and that concealed prominent cliffs along the west face sedimentary sequence has been geologists since the early 1800's faulting has not affected the thickintruded by a sill-like diabase body and more than 250 papers have been and more than 250 papers have been and more than 250 papers have been ness. It is also assumed that the of probable Late Triassic age. Bedwritten on various aspects of their
written on various aspects of their
written on various aspects of their
contact between the New Haven
flow the Talcott diabase for expocontact between the New Haven rock in a small area in the northgeology. The nomenclature of the arkose and the underlying crysarkose and the underlying cryswest corner is probably crystalline Triassic formations in Connecticut talline rocks is unconformable Mountain), Conn. Other authors shale was penetrated in the upper rock of pre-Triassic age. The has a rather complex history, which although the nature of this contact have referred to it variously as the part of the formation. Similar shale Triassic rocks dip toward the east is summarized in table 1. All is indeterminate. Wheeler (1937) anterior trap sheet, the lower lava is not exposed elsewhere in the at low angles and they have been stratigraphic units recognized in concluded that the contact is an flow, and the Talcott member of the quadrangle although it has been refaulted during Late or post-Triassic the Newark group in Connecticut unconformity in this area. Rolfe Meriden formation (see table 1). ported in the Shuttle Meadow foroccur within the Avon quadrangle. Stanley (oral communication) Lehmann (1959) reapplied the formation in other parts of Connecticut The topography of the area is the Usage in this report follows that believes that the contact between mation name Talcott and changed (Krynine, 1950, Lehmann, 1959). eastward-dipping bedrock units and New Haven arkose.—The New talline rocks to the west is a fault to basalt.

Talcott Mountain, Onion Mountain, gle. It is buried over nearly all this

The upper contact of the New gray fine-grained rock. It is gencommon in most samples and is gen-Krynine (1950) named the New In these exposures, the Talcott developed near the base of the flow. The rocks are cemented by varying till, whereas large areas in the Haven arkose for the area around basalt rests conformably on the Vesicles and amygdules are common amounts of clay and hematite. valleys are covered both by till and

New Haven and included in the for
New Haven arkose. Drainage in the western twoIn the Avon quadrangle the upper west side of the Avon quadrangle. zeolites form the amygdules and nor the lower contact is exposed in

topography on the basalts and nate arkosic siltstone and conglom- the quadrangle, the diabase shows pseudomorphs of serpentine and iron Lehmann (1959) raised the unit to as a part of a detailed study of the arkose interbedded with arkosic lar and the rock breaks into iron ore surrounding a core of very diabase to basalt.

arkose are composed of angular to trated to the bedrock surface in the Kilkenny Rocks in the southern part subrounded fragments of quartz intervening area. Other large dia- of the quadrangle. South of and fresh feldspar, and lesser base bodies are exposed in south- Kilkenny Rocks the overlying grained rocks the interstitial cement the intrusive and the extrusive tion is moderately well exposed in may make up nearly half the rock, igneous rocks of the quadrangle stream valleys, road cuts, and on a

the sedimentary rocks and the crysthe descriptive term from diabase
The rocks in the Shuttle Meadow

northward-flowing Farmington moderately well exposed in stream scarp and a gentle east-facing slope. fractures, and spaces between the in the Farmington River valley River, which is a major tributary valleys along the west face of This shape probably reflects the pillows. of the Connecticut River. Drainage
Talcott Mountain. The middle part attitude of the intrusive body. If
The texture of the rock ranges boundary indicate that the formation in the eastern third of the quadof the formation is exposed along
of the formation is exposed along
so, the diabase dips toward the east
from intersertal to intergranular.

is conformable with the enclosing rangle is into smaller generally

Hop Brook and Minister Brook in at a relatively low angle and is Randomly oriented sericitized plaeastward-flowing tributaries of the the northern and central parts of approximately concordant with gioclase feldspar laths, probably Holyoke basalt.—The Holyoke The major land use in the Avon

the quadrangle respectively, and in bedding in the New Haven arkose.

The major land use in the Avon

the quadrangle respectively, and in bedding in the New Haven arkose.

labradorite, form about half the basalt is the middle of the three an abandoned quarry north of Avon Neither the upper nor the lower rock. Interstices between the feldquadrangle is for suburban housing,
Old Farms School in the southwest.

Contact of the diabase is exposed spar crystals are filled with brownish rocks of Connecticut and Massachuand the number of dwellings has

The lower part of the formation is in the quadrangle, but the intrusive devitrified glass and chloritized setts. It extends from Long Island increased greatly in recent years.

The principal centers of population,

The principal centers of population,

Of the Sugarloaf in the northwest of the Sugarloaf in the northw Avon, Simsbury, and West Hartford, and along Big Brook and the north-central part of the Tariffville as microscopic equidimensional son (1891, 1917) named it the Holyoke are devoted largely to commerical enterprises in support of the subenterprises in support of the subit was observed also in several

The diabase, in most places, is

The diabase, in most places, is

The diabase, in the altered pyroxene.

Tiny

Tables of the subin the altered pyroxene.

Tiny

Tables of the subin the altered pyroxene.

The diabase, in most places, is urban communities. Tobacco farms excavations in the southwestern and fine to medium grained, but it is phenocrysts of unaltered pigeonite setts. Other authors have referred occupy small areas along the flood northwestern parts of the quad-coarse grained in a few small occur throughout the flow. Miirregular areas. It is medium to croscopic amygdules are common in middle lava flow, and Holyoke lava of Avon; dairy and poultry farms

From these exposures it appears dark greenish gray on fresh surthe flow and are filled with chlorite, member (see table 1). Most recent are scattered through the area. that the lower part of the New faces and weathers to shades of calcite, quartz, and zeolites. authors, however, have considered Most of the population is concenHaven arkose consists mainly of red and brown. In some exposures, Samples collected from the lower it a member of the Meriden formatrated in the valleys. The steep coarse-grained arkose and subordi- especially in the northern part of part of the flow contain probable tion as defined by Krynine (1950).

tion widens abruptly to about 4,000

The formation consists mostly of

formation are composed chiefly of throughout the flow and are abun- The formation ranges in thickness about 2 miles north of the quadrangle

diabase is largely unsuited for erate, and that the middle and well-developed columnar jointing. ore after olivine. The pseudomorphs for mational status, reapplied Geologic mapping was carried out sist of fine- to medium-grained the south, the jointing is less reguor six-sided outlines with a rim of changed the descriptive term from geology of Connecticut, financed siltstone. The rocks range from roughly equidimensional fragments fine grained serpentine. In the Avon quadrangle the cooperatively by the State Geologi-light shades of pink through mod-ranging from a few inches to

The Talcott basalt is a sheetlike

Holyoke basalt forms prominent map shows the bedrock formations of the word and shows the bedrock formations of the word and shows the bedrock formations of the word at away. The dark-colored areas indicate bedrock exposures from which interpretations of geologic control of the first process of the colored area of the color which interpretations of geologic structure and lithology were made.

which interpretations of geologic structure and lithology were made.

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which interpretations of geologic structure and lithology were made.

Wheeler, Girard, 1937, The west wall allow a local come ones, in the local ceme teries are carved from similar rock.

Wheeler, Girard, 1937, The west wall allow a local come of the later was supported emphatically by matrix. The bleaching was obspice on the local ceme teries are carved from similar rock.

Wheeler, Girard, 1937, The west wall allow a local ceme teries are carved from similar rock.

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Wheeler, Girard, 1937, The west wall allow a local ceme teries are carved from similar rock.

Wheeler, Girard, 1937, The matrix. The bleaching was observed only where the rock was served only where the rock was suggested served on the rock was sug PRE-TRIASSIC ROCKS

served only where the rock was freshly exposed in excavations. It is augite. Magnetite is abundant about 120 feet at the northern vertical joints that cause the rock Rocks of pre-Triassic age do not is particularly pronounced around in the rock as small subhedral to boundary to about 200 feet at the to break into blade-shaped frag-

with fine- to medium-grained either changes in lithology or the orthoclase), constitutes about one rangle, the Shuttle Meadow formataper toward the bottom. The each has been projected into the grained rocks are thick bedded and posed in the southeast corner of the shore of the Shuttle Meadow Resort the shuttle Meadow Re The pre-Triassic rocks are shown not preliminary geologic map of not preliminated and not shown on the preliminated and quadrangle. Either of these exposures may represent a southern posures may represent a southern posures may represent a southern preliminary geologic map of not preliminated and quadrangle. Either of these exposures may represent a southern posures may represent a southern position. on the preliminary geologic map of nology used in this report follows posures may represent a southern The Shuttle Meadow formation from intergranular to subophitic. East Berlin formation. It is the Connecticut (Rodgers, 1959) as part the system suggested by McKee continuation of the diabase body lies between the Talcott and Holyoke Irregularly oriented labradorite uppermost of the three lava flows of the Hartland formation. Rodgers

and Wier, 1953.) Shrinkage cracks

of the Hartland formation and Wier, 1953.) Shrinkage cracks

and Wier, 1953.) Shrinkage cracks

The leab of the Avon quadrangle.

The leab of the Avon quadrangle basalts and forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between laths form the groundmass of the same forms a bench between lates a bench between lates a bench bet

rangle are unreliable.

crop out in the Avon quadrangle but they are informed to make the are informed to make the diabase but they are informed to make the diabase and near the diabase whether are informed to make the diabase and near the diabase whether are informed to make the diabase when the diabase whether are informed to make the diabase when the diabase whether are informed to make the diabase whether are informed to m but they are inferred to underlie an contacts in the lower part of the area of shout 0.01 square mile in area of about 0.01 square mile in formation but it also occurs in the northwest across a control made with the enclosing section, and 1 to 3 feet long. They the northwest corner. Coarse other places in the formation where graphic pagestic integrated in the attitude of the beds and i granite pegmatite interlayered it is apparently not associated with and potassium feldspar (probably Where exposed in the Avon quadquartz-feldspar gneiss is exposed introduction of material. The percent of the rock.

The group of faults shown in the distribution, which is exposed along Tumble tion, which is exposed along Tumble to the group of faults shown in the group of faul 0.2 mile to the west in the Collins
bleaching seems to be the result of

In the northern part of the quad
brown to grayish-red arkosic jointed and breaks into roughly

Brook, is conformable with the un
northeast corner of the map are exville quadrangle and 0.5 mile to the ville quadrangle and 0.5 mile to the reduction or removal of ferric rangle, the diabase appears to be siltstone and shale and subordinate ranging rangle, the diabase appears to be siltstone and shale and subordinate ranging rangle, the diabase appears to be siltstone and shale and subordinate ranging range. north in the Tarriffville quadrangle. iron from the red-colored rocks. about 300 feet thick. It thins more lenses of fine- to medium-grained from a few inches to several feet in contact is not exposed in or near diameter. The boundary between the Avon quadrangle. Lehmann They strike northwest and are upolder rocks and Triassic sedimentary
older rocks and Triassic sedimentary
rocks are related to the rocks exposed about 0.1 mile east of grain size of the rocks. The coarse- Big Brook. Similar diabase is ex- mation for exposures on the southern the irregularly jointed upper part in the type section. each has been projected into the Avon quadrangle as shown on the Avon quadrangle and in the Avon quadrangle as shown on the Avon quadrangle and in the Avon quadrangle as shown on the Avon quadrangle as sho grained rocks are laminated and northwest corner of the New Britain Britain, which had been described It is not shown on the map. deposited as a lava flow on the

SECTION ALONG LINE A-A'

In the Avon quadrangle the subsequent authors followed his at the same time. Holyoke basalt is 250 to 350 feet usage (table 1). Lehmann (1959) GEOLOGIC HISTORY Pond, the flow is cut by a major Avon quadrangle, the Hampden bathicken southward, but because of no topographic expression. basalt conformably overlies the erably less abundant.

of the East Berlin formation.—The
East Berlin formation is inferred

Characteristics of the East Berlin formation is inferred

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Characteristics of the West very hearly balanced one another so that the trough must have been in progsulting all the time of deposition of the trough must have been in progsulting all the time of deposition of the trough must have been in progsulting all the time of deposition of the trough must have been in progsulting all the time of deposition of the trough must have been in progsulting all the time of deposition of the trough must have been in progsulting all the time of deposition of the trough must have been in progsulting all the time of deposition of the trough must have been in progsulting all the time of deposition of the trough must have been in progsulting all the time of deposition of the trough must have been in progsulting all the time of deposition of the trough must have been in progsulting all the time of deposition of the trough must have been in progsulting all the time of deposition of the trough must have been in progsulting all the time of deposition of the trough must have been in progsulting all the time of deposition of the trough must have been in progsulting all the time of deposition of the trough must have been in progsulting all the time of deposition of the trough must have been in progsulting all the time of deposition of the trough must have been in progsulting all the time of deposition of the trough must have been in progsulting all the time of deposition of the trough must have been in progsulting all the time of deposition of the trough must have been in progsulting all the time of deposition of the trough must have been in progsulting all the time of deposition of the trough must have been in progsulting all the time of deposition of the trough must have been in progsulting all the time of the troug

The lower 20 feet of the formaquadrangle.

The formation seems to be about end in a minor fold. Strata of the as a result of movement on the east-The lower contact of the formagested east of Reservoir No. 3.

are partly altered around their flow the Hampden diabase. He thus parallel the faults in the north- ern border fault, and that the move- from the Portland arkose at Portmargins to a brown cryptocrystal- correlated it with the "posterior east corner of the quadrangle. Alment continued intermittently land, Conn., in the brownstone line material. Magnetite, a common sheet" described by Percival, but he though the offsets on the diabase during the deposition of the Triassic buildings in New York City. accessory mineral, occurs as small did not designate a type section, nor ridge are interpreted to be the reanhedral or subhedral grains and did he indicate the place for which sult of faulting, they could also have of the detritus introduced into the the Holyoke basalt has been used dendritic growths in the brown he named the formation. His maps formed by a change in stratigraphic Triassic basin came from the highcryptocrystalline alteration pro- show the rock as cropping out in position of the intrusive body. lands to the east. Krynine mar- terial. Abandoned quarries lie north duct of the clinopyroxene. Chlorite, Hampden County, Mass., however; Movement on the faults occurred shalled petrographic evidence as well and east of Welles Pond along calcite, quartz, and zeolites form and presumably the name is derived during post-Triassic time because all as theoretical considerations in Route 44 in the east-central part of the amygdules and partly fill some from there. Krynine (1950) con- of the Triassic formations are cut support of Barrell's hypothesis and the quadrangle. Apparently the of the vesicles in the upper part of sidered this rock the uppermost unit by the faults. It is not known, howin the Meriden formation, and most ever, if all the faults were formed rived wholly from the east and that part of the basalt made this rock

thick. North of Gale Pond, where reapplied Emerson's formational
Theories of the origin of the Krynine firmly supported the conare being carried on in the Holyoke the thickness can be measured with designation and changed the desreasonable accuracy, the basalt is criptive term from diabase to basalt.

Valley lowland have undergone a that the sediments were deposited the north and south. about 250 feet thick. South of Gale

In the northeastern part of the long evolution. The first investias as a series of coalescing alluvial Pond, the flow is cut by a major north-trending fault along which salt forms a low ridge but southward salt forms a low ridge but southward salt forms a low ridge but southward the early and middle 1800's were Deposition of the Triassic rocks displacement cannot be measured it is buried in most places by stratiaccurately. The basalt seems to fied glacial drift and has essentially report on the geology of Connecticut these early reports. in the southern part of the quadbasalt is a fine- to medium-grained
Davis (1898) published the most

Movement along the eastern border

Barrell, Joseph, 1915, Central Conrock. It is commonly medium to comprehensive report on the Trias-fault raised the highlands to the east neticut in the geologic past: Con-The lower contact of the Holyoke dark greenish gray and speckled sic rocks of Connecticut and many and resulted in the formation of neticut Geol. Nat. History Survey basalt is not exposed in the quad- with abundant round white amyg- of his theories are held today. Davis westward-flowing streams. Detritus Bull. 23, 44 p. rangle, but it is exposed about 2 dules of calcite, quartz, prehnite, and concluded, from observations made derived from the erosion of the eastmiles to the north in the valley of some zeolites. Toward the south, the Farmington River where the however, the amygdules are considthe Farmington River where the however, the amygdules are considthe Farmington River where the however, the amygdules are considland, that the Triassic rocks had streams over a wide area west of motive evolution, with remarks sedimentary rocks of the Shuttle In thin section, the rock has an "having moderate relief, perhaps differential movement along the v. 26, p. 395-433. Meadow formation. The upper intersertal to intergranular texture several hundred feet in distances of eastern border fault resulted in the contact is exposed in the headwaters with laths of labradorite forming fives or tens of miles; . . ." He beof Tumble Brook in the east-central the groundmass of the rock. Interpart of the Avon quadrangle; in this stitial to the feldspar laths is a brown posited in a closed basin formed by ern highlands. Erosion of the eastexposure the basalt is overlain cryptocrystalline material, which downwarping or downfaulting and ern highlands and deposition of art. 5, p. 225-374. conformably by sedimentary rocks probably is either altered pyroxene that "... a gradual depression of sediments to the west very nearly Dana, J. D., 1891, Some of the fea-

to underlie an area about one-half others are filled with calcite, quartz, ous subaerial or marshy environabout the same elevation during the West Rock, Pine Rock, Mill Rock mile wide along the base of the eastern slope of Talcott Mountain.

Lehmann (1959) named the formation for the village of East Berlin, Conn., which is about 10 miles

and prehnite.

The Hampden basalt is probably to 200 feet thick in the Avon quadrangle. Neither the upper nor the lower contact is exposed and the sides of the trough and that subsides of the trough and the trough a Avon quadrangle. He chose as his graphic ridge. The thickness caltype section a road cut along State

The diabase body was probably in
type section a road cut along State

Culated is, therefore, problematical. Route 72 about 1 mile west of the village Approximately 200 for the villag village. Approximately 230 feet of arkose does not crop out in the Avon feet. He describes the formation as consisting of ". . . principally define an area about one-quarter to one-half mile wide along the eastern edge of the quadrangle.

define an area about one-quarter to one-half mile wide along the eastern rocks on the adjacent highlands and edge of the quadrangle.

Holyoke quadrangle [Massachurocks on the adjacent highlands and edge of the quadrangle in a humid environment of the rocks on the adjacent highlands and edge of the quadrangle. fine-grained clastics—shale and mudstone—predominantly grayish red..." (Lehmann, 1959).

The lower part of the formation

The lower The lower part of the formation upper lava flow. He named the adjacent lands and that as usual on the lower part of the formation upper lava flow. He named the adjacent lands and that as usual on the lower part of the formation upper lava flow. He named the adjacent lands and that as usual on the large representation to the hosping to the lands and that as usual on the large representation to the hosping representation to the large representation The lower part of the formation upper lava flow. He named the is exposed in the headwaters of unit for the excellent exposures in

Hampden basalt.—The Hampden ville quadrangle, were projected

in the Avon quadrangle was probably is perhaps the most outstanding of which resulted in a surface of low relief on the pre-Triassic rocks. been deposited on a peneplain the eastern border fault. Continued

is exposed in the headwaters of Trout Brook and Tumble Brook in the east-central part of the quadrangle. The middle and upper parts of the formation are exposed along Duncaster Road and State Route 185

unit for the excellent exposures in the "brownstone" quarries at Portland, Conn. Krynine described the formation as consisting of "... conglower and purple adjacent lands, and that, as usual on the "brownstone" quarries at Portland, Conn. Krynine described the formation of new glomerates, reddish brown and purple arkoses (some are grayish), fine-Duncaster Road and State Route 185 ple arkoses (some are grayish), fine-tribution that Davis made to the rocks were removed by erosion. and on small knobs west of Duncaster Road in the northeast part of

the continuated the thickness of the

tribution that Davis made to the study of the Connecticut Triassic study of the extrusive glaciation smoothed the contours of subordinate red and dark shales."

Lead to the continuate the study of the Connecticut Triassic study of the extrusive glaciation smoothed the contours of subordinate red and dark shales."

Lead to the continuate the study of the continuate study of the extrusive glaciation smoothed the contours of the continuate the study of the extrusive glaciation smoothed the contours of th the quadrangle. In addition, the He estimated the thickness of the character of the lava flows and his the land formed by the pre-Pleisto- Lehmann, E. P., 1959, The bedrock formation was observed in a few formation as about 4,000 feet. Only use of the lava flows as key beds in cene erosion. Deposition of drift geology of the Middletown quadcellar excavations on the east side the lowermost 500 to 1,000 feet of the deciphering the stratigraphy and the from the melting glaciers partly rangle, with map: Connecticut of Duncaster Road. formation are present in the Avon structure. He also showed that filled the valleys and veneered much Geol. Nat. History Survey quad. some of the bodies of trap are sill- of the uplands. Post-Pleistocene rept. no. 8, 40 p. tion consists of greenish-gray to
STRUCTURAL GEOLOGY like and that some are dikes. His erosion has been confined mainly to
Longwell, C. R., 1933, The Triassic dark greenish-gray arkose and arkosic siltstone. The upper part arkosic siltstone. The upper part arkosic siltstone arkosic siltstone arkosic siltstone arkosic siltstone arkosic siltstone. The upper part arkosic siltstone arkosi arkosic siltstone. The upper part consists of reddish-brown to grayish-red arkose and arkosic siltstone. The gray rocks contain little or no hematite, but the red ones contain hematite, but the red ones contain to about 5° in the south-central part the flows was vigorously opposed by J. D. Dana (1891) who contended that all of the trap rocks of the Connecticut Triassic were intrusive. Davis' conclusion that the lava of building stone and crushed rock. Active quarrying operations are no cross-stratification in sedimentary

for erate, and that the middle and upper parts of the formation contains sist of fine- to medium-grained arkose interbedded with arkose is litstone. The rocks range from siltstone. The rocks range from light shades of pink through mod
The rocks range from erate, and that the middle and upper parts of the formation contains to about 20° in the north and flattens well-developed columnar jointing.

The pseudomorphs generally have very distinct four-upper parts of the formational status, reapplied from about 5° in the south-central part of the quadrangle. Variable atti-upper parts of the formation and flattens to about 5° in the north and flattens to about 5° in the south-central part of the quadrangle. Variable atti-upper parts of the formation and flattens to about 5° in the south-central part of the quadrangle. Variable atti-upper parts of the formation and flattens to about 5° in the south-central part of the quadrangle. Variable atti-upper parts of the formation and flattens to about 5° in the south-central part of the quadrangle. Variable atti-upper parts of the formation and flattens to about 5° in the south-central part of the quadrangle. Variable atti-upper carried ones contain that the lava doubt 5° in the south-central part of the quadrangle. Variable atti-upper carried ones contain the doubt 5° in the south-central part of the quadrangle. Variable atti-upper carried ones contain the doubt 5° in the south-central part of the quadrangle. Variable atti-upper carried ones contain the doubt 5° in the south-central part of the quadrangle. Variable atti-upper carried ones contain the doubt 5° in the south-central part of the quadrangle. Variable atti-upper carried ones contain the dobut 5° in the outles are common near faults and the descriptive term from the diabase contacts.

The exposures in the quadrangle the descriptive term from the diabase contacts.

The exposures in the quadrangle the descriptive term from the diabase contacts.

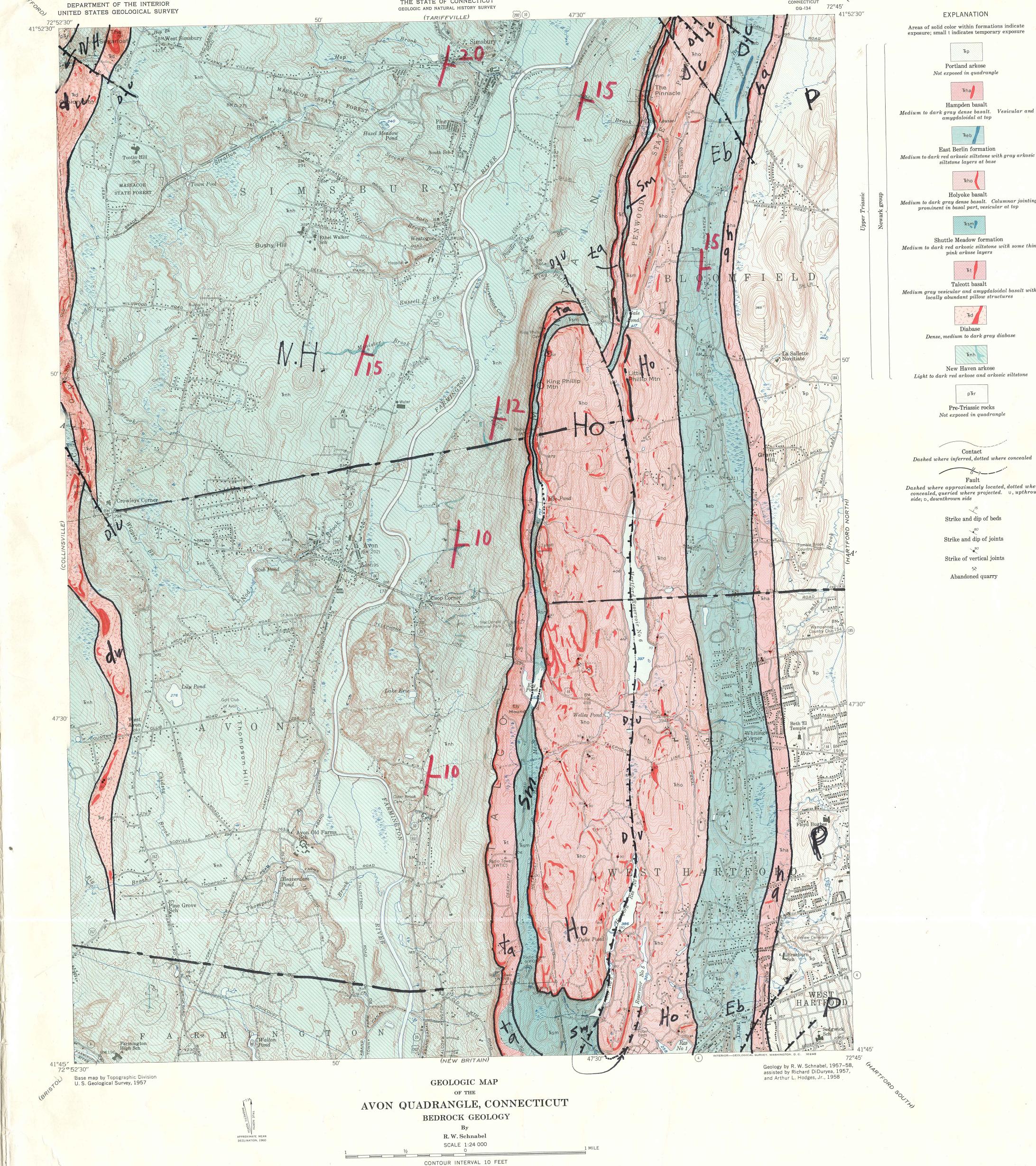
The diabase contain the doubt 5° in the south-central part of the quadra The exposures in the quadrangle suggest that the East Berlin for- suggest Ight shades of pink through mother U.S. Geological Survey. Field data were compiled on a topographic base at a scale of II-20,000. The mass ascale of II-20,000. The mass in the mass were a fleet in diameter. Small fragments of poor to dark reddish brown to dark redish to possible as the generally thing bedded and massive whereas most of the flow should and the least set of the top of a redistributed to possible as the sedimentary rocks are generally thing bedded and massive whereas most of the f as they probably would appear if the surficial deposits were stripped as they probably would appear if the surficial deposits were stripped as a series of the surficial deposits were stripped as a series of the surficial deposits were stripped as a series coarse grained. Vesicies and amygrated as a series coarse grained as a series coarse grained. Vesicies and amygrated as a series coarse grained as a series co

the western margin of the Triassic more suitable than the more masbasin was originally much farther sive rock in the upper part of the

west than at present. In addition, flow. Active quarrying operations LITERATURE CITED

on correlation: Jour. Paleontology,

Table 1. History of nomenclature of Triassic rocks in Connecticut. Rodgers, et al., 1959 Lehmann 1959 Krynine 1950 Davis 1898 Portland arkose Portland arkose Portland arkose Upper sandstone Hampden lava Upper lava Hampden basalt Posterior trap flow member East Berlin Upper sedimentary Upper sedimentary Posterior shale formation member division Holvoke lava Middle lava Holyoke basalt Main trap sheet member Shuttle Meadow Lower sedimentary | 2 Lower sedimentary Anterior sandformation member stone and shale division Talcott lava Talcott basalt Anterior trap member flow New Haven arkose New Haven arkose New Haven arkose Under sandstone



DATUM IS MEAN SEA LEVEL 1960

PREPARED IN COOPERATION WITH

THE STATE OF CONNECTICUT

EXPLANATION Areas of solid color within formations indicate exposure; small t indicates temporary exposure Τερ Portland arkose

BEDROCK GEOLOGY

AVON QUADRANGLE

CONNECTICUT

Not exposed in quadrangle Hampden basalt

 $amygdaloidal\ at\ top$ East Berlin formation

Medium to dark red arkosic siltstone with gray arkosic siltstone layers at base

Holvoke basalt Medium to dark gray dense basalt. Columnar jointing prominent in basal part, vesicular at top



Talcott basalt Medium gray vesicular and amygdaloidal basalt with locally abundant pillow structures



ight to dark red arkose and arkosic siltstone Pre-Triassic rocks Not exposed in quadrangl

Dashed where inferred, dotted where concealed

Dashed where approximately located, dotted where $concealed, queried\ where\ projected.\ \cup, upthrown$ side; D, downthrown side Strike and dip of beds

Strike and dip of joints Strike of vertical joints

Abandoned quarry