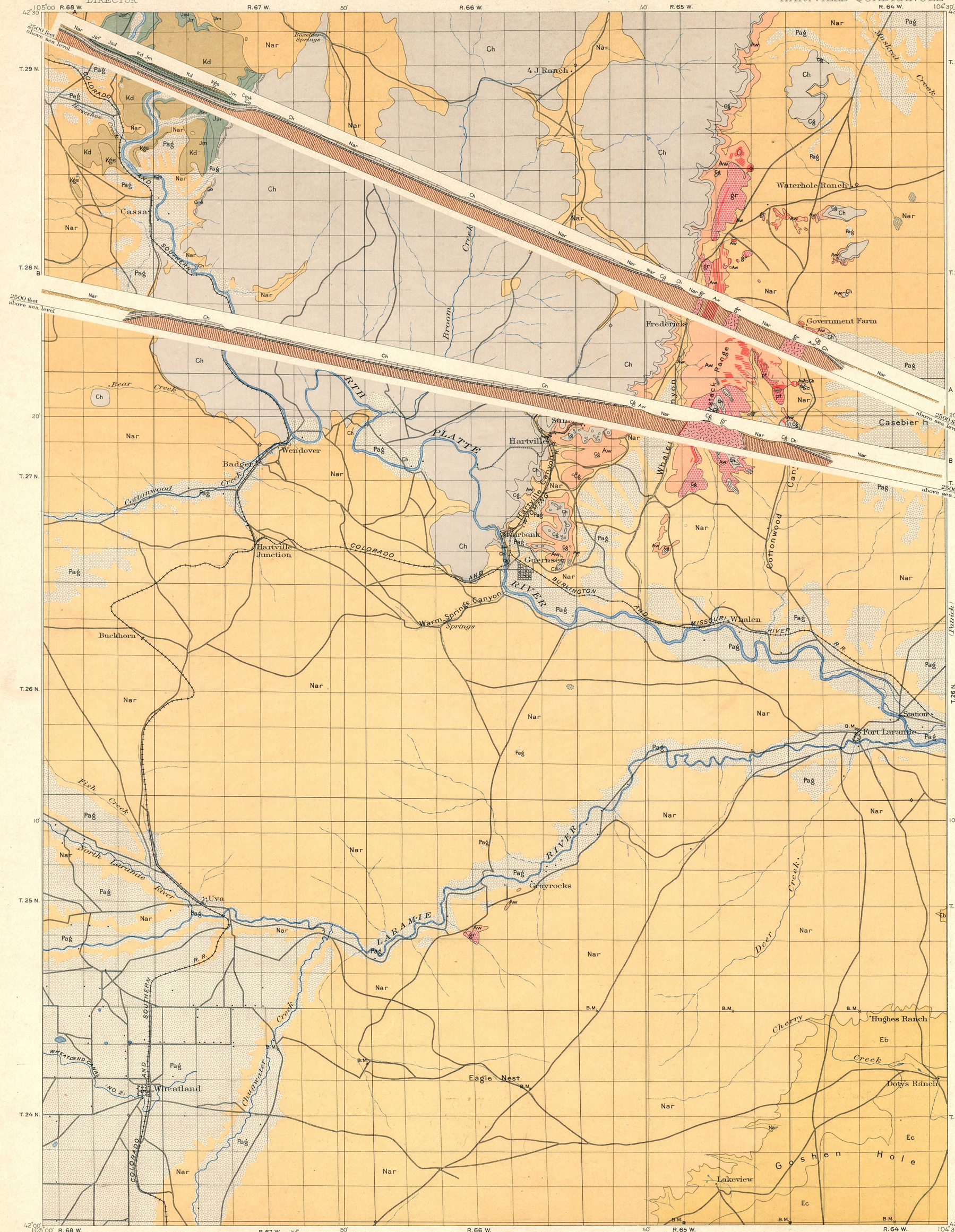
U.S. GEOLOGICAL SURVEY
CHARLES D. WALCOTT
DIRECTOR

STRUCTURE-SECTION SHEET

WYOMING
(LARAMIE COUNTY)
HARTVILLE QUADRANGLE



LEGEND

SURFICIAL ROCKS

SHEET SYMBOL		
Pag		Alluvium and terrace gravels (gravel, sand, and silt on old terraces and in recent stream bottoms of which only the larger areas are shown.) — PLEISTOCENE

SEDIMENTARY ROCKS

SHEET SYMBOL	SECTION SYMBOL		
Nar	Nar	Arikaree formation (white sand and soft sandstone with concretions.)	MIOCENE — NEOCENE
Eb		Brule formation (flesh-colored sandy clay with sandstone layers)	OLIGOCENE — EOCENE
Ec		Chadron formation (green, maroon, and pink sandy clay and grey sandstone)	OLIGOCENE — EOCENE
Kgs	Kgs	Graneros formation (dark-colored flaky shale, containing calcareous concretions and some massive sandstone)	CRETACEOUS
Kd	Kd	Dakota sandstone (massive sandstone with thin beds of shale; possibly includes lower Cretaceous strata at the base)	CRETACEOUS
Jm	Jm	Morrison clay (clay of various colors, green, purplish, reddish, light gray, dark gray, and nearly black.)	JURASSIC — JURATRIAS
Jsd	Jsd	Sundance formation (buff sandstone with interbedded clay near the top.)	JURASSIC — JURATRIAS
Jsf	Jsf	Spearfish sandstone (soft thin-bedded red sandstone; "Red Beds")	TRIASSIC? — JURATRIAS
Cmk	Cmk	Minnekahta limestone (very thin-bedded grey limestone	CARBONIFEROUS
Co	Co	Opeche formation (fine-grained red sandstone with some shale)	CARBONIFEROUS
Ch	Ch	Hartville formation (massive limestone with beds of sandstone and quartzite)	CARBONIFEROUS
Cg	Cg	Guernsey formation (limestone with some sandstone and quartzite)	CARBONIFEROUS
Aw	Aw	Whalen group (quartzite, schist, and siliceous limestone, with some gneiss)	ALGONKIAN

IGNEOUS ROCKS

SHEET SYMBOL	SECTION SYMBOL		
gr	gr	Granite (large masses, intrusive in the Algonkian rocks)	ALGONKIAN?
pt		Pegmatite (large masses, intrusive in the Algonkian rocks)	ALGONKIAN?
		Dikes (granite, pegmatite, and some aplite)	ALGONKIAN?

Henry Gannett, Chief Topographer.
Jno. H. Renshawe, Topographer in charge.
Topography by W. S. Post.
Surveyed in 1895.

R. 67 W. 14½°
TRUE NORTH — MAGNETIC NORTH
APPROXIMATE MEAN DECLINATION 1900

Scale 1/125000
1 ½ 0 1 2 3 4 5 Miles
1 ½ 0 1 2 3 4 5 Kilometers

Edition of Nov. 1902.

Geology of Cretaceous and older rocks by W. S. Tangier Smith.
Geology of post-Cretaceous rocks by N. H. Darton; assisted by C. A. Fisher.
Surveyed in 1900 and 1902.