

Table 3. Generalized stratigraphic section, Gas Hills district, Wyoming*

Age	Formation	Thickness (feet)	Description	
TERTIARY	Miocene	Unnamed	120+	Conglomerate, yellowish-gray to pale-orange, forms prominent ledge, contains volcanic pebbles; also successive exposures of soft white sandstone along the Beaver Divide in the southern part of the area.
Oligocene	White River formation	100-500	Siltstone, mudstone, and claystone; claystone in extreme upper and lower parts are orange-pink to pale red, bentonitic, contain beds of pebble conglomerate; siltstone in upper and lower parts is gray to pale orange, tuffaceous, calcareous; mudstone in middle part, pale orange, tuffaceous, contains lenses of arkose and conglomerate. Lower beds of siltstone present in local channels cut into Eocene rocks and contain an extensive lower Eocene vertebrate fauna.	
Upper and middle Eocene	Unnamed	150-550	Mudstone, sandstone, volcanic conglomerate, greenish-gray to olive, tuffaceous. Mudstone, greenish-gray to greenish-yellow, bentonitic, tuffaceous, and arkose in parts. Forms prominent ledge at base of Beaver Divide escarpment.	
Lower Eocene	Wind River formation	0-900	Upper coarse-grained facies (300-800 feet). Sandstone, yellowish-gray to dusky yellow, containing many rust-colored beds, dominantly coarse-grained but ranges from medium-grained to granitic, grains sub-angular to subrounded, arkose, poorly sorted, friable, calcareous and ferruginous in part, forming ledges. Crossbedding is common. Contains some mudstone, carbonaceous shale, and siltstone. Conglomerate beds 10 to 15 feet in thickness in the western part of the area with cobbles averaging 6 to 8 inches in diameter and boulders as much as 2 feet in diameter. The upper contact with middle and upper Eocene rocks is gradational, and the units become finer grained.	
CRETACEOUS	Upper Cretaceous	Cody shale	5000-5500	Sandy shale and sandstone in upper half is gray to light gray to tan, forms low ridges; prominent concretionary zone about 500 feet below top contains fossils of probable Eocene age; shale and sandy shale in lower half is gray, calcareous in part, contains fossils of early Niobrara age (<i>Acosaurus deflexus</i> Meek) in lower 100 feet.
Frontier formation		581-909	Sandstone and shale. Sandstone is gray, fine to medium grained, weathers gray to rusty, is nonconformable; forms prominent ridges in upper 115 feet; 10-foot sandstone unit 40 feet above base locally forms prominent ridge. Shale is dark gray to black, sandy to silty, bentonitic in part. Basal unit is a 2-foot bentonite bed, very light gray, waxy, hard, which is the locus of numerous springs. Large calcareous concretions about 200 feet below top contain the <i>Grosser ammonite</i> <i>Acosaurus</i> .	
Lower Cretaceous	Mowry shale	395-536	Shale, black to dark-gray, siliceous, weathers light gray, forms prominent rounded hogbacks, contains numerous fish scales; includes siltstone and bentonitic shale in upper part and bentonitic shale in lower part. Contact with underlying formation arbitrarily chosen at base of lowest siliceous shale.	
	Thermopsis shale	297-555	Shale, black, soft, flaky, in many places poorly exposed; forms valley; some fine-grained rusty sandstone, gray siltstone, and light-gray bentonitic beds are included. Study sandstone member in upper half is light gray, forms very weak ridge in some areas.	
CRETACEOUS AND JURASSIC	Cloverly and Morrison formations	288-379	Cloverly: Sandstone and shale. Top 40 feet, called the Rusty beds, is light-gray sandstone, fine- to coarse-grained, sparsely weathers rusty, and contains some dark shale; unit forms back slope of ridge or locally a separate ridge. Rusty beds underlain by 40 feet of gray conglomerate, which weathers brown, contains black chert pebbles, grades laterally to sandstone; sparsely gray in part; unit forms prominent ridge. Lower part of formation is variegated claystone. Contact between Cloverly and Morrison formations tentatively placed at base of 12-foot sandstone bed, light-gray, sparsely, Morrison: Chalky red to variegated claystone with basal sandstone unit, medium-grained, coarsely bedded, forms low ridge.	
JURASSIC	Sundance formation	95-121	"Upper Sundance" Sandstone, shale, and limestone. Sandstone is green, highly glauconitic, shaly in part, contains numerous <i>Edwardsia</i> in lower part; limestone is brown, glauconitic, shaly in part, contains numerous large pelecypod fossils.	
	"Lower Sundance"	127-135	Sandstone and shale. Sandstone is buff to light gray, near top includes two thin red shaly zones; shale is pale green, sandy in part, calcareous in part.	
	Nugget sandstone	171-325	Sandstone, gray, greenish-gray and shaly in part, calcareous in part; middle part forms prominent ridge.	
TRIASSIC	Chugwater formation	1100±-1270	Upper 300 feet is sandstone, dark red, shaly and silty in part, includes purplish and greenish zones with limestone pebbles in upper part. Five-foot limestone bed, gray, hard, forms low ridge and prominent dip slope. Lower 900± feet is sandstone and siltstone, dark red, shaly in part, calcareous in part. Sandstone may be gray where red coloring is reduced in presence of oil stains.	
	Dismal formation	62	Shale and sandstone, gray to tan, calcareous in part in upper half. Sandstone and shale; silty dolomite in lower half.	
PERMIAN	Phosphoria formation	348	Dolomitic siltstone and dolomite, gray to brown, with some bedded chert and thin phosphatic zones; forms low ridges.	
PENNSYLVANIAN	Tenleep sandstone	280±-299	Sandstone, gray to rusty, fine- to medium-grained, crossbedded in part, calcareous in part, includes some white dolomite and cherty dolomite; forms prominent ridges.	
	Amesden formation	187-188	Sandstone and shale, red to gray, silty near top and in lower middle part; cherty gray limestone and dolomite in upper middle part. Sandstone at base is rusty to reddish, fine grained, thick bedded, slightly calcareous, is probably equivalent of Darwin sandstone member of Wind River Mountains.	
MISSISSIPPIAN	Madison limestone	319-420	Limestone, chiefly in upper part, and dolomite, light-gray to gray-brown, cherty in part; forms ridges, cliffs and rocky slopes.	
CAMBRIAN	Gallatin limestone	0-209	Limestone, flat-pebble conglomerate, gray to red, with sandy limestone matrix, glauconitic; contact with underlying formation tentative. Pre-Madison cross surface bevels underlying beds in Gas Hills area.	
	Gros Ventre formation	327-430	Siltstone and sandstone, gray to reddish-brown, glauconitic, calcareous in part, quartzitic in part; includes gray glauconitic flat-pebble limestone conglomerate in middle part. Thickness shown is an approximation.	
	Flathead sandstone	245	Sandstone, reddish-brown, quartzitic in part, crossbedded, arkose to conglomeratic in part; lower part not studied; in Gas Hills area top 30 feet forms prominent quartzite ledges and underlying 100 feet is sandstone, reddish-brown, glauconitic, shaly in part.	
PRECAMBRIAN	Unnamed granite, schist, gneiss			

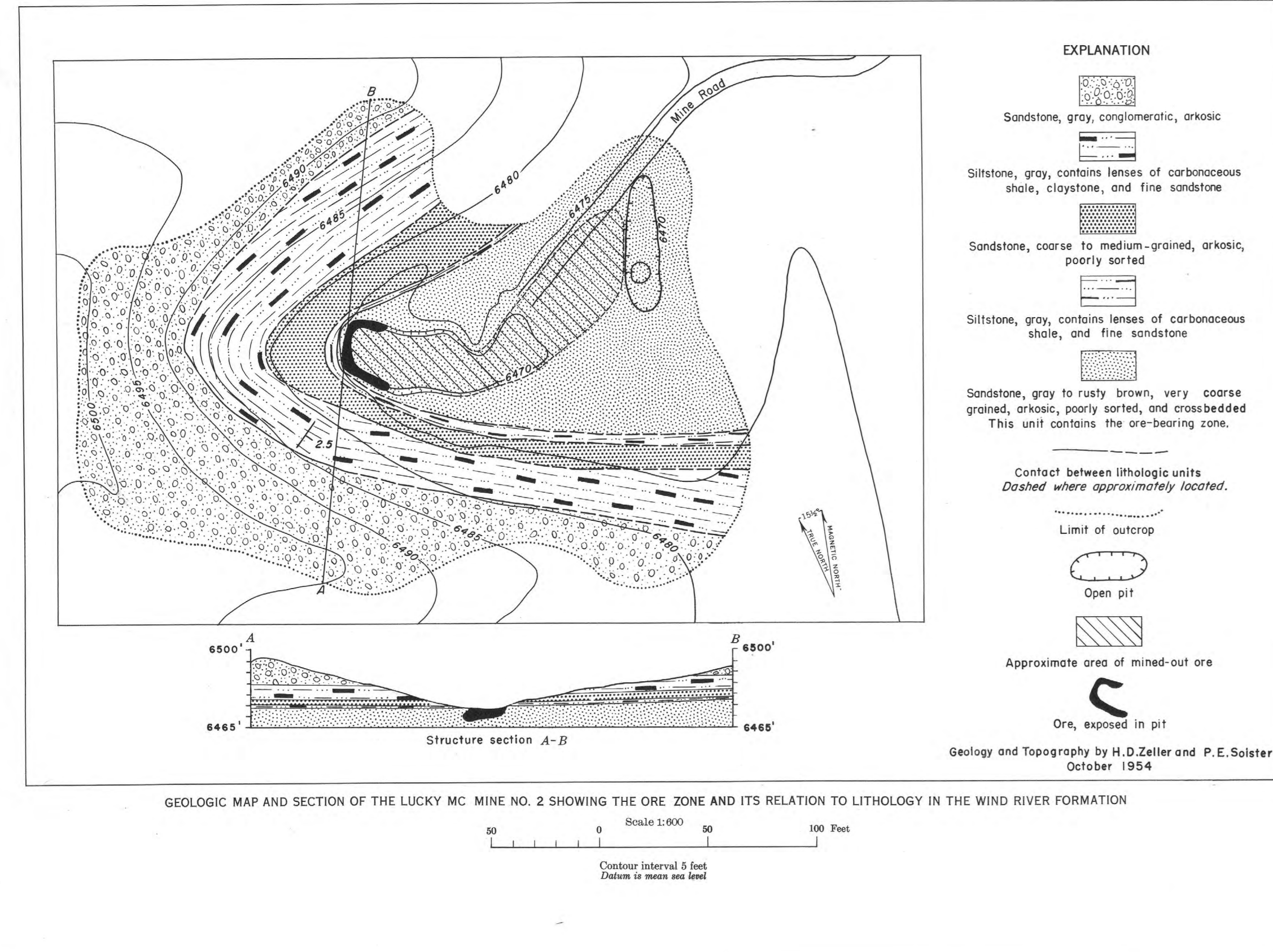


Table 2. Wells drilled for oil and gas in the Gas Hills district, Wyoming

Location on map	Company lease and number	Completion date	Total depth (feet)	Formation* at surface	Oldest formation* reached	Formation* below Twd	Depth to base of Twd (feet)	Depth to tops of formations* (feet)	Remarks
A	Empire State Oil Co. State 2	1952	6609	Twd	Ip	?	?	Kf 2935, Km 8608(?) Kf 428, Jk 4462 Tc 4914, Ed 6090 Pp 6182, Ip 6497 Ed 900, Pp 906, Ip 1190	Plugged and abandoned.
B	Perry Falk Ben Roberts I	1952	1285	Twr	Ip	?	?	?	Plugged and abandoned.
C	Amerada Petroleum Co. Government-Mullen I	1951	746	Twd	Kf	Kc	158	Kf 218	Plugged and abandoned.
D	Amerada Petroleum Co. (USA-Mullen I/A)	1951	483	Twd	Kf	Kc	197	Kf 280	Plugged and abandoned.
E	Shannon Oil Co. State I	1945	4585	Twd	Jm(?)	Kc	?	Kf 3017 (?), Km 3579 (?)	Show of gas, abandoned.
F	Ohio Oil Co.	1922	3416	Twd(?)	Kf(?)	Kc	55(?)	?	Plugged and abandoned.
G	Shannon Oil & Gas Co. Unit 1	1953	3418	Twd	Ip	Kf	?	Km 592, Kf 1145, Ja 1454, Jn 1775, Tc 1864, Td 2285, Ed 3010, Pp 3095, Ip 3409	Plugged and abandoned.
H	Stout Oil Co. Government I	1954	1156	Twd	Ip	Js	?	Ed 333, Pd 747, Pp 816, Ip 1144	Plugged and abandoned.
I	Castle Gardens Oil Co.	?	1450	Tc	Ip	?	?	Pp 1200	Abandoned.
J	Superior Oil Co. Davis Future Wall	1954	6112	Tc	Ip(?)	?	?	?	Do.
L	Western States (Puddle Springs)	1921	2320	Twd(?)	Kf	Kc	?	?	Do.
M	Producers & Refiners Corp. 15	1930	326	Qal	?	?	?	?	Do.
N	Producers & Refiners Corp. Kirch 2	1929	500	Twd(?)	Niobrara	Niobrara	?	?	Do.

