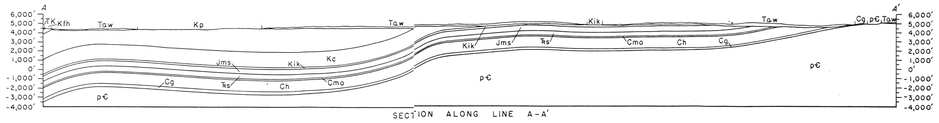
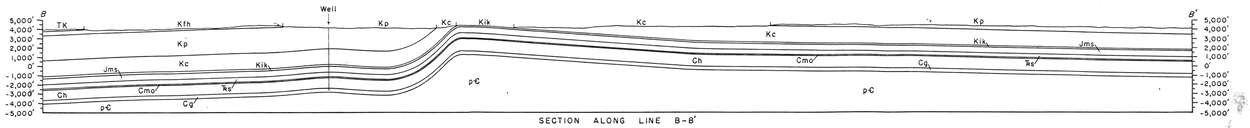
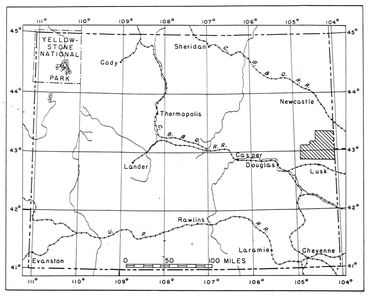


SECTION ALONG LINE A-A'



SECTION ALONG LINE B-B'



INDEX MAP OF WYOMING

showing location of Lance Creek oil and gas field and vicinity

EXPLANATION

WELL SYMBOLS

- Drilling well or location
- Oil well
- Oil well shut in
- Abandoned oil well
- Dry hole which did not reach the Newcastle sandstone member of the Graneros shale
- Dry hole which reached the Newcastle sandstone member of the Graneros shale or older rocks
- Gas well
- Gas well shut in
- Abandoned gas well
- Water well

- Structure contours drawn on top of Fall River sandstone; contour interval 100 feet; datum mean sea level
- Fault; D, Downthrow
- Dip and strike of beds
- Dip of beds
- Horizontal beds
- Land corner located
- State boundary monument
- P.O. Post Office
- BM ×4507 Bench mark and altitude in feet above mean sea level
- Intermittent streams

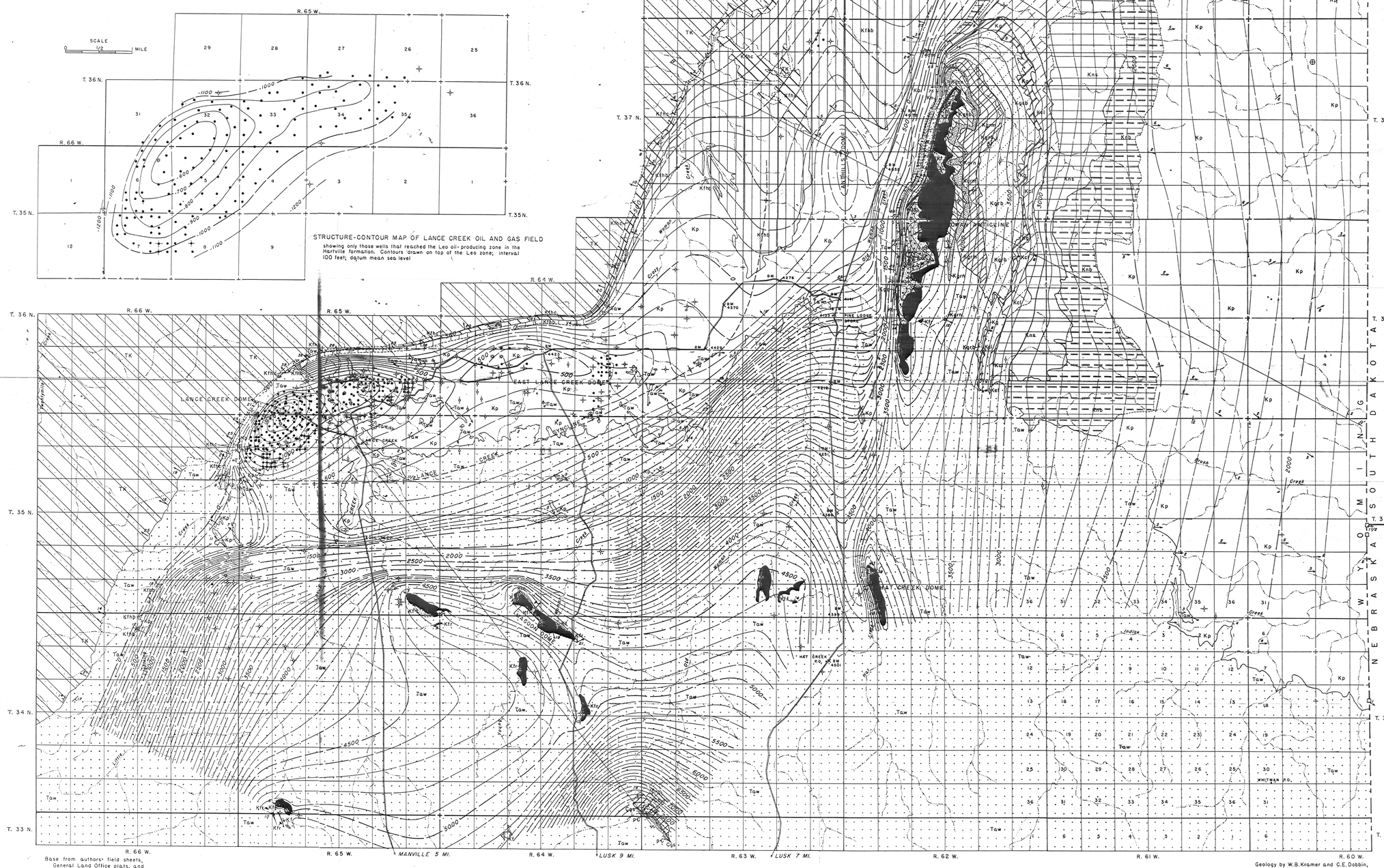
EXPOSED ROCKS

SEDIMENTARY								IGNEOUS AND METAMORPHIC
QUATERNARY	TERTIARY	CRETACEOUS			JURASSIC	CARBONIFEROUS		PRE-CAMBRIAN
Pleistocene?	Miocene and Oligocene / Eocene	Upper Cretaceous		Lower Cretaceous	Upper Jurassic	Pennsylvanian	Mississippian	
		Montana group	Colorado group	Inyan Kara group				
Qal Terrace gravel	Taw Arikaree sandstone and White River formation	TK Fort Union and Lance formations	Kp Pierre shale	Kn Niobrara formation: Knb Beaver Creek chalky member; Kns Sage Breaks shale member	Kcl Carlile shale	Kg Greenhorn limestone	Kgr Graneros shale: Kgrb Belle Fourche shale member; Kgrm Mowry siliceous shale member; Kgrs Newcastle sandstone member; Kgrk Skull Creek shale member	Kfr Fall River sandstone; Kfu Fuson shale; Kla Lakota sandstone	Jmu Morrison formation and Unkpapa sandstone; Js Sundance formation	Ch Hartville formation	Cgl Guernsey formation: Upper limestone member; Cgs Lower sandstone member	pC Pre-Cambrian
UNCONFORMITY AND OVERLAP								UNCONFORMITY AND OVERLAP

Kfh Fox Hills sandstone: Kfhc Colgate member; Kfhb Lower member

STRUCTURE-CONTOUR MAP OF LANCE CREEK OIL AND GAS FIELD

showing only those wells that reached the Leo oil-producing zone in the Hartville formation. Contours drawn on top of the Leo zone; interval 100 feet; datum mean sea level



Base from authors' field sheets, General Land Office plats, and Geological Survey topographic map of Lance Creek oil and gas field

Geology by W.B. Kramer and C.E. Dobbin, assisted by Robert McMillan. Surveyed in parts of 1937, 1939, and 1940

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

GEOLOGIC MAP AND SECTIONS OF LANCE CREEK OIL AND GAS FIELD AND VICINITY, NIOBRARA COUNTY, WYOMING

SCALE 0 2 MILES

1943

COLUMNAR SECTION

SYSTEM	SERIES OR GROUP	FORMATION AND MEMBER	SYMBOL	SECTION
TERTIARY	Miocene and Oligocene / Eocene	Arikaree sandstone and White River formation undivided	Taw	Pink
		UNCONFORMITY AND OVERLAP		Red, pink, and green
		Fort Union and Lance formations undivided	TK	
	Fox Hills sandstone	Colgate member	Kfh: Kfhc	
			Kfhb	
CRETACEOUS	Upper Cretaceous / Montana group	Pierre shale	Kp	
	Colorado	Niobrara formation: Beaver Creek chalky member	Kn: Knb	
		Niobrara formation: Sage Breaks shale member	Kns	
		Carlile shale	Kcl	
		Greenhorn limestone	Kg	
		Graneros shale: Belle Fourche shale member	Kc*: Kgrb	
		Graneros shale: Mowry siliceous shale member	Kgr: Kgrm	
		Graneros shale: Newcastle sandstone member	Kgrm	Oil zone
		Graneros shale: Skull Creek shale member	Kgrs	
	Lower Cretaceous / Inyan Kara group	Fall River sandstone	Kik*: Kfr	Oil- and gas-producing zone
		Fuson shale	Kf	Red, green, tan, and purple
		Lakota sandstone	Kla	
JURASSIC	Upper Jurassic	Morrison formation	Jmu	Red, green, purple, and black
		Unkpapa sandstone	Jms*: Js	Greenish-gray
		Sundance formation		Oil zone; Pink and red
				Oil-producing zone
TRIASSIC?		Spearfish formation	Trs*	Red
PERMIAN?		Minnekahta limestone	Cmo*	Red
		Opeche formation		Red
CARBONIFEROUS	Pennsylvanian	Hartville formation	Ch	Red; Leo oil-producing zone; Pink and red; Red
	Mississippian	UNCONFORMITY		Red and pink
		Guernsey formation (No fossils have been found in the basal sandstone which may be of Mississippian to Cambrian age)	Cg*: Cgl; Cgs	
		UNCONFORMITY AND OVERLAP		
PRE-CAMBRIAN			pC	

VERTICAL SCALE 1,000 FEET; 500; 100 0

EXPLANATION

- Clay or shale
- Concretionary clay or shale
- Sandstone
- Thin bedded or shaly sandstone or sandy shale
- Conglomerate
- Concretionary sandstone
- Limestone or dolomite
- Shaly limestone
- Gypsum or anhydrite
- Schist, granite, or other igneous or metamorphic rock

Note: Asterisked symbols appear only in the columnar and cross sections.

D.I.F.

INTERIOR—GEOLOGICAL SURVEY, WASHINGTON, D.C. MR 5801