

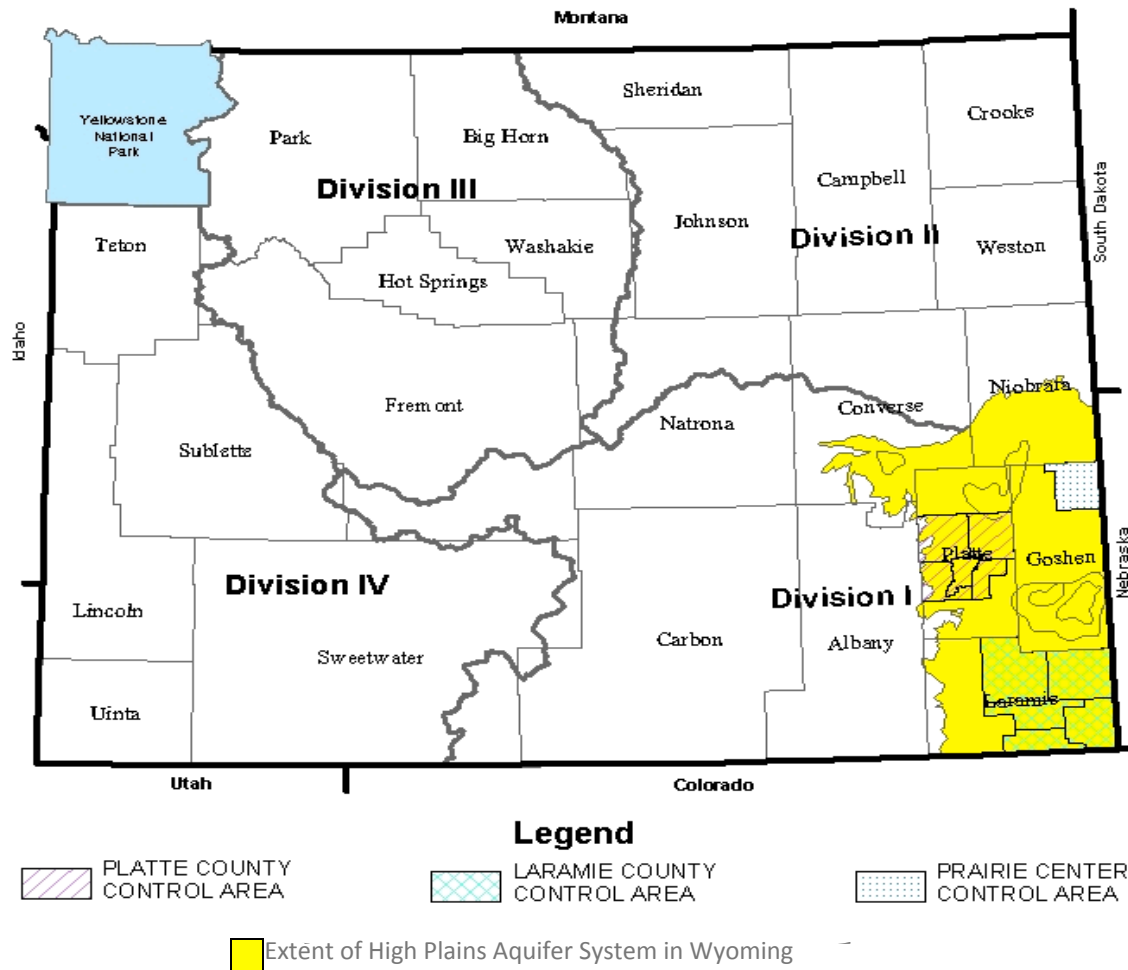
Water for Oil & Gas Drilling in Southeast Wyoming

June 4-5, 2012

Association of Western State Engineers

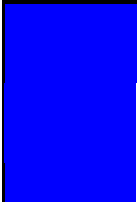
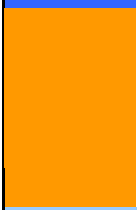
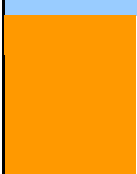
Medora, North Dakota

Control Areas

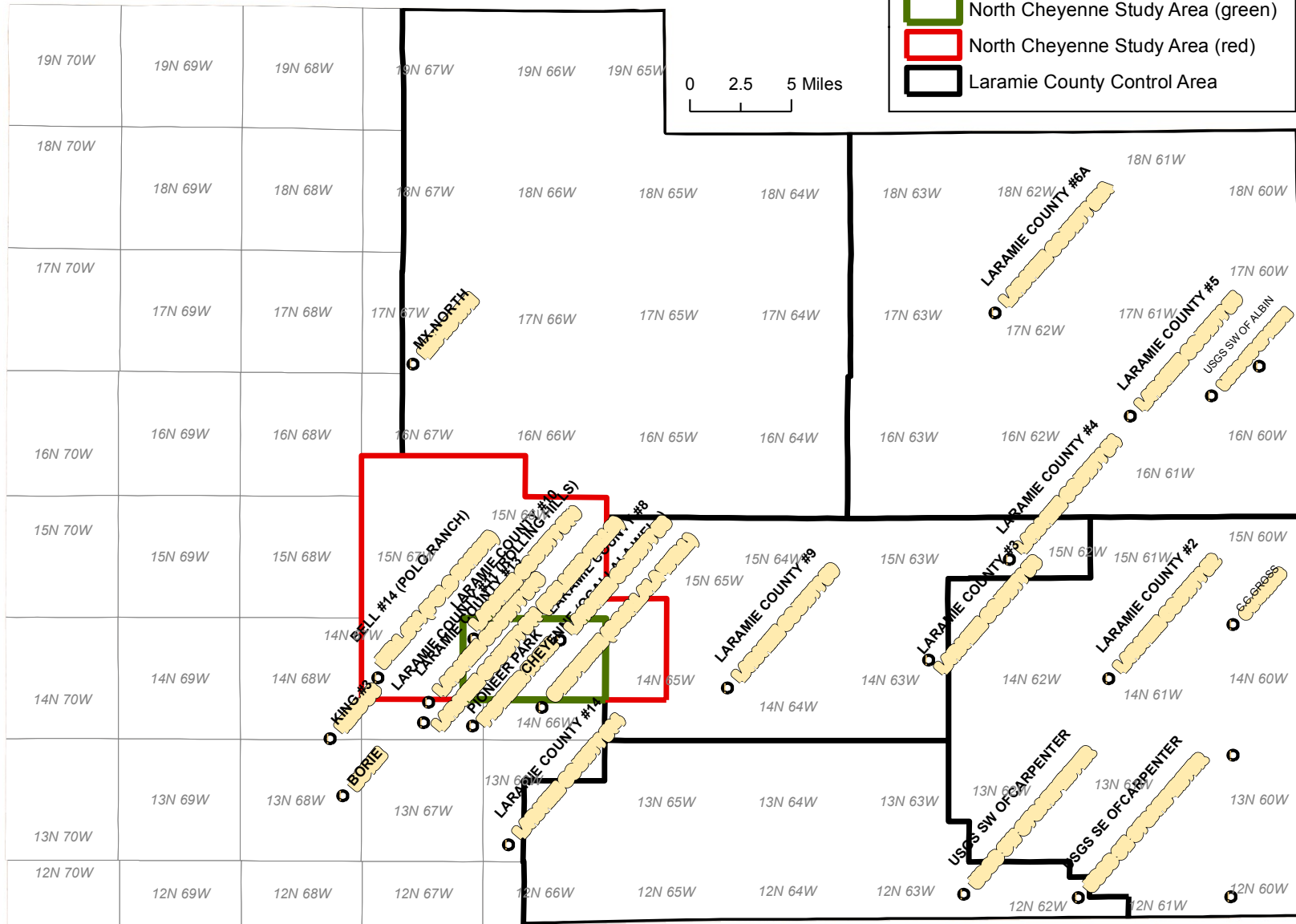


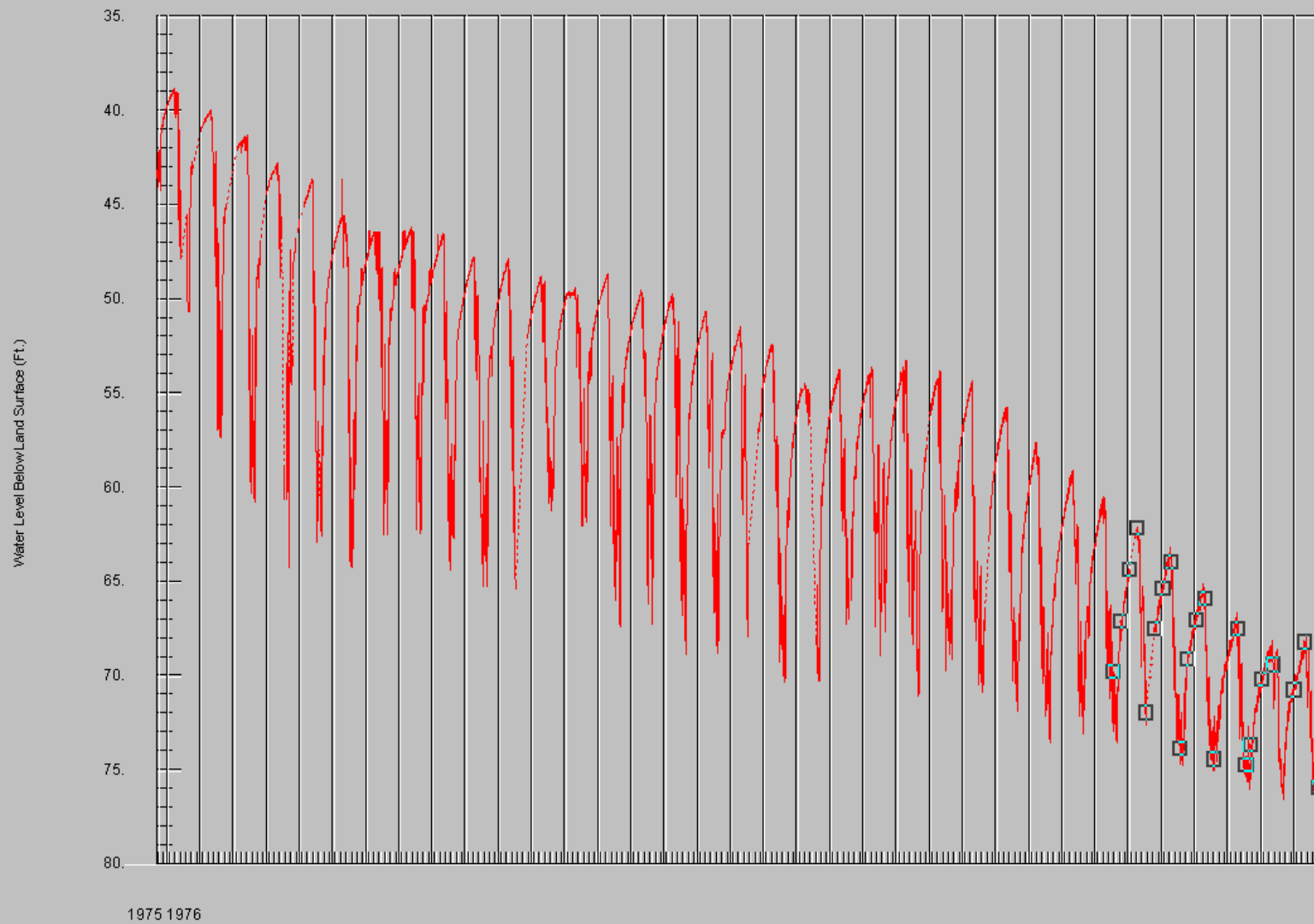
Control Areas (continued)

- Three (3) Ground Water Control Areas in Wyoming (all located in SE Wyoming)
 - **Laramie County Control Area** (~ eastern 2/3 of Laramie County; established September 2, 1981)
 - **Platte County Control Area** (~mid ½ of Platte County; established February 1, 1982)
 - **Prairie Center Control Area** (~northeast 1/8 of Goshen County; established December 2, 1977)

GEOLOGIC UNIT		THICKNESS (feet)	ROCK TYPE
	Alluvium, Colluvium, Terrace Deposits	0 to 200	Sand, gravel, mud, dirt in general
	Ogallala Group	0 to 330	Details below
	Arikaree Group	0 to 450	
	White River Group	0 to 500	
	Lance (Laramie) Fm.	100 to 2,000	Shale with a few sandstone beds (Hygiene)
	Fox Hills Sandstone	190 to 360	
	Pierre (Steele, Lewis, Cody) Shale	0 to 5,000 (3,000 in Cheyenne area?)	
	Niobrara Fm.	325 to 400	
	Frontier Fm.	550 to 600	
	Mowry Fm.	80 to 200	
	Newcastle Sandstone	75 to 100	
	Skull Creek Shale	70 to 150	
	Cloverly Fm.	100 to 200	
	Morrison Fm.	200 to 230	
	Sundance Fm.	40 to 100	
	Chugwater Fm.	430 to 500	Red siltstone and very fine-grained sandstone
	Goose Egg Fm.	200 to 250	Red siltstone and very fine-grained sandstone with interbedded shale, limestone, dolomite, gypsum
	Casper(Hartville) Fm.	800 to 900	Repetitively interbedded limestone and sandstone
	Basement		Igneous, metamorphic rocks

Laramie County

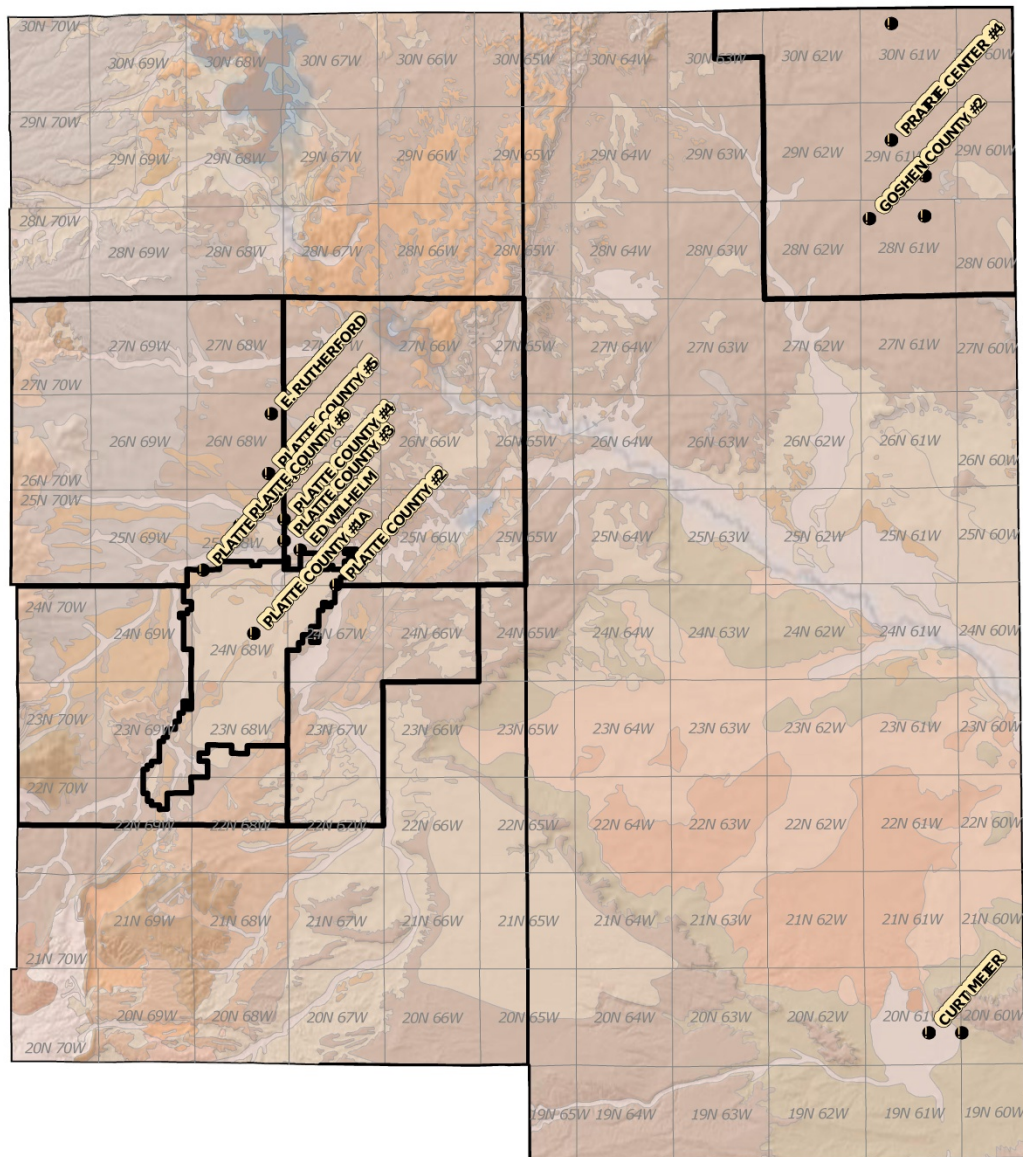




Platte & Goshen Counties

USGS Monitor Wells

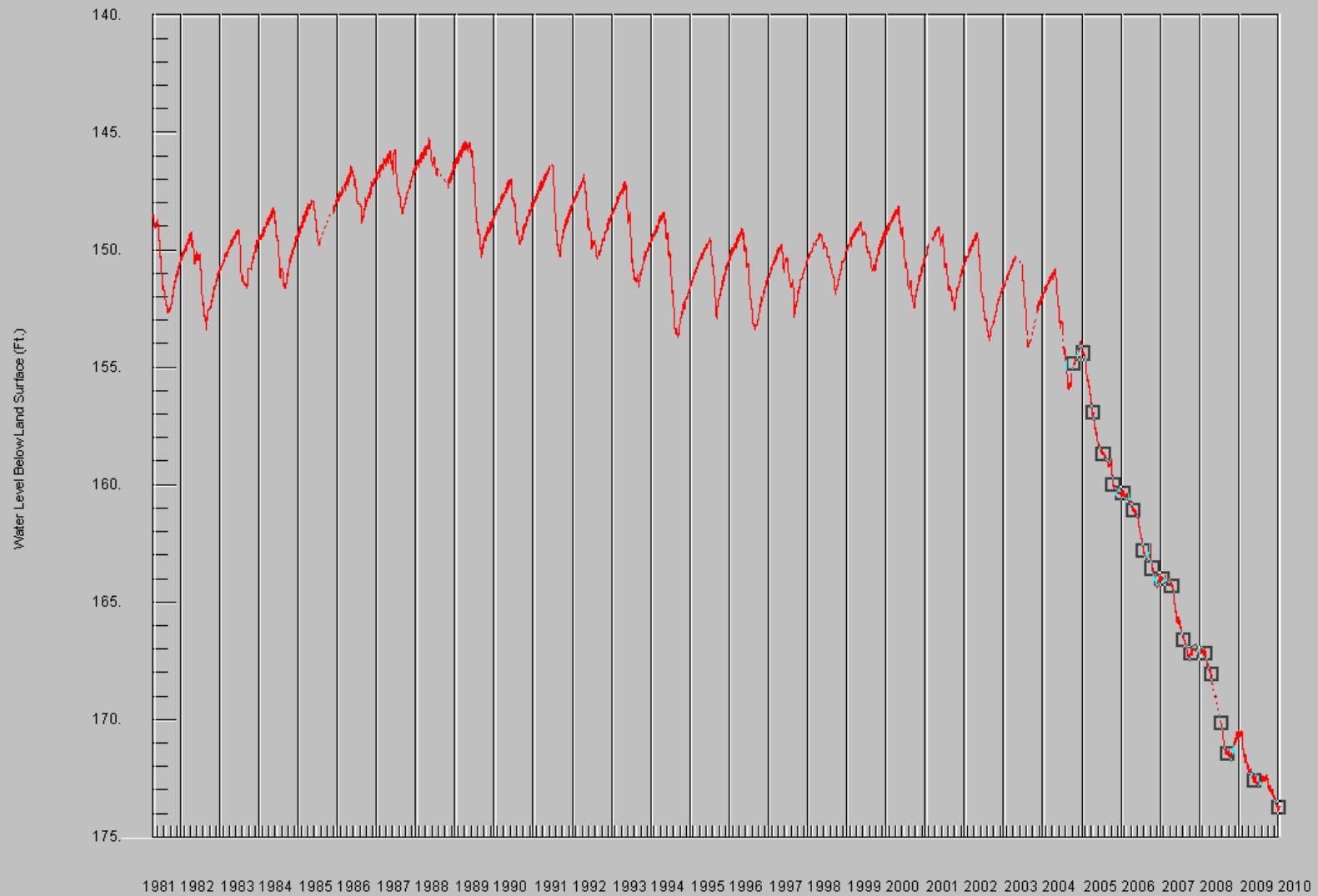
- USGS Monitor Wells
- Control Areas



26-68-36bbb

Platte County

421228104575801

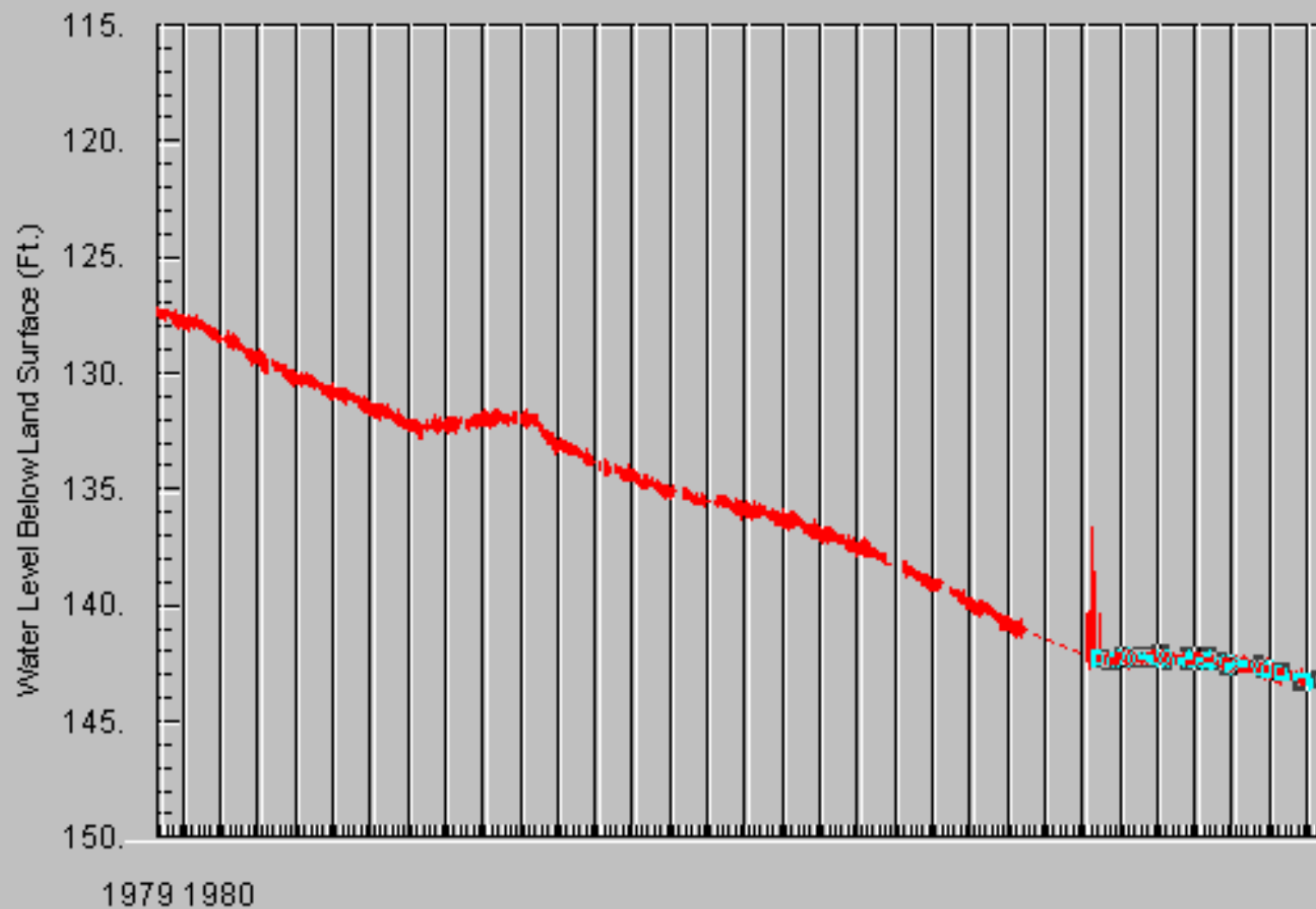


Platte County #5

Goshen County

28-61-aba01

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Goshen County #2

TEMPORARY OIL & GAS WATER

-UNAPPROPRIATED

-APPROPRIATED

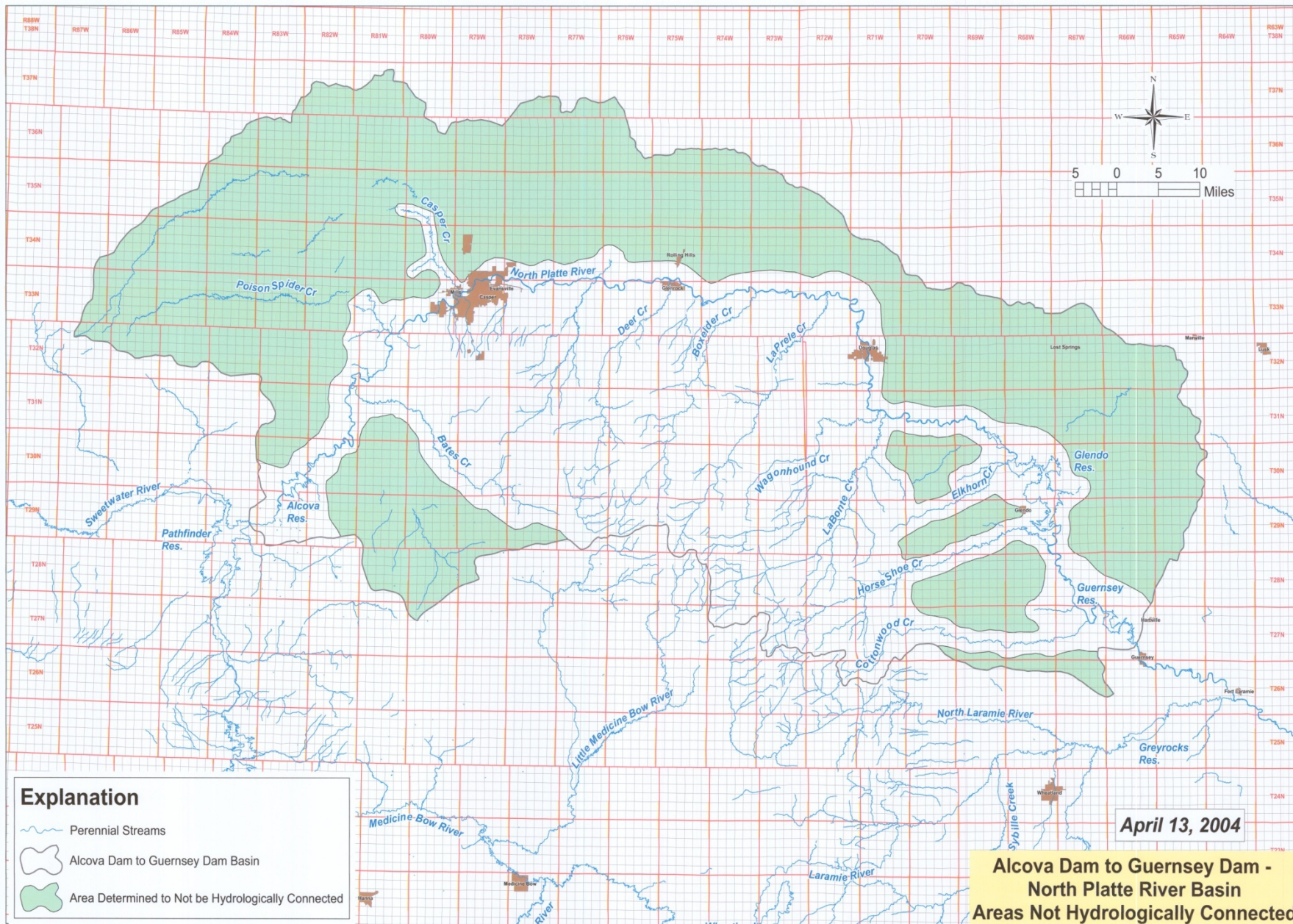
UNAPPROPRIATED WATER

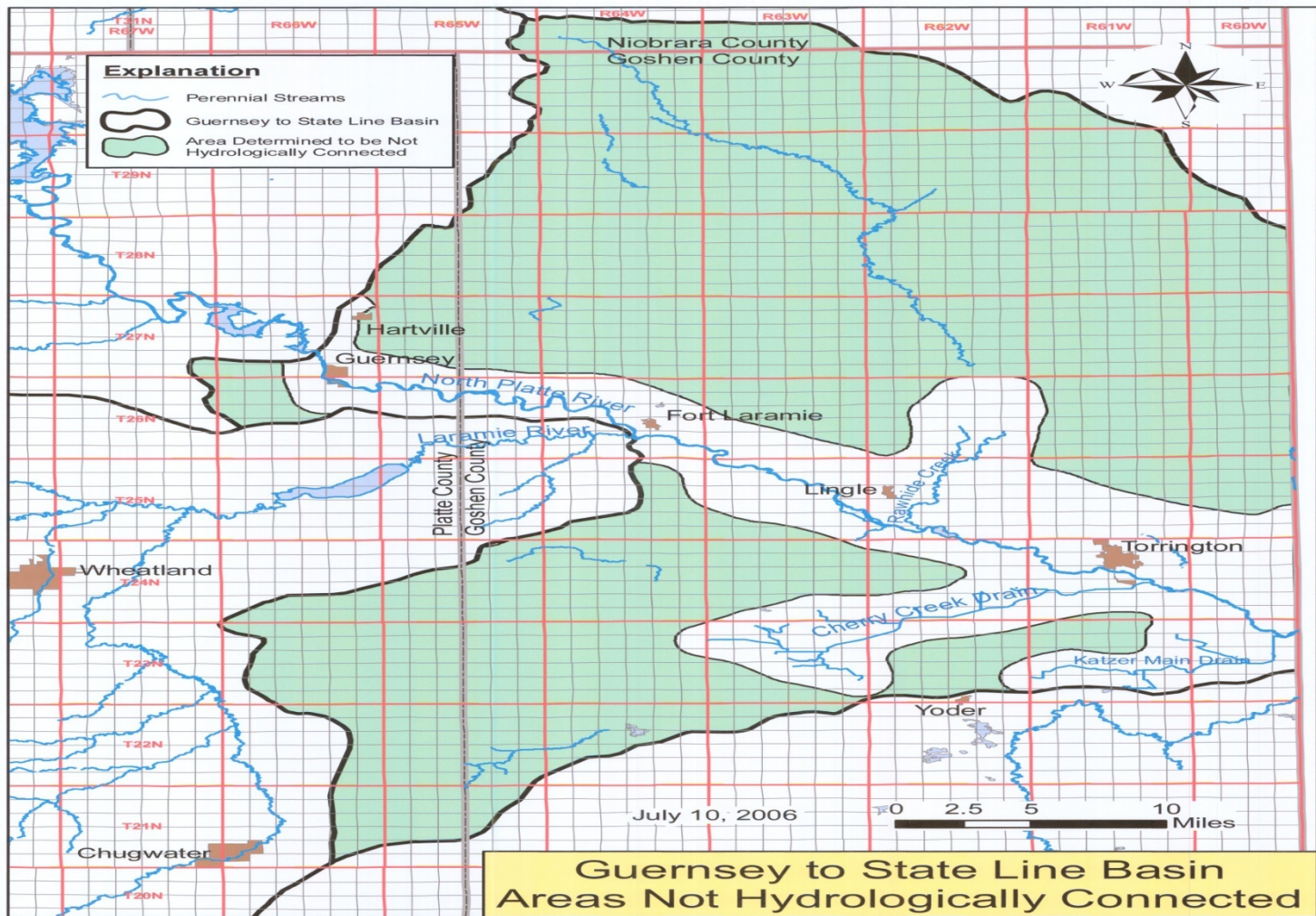
- S.W. 1 FORM – SURFACE WATER

- U.W. 5 FORM – GROUND WATER

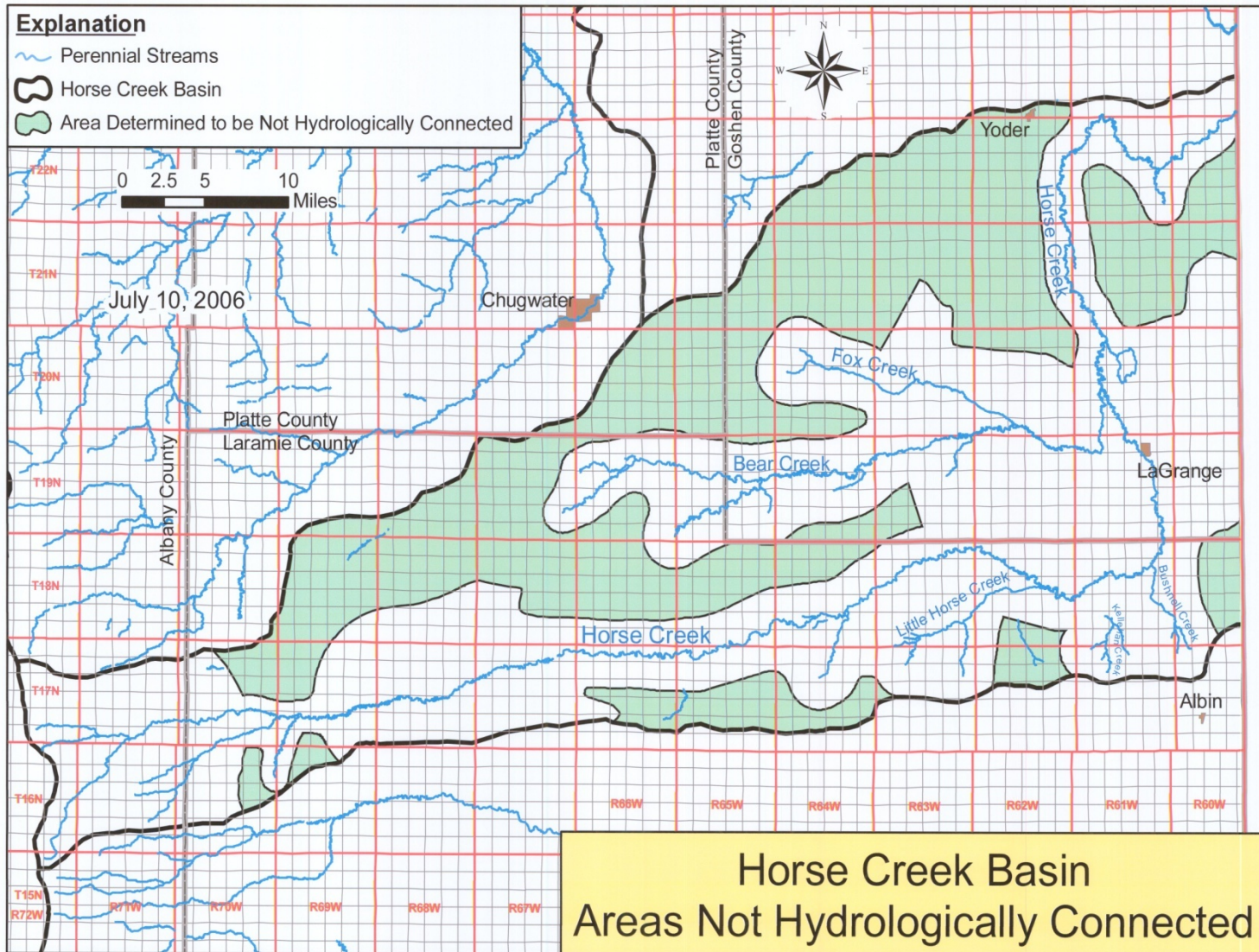
 - LANCE FORMATION

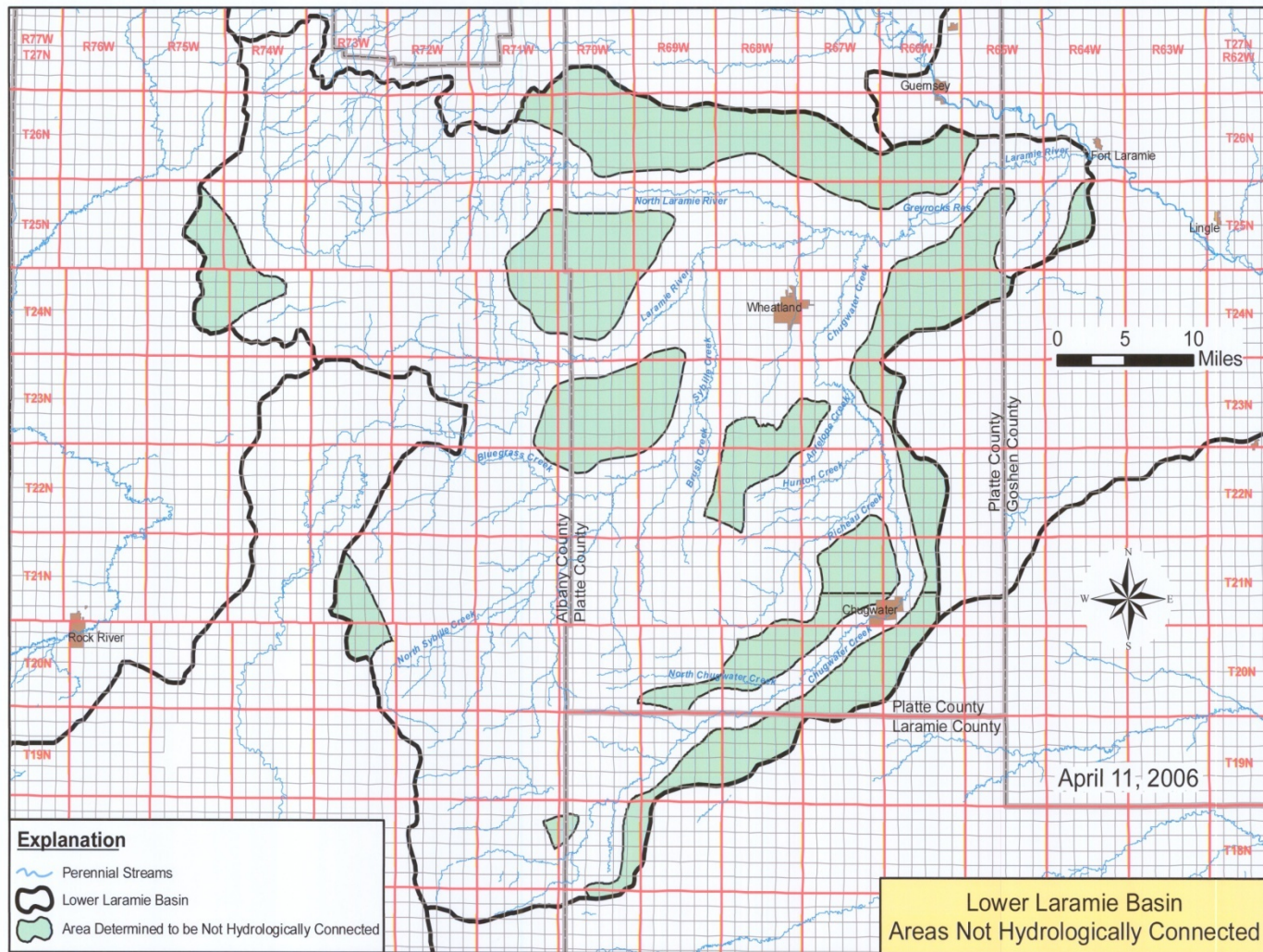
 - GREEN AREAS





**Guernsey to State Line Basin
Areas Not Hydrologically Connected**





APPROPRIATED WATER

W.S. 41-3-110

- MUST BE AN ACTIVE RIGHT
- MUST FOREGO CONSUMPTIVE USE
- CONTROL AREA POLICY
- OUTSIDE CONTROL AREA POLICY

WATER AVAILABLE UNDER TWUAS

29 TEMPORARY WATER USE
AGREEMENTS TOTALLING
2,566.48 ACRE-FEET
LANDS OUT OF PRODUCTION
≈2,100 ACRES

THANK YOU!