Montana Bureau of Mines & Geology

Deep Coal Project - MBRCT Grant #09-40

Plate 1: Powder River Basin Net Coal

(>6.5' thickness; >200' depth)

0 5 10 15 20 25 30
KILOMETERS

0 7.89 15.78
MILES

CONTOURS
WELL - NETCOAL_06_D200 - Net
WELLNETCOAL_06_D200_ncrds3.GRD
Contour Interval = 5

0 5 15 25 35 45 55 65 75 85 95 105 115 125 135 145

MAP PROJECTION
Datum: North American Datum 1983 (NAD83)
State Plane: Montana South (NAD83)
Lambert Conformal Conic Projection
XY Units : METERS
Ellipsoid: GRS 80 (NAD83)
Central Meridian : -109.5000000
Latitude of Origin : 44.2500000
False Northing : 0.0
False Easting : 600000.0
Scale Factor At Origin : 1.0000
Northern Reference Latitude : 49.0000000
Southern Reference Latitude : 45.0000000

November 20, 2010

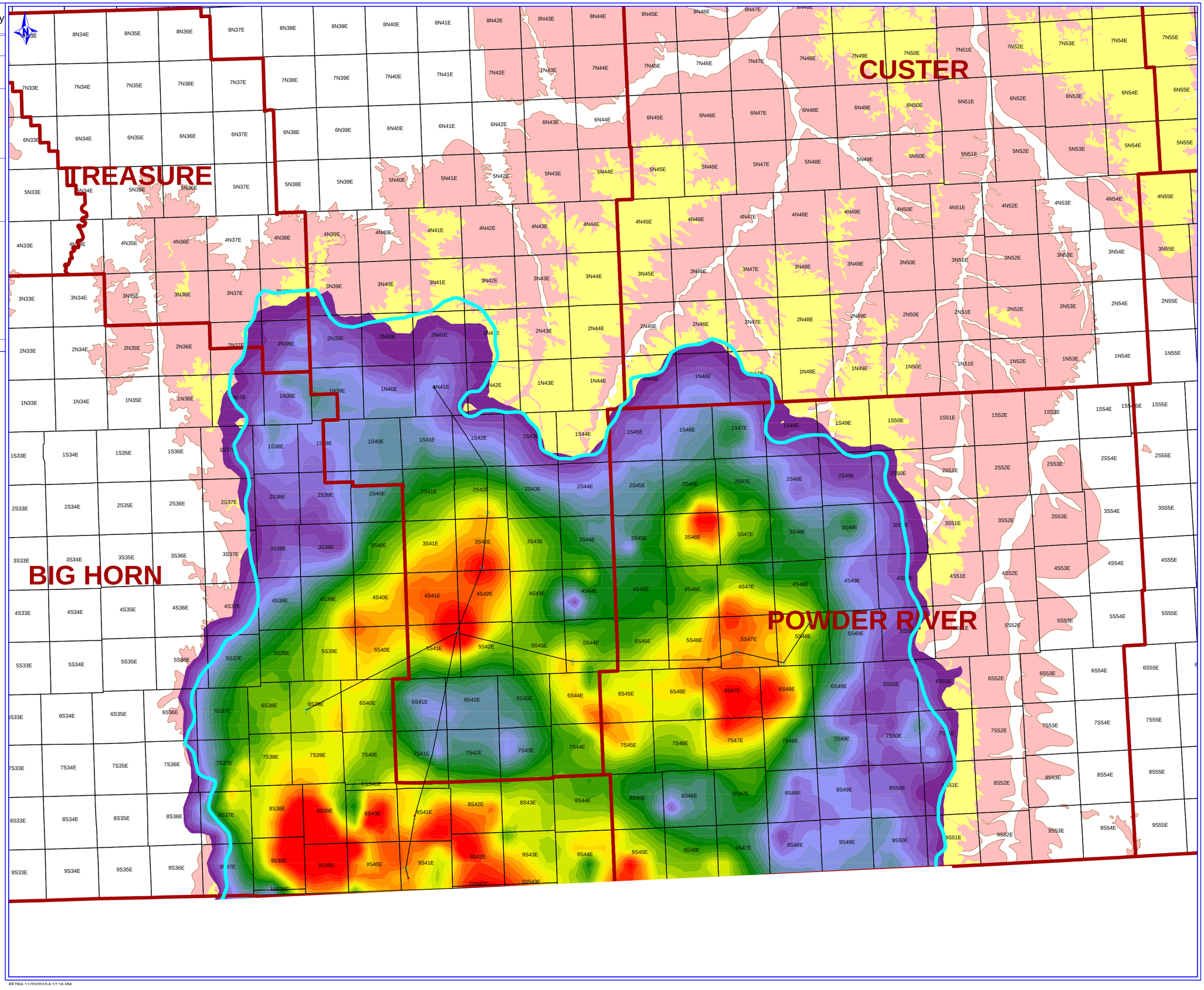

Plate 1: Map of Powder River Basin showing extent of Ft Union (pink) and Tongue River Member (yellow). The cyan line marks the limits of UCG potential based on our minimum criteria of 6.5' coal thickness and 200' depth. Color shading is total coal thickness of all coals that meet the minimum criteria. Black lines are cross-section lines for Plates 3 and 4.

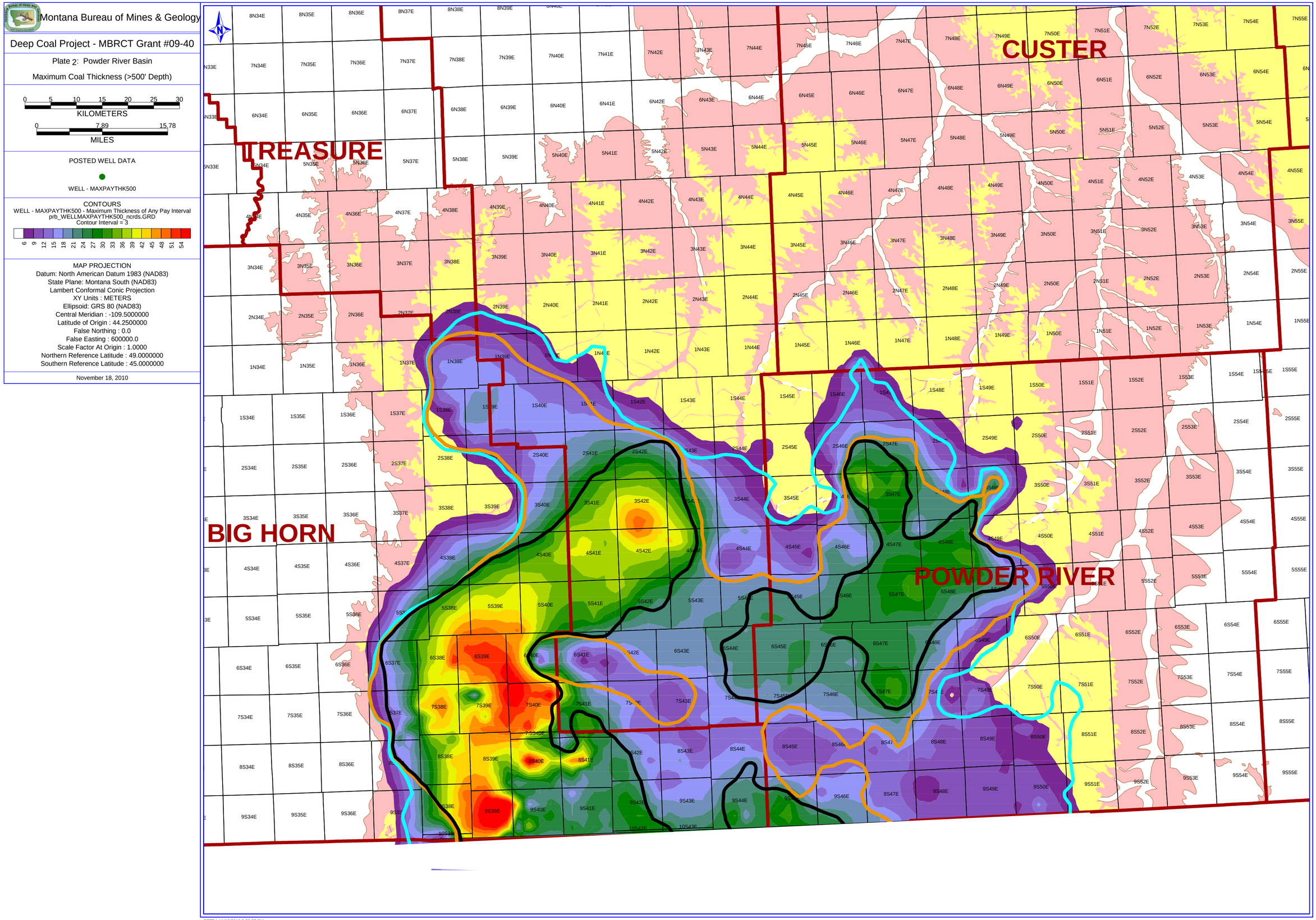

Plate 2: Map of Powder River Basin showing extent of Ft Union (pink) and Tongue River Member (yellow). Colored lines show the limits where coal with thicknesses of 6.5' (cyan), 15' (orange), and 25' (black) are found below 500' depth. Color shading is maximum coal thickness below 500' using only wells that fully penetrate the Fort Union Formation.

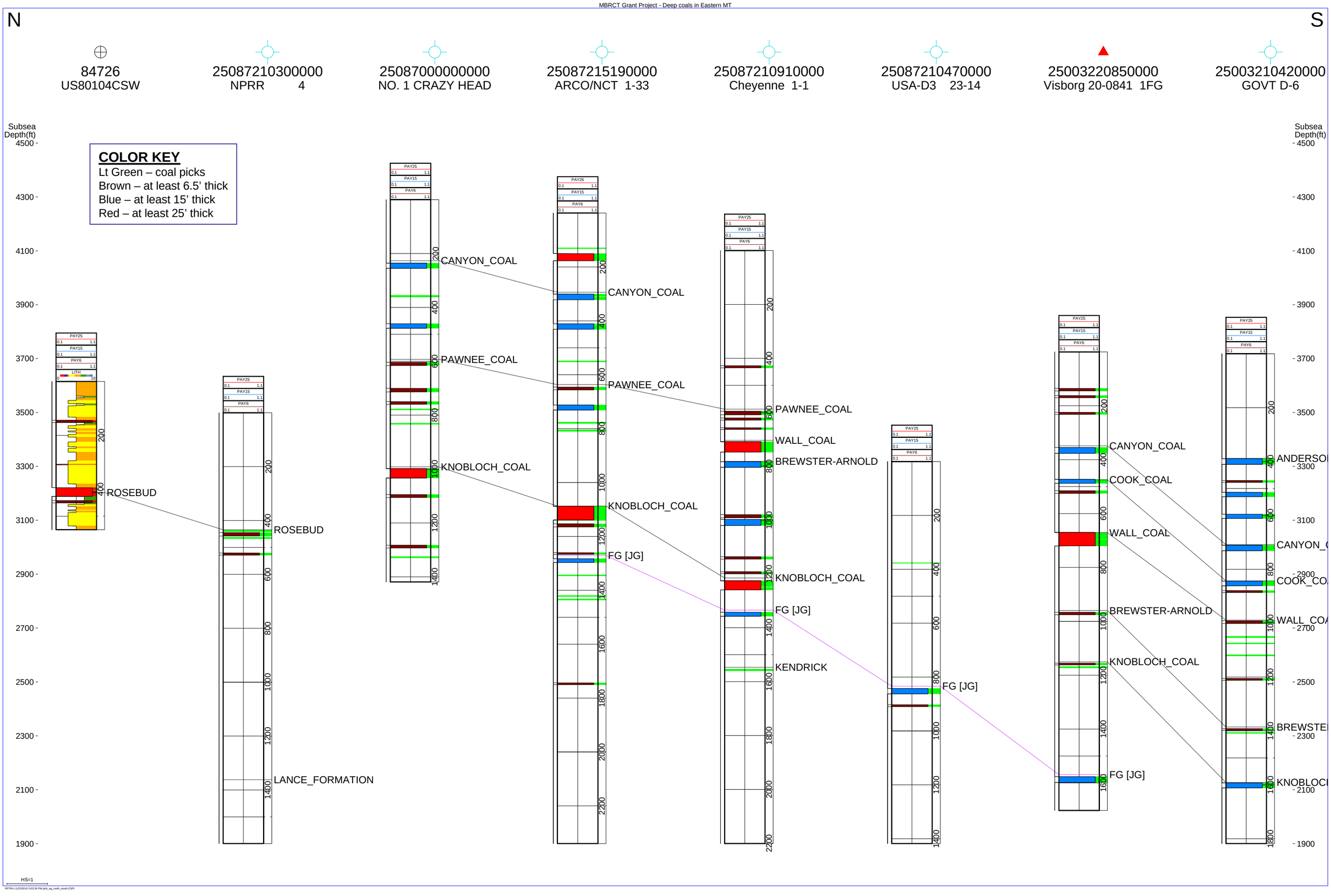

Plate 3. North-South structural cross section across the Powder River Basin showing general structure and coal distribution. Coals are colored by thickness (green <6.5, brown 6.5-15', blue 15-25', red >25'). Line of cross section is shown on the map in Plate 1. Correlations are preliminary.

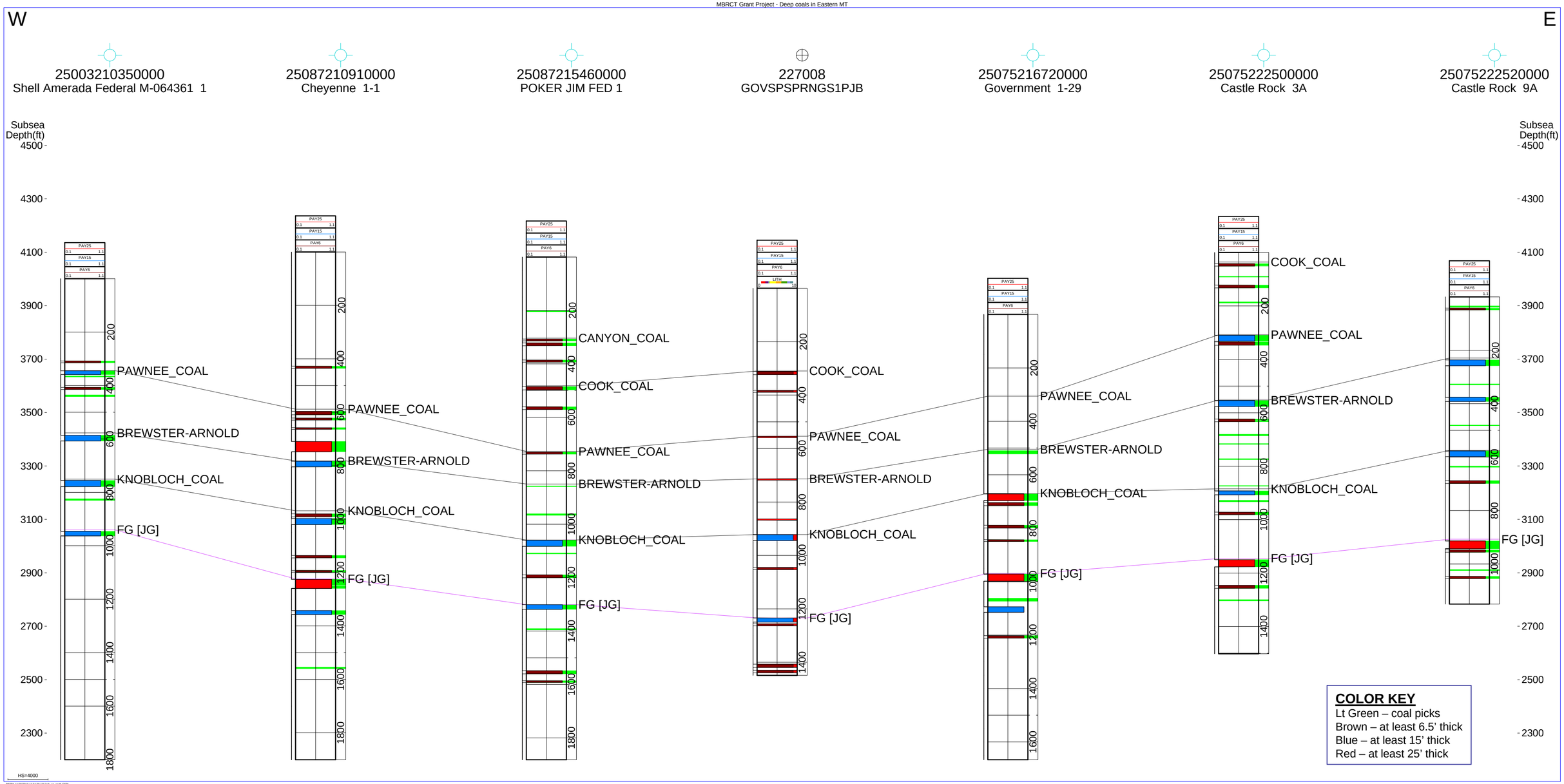

Plate 4. West-East structural cross section across the Powder River Basin showing general structure and coal distribution. Coals are colored by thickness (green <6.5, brown 6.5-15', blue 15-25', red >25'). Line of cross section is shown on the map in Plate 1. Correlations are preliminary.

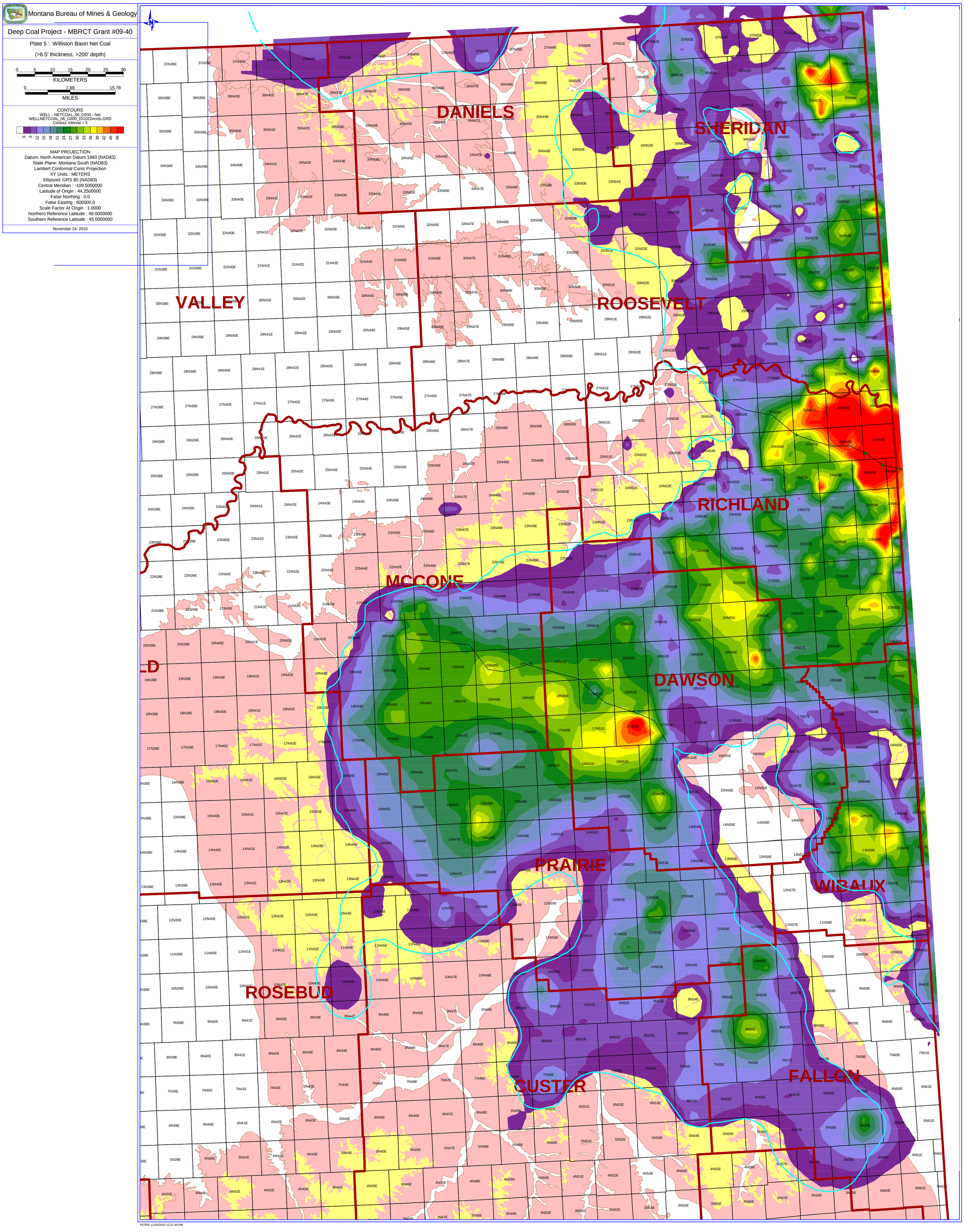

Plate 5: Map of Williston Basin region showing extent of Fort Union Formation (pink) and Tongue River Member (yellow). The cyan line marks the limits of UCG potential based on our minimum criteria of 6.5' coal thickness and 200' depth. Color shading is total coal thickness of all coals that meet the minimum criteria. Black lines are cross-section lines for Plates 7 and 8.

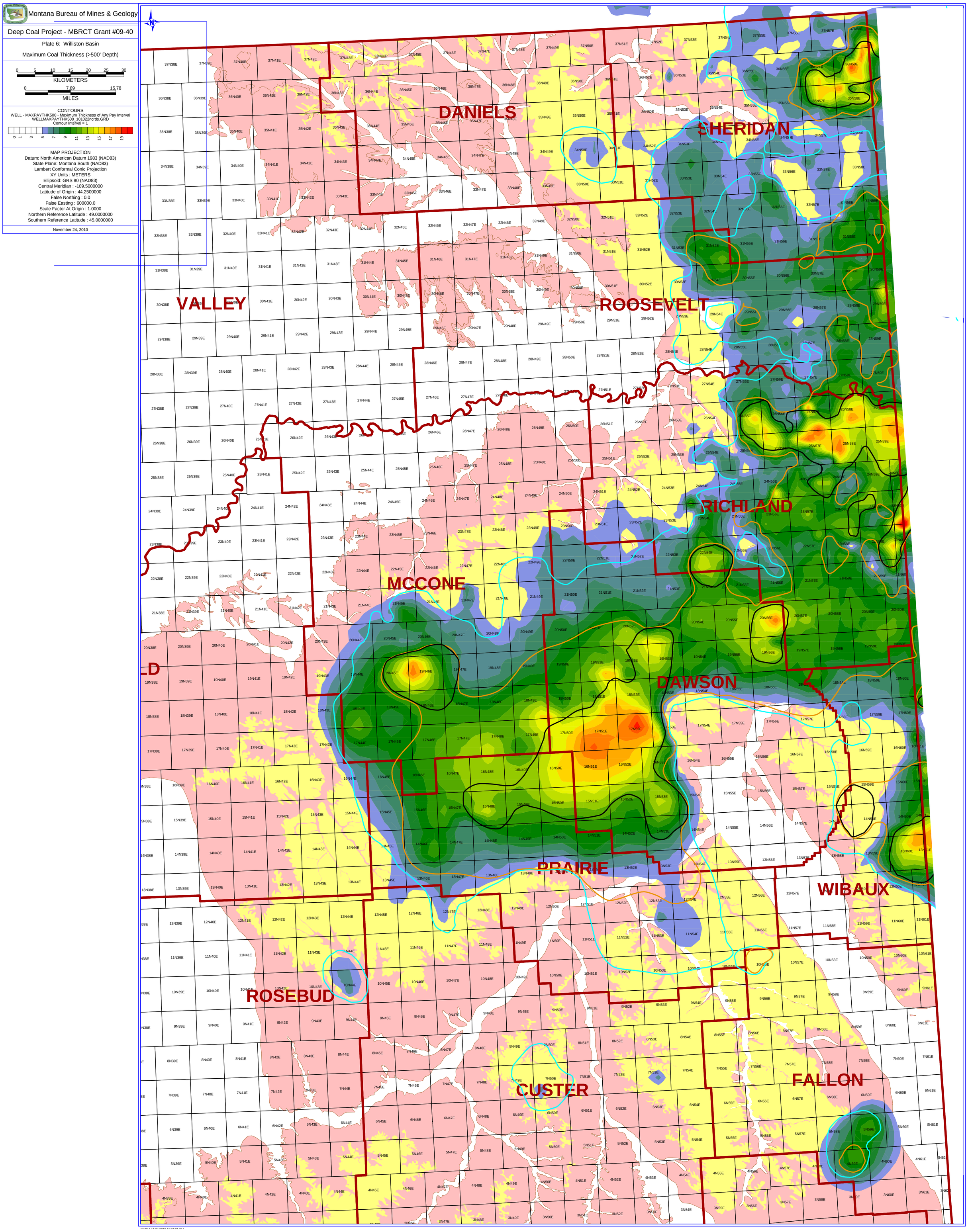

Plate 6: Map of Williston Basin region showing extent of Fort Union Formation (pink) and Tongue River Member (yellow). Colored lines show the limits where coal with thicknesses of 6.5' (cyan), 15' (orange), and 25' (black) are found below 500' depth. Color shading is maximum coal thickness below 500' using only wells that fully penetrate the Fort Union Formation.

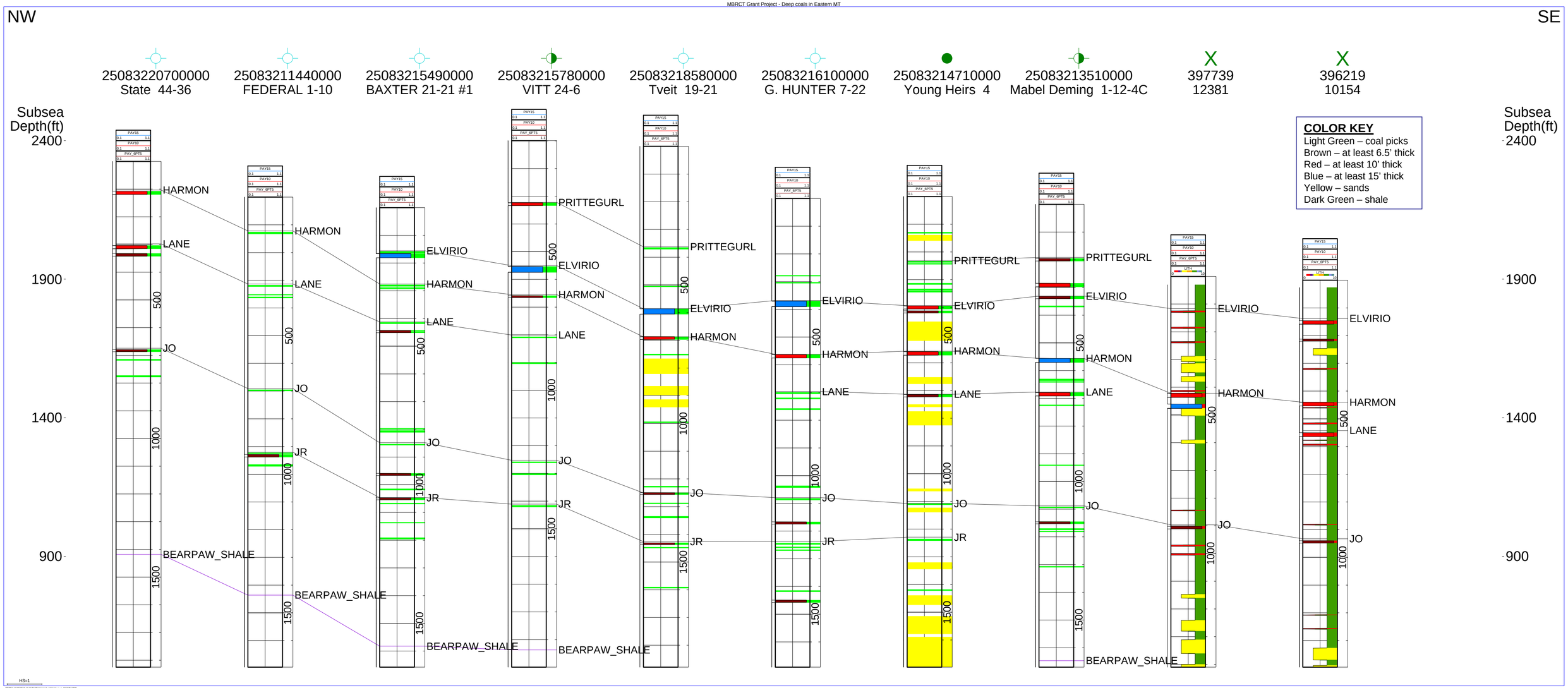

Plate 7. NW-SE structural cross section across Richland Co. in the Williston Basin showing general structure and coal distribution. Coals are colored by thickness (green <6.5, brown 6.5-10', red 10-15', blue >15'). Line of cross section is shown on the map in Plate 5. Correlations are preliminary.

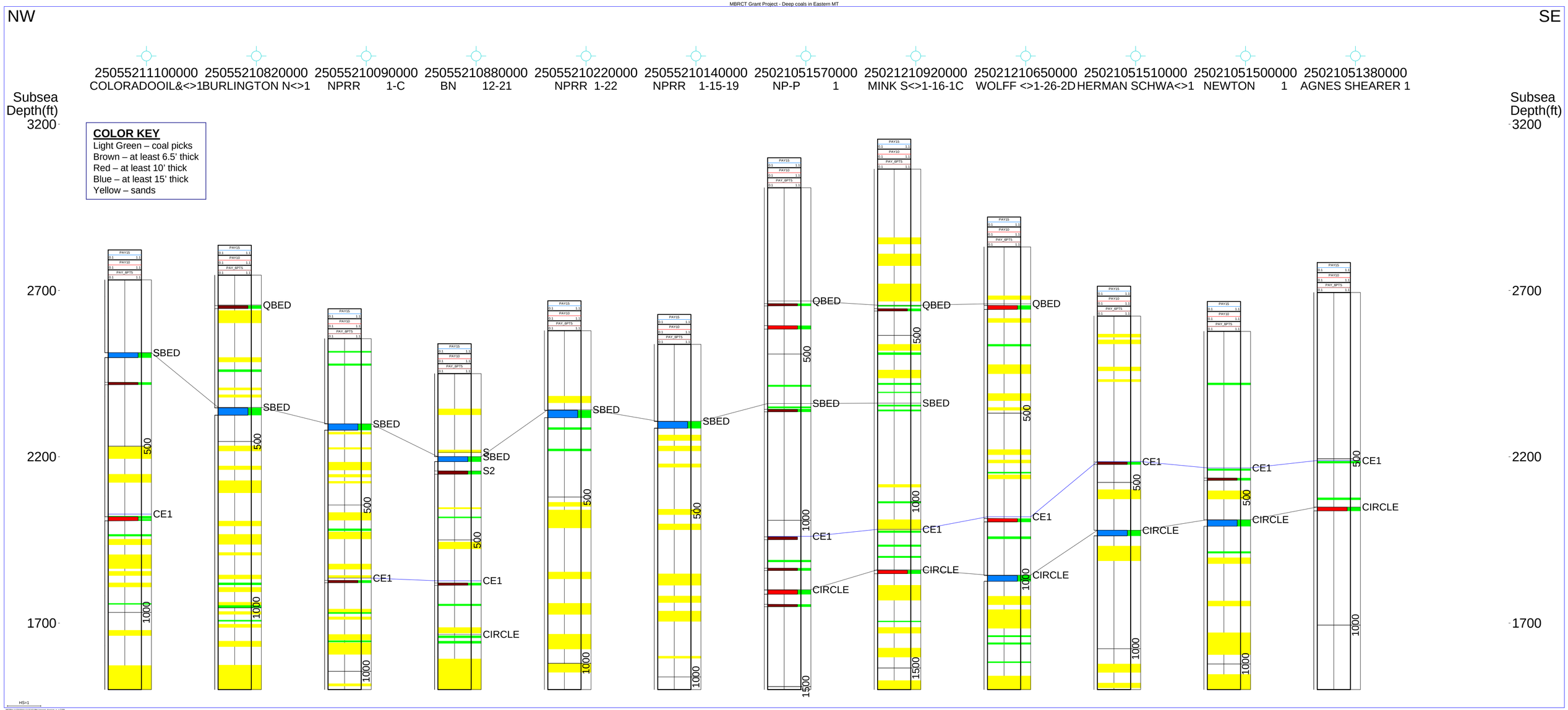

Plate 8. NW-SE structural cross section across McCone and Dawson Counties in the Williston Basin showing general structure and coal distribution. Coals are colored by thickness (green <6.5, brown 6.5-10', red 10-15', blue >15'). Line of cross section is shown on the map in Plate 5. Correlations are preliminary.