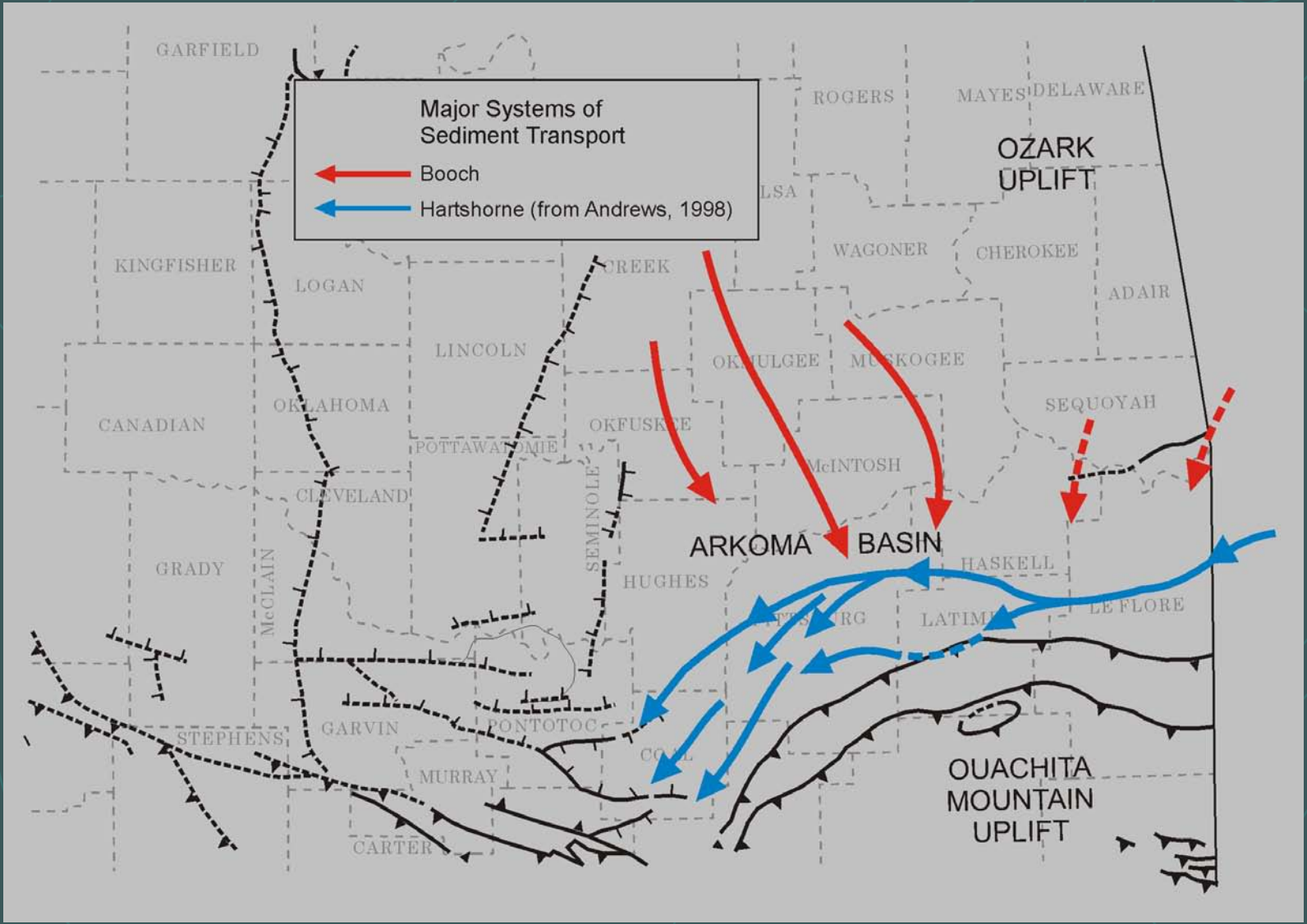
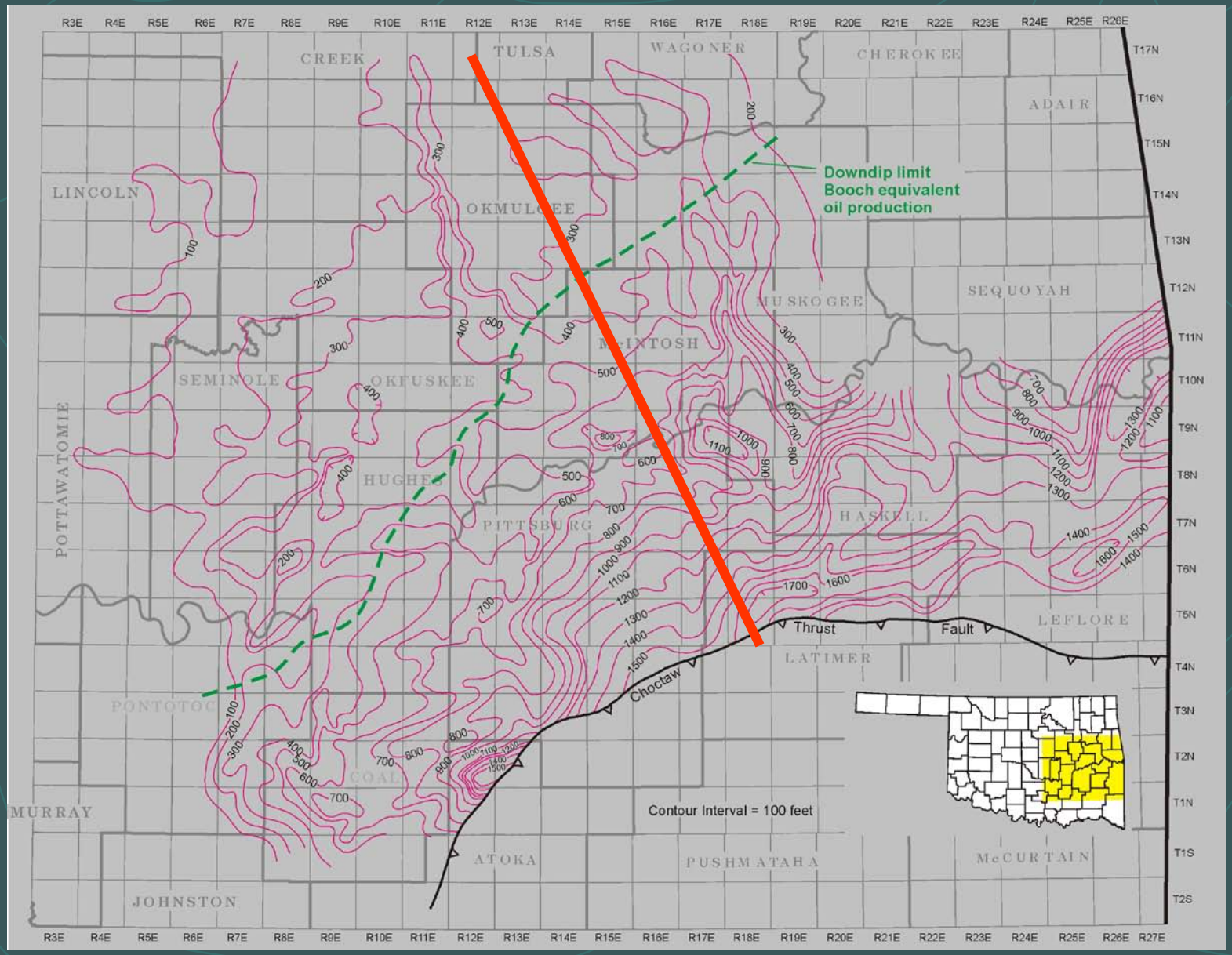
# The Booch Gas Play

## Geologic History & Regional Mapping

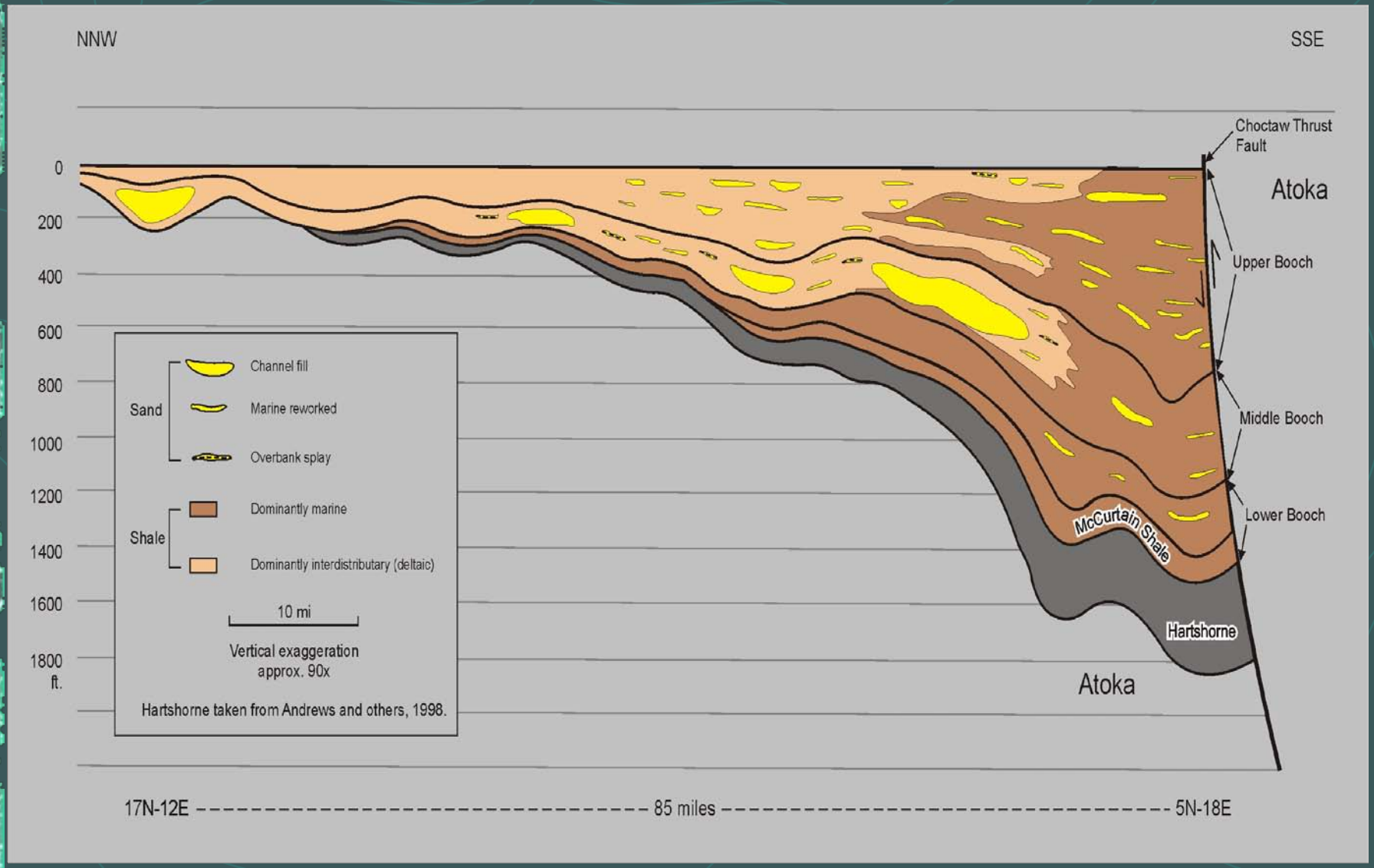
# Booch-Hartshorne Sediment Transport Systems



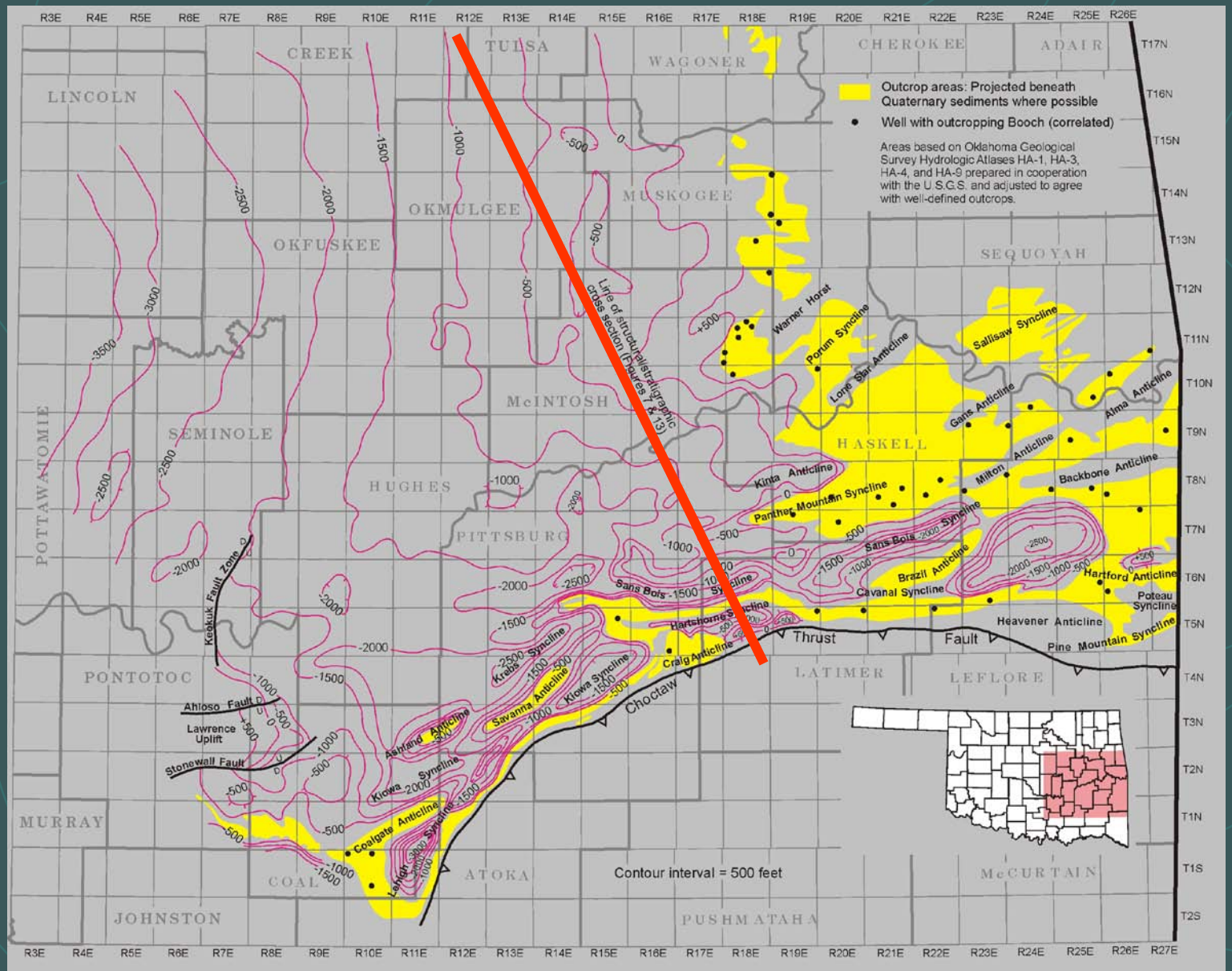
# Booch Gross Interval Isopach



# Regional Stratigraphic Cross-Section

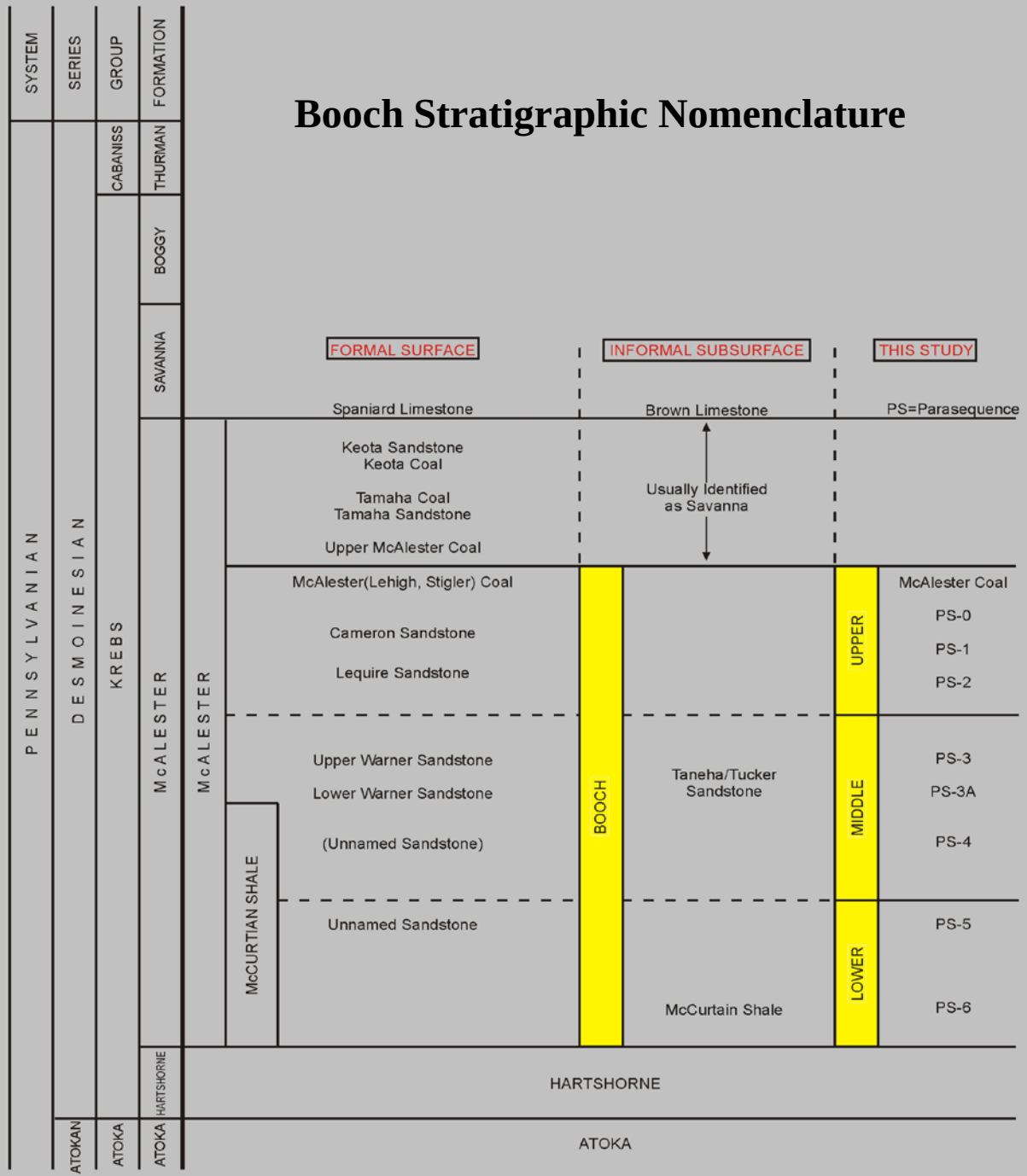


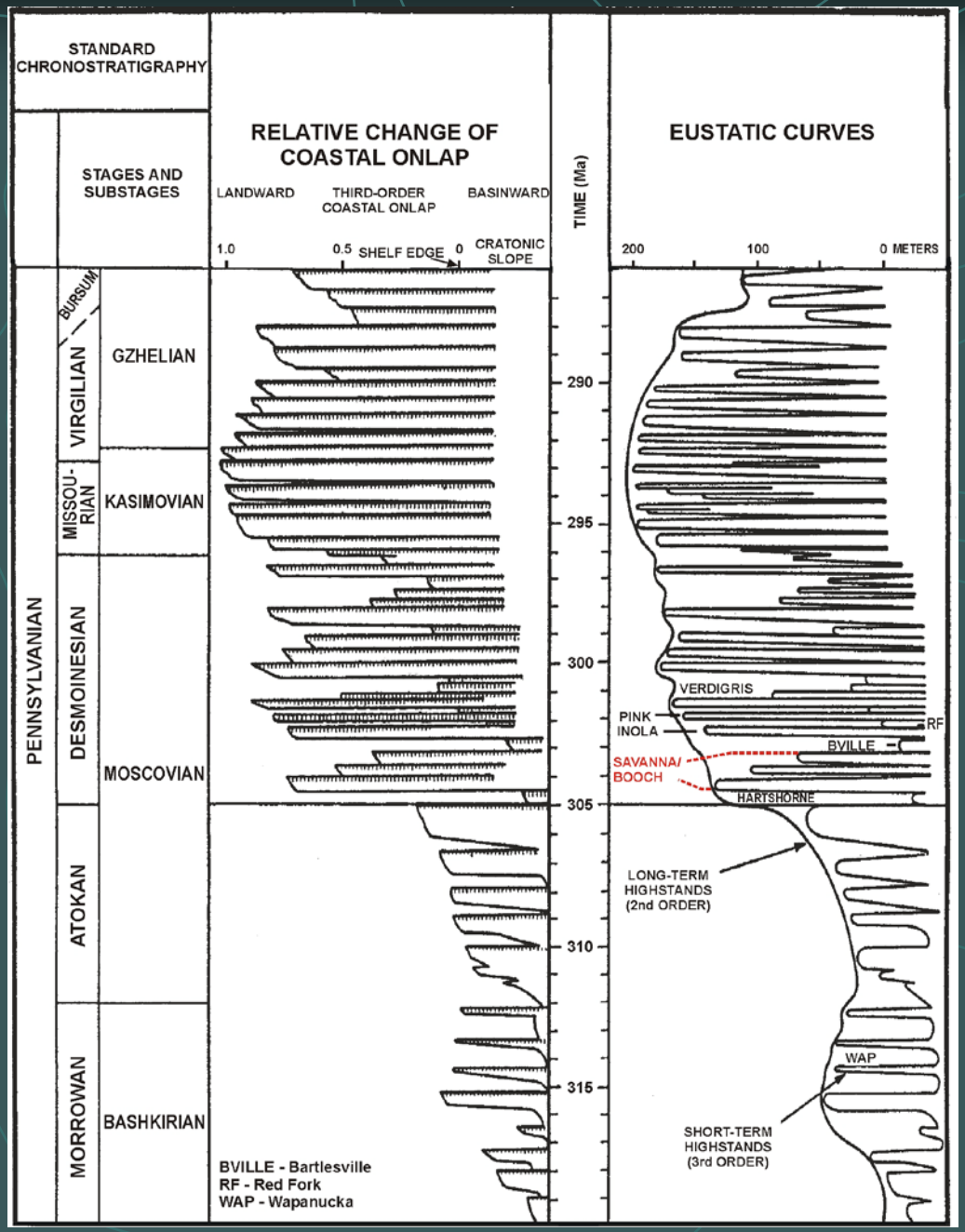
# Structure: Top Booch



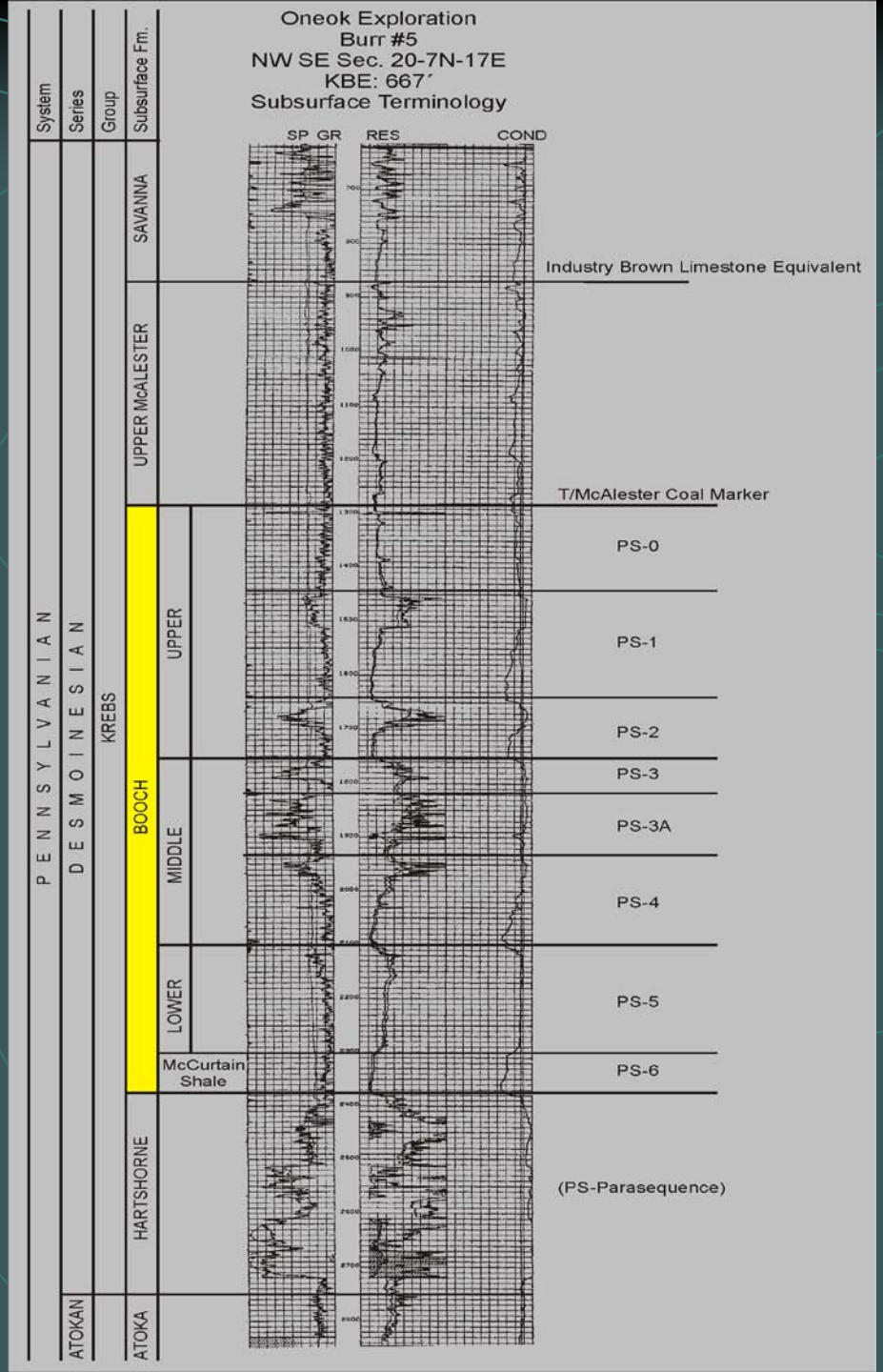
# Regional Structural Cross-Section

# Booch Stratigraphic Nomenclature



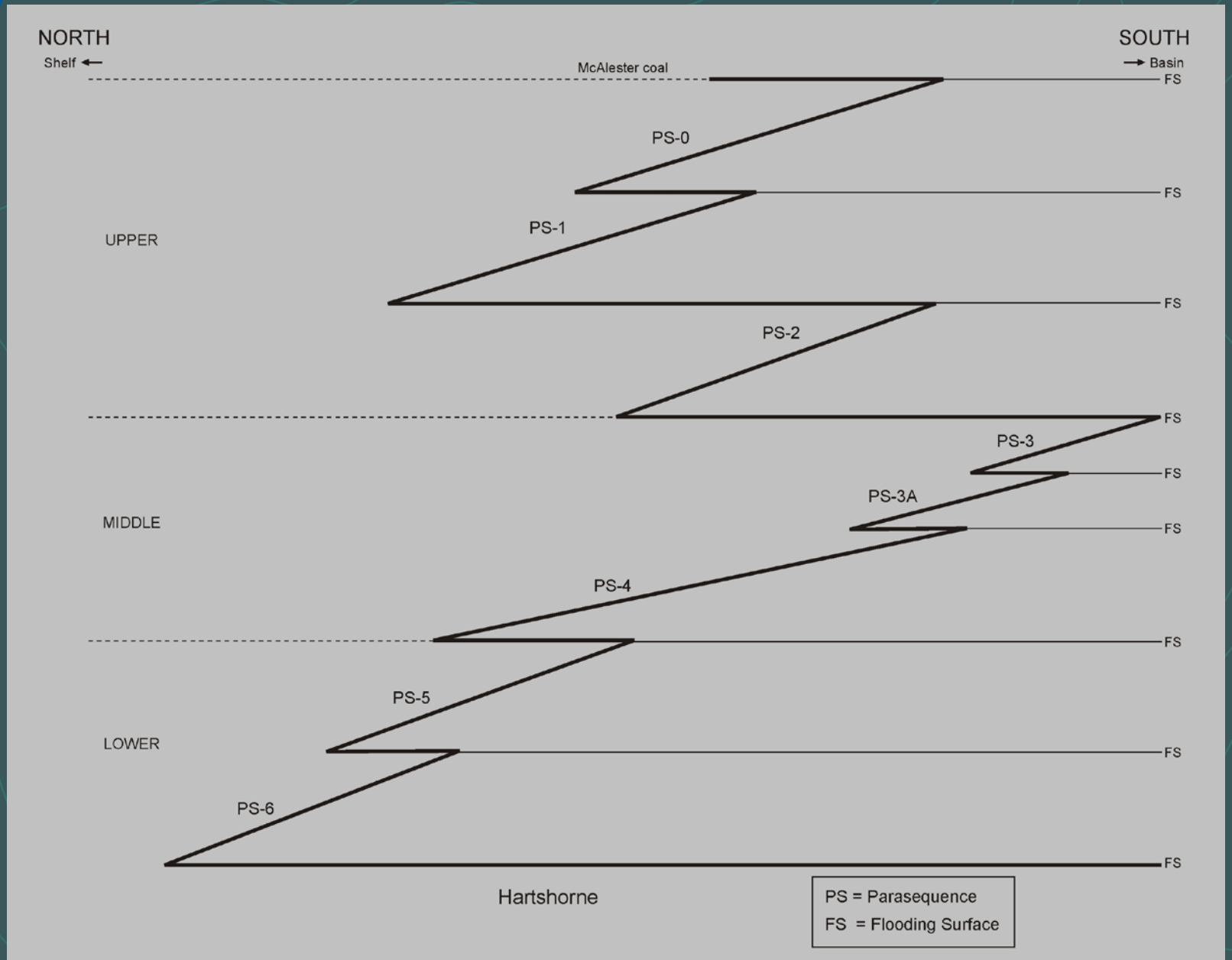



# Eustatic Sea Level Curves



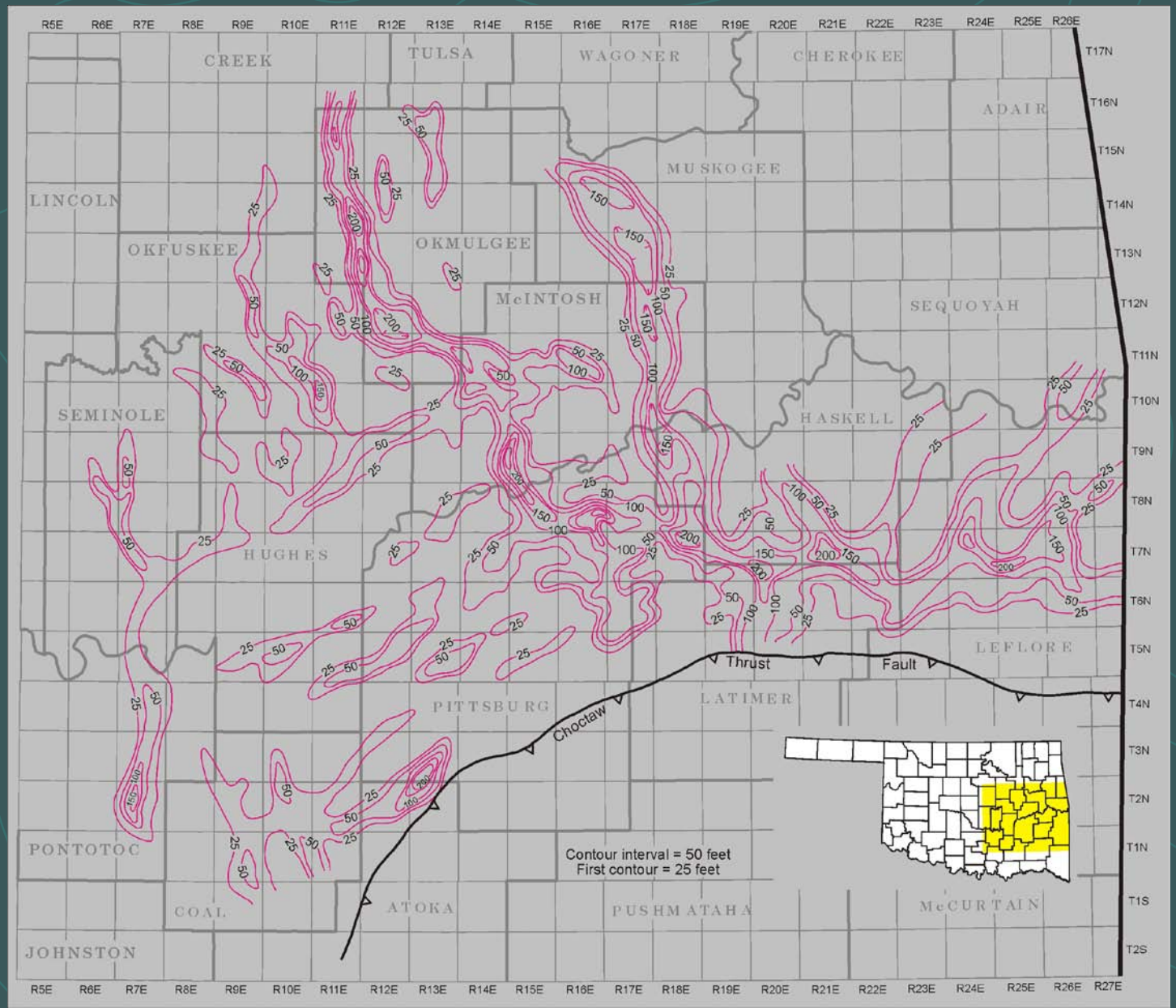

# Booch Type Log

# Booch Schematic Progradational History



# Booch Gross Sand Isopach

(As defined by regional control)



# The Booch Depositional Setting

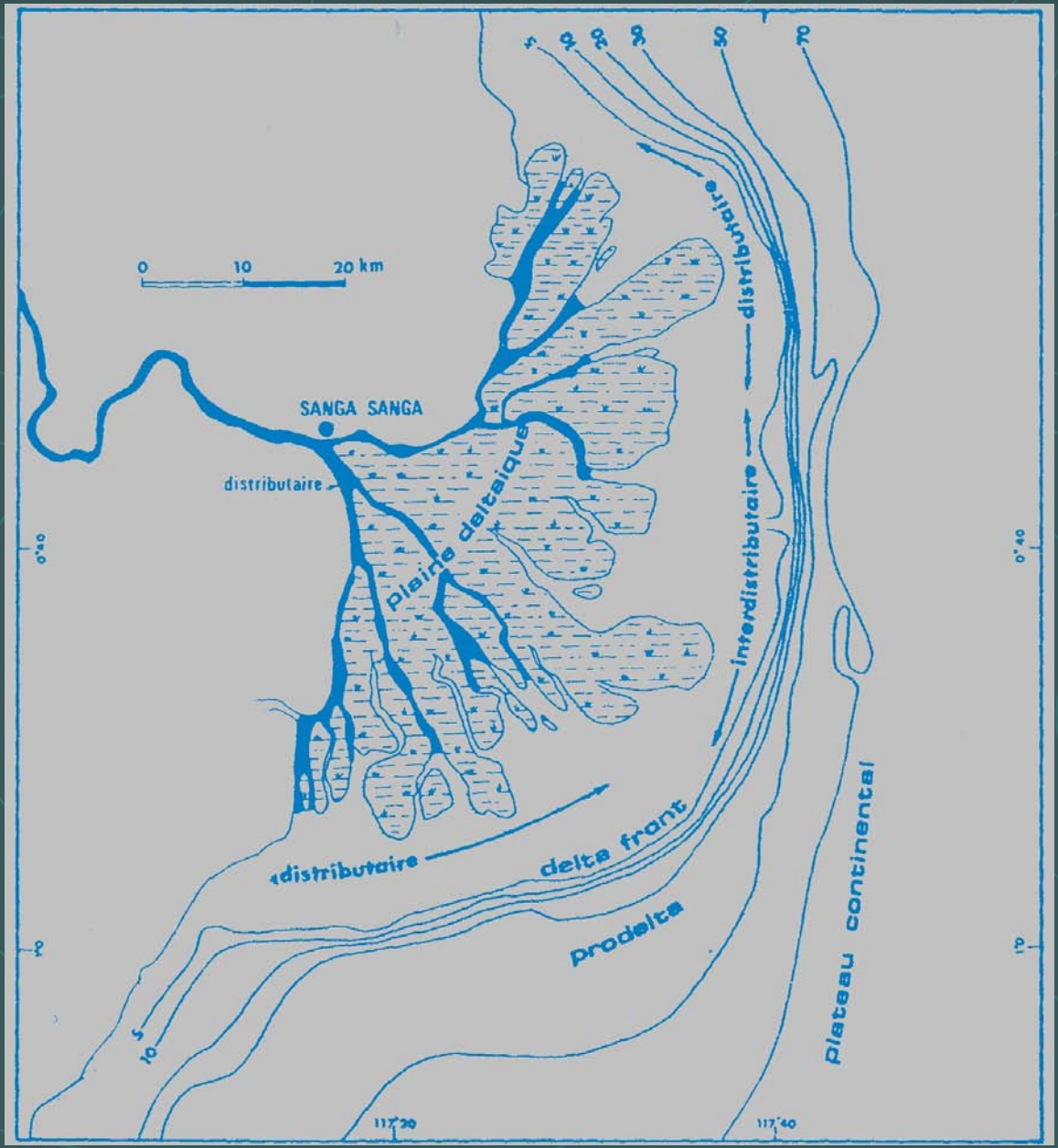
Mahakam Delta
(Modern Analog)

Oklahoma

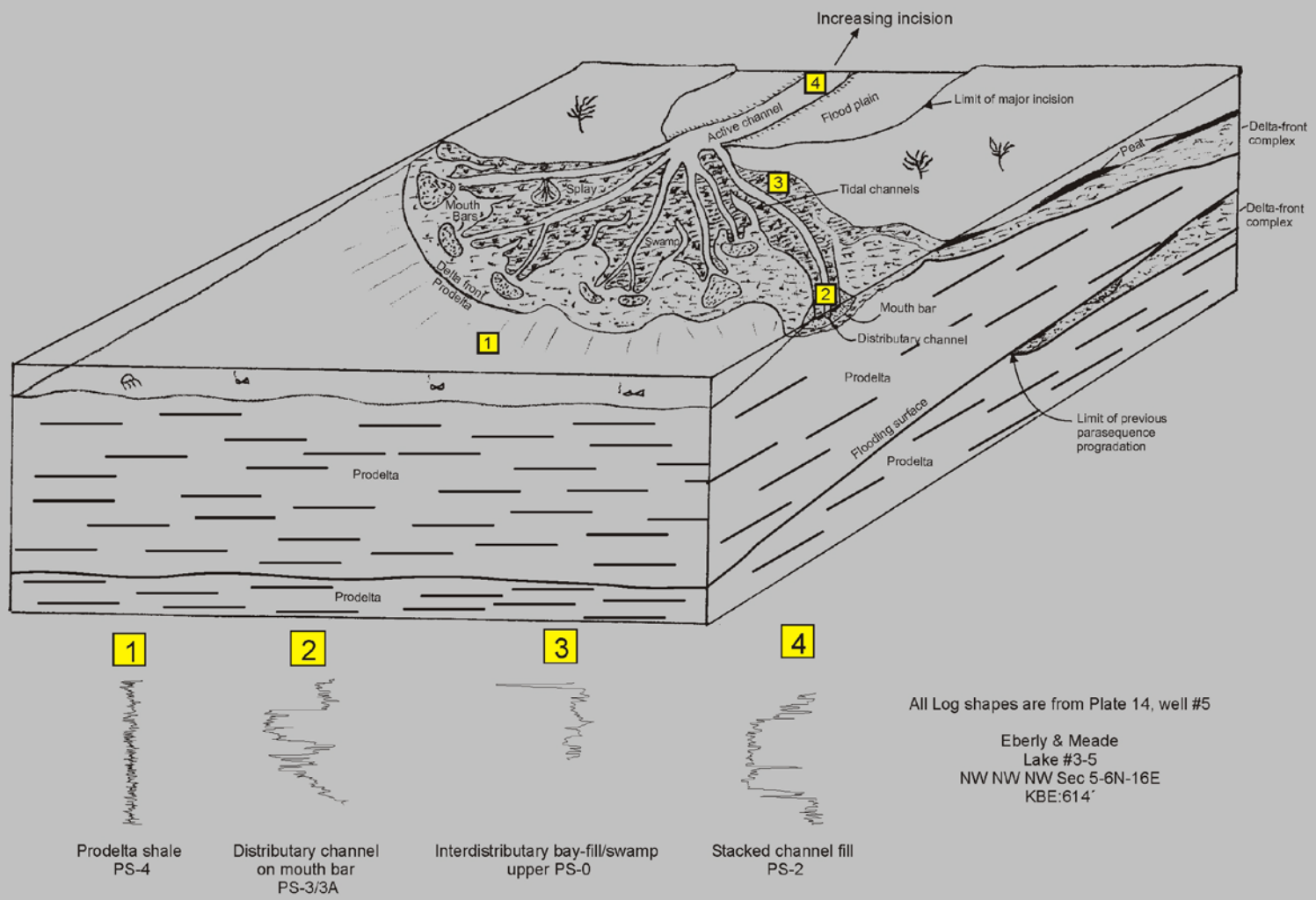
Pennsylvanian
Paleogeography

http://jan.ucc.nau.edu/%7Ercb7/global_history.html

# Mahakam Delta



# Idealized Booch Tidal Delta



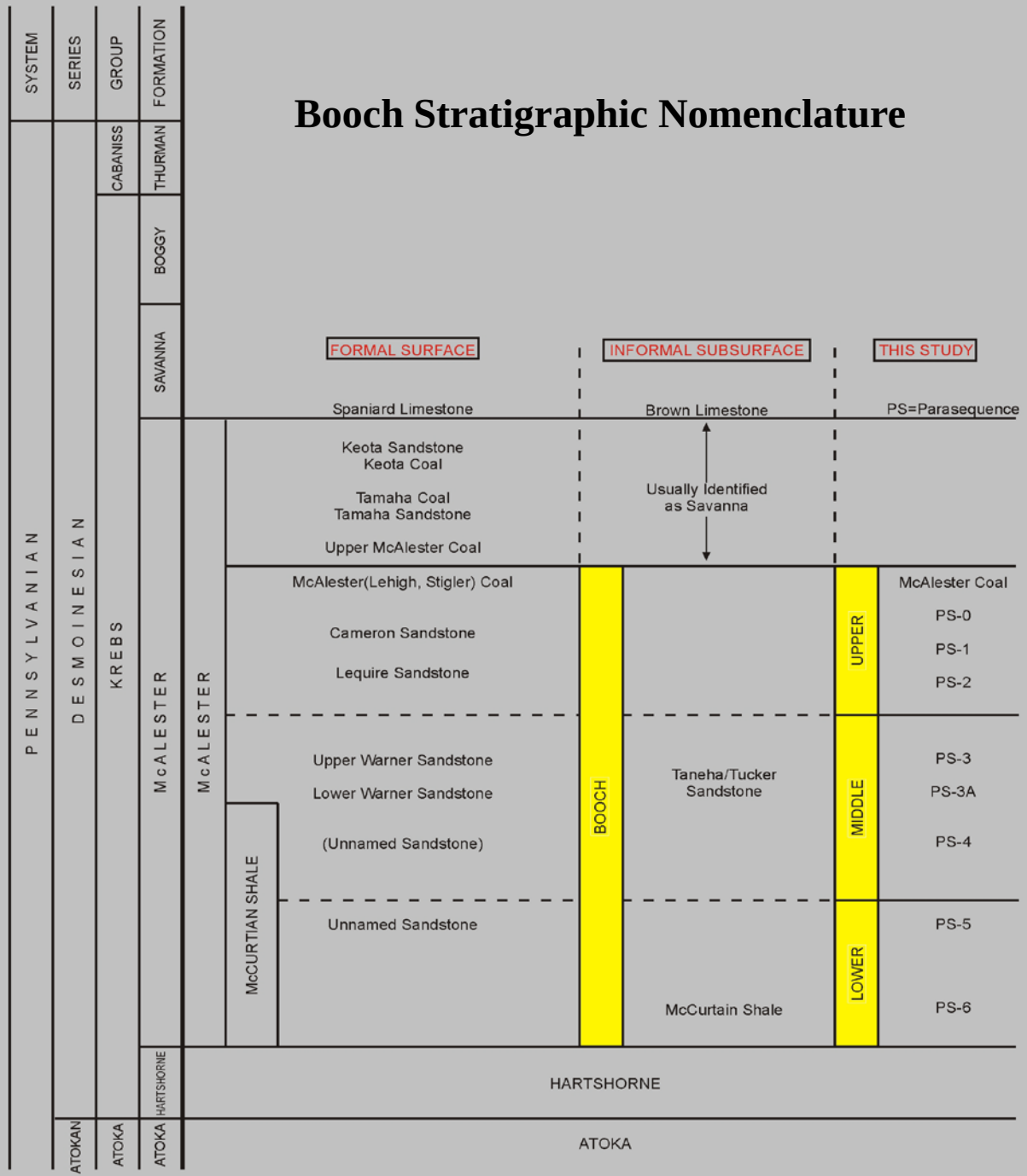
# Mahakam Delta Tidal Channels

# Mahakam Delta Distributary Mouth Bar

(Low Tide)

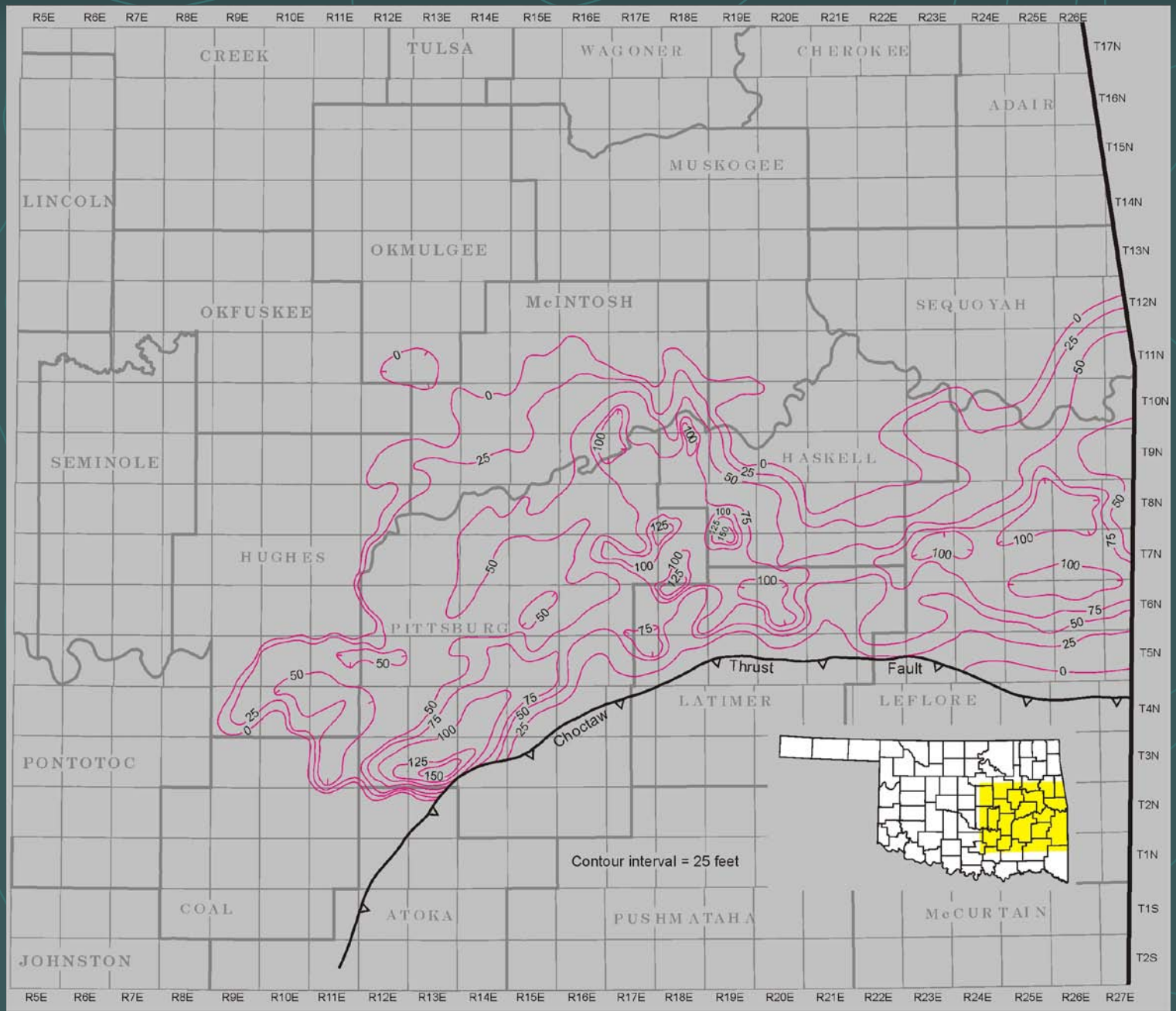
# Shoreline Adjacent to Mahakam Delta

# Booch Stratigraphic Nomenclature

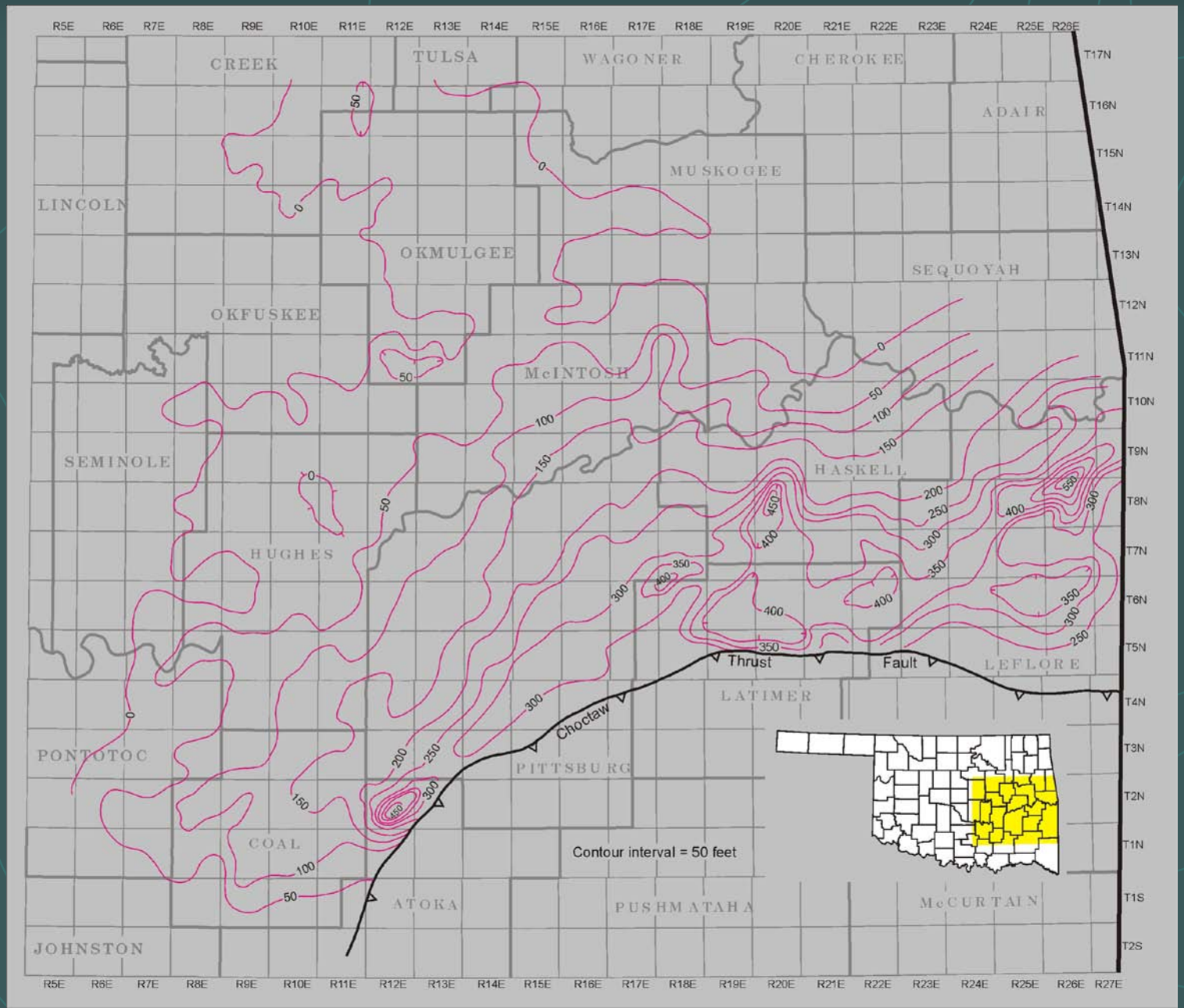


# Booch Regional Cross-Section C-C’

# McCurtain Shale (PS-6) Interval Isopach



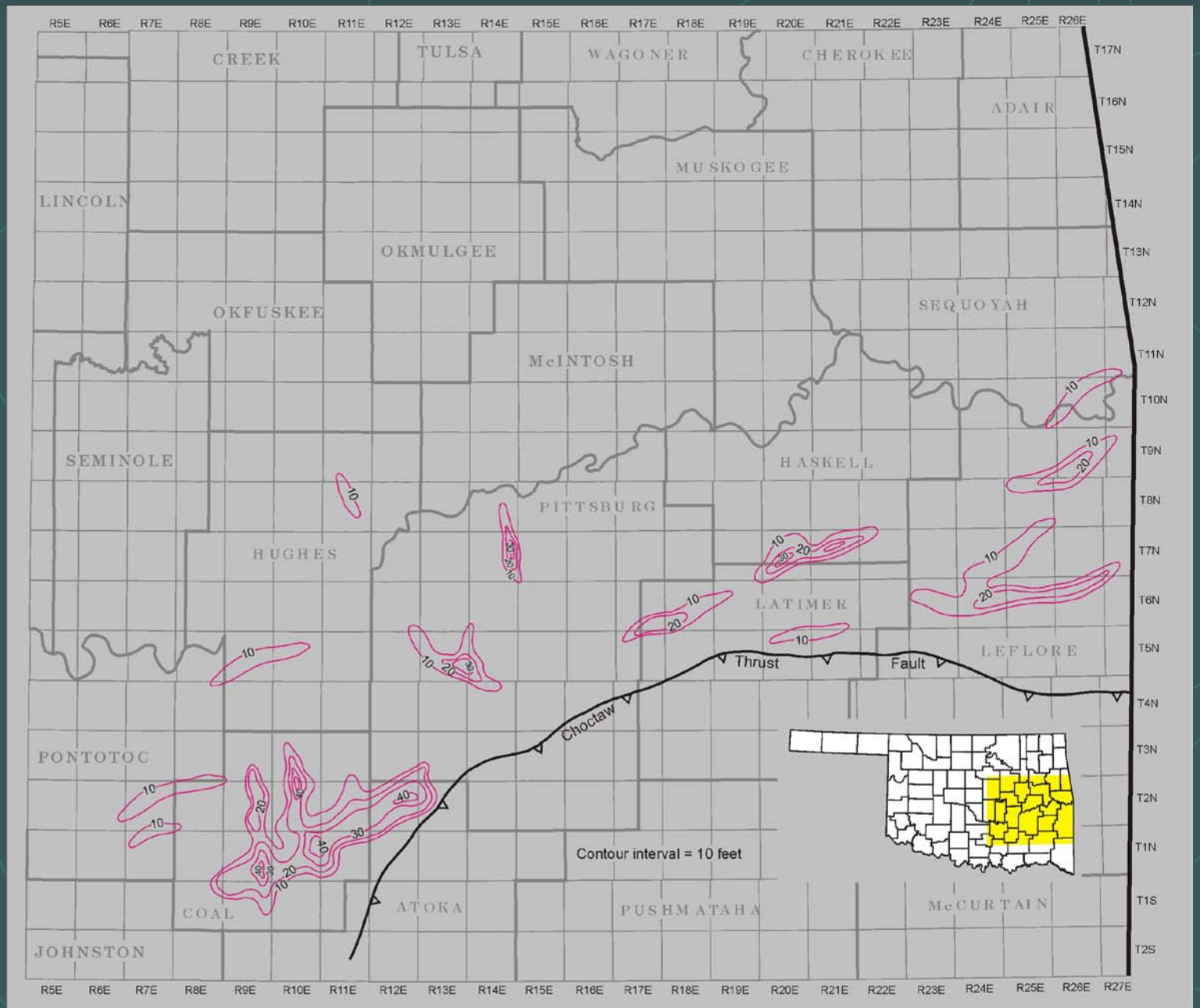
# Lower Booch Interval Isopach

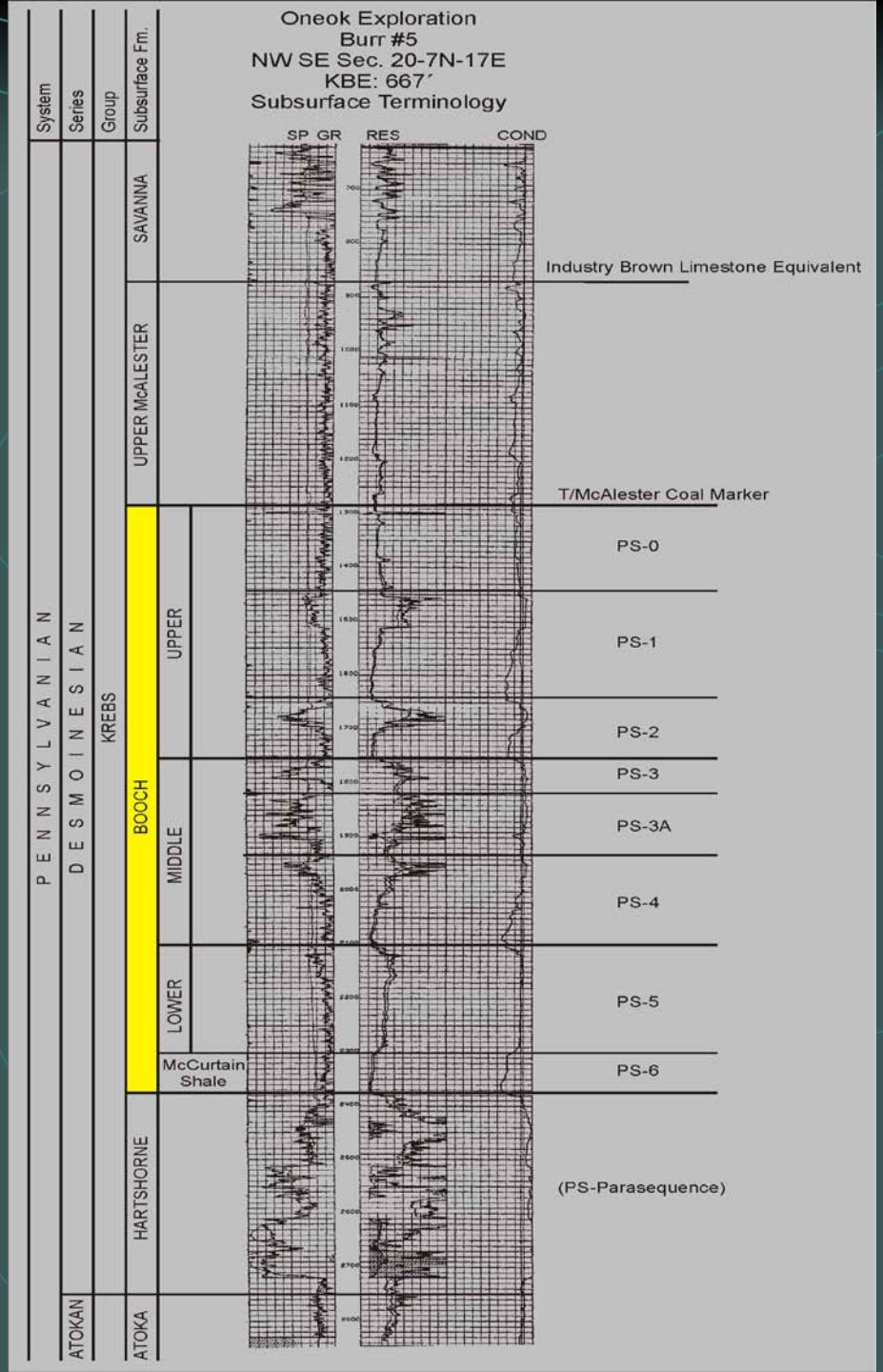


# Booch Regional Cross-Section C-C’

# Booch Regional Cross-Section E-E’

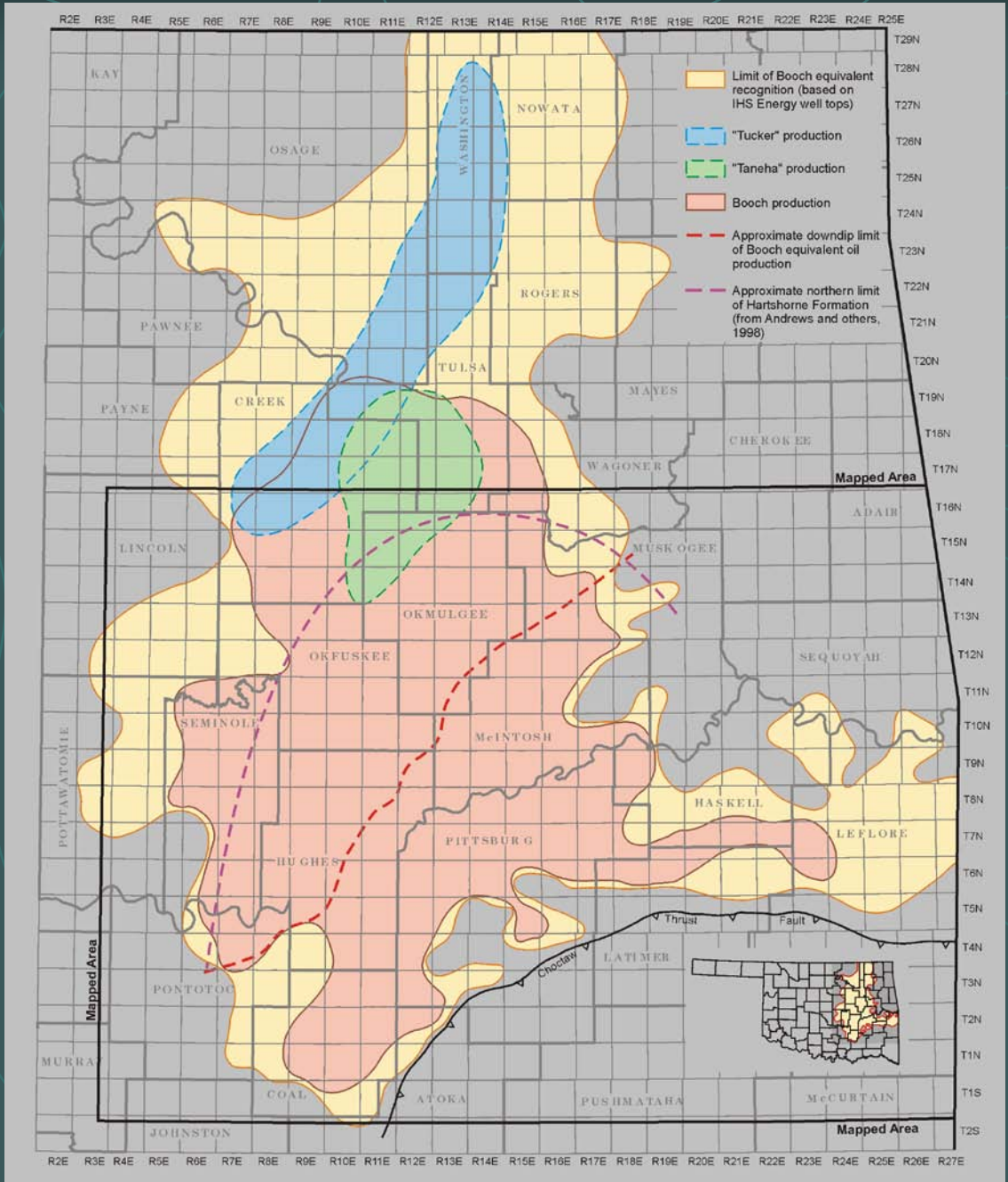
# Lower Booch (PS-5) Gross Sand Isopach



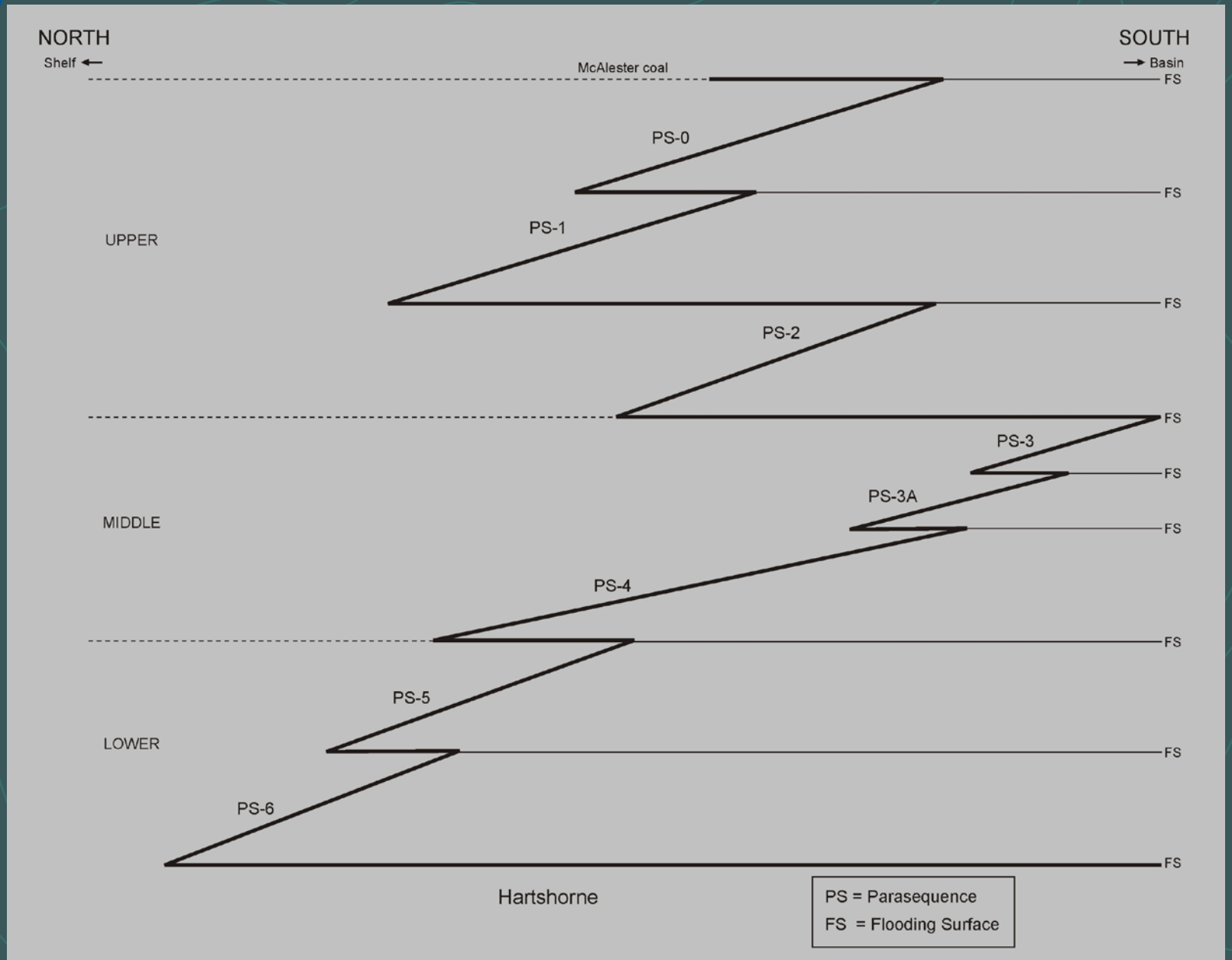



# Booch Type Log

# Booch-Equivalent Production

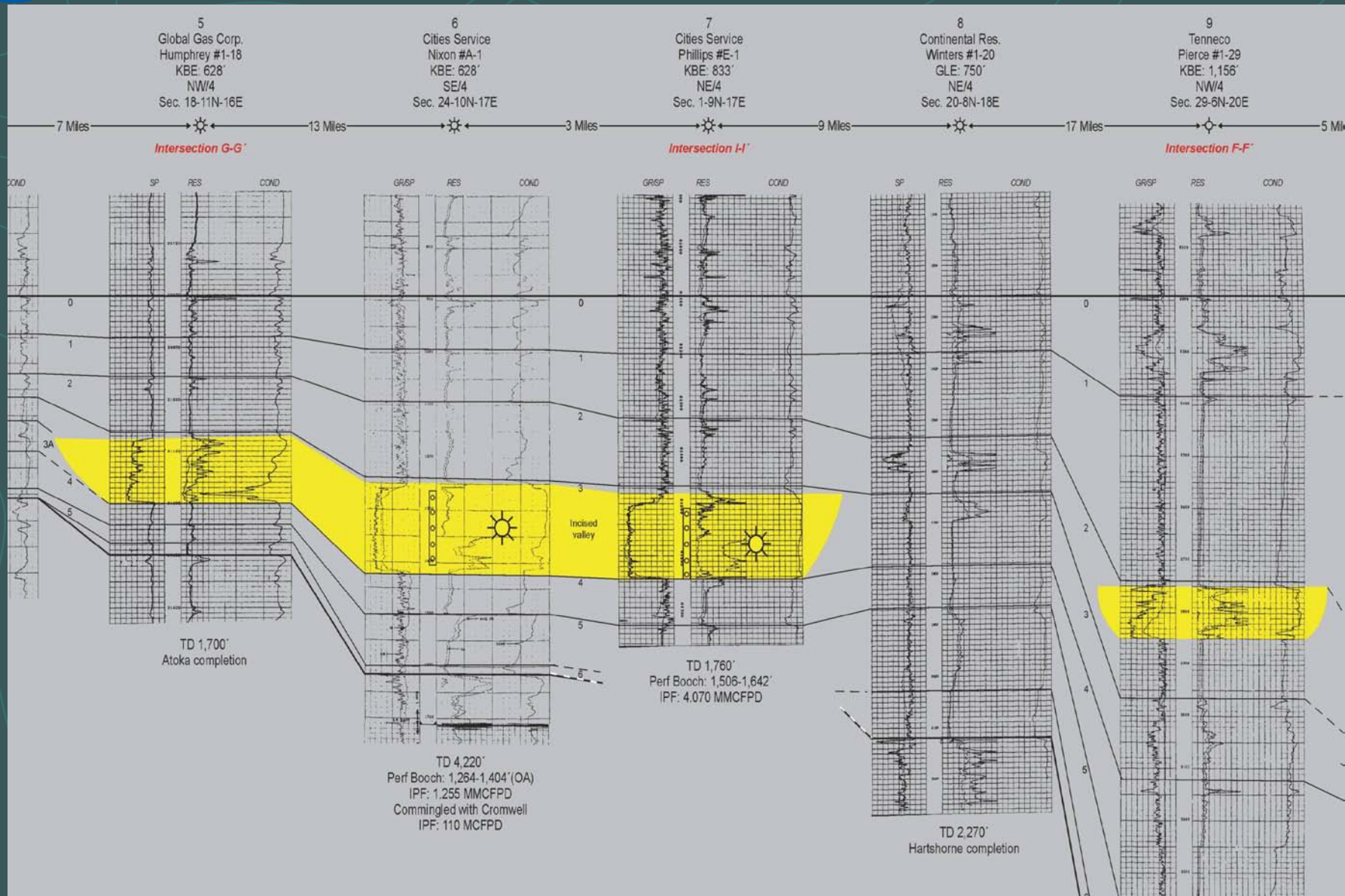


# Booch Schematic Progradational History

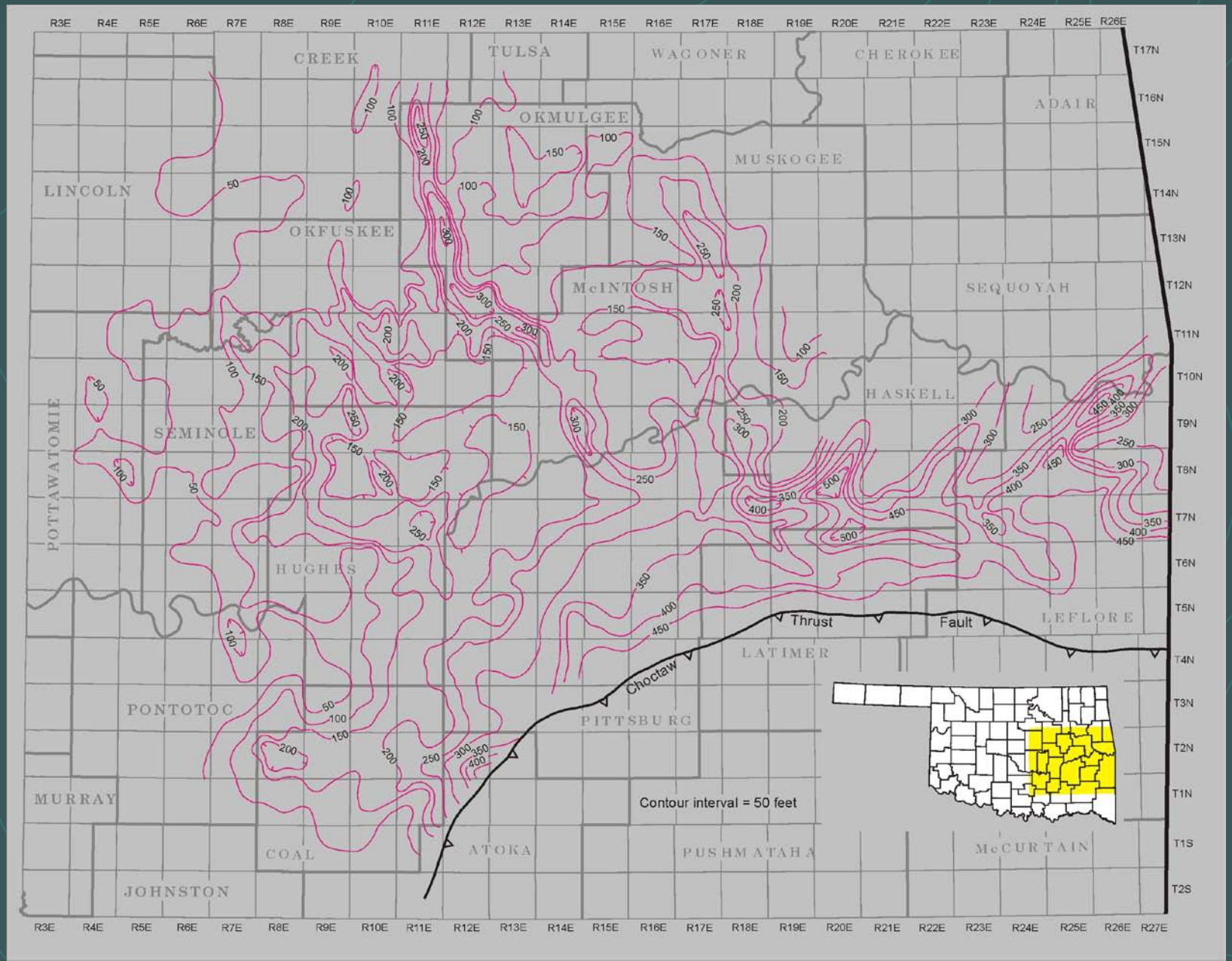


# Booch Regional Cross-Section A-A’

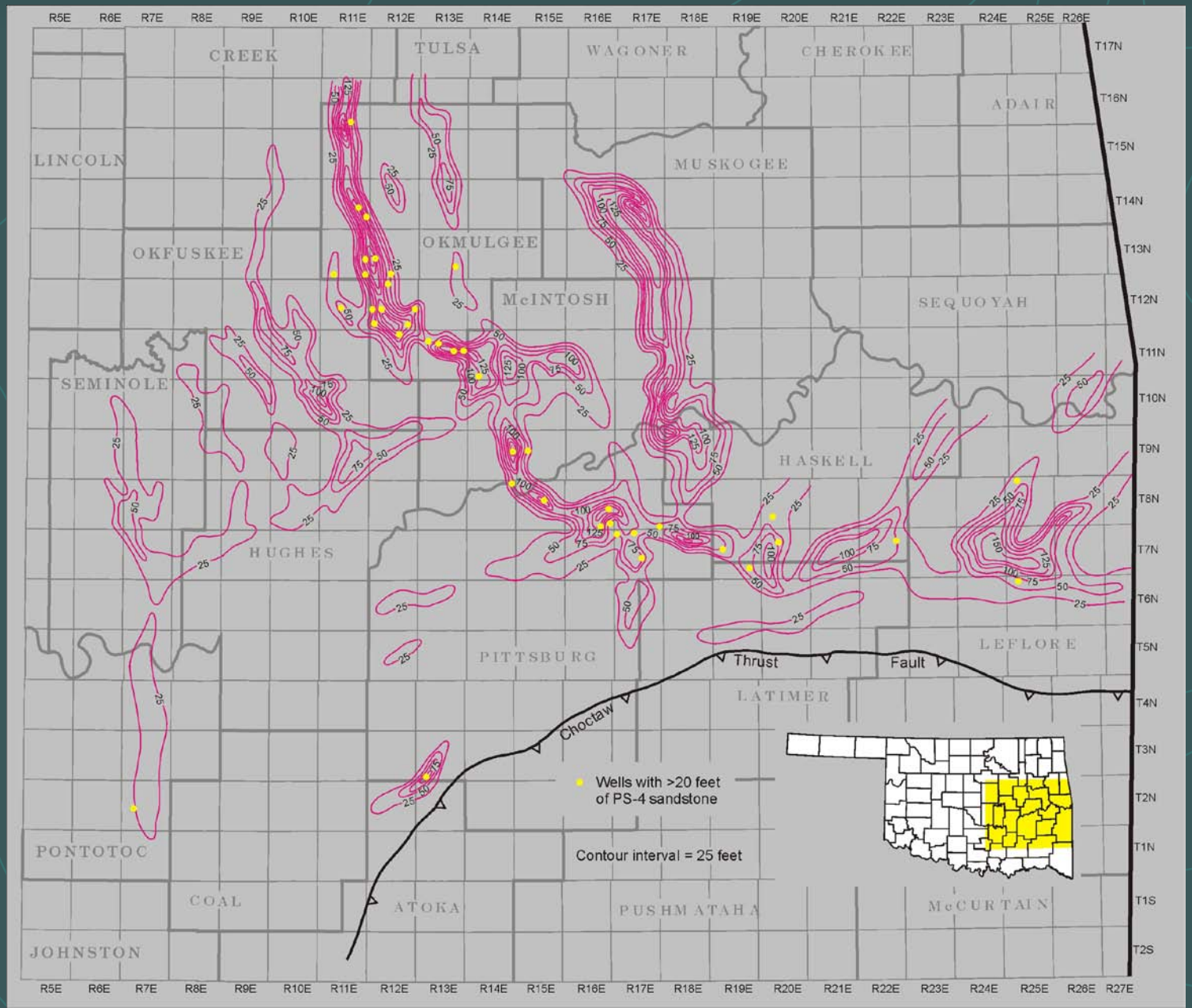
# Booch Regional Cross-Section B-B’



# Middle Booch Interval Isopach

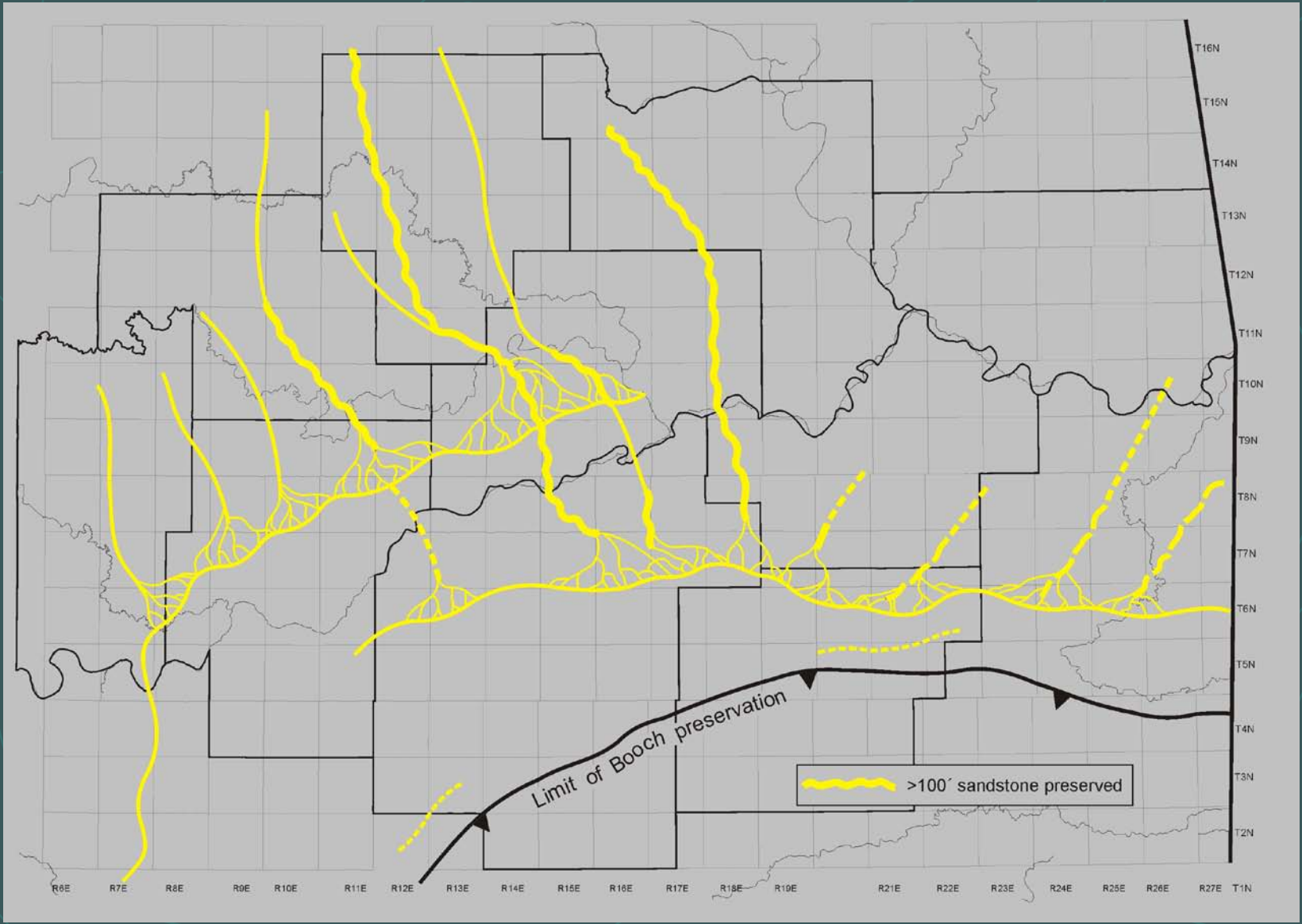


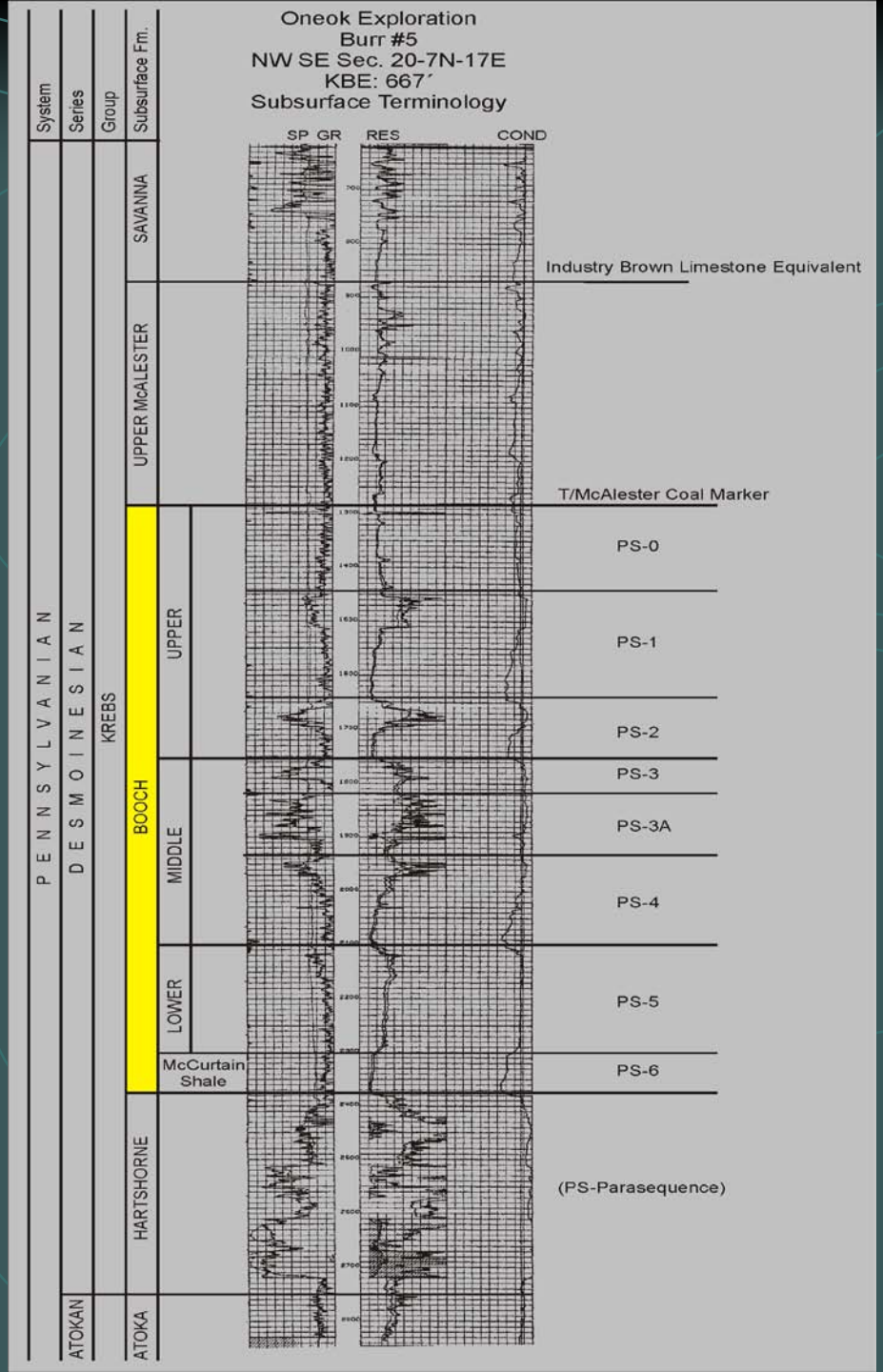
# Middle Booch Gross Sand Isopach



# Booch Regional Cross-Section C-C’

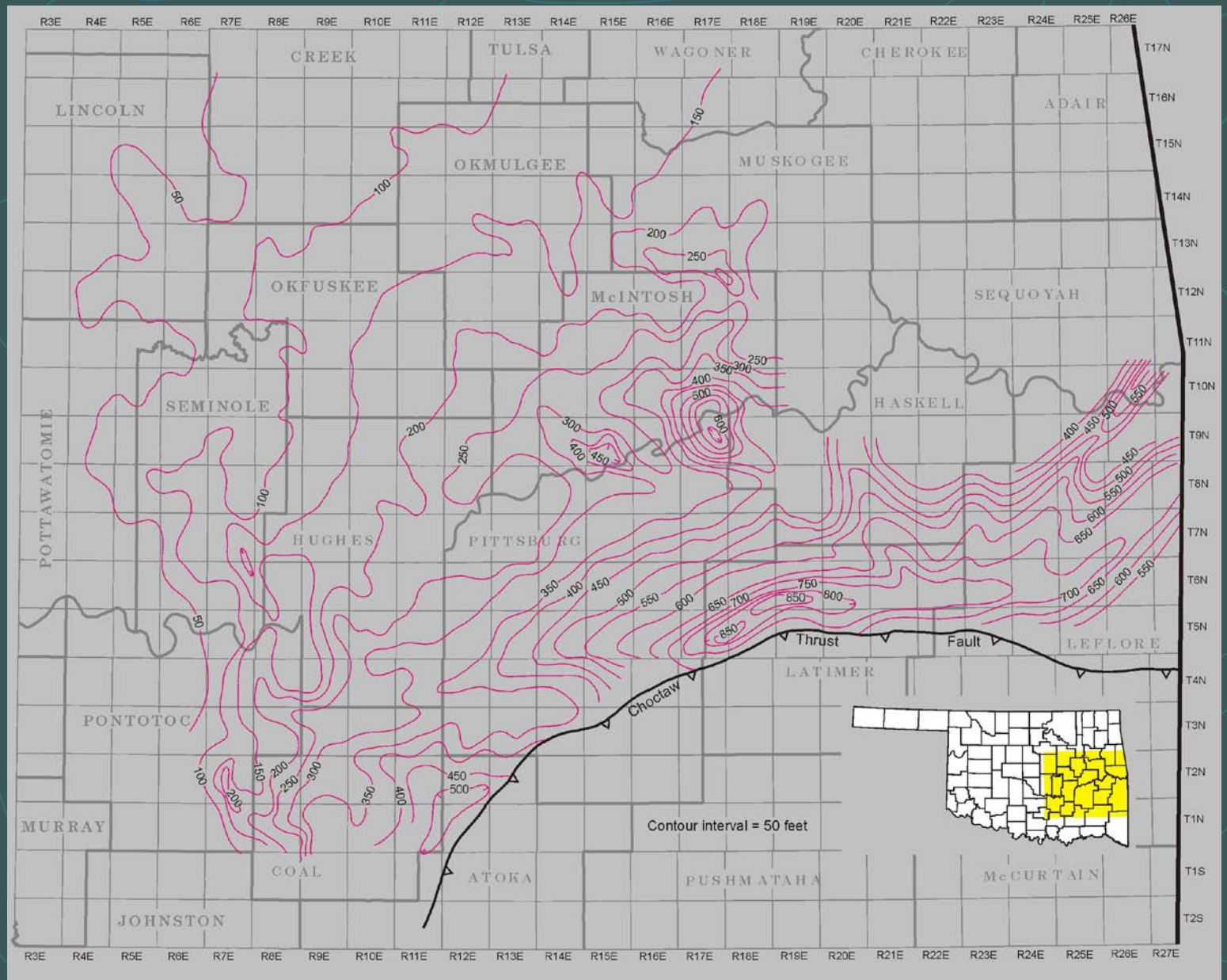
# Schematic Middle Booch Depositional Systems



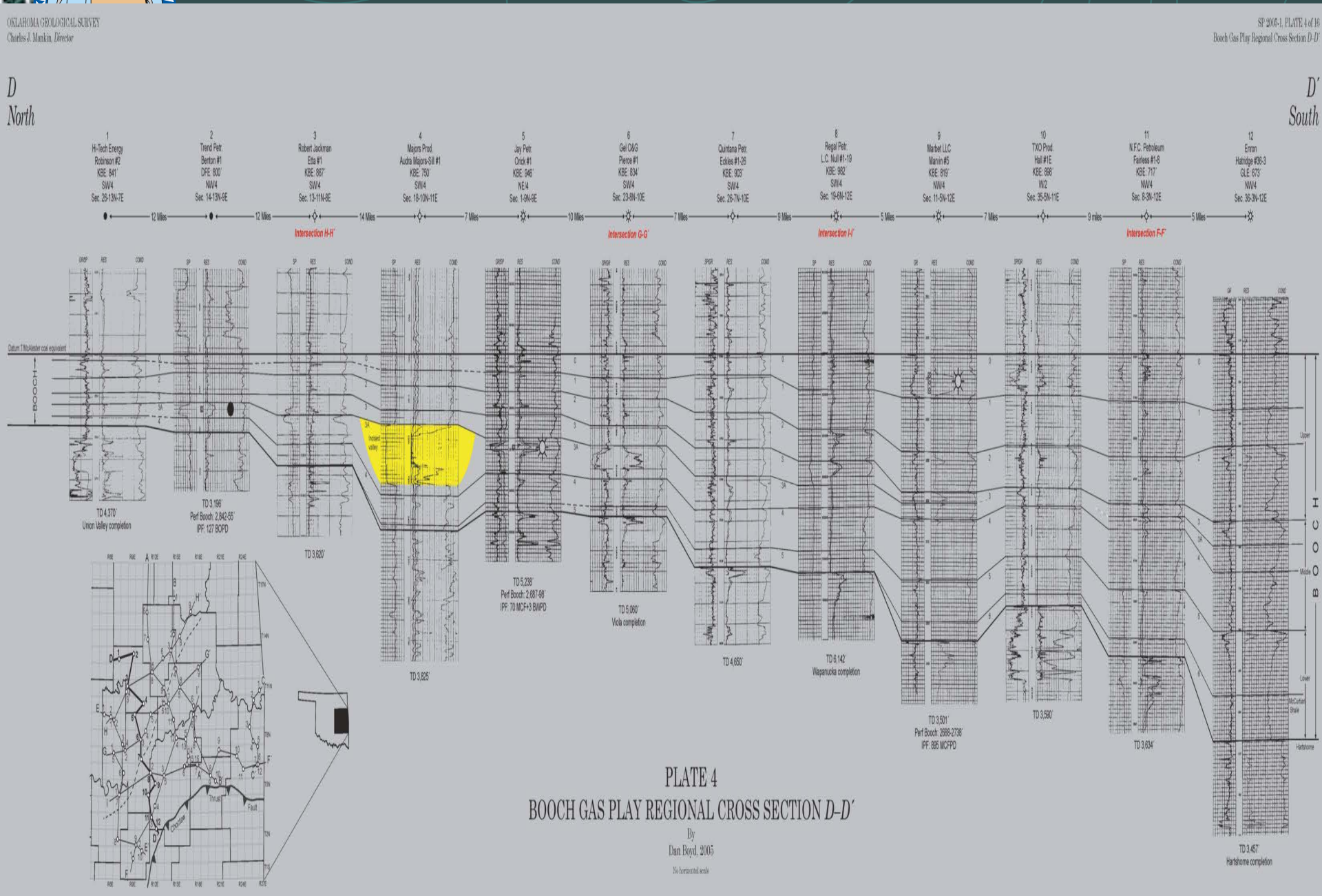



# Booch Type Log

# Upper Booch Interval Isopach

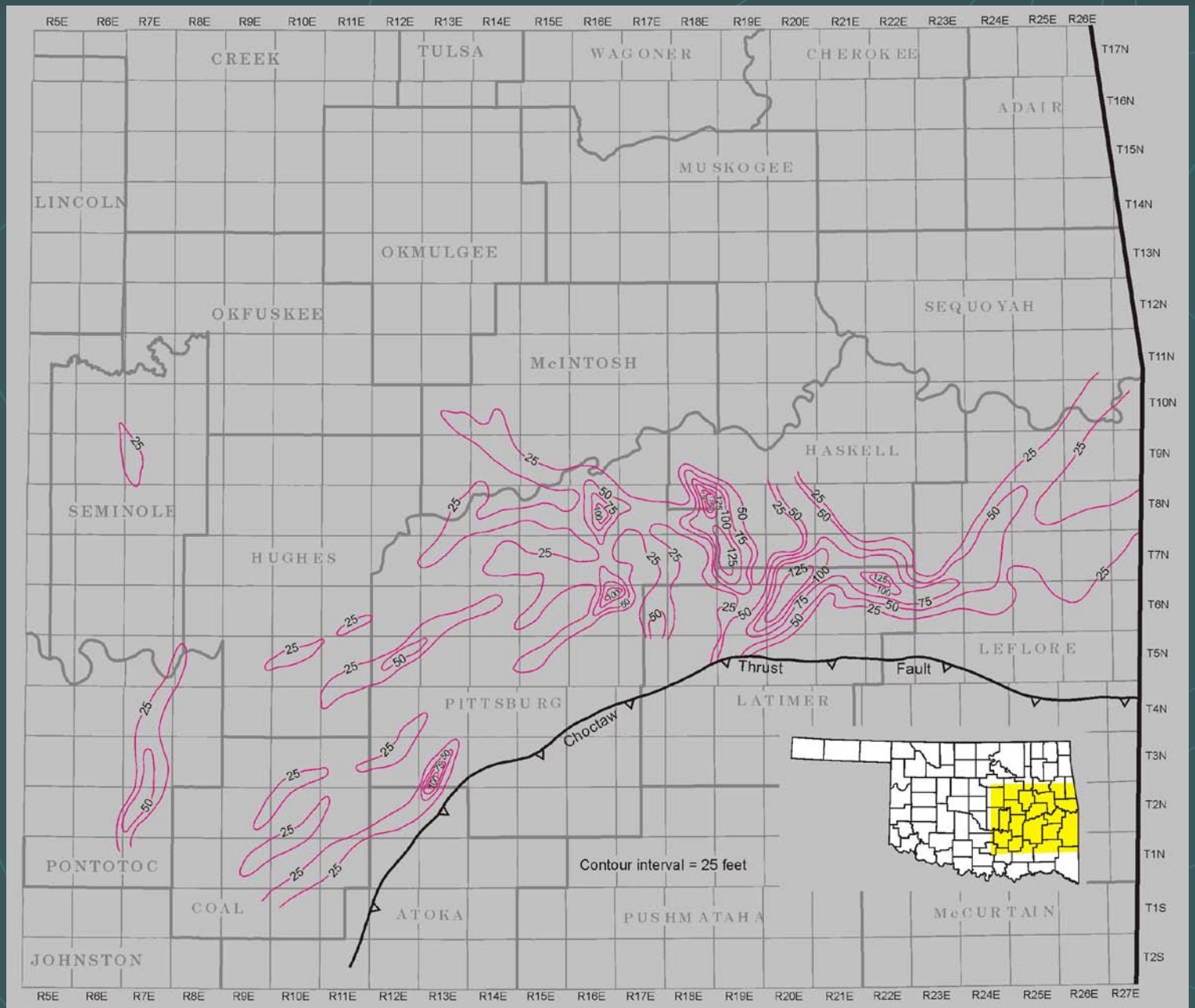


# Booch Regional Cross-Section D-D’



# Booch Regional Cross-Section A-A’

# Upper Booch Gross Sand Isopach

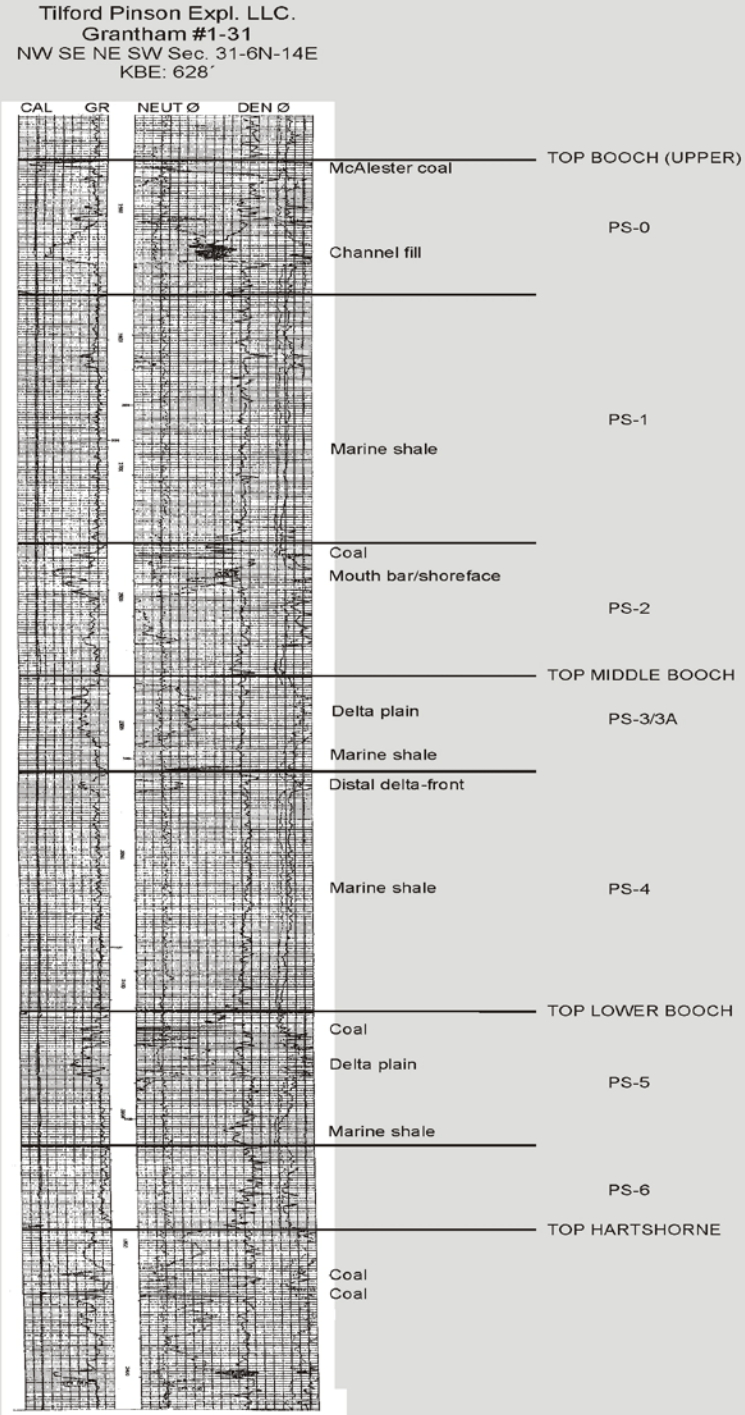


# The Booch Gas Play

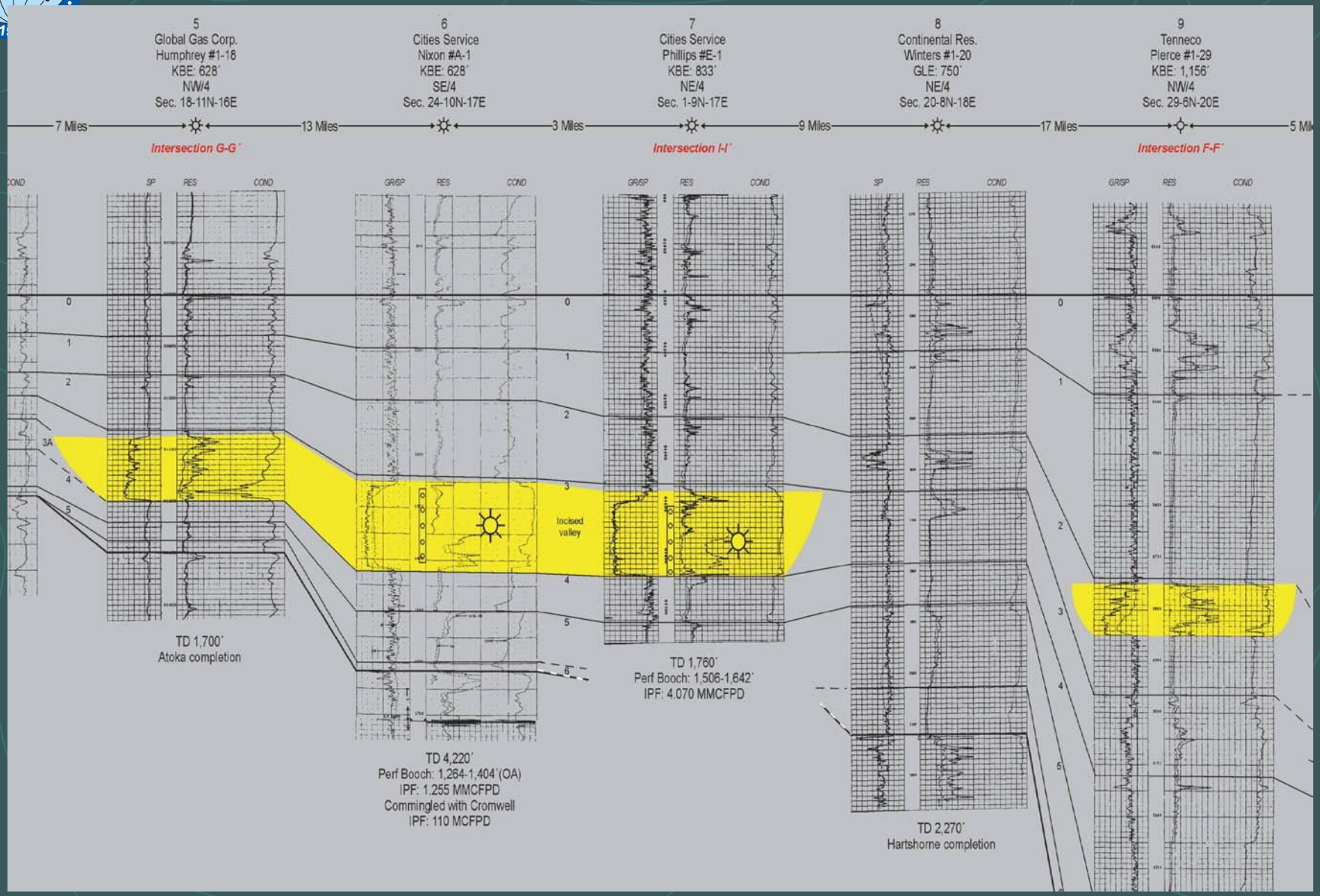
## Petroleum System

- Source Rocks
- Maturity
- Migration Pathways
- Reservoirs
- Traps

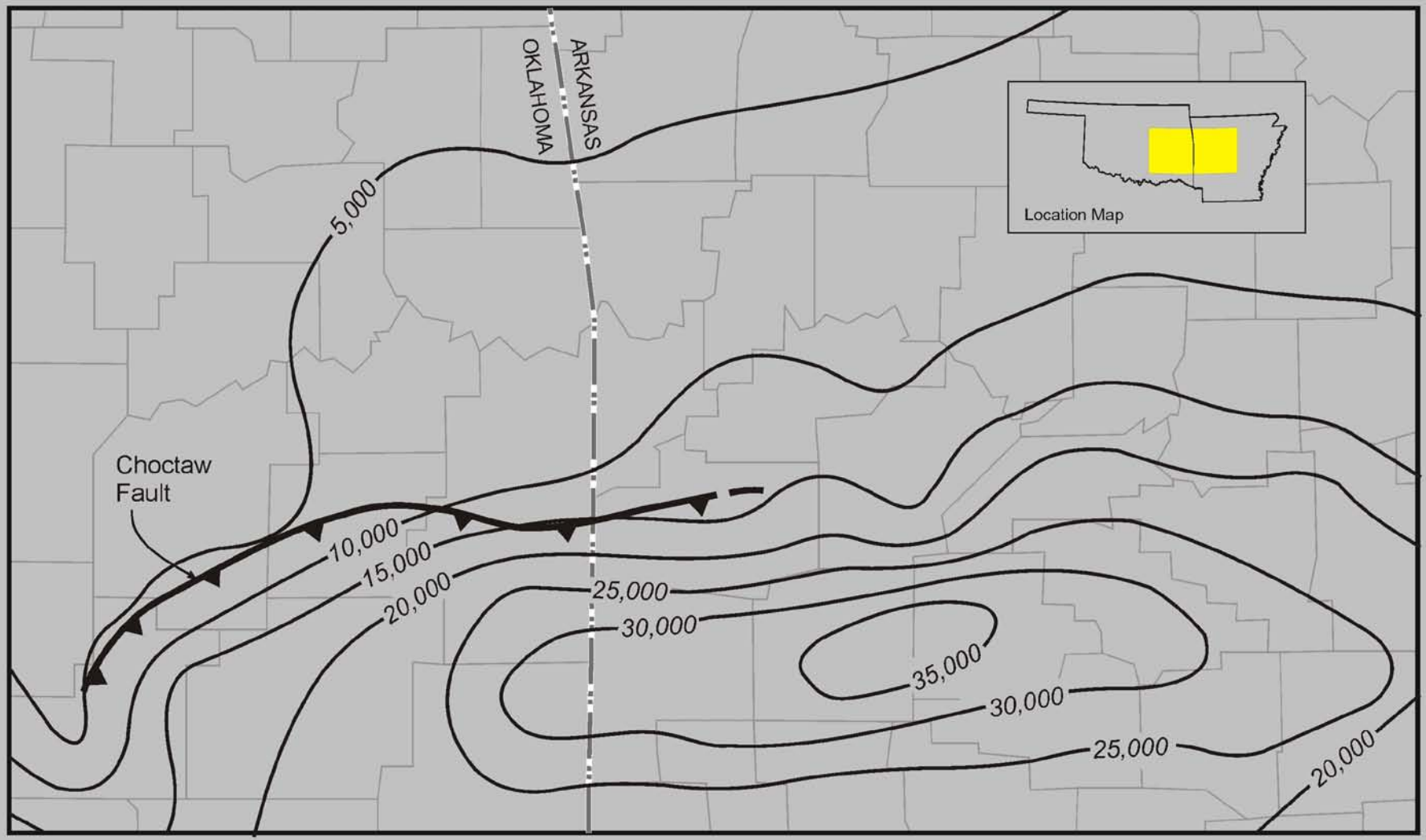
# Pine Hollow South Field Study Type Log



# Booch Regional Cross-Section B-B’

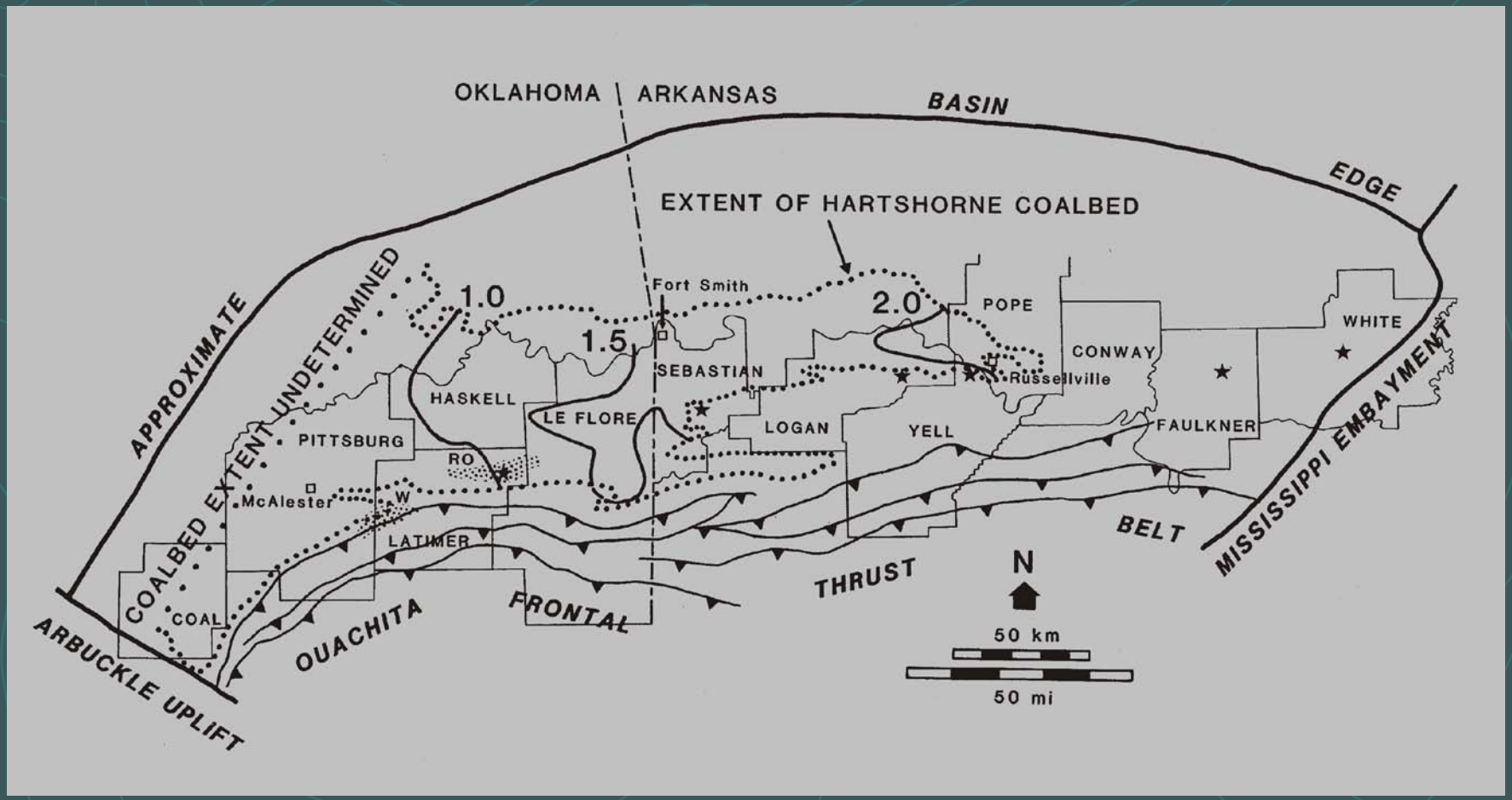


# Arkoma Basin
# Estimated Overburden Removal

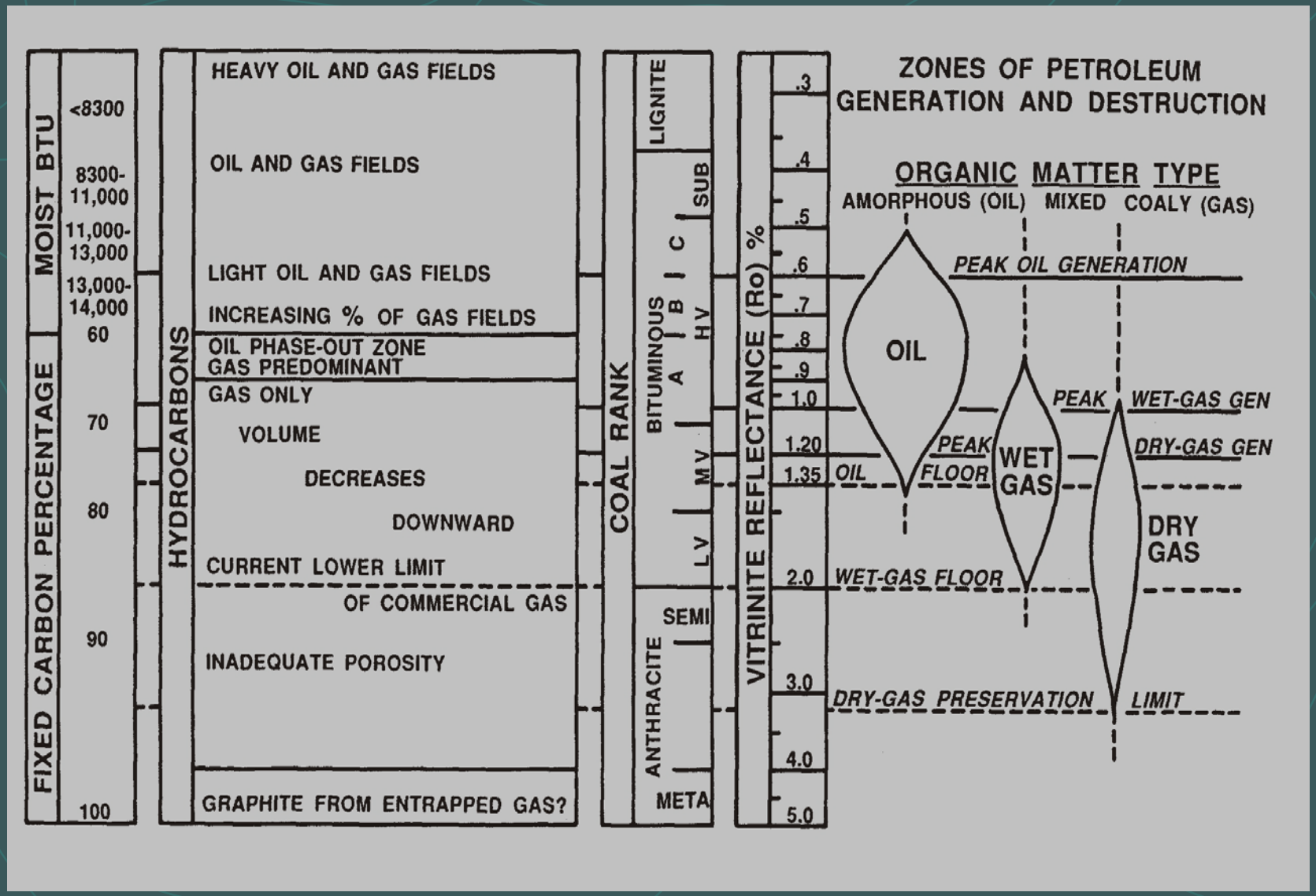


# Hartshorne Coal Maturity

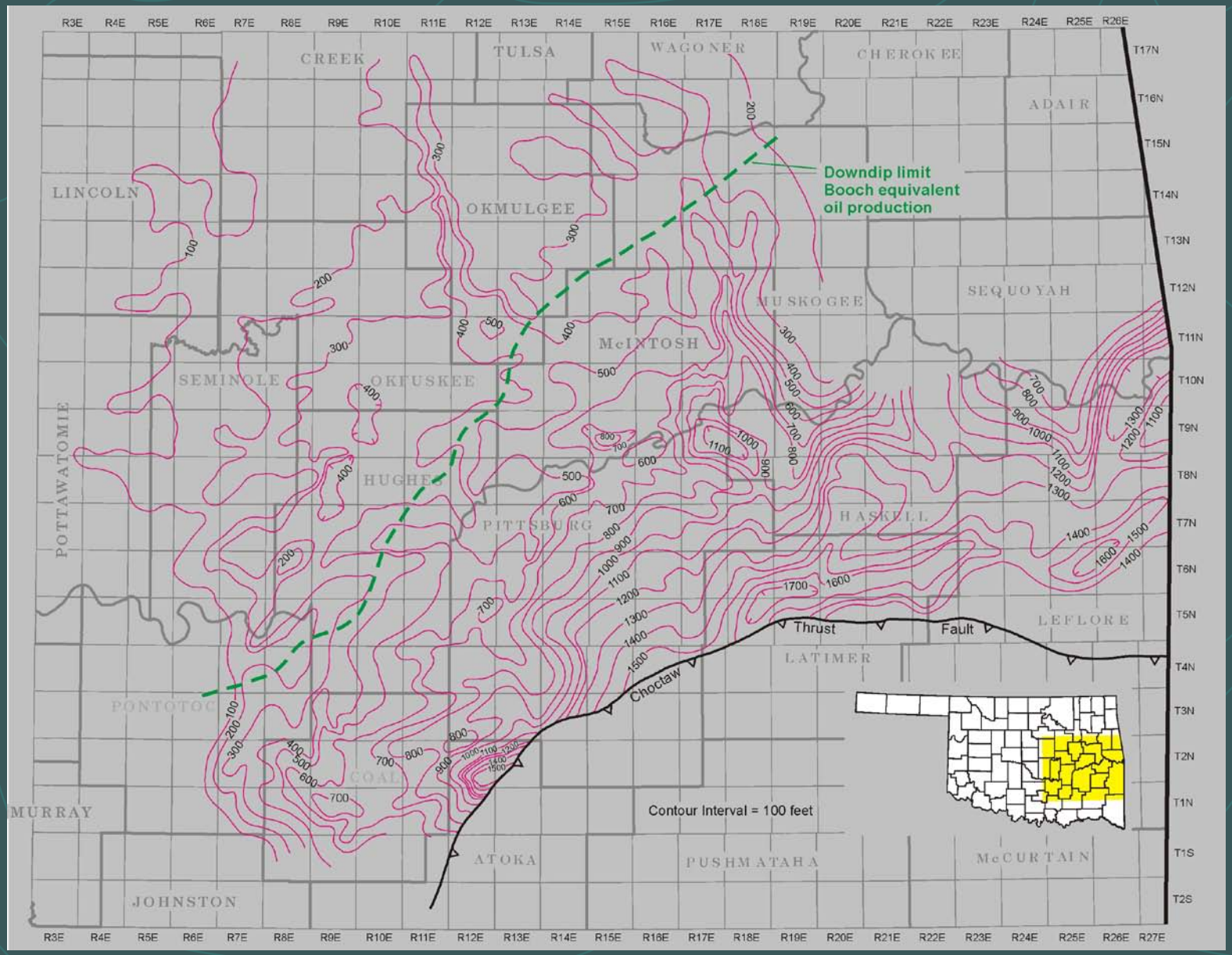
(Vitrinite Reflectance)

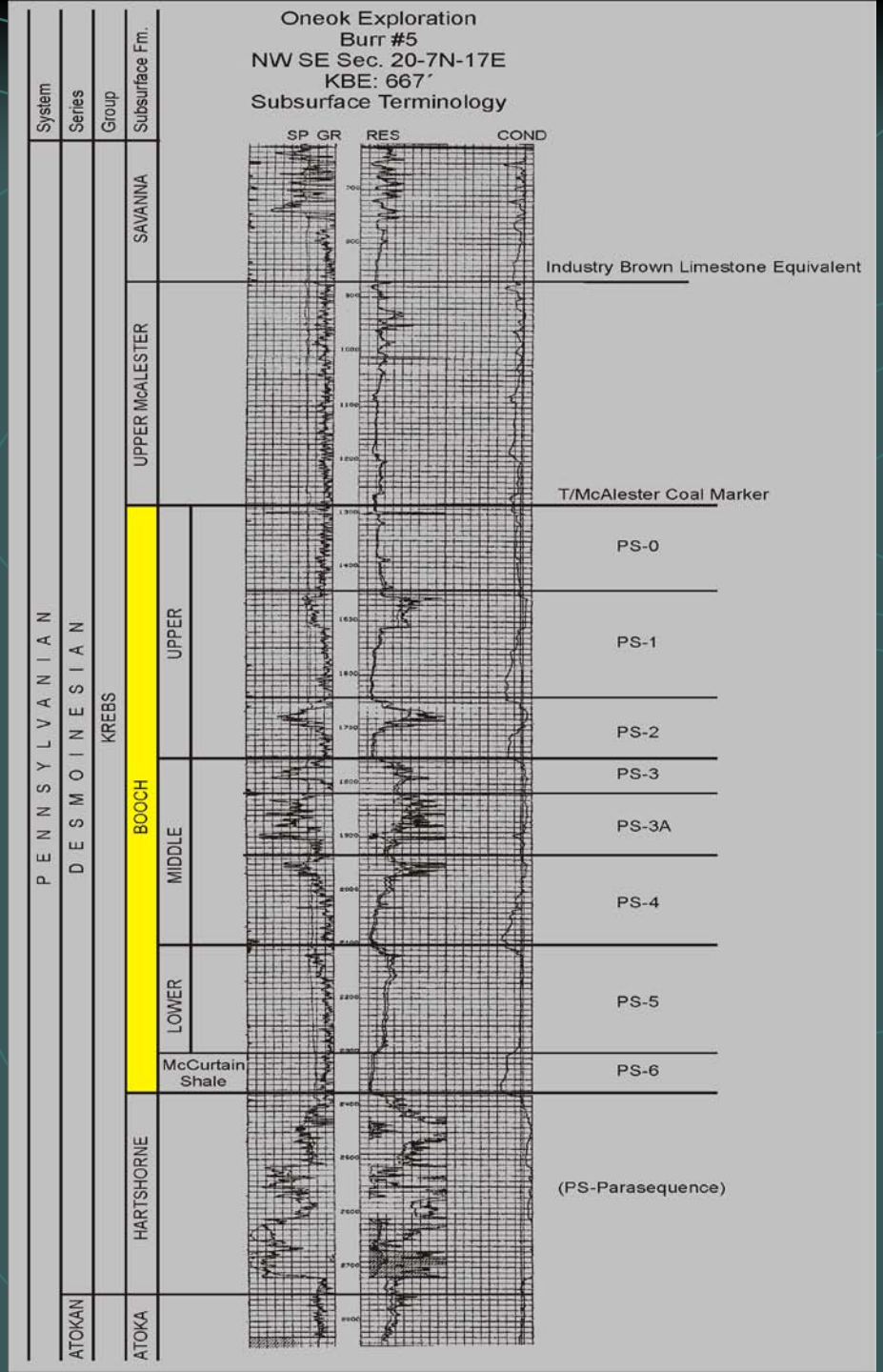


# Hydrocarbon Occurrence & Thermal Maturity



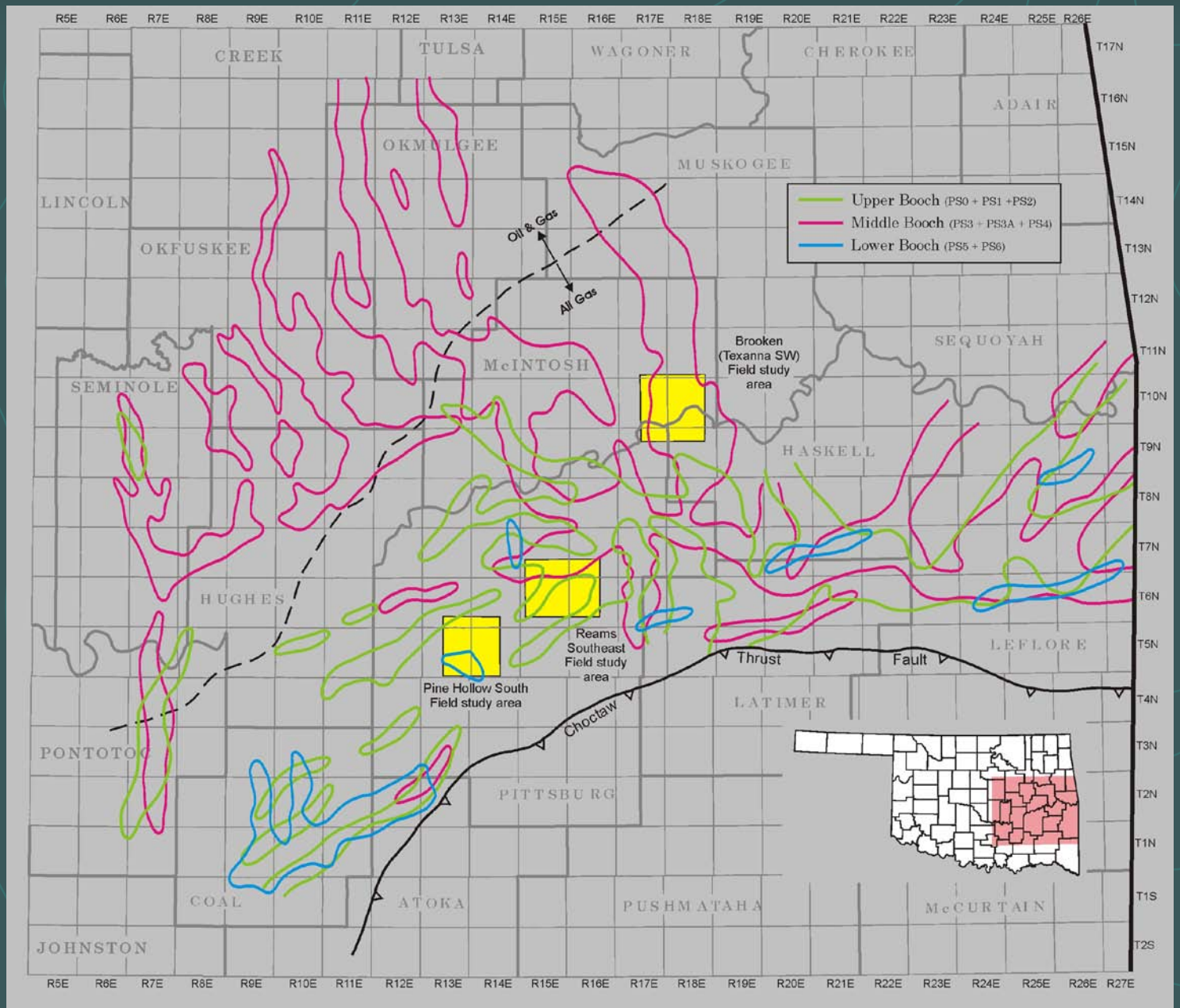
# Booch Gross Interval Isopach



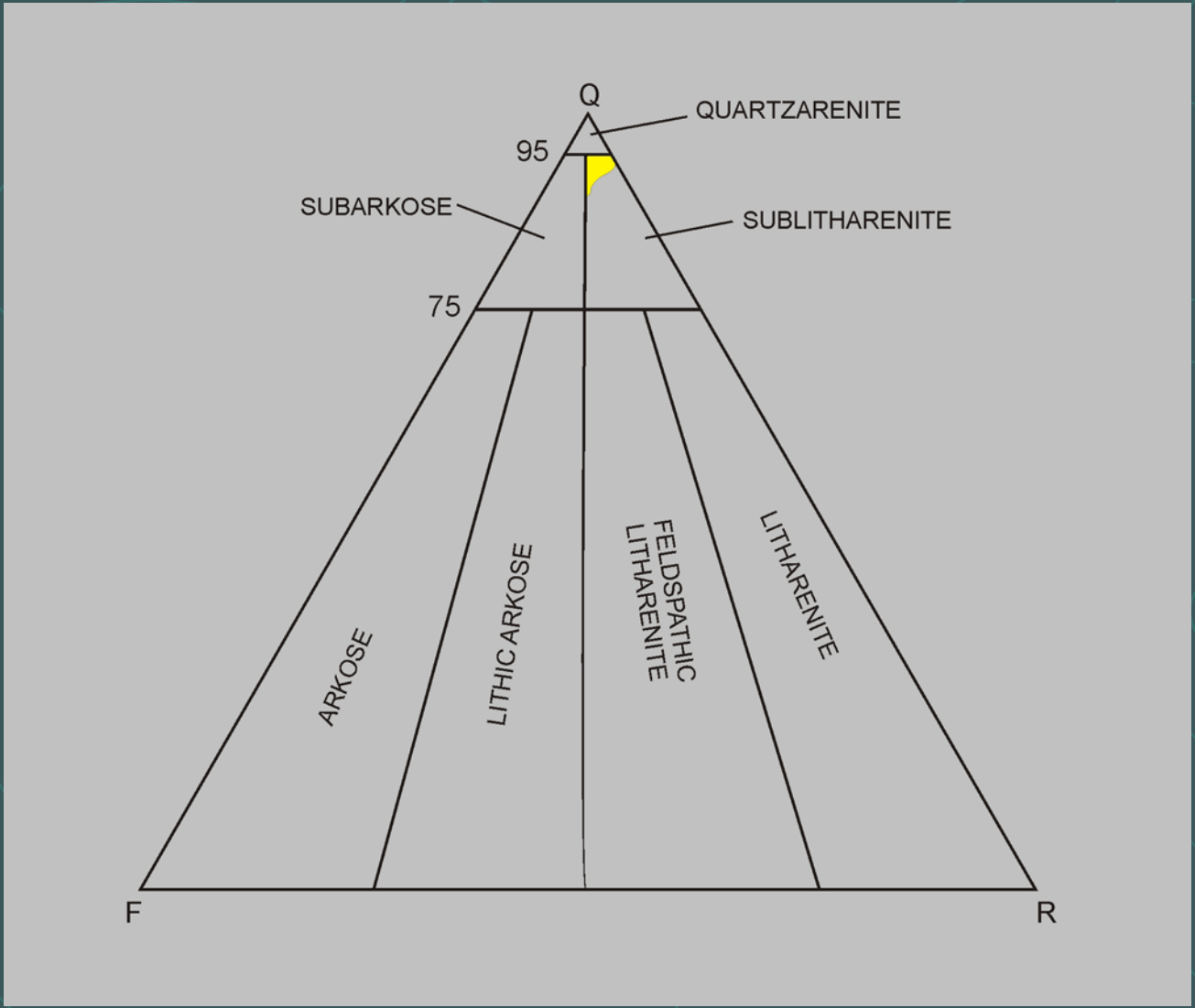



# Booch Type Log

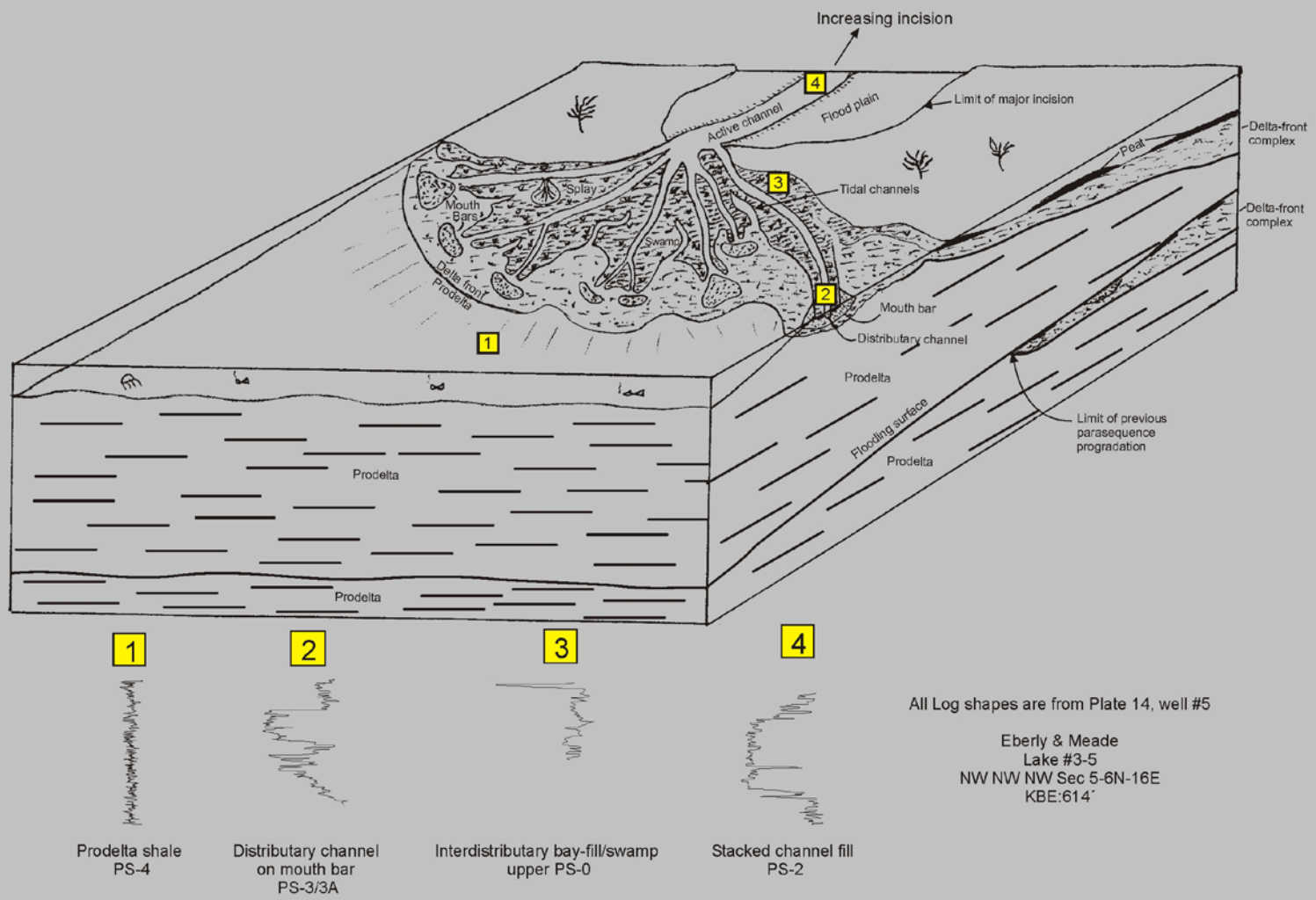
# Booch Gross Sand Isopach



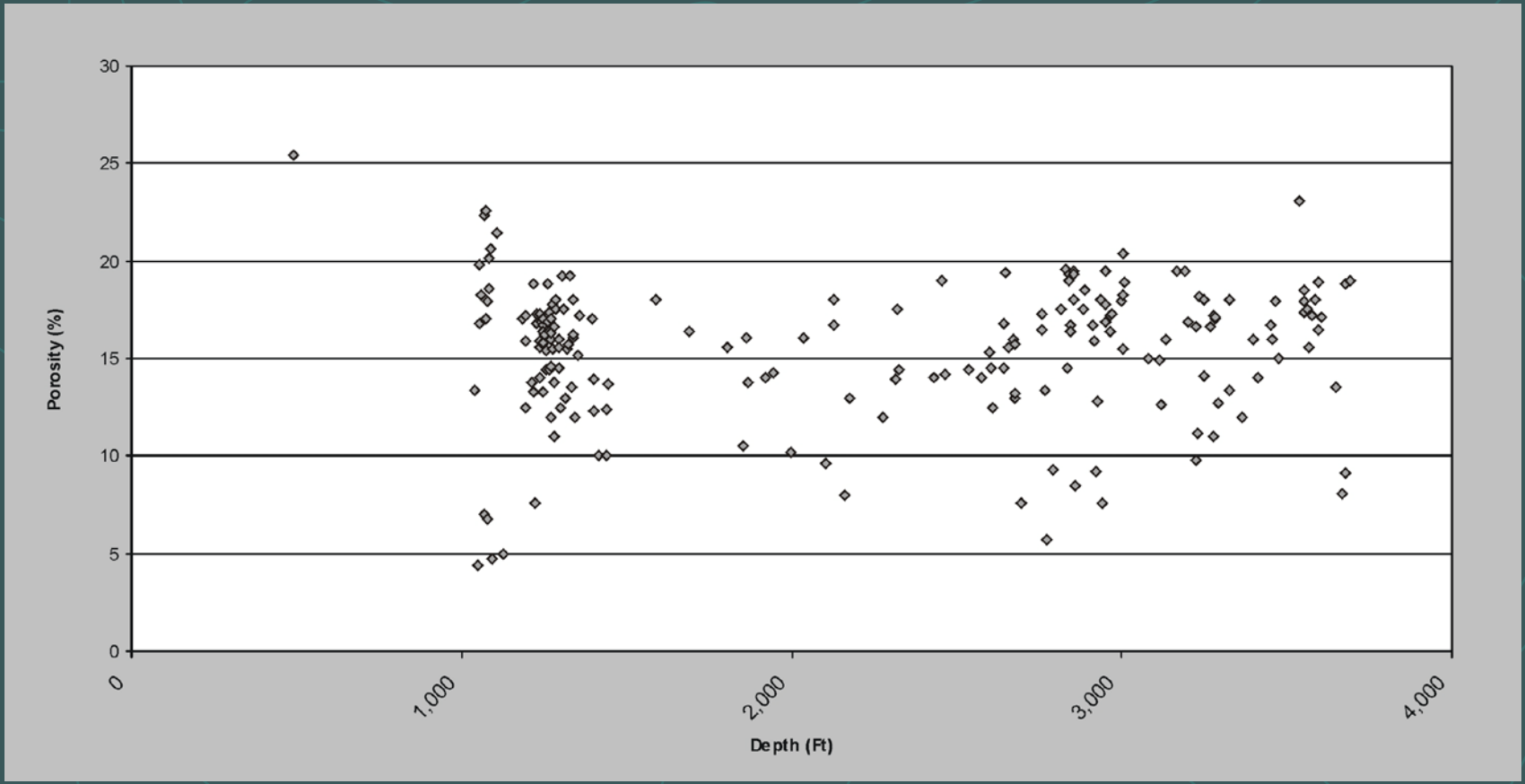
# Lower-Middle Booch Sandstone Classification



# Idealized Booch Tidal Delta

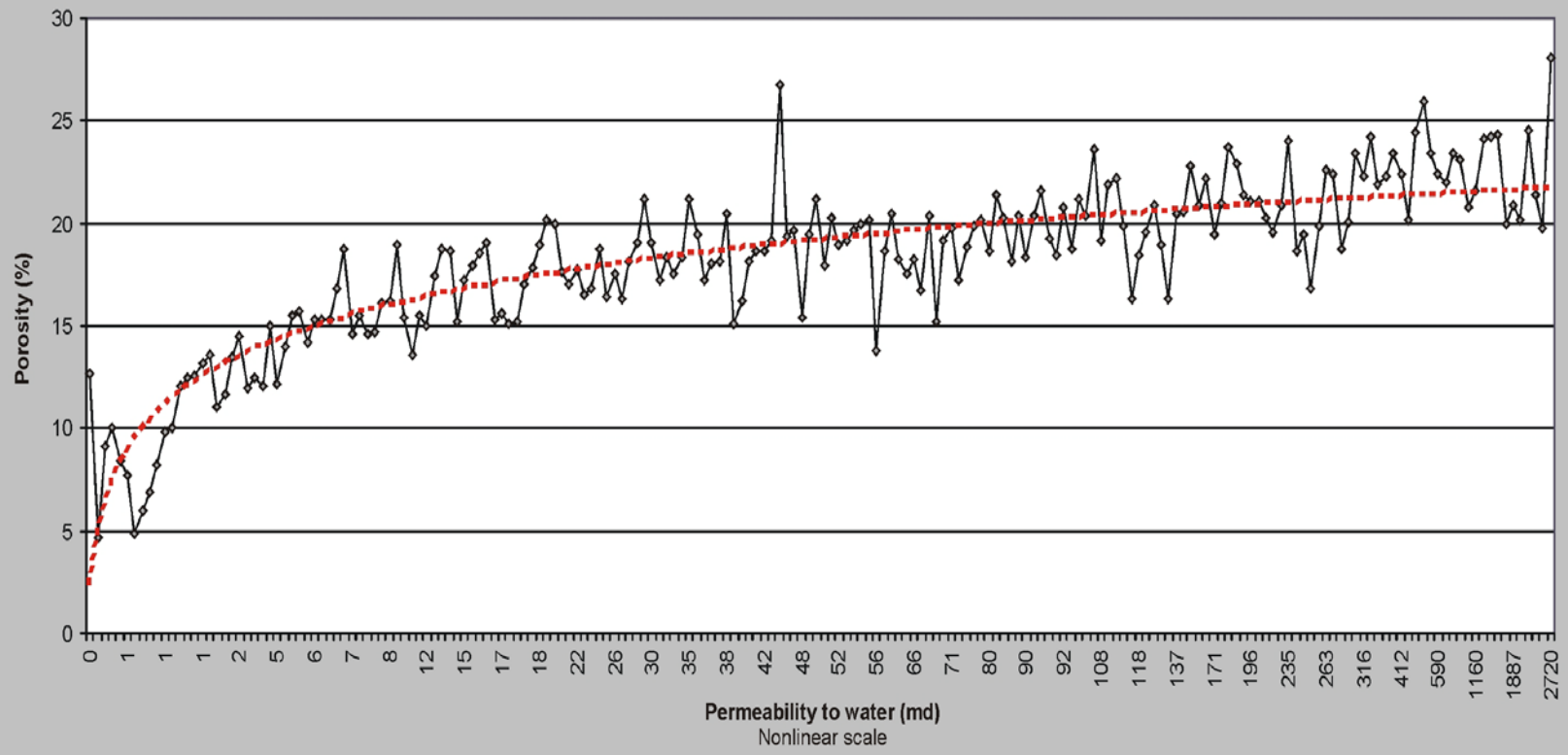


# Booch Core Porosity vs. Depth

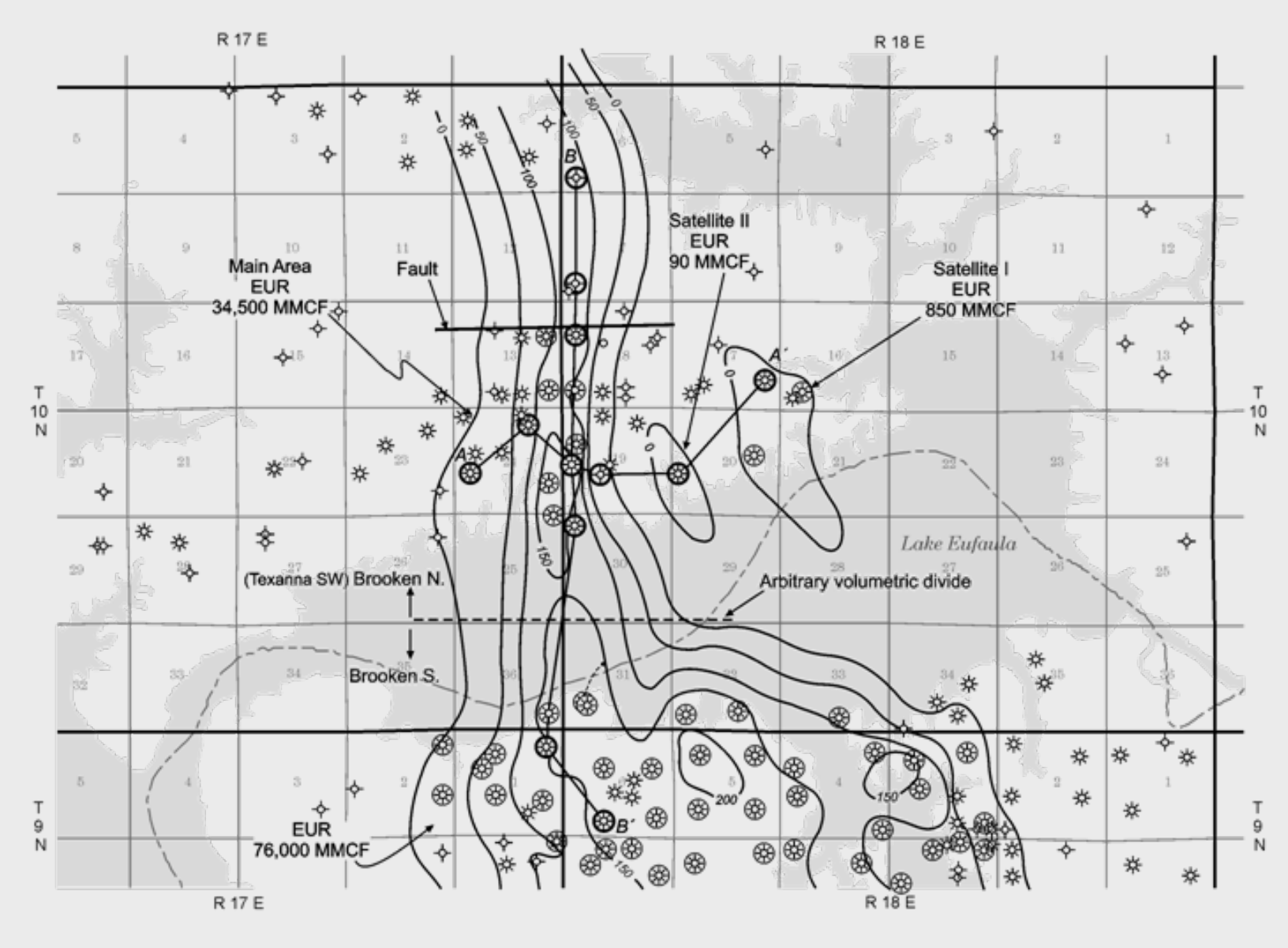


# Booch Core Porosity vs. Permeability

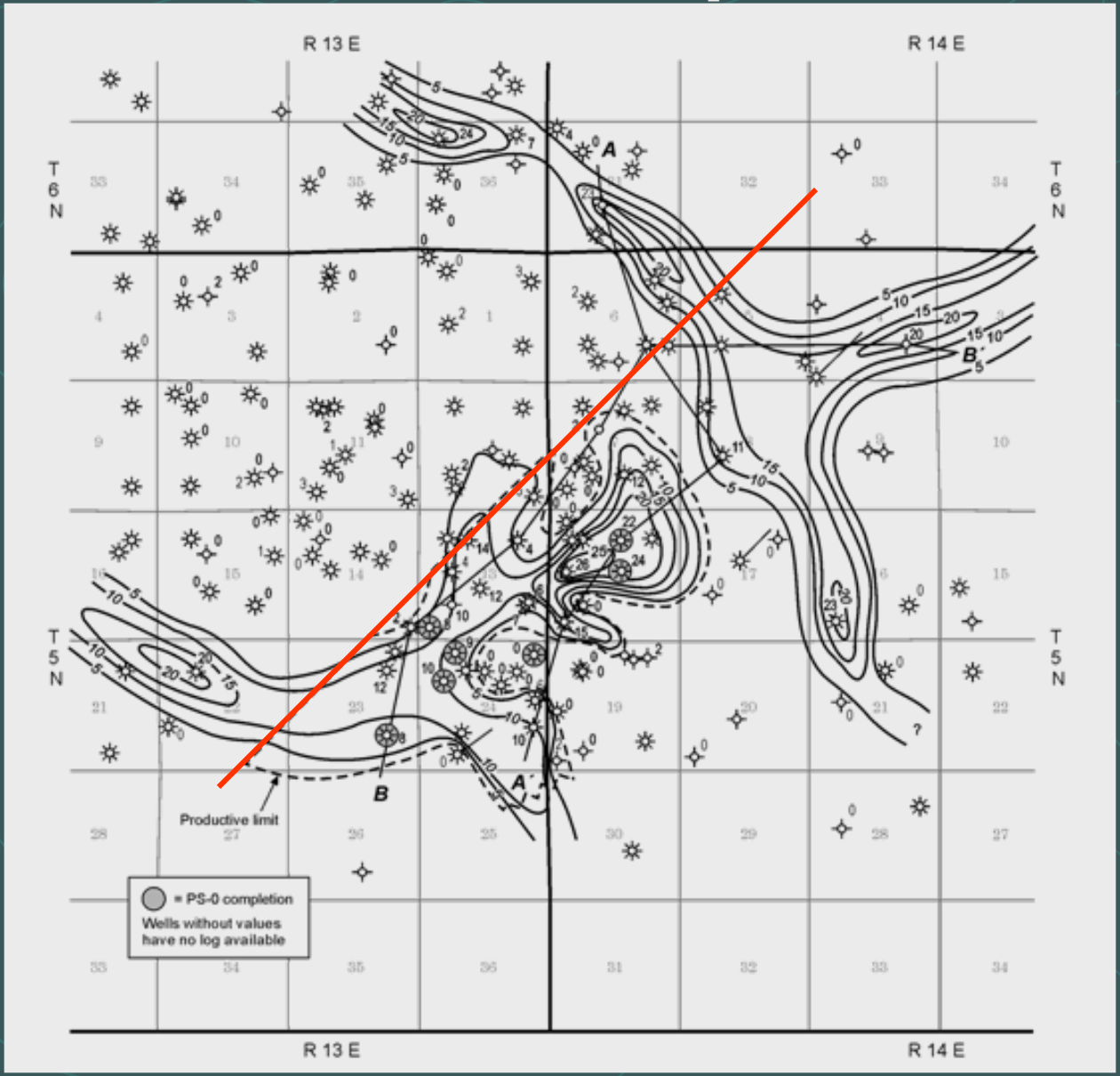
(Maximum Values)



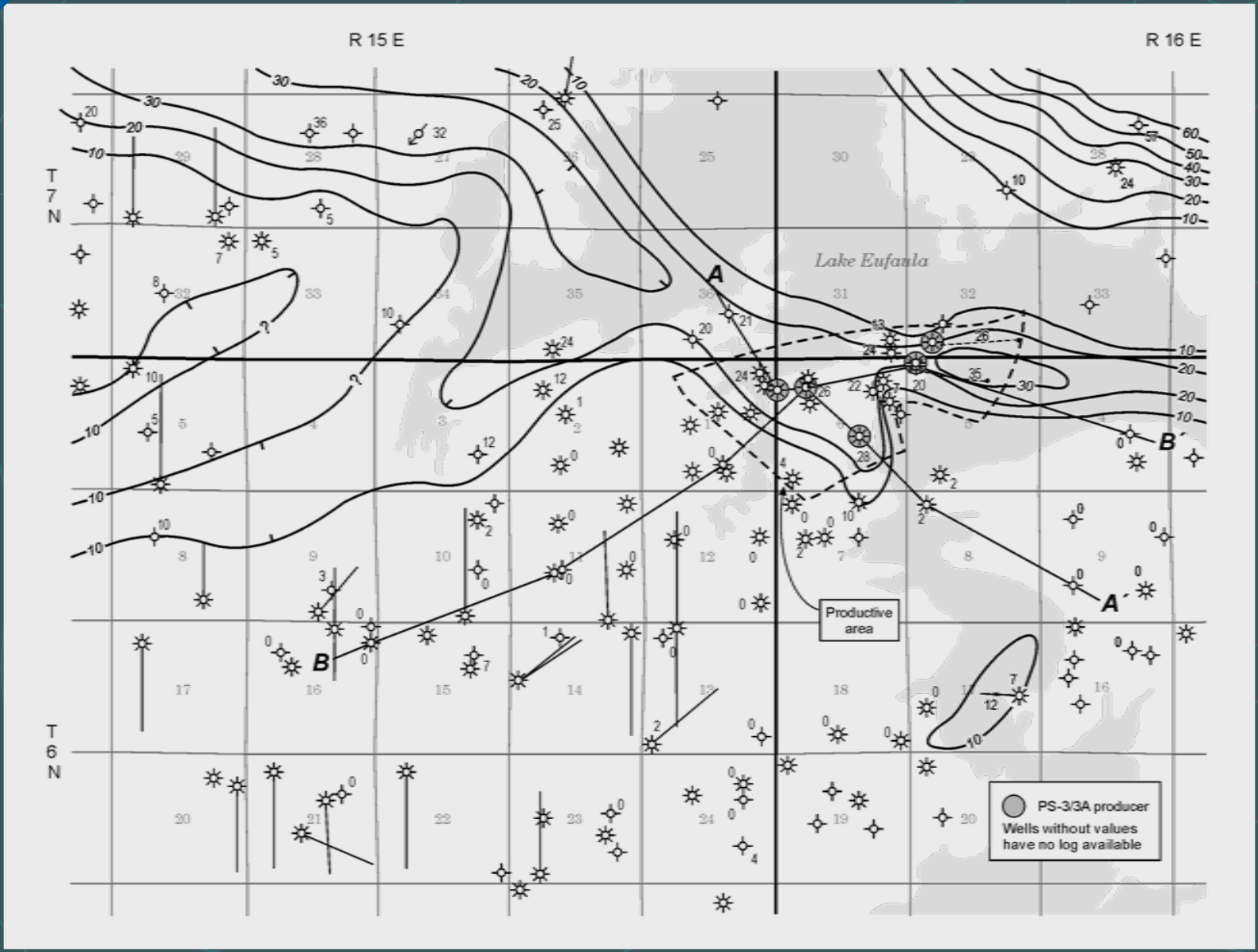
# Brooken Field Study
# Volumetrics – Net Sand Isopach



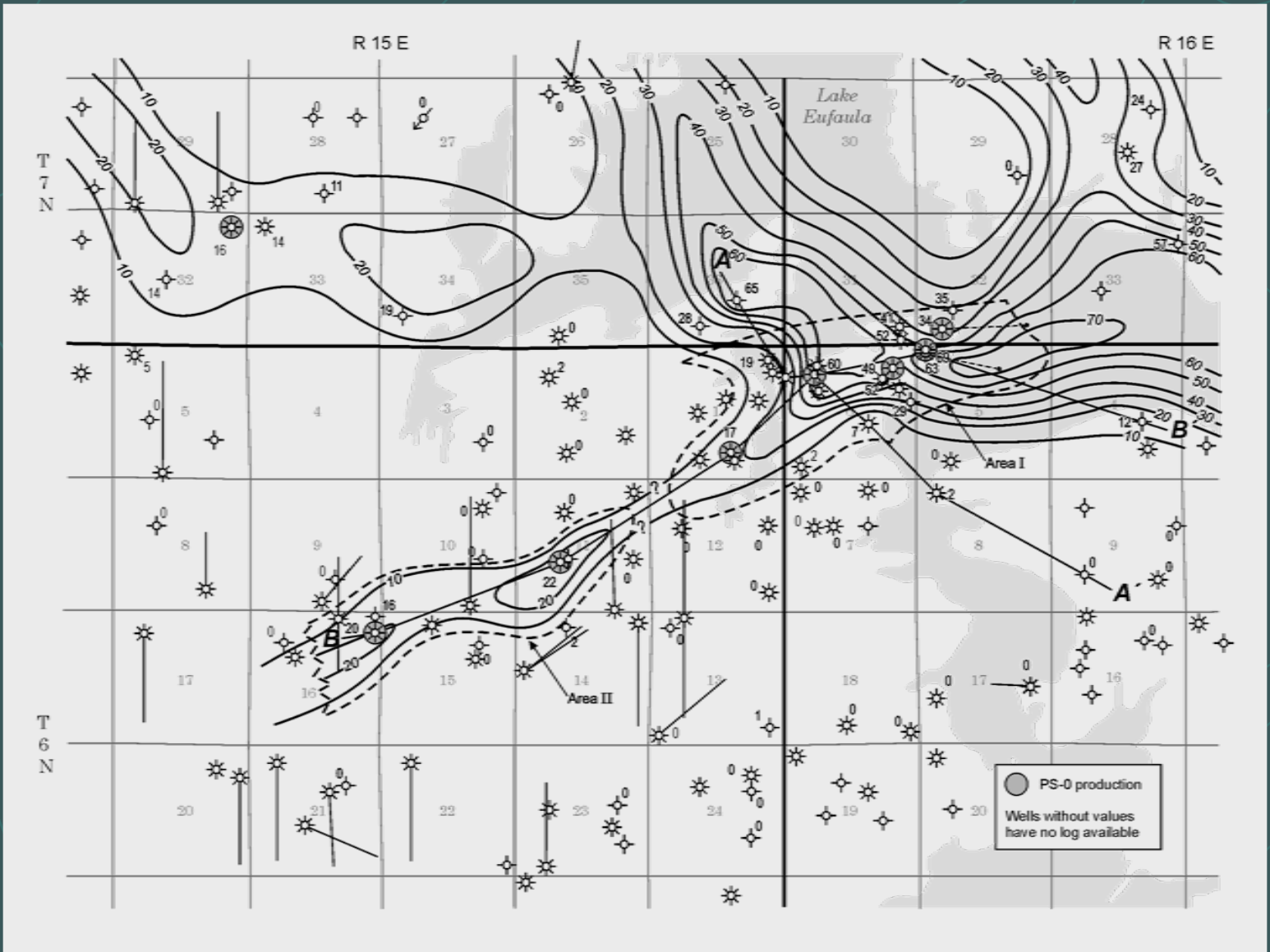
# Pine Hollow South Field Study
# PS-0 Net Sand Isopach



# Reams Southeast Field Study
# PS-3/3A Net Sand Isopach



# Reams Southeast Field Study
# PS-0 Net Sand Isopach



# The Booch Gas Play

## Petroleum System Summary

- Source Rocks
- Maturity
- Migration Pathways
- Reservoirs
- Traps