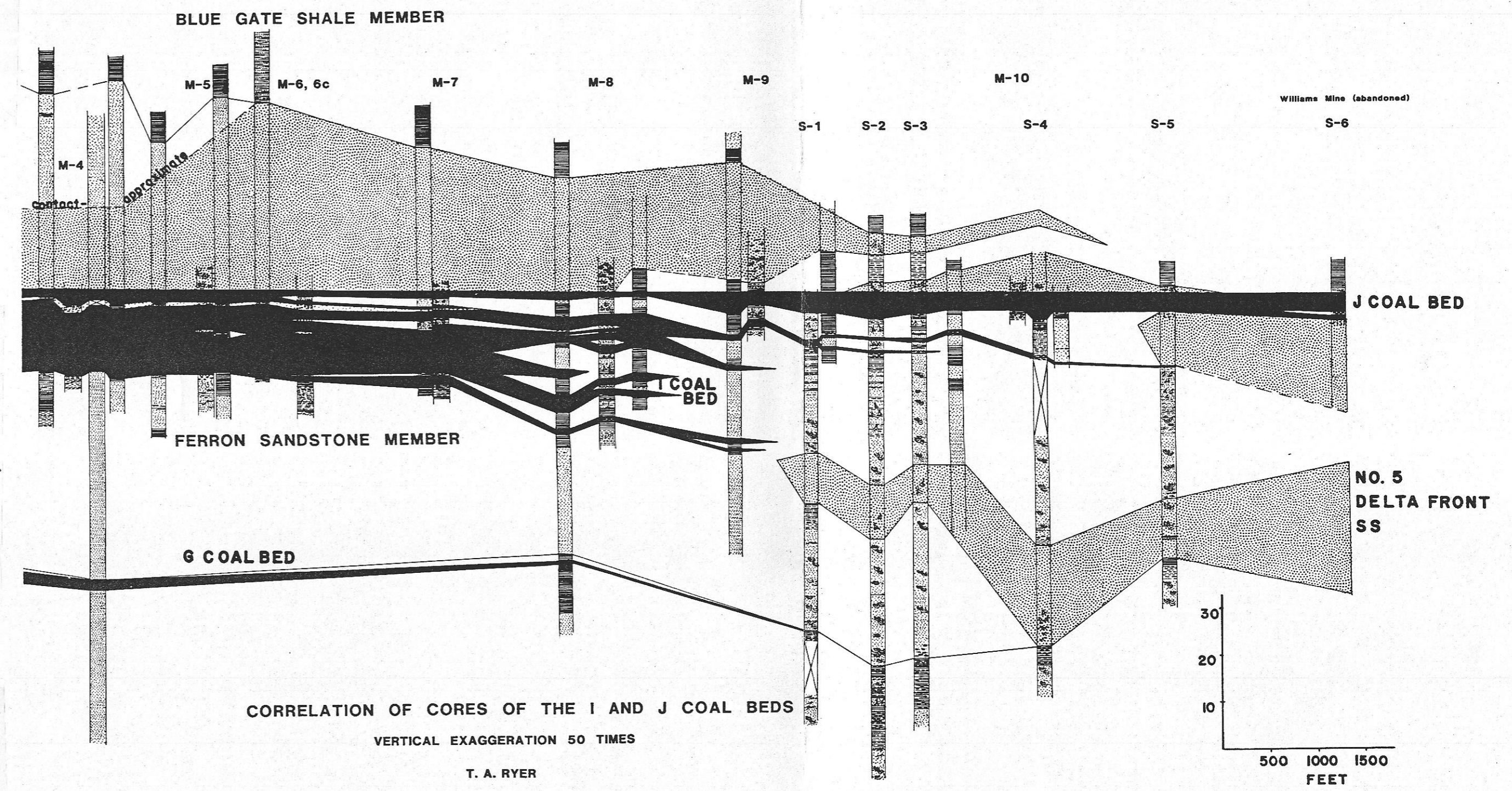


EXPLANATION

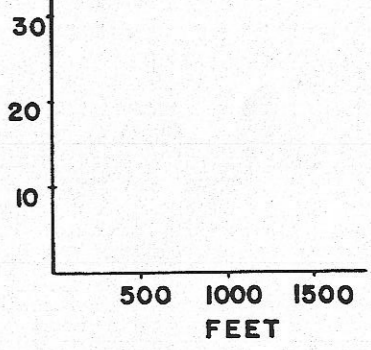
- | | | | | | |
|--|------------------------------------|--|-------------------------------|--|---------------------------------------|
| | Delta front or shoreface sandstone | | Carbonaceous shale, siltstone | | Burrows |
| | Fluvial sandstone | | Trough crossbedding | | Tonstein (altered volcanic ash layer) |
| | Siltstone | | Ripple lamination | | |
| | Shale | | Roots | | |

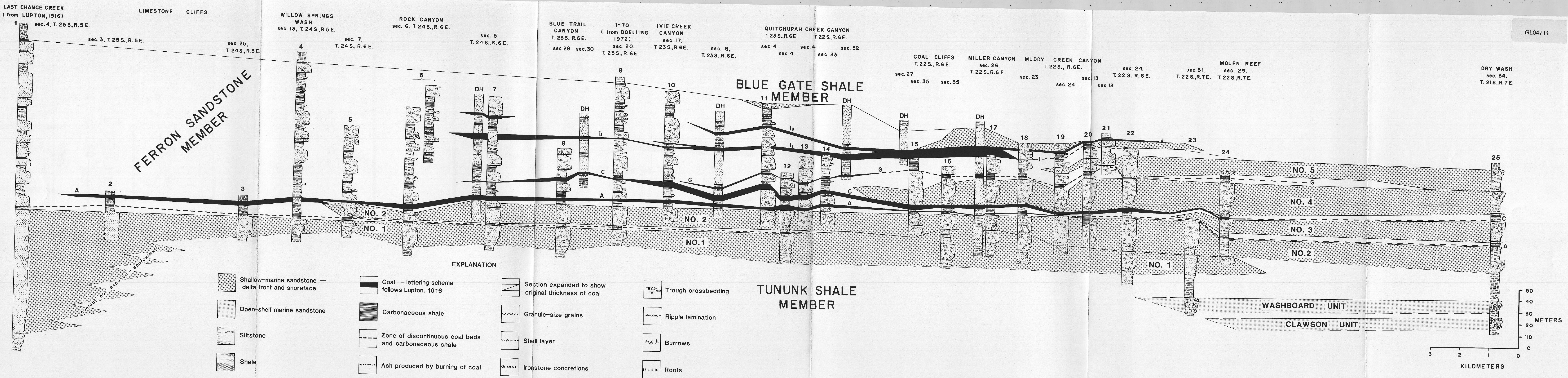


CORRELATION OF CORES OF THE I AND J COAL BEDS

VERTICAL EXAGGERATION 50 TIMES

T. A. RYER





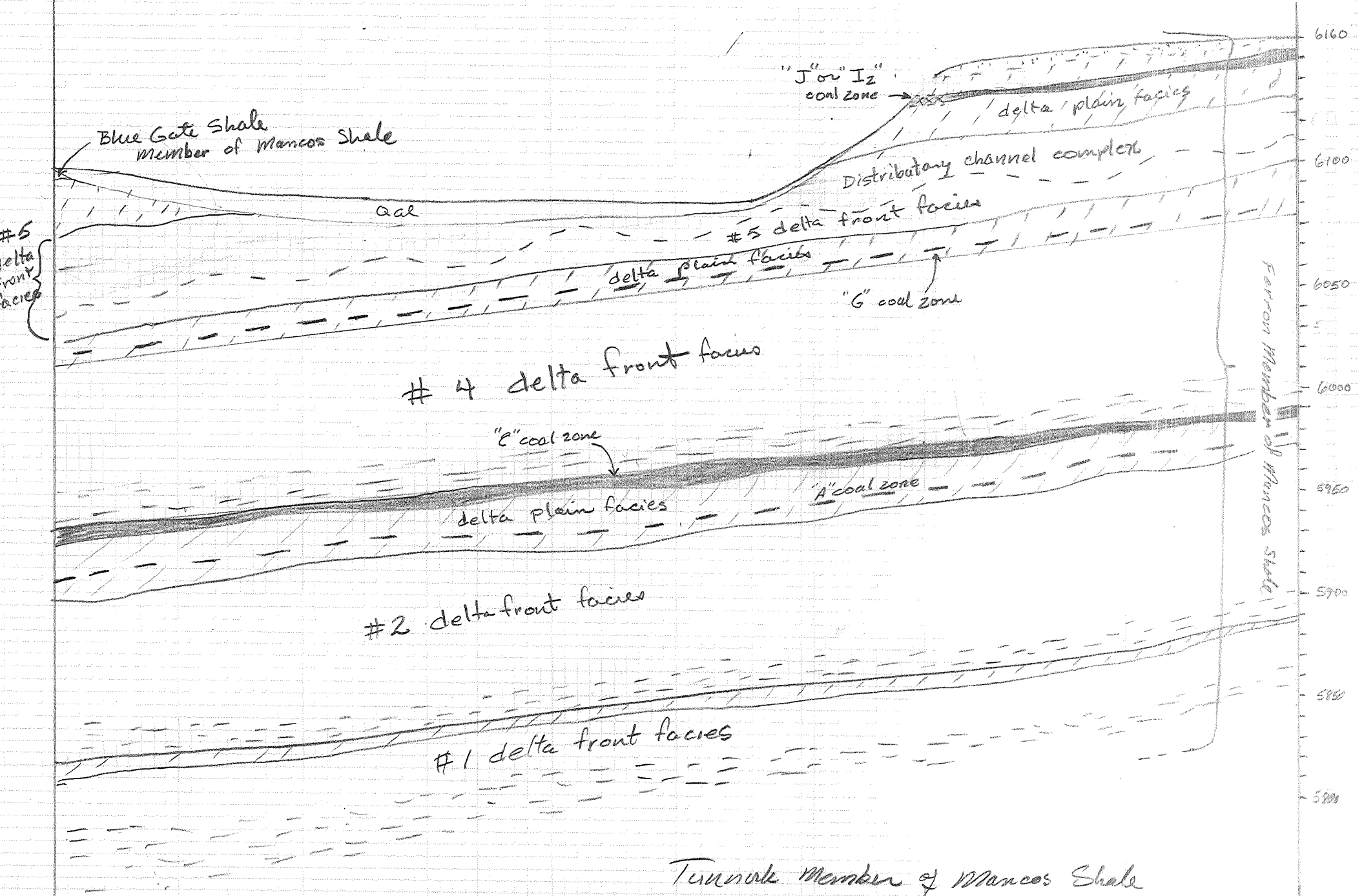
A

West

A'

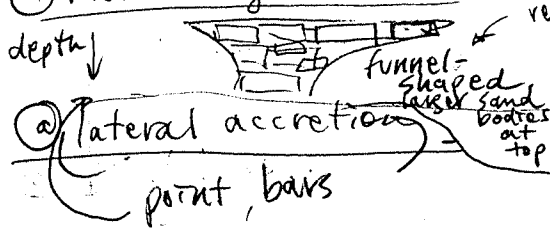
East

Dead on Point



Upper Delta Plain - Fluvial Plain + Proximal Floodplain
 ↳ 150' thick, arcuate lens

Component facies ① multistory channels:



subfacies

Shape

Size
600' wide

Sedimentary Features

external:
90 feet thick

more sinuous channels

Macroform

each pt. bar:
15 to 30 feet thick
x 100's of feet

medium to thick
- trough x-beds

< 15° dip - truncation surfaces

3 to 5 ft thick - basal clay pebble cong.

- heterogeneous sediments

- steeper foresets than multilateral channels

- upward fining

- convoluted beds and dewatering structures

- climbing ripples near top

mesoforms:

3 ft thick - medium
x ~ 10' long - Planar to trough x-bedded
- reactivation surfaces

3/4" thick - interbedded lenses of ripple
x stratified ss, (asymmetric)
- intraclast lag
- mud drapes

- planar laminations - parting (upper flow regime) truncation

- lam. mudstone
- sandstone (deformed)

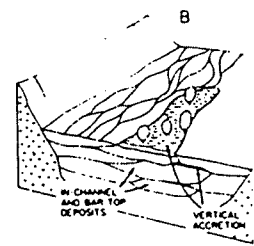
- flooding events - rapid dep of sand (soft sed. def.)

then quiet mudstones (suspension)

channel fills wedge, lobe,

short winged longhorns

channels within channels



longitudinal or transverse bars
 b) (downstream accretion)

sand waves
transverse bars.

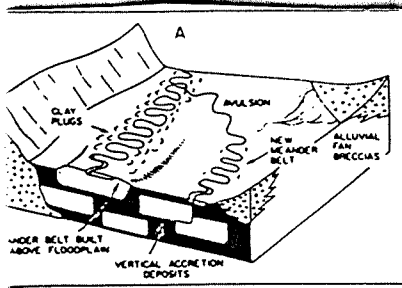
linguoid to tongue like,
upper surface:
flat to convex up,
lie on flat or channelled base

sheet flood

② overbank
splays

Lower Delta Plain - Coastal Plain = Distal Floodplain
 ↳ 150' - 200' thick, wedge or lens

Component facies: ① multilateral channels.



see point bars
 (most common here)

low-sinuosity channels

② crevasse-overbank

③ coal

④ Bay fill

Shape	Size	Sedimentary Features
discrete channel sands width/depth = 15 to 100 "longhorn" shape: 	15 to 30' thick width 300'	<ul style="list-style-type: none"> more straight-reached channels medium beds trough x-beds, esp. top-truncated trough sets lower angle foresets than multistage channels low bed form diversity clay pebble rip-up clasts
wedge to tabular if infilling channel: 	20' thick to 30'	<ul style="list-style-type: none"> x-bedded thin beds of very fine-gr ss silty, burrowed ss climbing ripples overlies coal → deformed if unstable substrate may be overlain by distrib. channel or root-mottled siltstone
tabular to elongate-normal to trend of delta front pinch-outs (parallel to shoreline)	inches up to 25 feet thick x 15 km (≈ 10 miles) long x 10 km (7 miles) width	<ul style="list-style-type: none"> shale or silt stringers kaoltn pyrite, marcasite tonsteins - in forward-stepping: laterally-thick - in backward-stepping: vertically-thick
sheets - lenticular	50' thick	<ul style="list-style-type: none"> coarsens upward brachish fauna rooted ss ripple marks bioturbated mudstone inserted organic-rich silt/SS horizontal-lamin. very fine ss (stone washers)
	2" to 1' thick	
	2 to 8" thick	

Delta Front

up to 150' thick
each cycle - 80 to 130' thick
lobate

component facies. (1) Distributary Channel

(a) Active (sand fill)

(b) Inactive (mud fill)

(2) Distributary Mouth Bar

(a) base slope foreshore (beach)
~~beach~~


(b) proximal (upper shoreface)

(c) medial

(d) distal (lower shoreface)

Shape

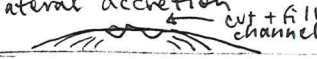
shoestring
width - 2?
depth - 1



- basal contact, scoured into - truncates distrib. mouth bar and underlying bar deposits
- blocky

ex. #5 - 5 miles from seaward to landward pinch-out. (up to 25 miles) #2

convex - up to planar, lateral accretion cut + fill channels



- occurs in center of distrib. mouth bar complex

[rare]

Size

15 to 30 feet thick

up to 45 ft thick x 300 feet wide

40 feet wide x 30 feet thick

up to 2 1/2 miles wide x 70 ft thick

10 feet thick

1 foot thick beds
20 feet thick

4 to 6" thick beds
10 feet thick

100' thick
- 150' thick

Sedimentary features

- logs in channel base
- medium bedded trough x-beds
- convoluted tops
- pebble or coal lags
- overlain by rooted zones and coal

- common as empty cuts on top of mouth bar deposits (outcrop)
- filled with shale

- horizontal lamination
- thick beds
- fine to very fine ss.?

- trough x-beds
- coarsens upward
- medium gr ss
- vertical burrows Ophiomorpha

- amalgamated HCS bed s.
- bioturbated beds

- interbedded hummocky x beds and shale
- tops of HCS beds bioturbated
- ball + pillow structure?

- laminated mudstone
- thin beds
- rippled [beds]

[Prodelta to Offshore.]

Tidal

Tidal Inlets

Shape
en-echelon, imbricate.
clinoformal pods

x-section:

20' apart

10'

100'

Size

Sed Features

- intense bioturbation
epitaxial - rippled
- X bedded, bipolar
- coarsen upward (ms)
- erosional base with mud-filled scars
- internal truncation surface
- thicken downdip
- dips 8°

Tidal Creeks

meandering point bars

ribbon

- 10' thick x 300' long
- 1 to 2' thick

- fining upward sequence
- X-beds
- clay drapes
- between underlying lagoon and overlying marine shale.

Total Ferron

thickness.
600 ft to 200 ft

Blue Gate Shale

1000 ft thick