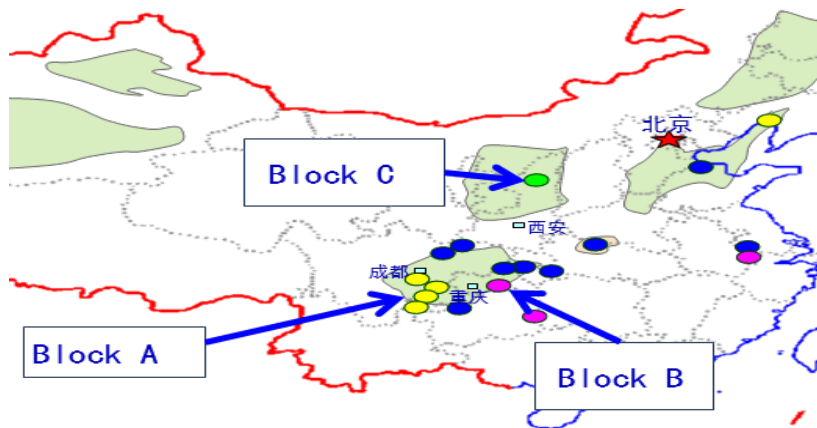
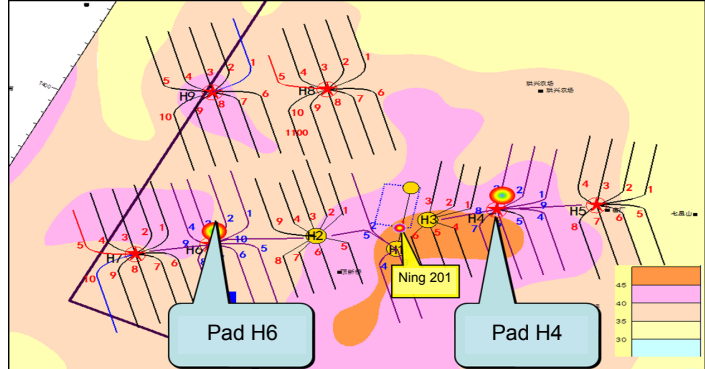
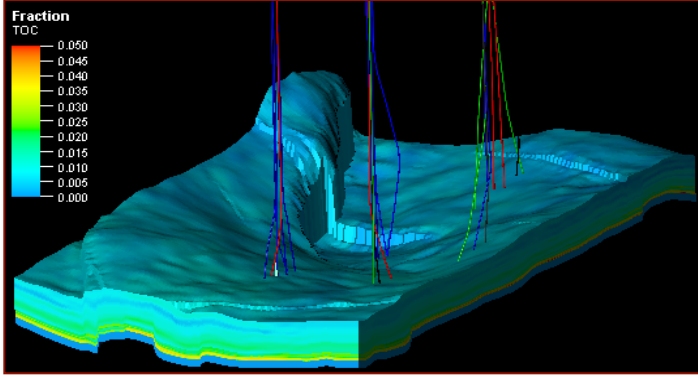


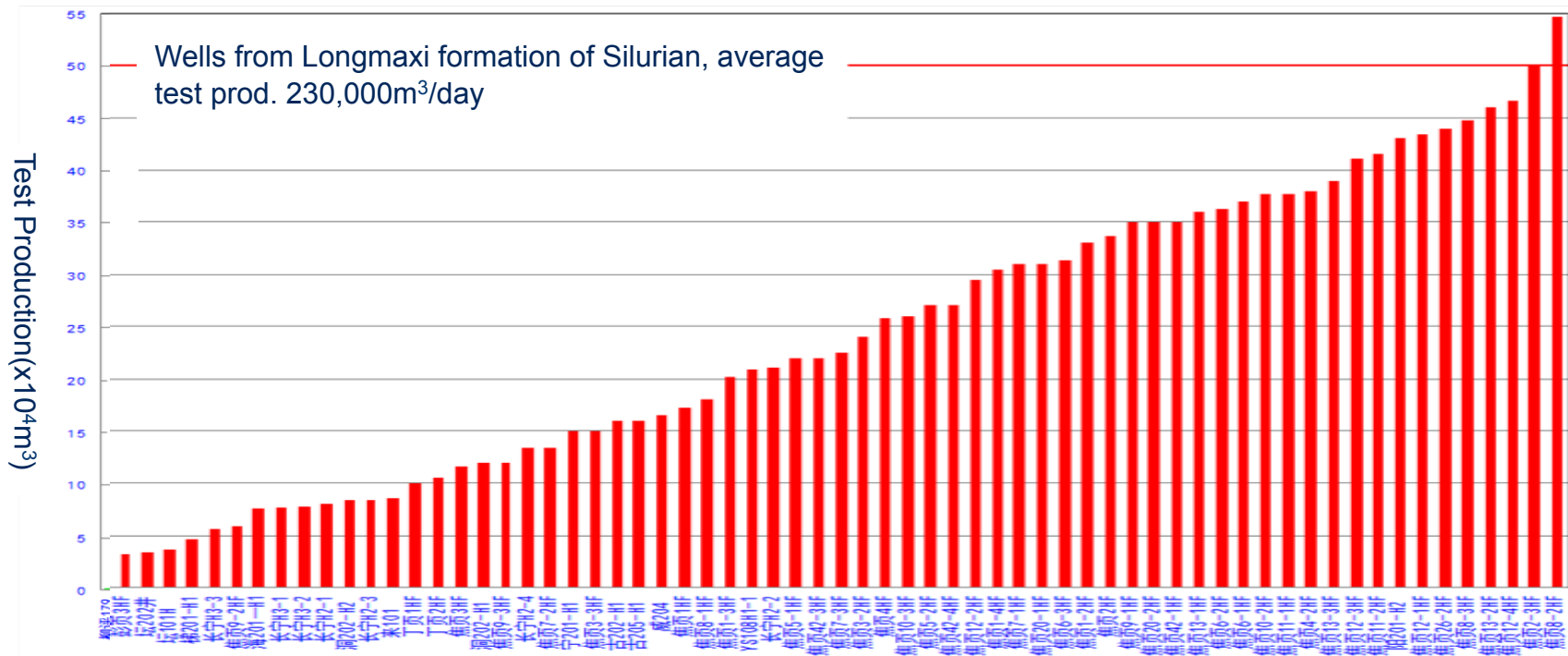
	Geological resource ($\times 10^{12}m^3$) (TCF)	Recoverable resource ($\times 10^{12}m^3$) (TCF)	
IHS	100 (3500)	--	2008
EIA	--	36(1270)	2011
Ministry of Land and Resources(MLR)	134 (4700)	25.08(880)	2012
China Academy Engineering(CAE)	—	10-15(350-530)	2012



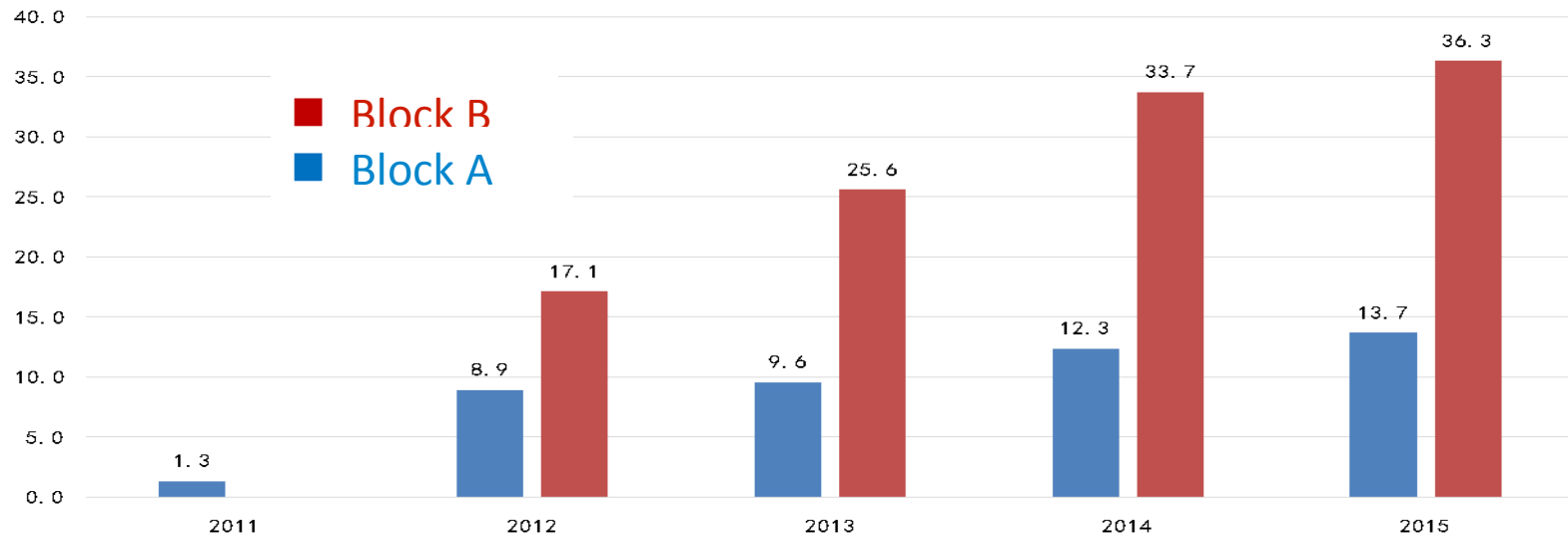
Strata Series				Symbol	Profile	Thickness (m)
Erathem	System	Group	Formation			
Palaeozoic	Permian	Upper	Longtan	P ₂ →		200-500
		Lower		P ₁		200-500
	Carboniferous			C		0-500
	Devonian		Luofu	D →		0-1500
	Silurian		Longmaxi	→		
	Ordovician			O →		0-600
	Cambrian			Qiongzhusi	→	
Proterozoic	Sinian	Upper		Z ₂		200-1500
		Lower	Doushantuo	Z ₁ →		0-400
	Pre-Sinian			A _n Z		



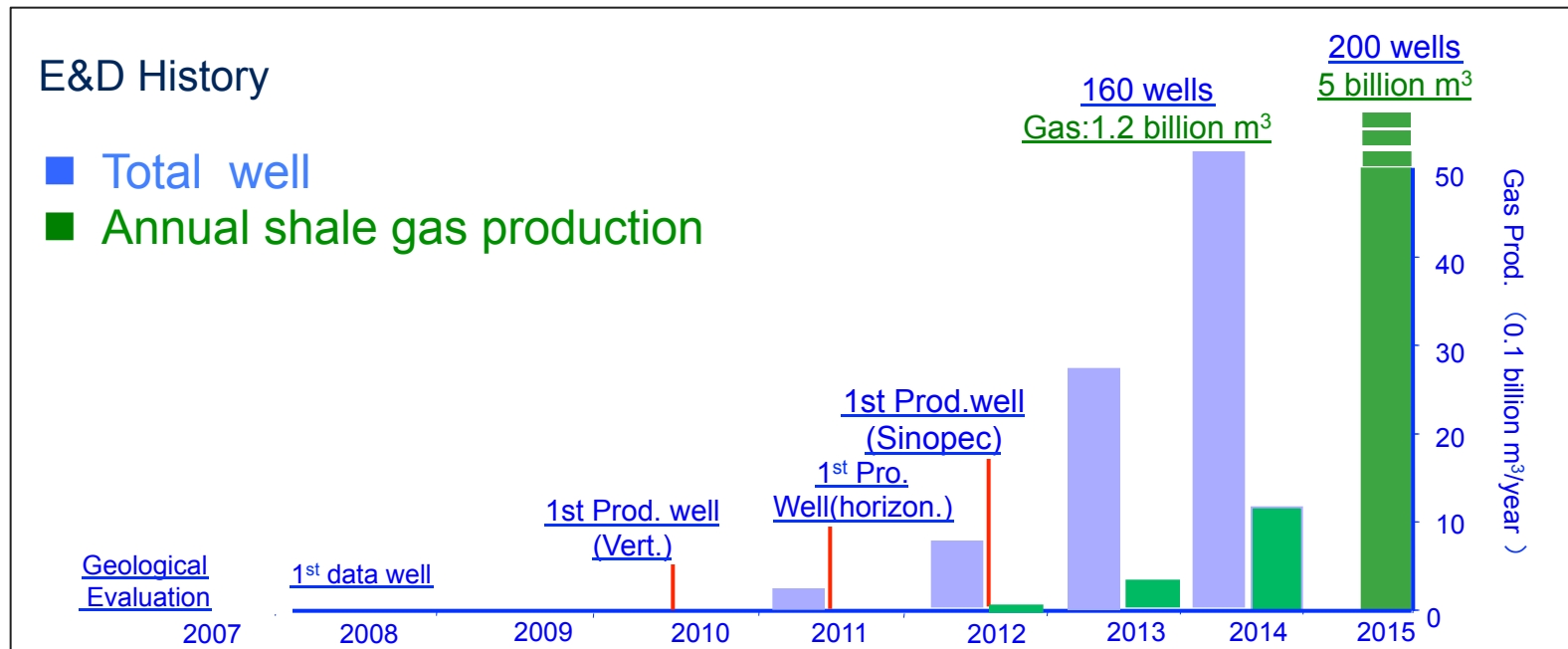
Shale Gas Production



Shale Gas Test Production ($\times 10^4 \text{m}^3/\text{day}$)



Learning curve exists, but geology dominate, sweet spot ...



Over 200 horizontal wells drilled (total wells over 500), annual production will reach 5 billion m³ in 2015.

OBSERVATIONS

1. Shale gas is abundant, commercial production is realized.
2. Technology is applicable (sweet spot allocation, drilling, fracturing).
3. Well construction cost is still high (approx. 10 million USD/well).
4. Always be prudent due to the delicate environment.
5. Compare to North America, it is difficult for small and non-oil companies to play roles in shale gas in China, mainly because of the heavy invest and geology/technology complexity.



Thanks for your attention!



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- ◆ Thanks to my working team for their great job.

Contact Information

- ◆ Name: Yuzhang Liu
- ◆ E-mail: liuyz@petrochina.com.cn