GARAH Critical Parameter (Screening criteria)	Min	Max	Mean	Distribution	Source (Ref.list)	Comments
Shale Name: Bowland -Hodder unit						**3011**
Age: Carboniferous						
Basin: Northern England						
Structural setting: Complex						
Facies variability:						
Country: UK						
1. Gas mature area (km2)	5087	10540	7814	Normal	5	Area of basinal shales, (Cleveland D, E, UBS) within gas mature region
Offshore AU						
Onshore AU						
2. Thickness (gross, m)	17	110	38,5		2	Upper Bowland Shale thickness from 6 wells
2a. Thickness (net, m)	13,7	81,8	58,1		2	Upper Bowland Shale net shale thickness from 6 wells
2b. Net/Gross (%)						
2c. Net mature shale volume (x 10^9 m^3)						
3. Depth (m)	2121	4876	3207		6	Measured depth from 9 well penetrations
4. Density (g/cm3)	2,55	2,65	2,6		1	estimated
5. TOC (%)	1,47	4,62	3,23		2	Measered in wells
6. Porosity (%)	0,05	0,11	0,07		4	From 43/21- 2.
7. Maturity (%VR) or graptolite equivalent						
7.b Maturity Tmax	312	545	420		3	Analysed, four legacy wells (Upper Bowland Shale)
8. Reservoir pressure (psi)	18	27	22,5		1	
9. Reservoir Temperature (°C)						Variable- depth dependant
10. Gas saturation (%)(Sg)	0,5	10	3		1	estimated gas filled porosity
11. Oil Saturation (%) So)						
12. Gas generation mgHC/g TOC (Hydrogen index)	2	350	34,7		2	Measured in 4 wells
13. Kerogen type			II, III		3	analysed
14. Sorption capacity VReq. - 1,9 % (mmol/g)						not known
15. Matrix permeability (nDarcy)	0,03	0,15	0,05		4	From 43/21- 2 (petrophysics)
16. Adsorbed gas storage capacity (scf/ton)	18	71	44,5		1	
17. Compressibility factor (z)						not known
18. Bg - Gas formation volume factor	168	253	210,5		1	estimated
19. Langmuir Pressure (pL, psi)	2,5	10	6,25		1	estimated
20. Langmuir Volume (nL, scf/ton)	18	71	44,5		1	Analogues used from US (Curtis 2002; Jarvie 2012a)

Bulk mineral constituents XRD	%	Source	Mineralogy
Average clay content (%)			
Average quartz-feldspars content (%)			
Average carbonate content (%)			

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