

Fruitland Coal Increased Density Pilot Project

Original Gas-in-Place Estimates

Spacing Unit	Spacing Unit Size, Acres	Fruitland Thickness <2.0 g/cc	Average In-situ Gas		OGIP, MMCF
			Density, g/cc	Content, scf/ton	
A	312.80	74	1.59	183	9,158
B	320.00	76	1.59	183	9,622
C	320.00	67	1.71	181	9,023
D	320.00	64	1.76	181	8,871
E	288.45	65	1.60	184	7,505
F	320.00	67	1.63	187	8,886
G	320.00	66	1.64	185	8,713
H	320.00	67	1.74	184	9,333
I	320.00	63	1.63	188	8,400
J	320.00	53	1.67	194	7,471
K	320.00	53	1.67	194	7,471
L*	152.99	57	1.67	186	3,683
	3,634.24				98,136 MMCF

Average = 8.6 BCF/320 Acres

$$G=1,359.7 Ah\bar{p}_c\bar{G}_c$$

Where:

- G gas-in-place, standard cubic feet (scf)
- A drainage area, acres
- h thickness, feet
- $\bar{p}_c$ average in-situ density, g/cm³
- $\bar{G}_c$ average in-situ gas content, scf/ton

* 320 acre spacing unit has only original well; increased density well not yet drilled