

## Alberta's New Royalty Framework: Formulas – Natural Gas

R% = Price Component ( $r_p$ ) + Quantity Component ( $r_q$ )

R% has a minimum of 5% and a maximum of 50%

For Transition Wells\* R% has a minimum of 5% and a maximum of 30%

Royalty Parameters				
	Price (\$/GJ)		%Change (%/\$/GJ)	
	NRF	Transition Wells	NRF	Transition Wells
<b>Sp<sub>1</sub></b>	4.5	2	4.5%	3.5%
<b>Sp<sub>2</sub></b>	7	3.25	3%	0.5%
<b>Sp<sub>3</sub></b>	11	5	1%	0%
	Q (10 <sup>3</sup> m <sup>3</sup> /d)		% Change (%/10 <sup>3</sup> m <sup>3</sup> /GJ)	
	NRF	Transition Wells	NRF	Transition Wells
<b>Sq<sub>1</sub></b>	4	2	5%	5%
<b>Sq<sub>2</sub></b>	6	4	3%	2%
<b>Sq<sub>3</sub></b>	11	9	1%	1%

Price Component ( $r_p$ )			
Royalty Framework		Transition Wells	
Price (\$/GJ)	$r_p$	Price (\$/GJ)	$r_p$ Transition Wells
PP ≤ 7	$((PP - 4.5) * 0.0450) * 100$	PP ≤ 3.25	$((PP - 2) * 0.0350) * 100$
7 < PP ≤ 11	$((PP - 7) * 0.0300 + 0.1125) * 100$	3.25 < PP ≤ 5	$((PP - 3.25) * 0.0050 + 0.0437) * 100$
PP > 11	$((PP - 11) * 0.0100 + 0.2325) * 100$	PP > 5	$((PP - 5) * 0.0000 + 0.0525) * 100$
Maximum	30%	Maximum	5.25%

PP is the par price for the month in \$/GJ  
 Note:  $r_p$  can be negative

Quantity Component ( $r_q$ )			
Royalty Framework		Transition Wells	
Quantity (10 <sup>3</sup> m <sup>3</sup> /d)	$r_q$	Quantity (10 <sup>3</sup> m <sup>3</sup> /d)	$r_q$ Transition Wells
ADP ≤ (6*DF)	$([ADP - (4*DF)] * (0.0500/DF)) * 100$	ADP ≤ 4	$([ADP - 2] * 0.0500) * 100$
(6*DF) < ADP ≤ (11*DF)	$([ADP - (6*DF)] * (0.0300/DF) + 0.1000) * 100$	4 < ADP ≤ 9	$([ADP - 4] * 0.0200 + 0.1000) * 100$
ADP > (11*DF)	$([ADP - (11*DF)] * (0.0100/DF) + 0.2500) * 100$	ADP > 9	$([ADP - 9] * 0.0100 + 0.2000) * 100$
Maximum	30%		25%

PP is the par price for the month in \$/GJ  
 Note:  $r_p$  can be negative  
 DF is a depth factor that applies only to the quantity component and is based on the measured depth (MD) of a well where:  
 DF = 1 for all transition wells and for MD ≤ 2000 m;  
 DF = (MD/2000)<sup>2</sup> for MD > 2000 m; and,  
 The depth factor is capped at 4.

- Transition Wells are wells with measured depths greater than or equal to 1000 metres and less than or equal to 3500 metres, and spudded on or after November 19, 2008 and before January 1, 2014 that have chosen the transition formulas.

Transition Wells do not qualify for the Depth Factor adjustment or the Acid Gas Adjustment.

Illustration of Depth Factor Adjustment			
MD	DF	Quantity	r <sub>q</sub>
≤ 2000 m	1.0000	ADP ≤ 6 10 <sup>3</sup> m <sup>3</sup> /d	(ADP - 4) * 0.0500
		6 10 <sup>3</sup> m <sup>3</sup> /d < ADP ≤ 11 10 <sup>3</sup> m <sup>3</sup> /d	(ADP - 6) * 0.0300 + 0.1000
		ADP > 11 10 <sup>3</sup> m <sup>3</sup> /d	(ADP-11)*0.0100 + 0.2500
		Maximum	30%
2500 m	1.5625	ADP ≤ 9.3750 10 <sup>3</sup> m <sup>3</sup> /d	(ADP-6.25)*0.032
		9.3750 10 <sup>3</sup> m <sup>3</sup> /d < ADP ≤ 17.1875 10 <sup>3</sup> m <sup>3</sup> /d	(ADP-9.3750)*0.01920 + 0.1000
		ADP > 17.1875 10 <sup>3</sup> m <sup>3</sup> /d	(ADP-17.1875)*0.0064 + 0.2500
		Maximum	30%
3000 m	2.2500	ADP ≤ 13.5 10 <sup>3</sup> m <sup>3</sup> /d	(ADP-9)*0.022223
		13.5 10 <sup>3</sup> m <sup>3</sup> /d < ADP ≤ 24.75 10 <sup>3</sup> m <sup>3</sup> /d	(ADP-13.5)*0.013334 + 0.1000
		ADP > 24.75 10 <sup>3</sup> m <sup>3</sup> /d	(ADP - 24.75)*0.00444445 + 0.2500
		Maximum	30%
3500 m	3.0625	ADP ≤ 18.375 10 <sup>3</sup> m <sup>3</sup> /d	(ADP-12.25 )*0.01633
		18.375 10 <sup>3</sup> m <sup>3</sup> /d < ADP ≤ 33.6875 10 <sup>3</sup> m <sup>3</sup> /d	(ADP-18.3750)*0.00979+ 0.1000
		ADP > 33.6875 10 <sup>3</sup> m <sup>3</sup> /d	(ADP-33.6875)*0.00327 + 0.2500
		Maximum	30%
≥ 4000 m	4.000	ADP ≤ 24 10 <sup>3</sup> m <sup>3</sup> /d	(ADP-16)*0.0125
		24 10 <sup>3</sup> m <sup>3</sup> /d < ADP ≤ 44 10 <sup>3</sup> m <sup>3</sup> /d	(ADP-24)*0.0075 + 0.1000
		ADP > 44 10 <sup>3</sup> m <sup>3</sup> /d	(ADP-44)*0.0025 + 0.2500
		Maximum	30%