

## Royalty Formulas – Conventional Oil

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

R% has a minimum of 0% and a maximum of 50%

Royalty Parameters			
Price (\$/m <sup>3</sup> )		% Change (%/\$/m <sup>3</sup> )	
NRF	Transition Wells	NRF	Transition Wells
190.00	210.00	0.06%	0.035%
250.00	250.00	0.1%	0.01%
400.00	350.00	0.05%	0.005%
Q (m <sup>3</sup> /month)		% Change (%/m <sup>3</sup> /month)	
NRF	Transition Wells	NRF	Transition Wells
106.4	30.4	0.26%, 0.10%	0.13%
197.6	152.0	0.07%	0.08%
304.0	273.6	0.03%	0.02%

Price Component ( $r_p$ )			
Royalty Framework		Transition Wells	
Price (\$/m <sup>3</sup> )	$r_p$	Price (\$/m <sup>3</sup> )	$r_p$ Transition Wells
PP ≤ 250.00	$((PP - 190.00) * 0.0006) * 100$	PP ≤ 250.00	$((PP - 210.00) * 0.00035) * 100$
250.00 < PP ≤ 400.00	$((PP - 250.00) * 0.0010) + 0.0360 * 100$	250.00 < PP ≤ 350.00	$((PP - 250.00) * 0.0001) + 0.0140 * 100$
PP > 400.00	$((PP - 400.00) * 0.0005) + 0.1860 * 100$	PP > 350.00	$((PP - 350.00) * 0.00005) + 0.0240 * 100$
Maximum	35%	Maximum	35%

PP is the par price for the month in \$/m<sup>3</sup>

Note:  $r_p$  can be negative

Quantity Component ( $r_q$ )			
Royalty Framework		Transition Wells	
Quantity (m <sup>3</sup> /month)	$r_q$	Quantity (m <sup>3</sup> /month)	$r_q$ Transition Wells
Q ≤ 106.4	$((Q - 106.4) * 0.0026) * 100$	Q ≤ 30.4	$((Q - 30.4) * 0.0013) * 100$
106.4 < Q ≤ 197.6	$((Q - 106.4) * 0.0010) * 100$	30.4 < Q ≤ 152.0	$((Q - 30.4) * 0.0013) * 100$
197.6 < Q ≤ 304.0	$((Q - 197.6) * 0.0007) + 0.0912 * 100$	152.0 < Q ≤ 273.6	$((Q - 152.0) * 0.0008) + 0.1581 * 100$
Q > 304.0	$((Q - 304.0) * 0.0003) + 0.1657 * 100$	Q > 273.6	$((Q - 273.6) * 0.0002) + 0.2554 * 100$
Maximum	30%	Maximum	35%

Q is the monthly production in m<sup>3</sup>

Note:  $r_q$  can be negative

### Examples

Price (\$/m <sup>3</sup> )	Quantity (m <sup>3</sup> /month)	Royalty Framework			Transition Wells		
		$r_p$	$r_q$	R%	$r_p$	$r_q$	R%
200.00	50.0	0.60%	-14.66%	0.00%	-0.35%	2.55%	2.20%
200.00	200.0	0.60%	9.29%	9.89%	-0.35%	19.65%	19.30%
400.00	50.0	18.60%	-14.66%	3.94%	2.65%	2.55%	5.20%
400.00	200.0	18.60%	9.29%	27.89%	2.65%	19.65%	22.30%

- Transition Wells are wells with measured depths between 1000m and 3500m, and spudded between Jan. 1<sup>st</sup>, 2009 and Dec. 31<sup>st</sup>, 2013 that have chosen the transition formulas.