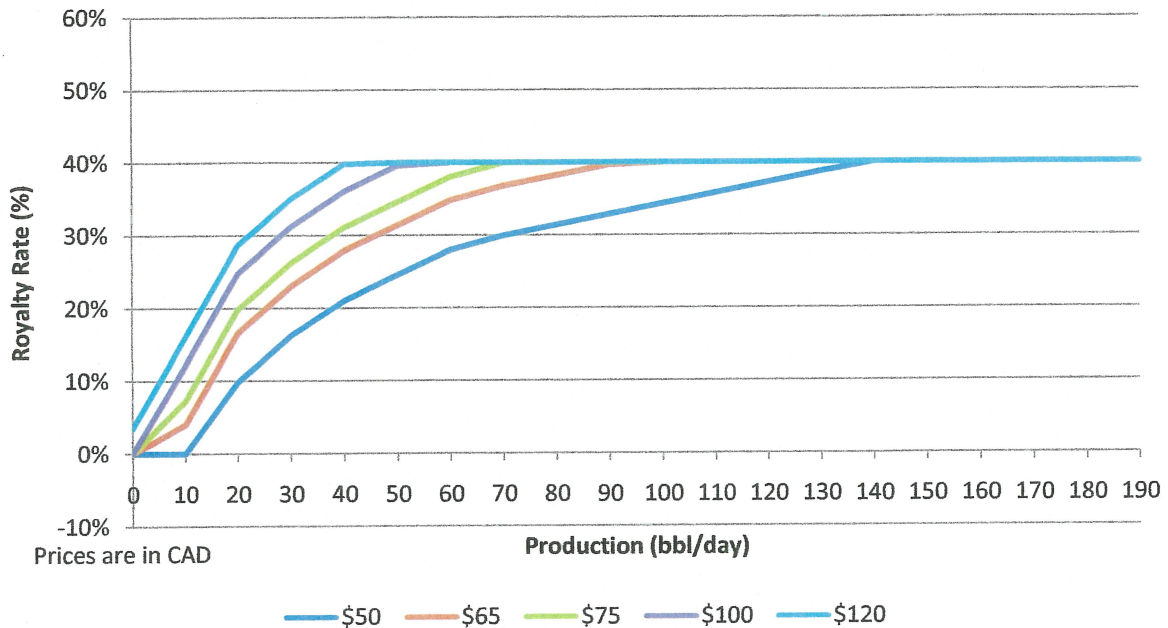
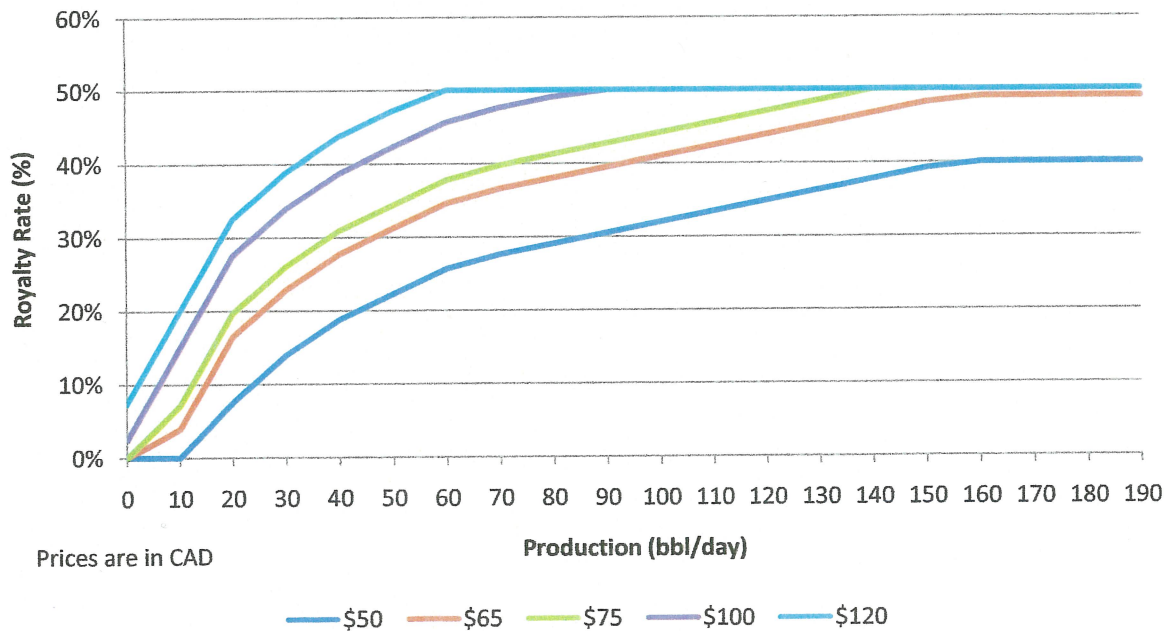


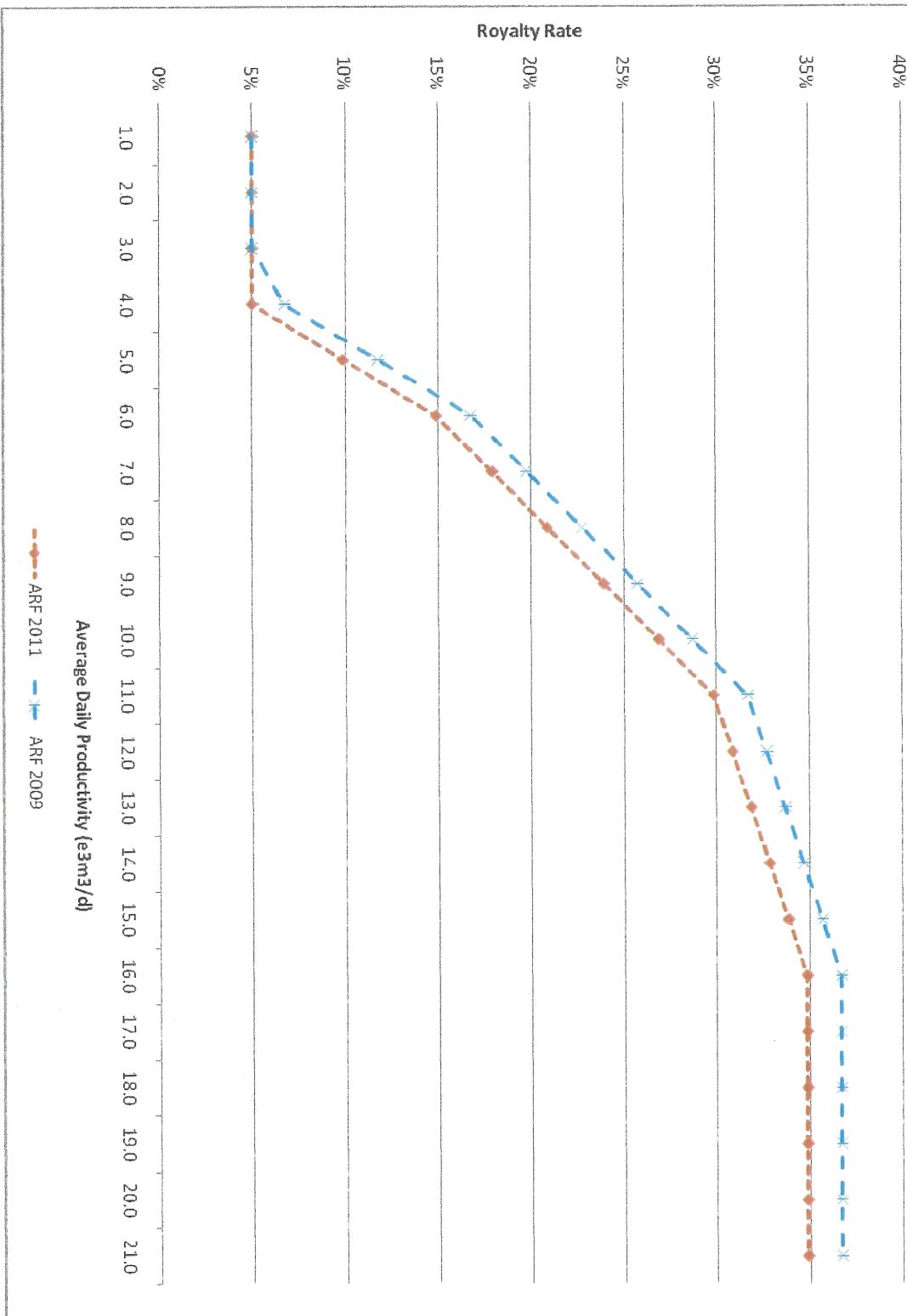
ARF 2011 -- Oil Royalty Rate Comparison (Price and Well Productivity)



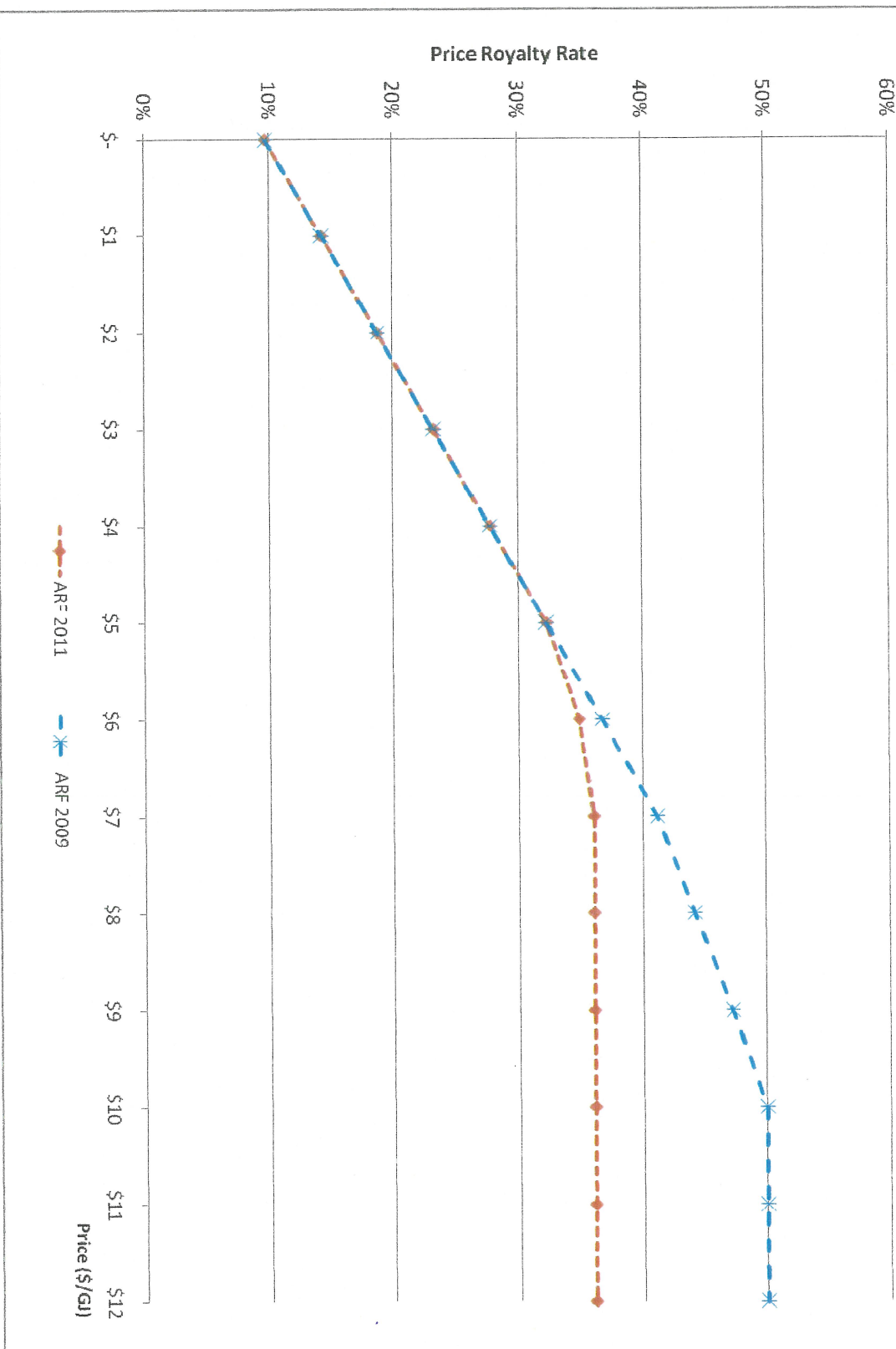
ARF 2009 -- Oil Royalty Rate Comparison (Price and Well Productivity)



Natural Gas Royalty Rates \$6/GJ Well Productivity Comparison



Natural Gas Royalty Comparison based on 600 Mcf/day



Royalty Formulas – Conventional Oil

Effective January 1, 2011

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

ARF (2011): R% has a minimum of 0% and a maximum of 40%

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

Royalty Parameters				
	Price (\$/m ³)		% Change (%/\$/m ³)	
	ARF (2011)	Transition Wells	ARF (2011)	Transition Wells
P₁	190.00	210.00	0.06%	0.035%
P₂	250.00	250.00	0.10%	0.01%
P₃	400.00	350.00	0.05%	0.005%
P₄	535.00	--	0.03%	--
	Q (m ³ /month)		% Change (%/m ³ /month)	
	ARF (2011)	Transition Wells	ARF (2011)	Transition Wells
Q₁	106.4	30.4	0.26%, 0.10%	0.13%
Q₂	197.6	152.0	0.07%	0.08%
Q₃	304.0	273.6	0.03%	0.02%

Price Component (r_p)			
Alberta Royalty Framework (2011)		Transition Wells	
Price (\$/m ³)	r_p	Price (\$/m ³)	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	$((PP - 250.00) * 0.00010) + 0.0140 * 100$
400.00 < PP ≤ 535.00	$((PP - 400.00) * 0.0005) + 0.1860 * 100$	PP > 350.00	$((PP - 350.00) * 0.00005) + 0.0240 * 100$
PP > 535.00	$((PP - 535.00) * 0.0003) + 0.2535 * 100$	--	--
Maximum	35%	Maximum	35%
PP is the par price for the month in \$/m ³			
Note: r_p can be negative			

Quantity Component (r_q)			
Alberta Royalty Framework (2011)		Transition Wells	
Quantity (m ³ /month)	r_q	Quantity (m ³ /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 ³			
Note: r_q can be negative			

Examples

Price (\$/m ³)	Quantity (m ³ /month)	ARF (2011)			Transition Wells		
		r_p	r_q	R%	r_p	r_q	R%
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%
600.00	50.0	27.30%	-14.66%	12.64%	3.65%	2.55%	6.20%
600.00	200.0	27.30%	9.29%	36.59%	3.65%	19.65%	23.30%

Alberta Royalty Framework: Formulas – Natural Gas

Effective January 1, 2011

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

R% has a minimum of 5% and a maximum of 36%

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

Royalty Parameters				
	Price (\$/GJ)		%Change (%/\$/GJ)	
	ARF (2011)	Transition Wells	ARF (2011)	Transition Wells
P_1	4.50	2.00	4.5%	3.5%
P_2	5.25	3.25	2%	0.5%
P_3	9.00	5.00	1%	0%
	Q ($10^3 \text{ m}^3/\text{d}$)		% Change (%/ $10^3 \text{ m}^3/\text{GJ}$)	
	ARF (2011)	Transition Wells	ARF (2011)	Transition Wells
Q_1	4	2	5%	5%
Q_2	6	4	3%	2%
Q_3	11	9	1%	1%

Price Component (r_p)			
Alberta Royalty Framework (2011)		Transition Wells	
Price (\$/GJ)	r_p	Price (\$/GJ)	r_p Transition Wells
$PP \leq 5.25$	$((PP - 4.50) * 0.0450) * 100$	$PP \leq 3.25$	$((PP - 2.00) * 0.0350) * 100$
$5.25 < PP \leq 9.00$	$((PP - 5.25) * 0.0200 + 0.03375) * 100$	$3.25 < PP \leq 5.00$	$((PP - 3.25) * 0.0050 + 0.0437) * 100$
$PP > 9.00$	$((PP - 9.00) * 0.0100 + 0.10875) * 100$	$PP > 5.00$	$((PP - 5.00) * 0.0000 + 0.0525) * 100$
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)			
Alberta Royalty Framework (2011)		Transition Wells	
Quantity ($10^3 \text{ m}^3/\text{d}$)	r_q	Quantity ($10^3 \text{ m}^3/\text{d}$)	r_q Transition Wells
$ADP \leq (6 * DF)$	$([ADP - (4 * DF)] * (0.0500/DF)) * 100$	$ADP \leq 4$	$([ADP - 2] * 0.0500) * 100$
$(6 * DF) < ADP \leq (11 * DF)$	$([ADP - (6 * DF)] * (0.0300/DF) + 0.1000) * 100$	$4 < ADP \leq 9$	$([ADP - 4] * 0.0200 + 0.1000) * 100$
$ADP > (11 * DF)$	$([ADP - (11 * DF)] * (0.0100/DF) + 0.2500) * 100$	$ADP > 9$	$([ADP - 9] * 0.0100 + 0.2000) * 100$
Maximum	30%		25%
PP is the par price for the month in \$/GJ			
Note: r_q 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 $MD \leq 2000 \text{ m}$; $DF = (MD/2000)^2$ for $MD > 2000 \text{ m}$; and, The depth factor is capped at 4.			

Illustration of Depth Factor Adjustment

MD	DF	Quantity	r_q
≤ 2000 m	1.0000	$ADP \leq 6 \cdot 10^3 \text{ m}^3/\text{d}$	$(ADP - 4) \cdot 0.0500$
		$6 \cdot 10^3 \text{ m}^3/\text{d} < ADP \leq 11 \cdot 10^3 \text{ m}^3/\text{d}$	$(ADP - 6) \cdot 0.0300 + 0.1000$
		$ADP > 11 \cdot 10^3 \text{ m}^3/\text{d}$	$(ADP - 11) \cdot 0.0100 + 0.2500$
		Maximum	30%
2500 m	1.5625	$ADP \leq 9.3750 \cdot 10^3 \text{ m}^3/\text{d}$	$(ADP - 6.25) \cdot 0.032$
		$9.3750 \cdot 10^3 \text{ m}^3/\text{d} < ADP \leq 17.1875 \cdot 10^3 \text{ m}^3/\text{d}$	$(ADP - 9.3750) \cdot 0.0192 + 0.1000$
		$ADP > 17.1875 \cdot 10^3 \text{ m}^3/\text{d}$	$(ADP - 17.1875) \cdot 0.0064 + 0.2500$
		Maximum	30%
3000 m	2.2500	$ADP \leq 13.5 \cdot 10^3 \text{ m}^3/\text{d}$	$(ADP - 9) \cdot 0.0222$
		$13.5 \cdot 10^3 \text{ m}^3/\text{d} < ADP \leq 24.75 \cdot 10^3 \text{ m}^3/\text{d}$	$(ADP - 13.5) \cdot 0.0133 + 0.1000$
		$ADP > 24.75 \cdot 10^3 \text{ m}^3/\text{d}$	$(ADP - 24.75) \cdot 0.0044 + 0.2500$
		Maximum	30%
3500 m	3.0625	$ADP \leq 18.375 \cdot 10^3 \text{ m}^3/\text{d}$	$(ADP - 12.25) \cdot 0.0163$
		$18.375 \cdot 10^3 \text{ m}^3/\text{d} < ADP \leq 33.6875 \cdot 10^3 \text{ m}^3/\text{d}$	$(ADP - 18.3750) \cdot 0.0098 + 0.1000$
		$ADP > 33.6875 \cdot 10^3 \text{ m}^3/\text{d}$	$(ADP - 33.6875) \cdot 0.0033 + 0.2500$
		Maximum	30%
≥ 4000 m	4.000	$ADP \leq 24 \cdot 10^3 \text{ m}^3/\text{d}$	$(ADP - 16) \cdot 0.0125$
		$24 \cdot 10^3 \text{ m}^3/\text{d} < ADP \leq 44 \cdot 10^3 \text{ m}^3/\text{d}$	$(ADP - 24) \cdot 0.0075 + 0.1000$
		$ADP > 44 \cdot 10^3 \text{ m}^3/\text{d}$	$(ADP - 44) \cdot 0.0025 + 0.2500$
		Maximum	30%

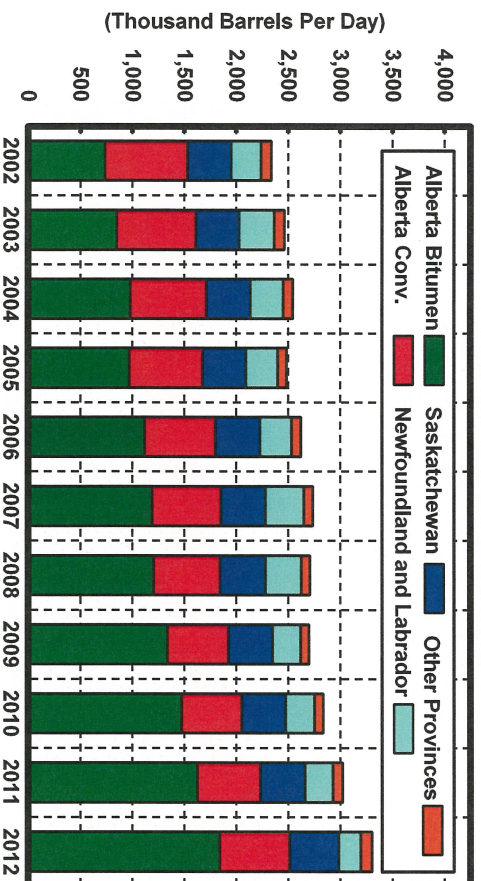
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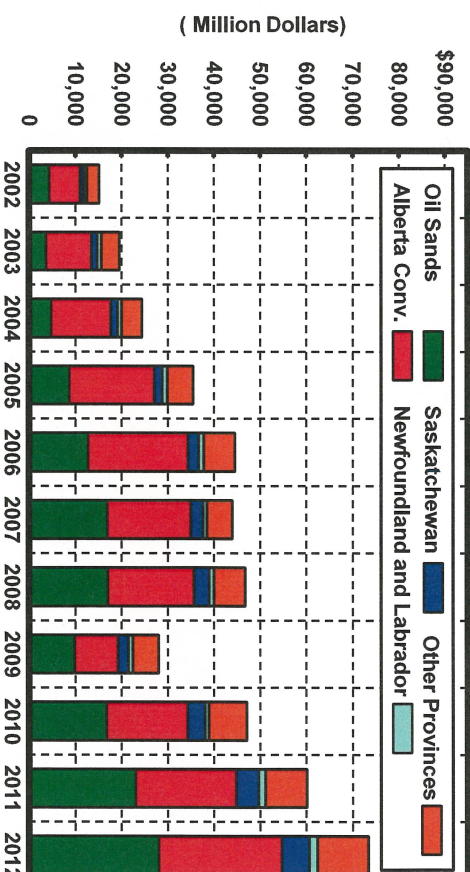
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Country/Area Profile Canada

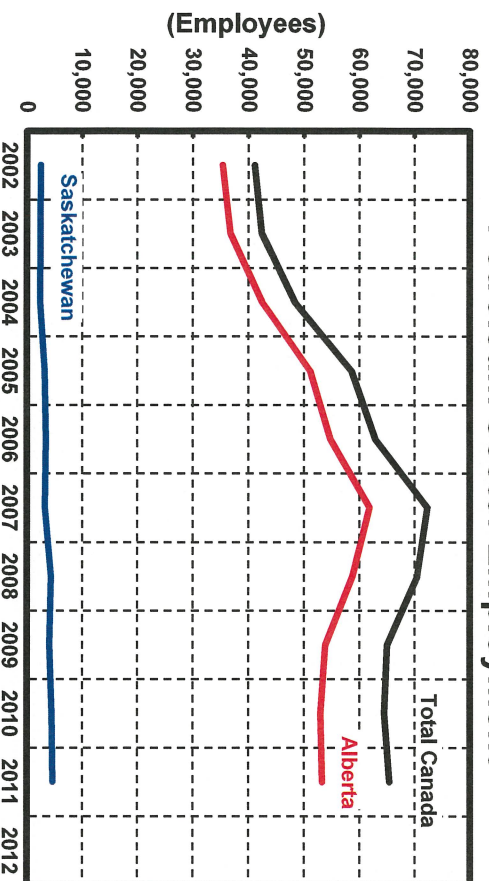
Crude Oil Production



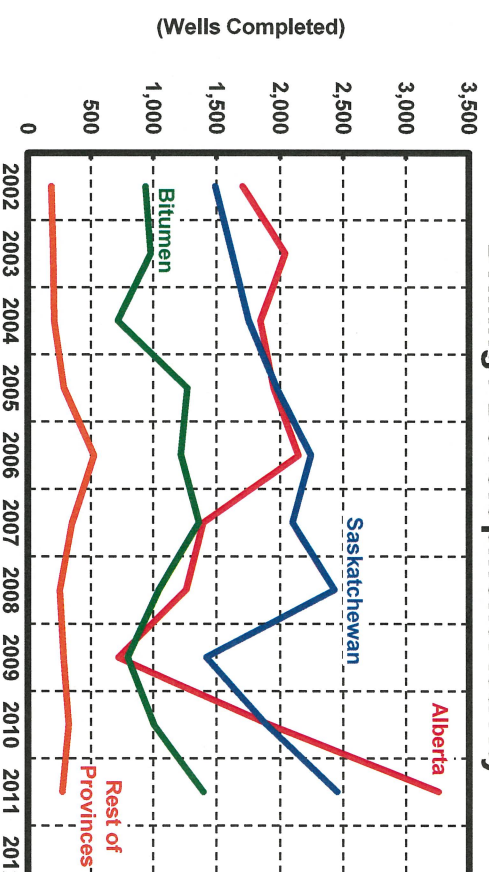
Capital Spending



Petroleum Sector Employment



Drilling / Development Activity



Note: 2012 figures are preliminary.