Gas Royalty Calculation
New Royalty Framework (NRF)

Natural Gas Deep Drilling Program (NGDDP)

October 2008

Disclaimer

THIS PRESENTATION IS FOR INFORMATIONAL PURPOSES ONLY, PENDING APPROVAL OF THE NATURAL GAS ROYALTY REGULATIONS 2009 AND THE NATURAL GAS DEEP DRILLING REGULATIONS.

CONTENTS OF THIS DOCUMENT MAY BE SUBJECT TO CHANGE.

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1. Overview

Overview of NGDDP

- Effective January 2009 production month.
- This is a well based program
- Applies to wells producing at TVD >2,500m
- DGRHP or RAP will terminate December 31, 2008 production month for wells spudded before October 25, 2007
- Wells drilled on or after October 25, 2007 will be transitioned to receive NGDDP royalty adjustments

2. Eligibility

Eligible Wells

The well must

- Be a natural gas well with a gas-oil ratio of greater than 1,800m^3 : 1m^3
- Have a Crown interest greater than 0%,
- Have commenced spudding or deepening on or after October 25, 2007 and
- Have a TVD >2,500 m

True Vertical Depth (TVD)

- TVD is the vertical distance, measured in a perpendicular line from the kelly bushing of a well to the top of the zone that the well is producing natural gas.

Non Eligible Wells

- Crude oil and crude bitumen wells
- With 100% freehold interest
- Which previously received a royalty exemption or adjustments under prior regulations
- With a well event which received benefits under any previous programs
- An abandoned gas well
- An off target well, as designated by the ERCB
- A well within the pool boundaries designated by the ERCB as at June 1, 1985

3. Calculation of Royalty Adjustment

Measured Depth (MD)

- MD of a well is the longest distance in metres, according to the records of the ERCB, measured along the bore of the well from the kelly bushing of the well to the base of the deepest natural gas producing interval.

Exploratory and Development Wells

- An exploratory well is known as
  - A New Field Wildcat (NFW),
  - New Pool Wildcat (NPW), or
  - Deeper Pool Test (DPT)
- A development well is a well drilled with a designation as a development well

- Exploratory wells with depths > 4,000m receive an additional 25% adjustment

Royalty Adjustment for Development Wells

Total royalty adjustment = A+B+C+D+E

Where

- A =number of metres>2,500 and ≤3,500 multiplied by $625/m
- B =number of metres>3,500 and ≤4,000 multiplied by $2,500/m
- C=number of metres>4,000 and ≤5,000 multiplied by $2,500/m
- D = number of metres >5,000 multiplied by $3,000/m
- E is the supplemental royalty adjustment :
  - if the MD <4,000 metres, then E = $0
  - if the MD ≥4,000, then E =$875,000

- The maximum royalty adjustment is $8,000,000 for development wells.

Development Well Royalty Adjustment

MD	Benefit per metre drilled in the depth range ($/m)				Supplemental Adjustment
	2,500 < MD ≤ 3,500	3,500 < MD ≤ 4,000	4,000 < MD ≤ 5,000	MD > 5,000	
2,500	$625				
3,000	$625				
3,500	$625	$2,500			
4,000	$625	$2,500	$2,500		$875,000
4,500	$625	$2,500	$2,500		$875,000
5,000	$625	$2,500	$2,500	$3,000	$875,000
5,000+	$625	$2,500	$2,500	$3,000	$875,000

Royalty Adjustment for Exploratory Wells

Total royalty adjustment = A+B+C+D+E

Where

- A = number of metres > 2,500 and ≤ 3,500 multiplied by $625/m
- B = number of metres>3,500 and ≤ 4,000 multiplied by $2,500/m
- C= number of metres >4,000 and ≤ 5,000 multiplied by $3,125/m
- D = number of metres >5,000 multiplied by $3,750/m
- E is the supplemental royalty adjustment :
  - if the MD <4,000 metres, then E = $0
  - if the MD ≥4,000, then E =$875,000

- The maximum royalty adjustment is $10,000,000 for exploratory wells.

Exploratory Well Royalty Adjustment

Measured Depth (MD)	Benefit per metre drilled in the depth range ($/m)				Supplemental Adjustment
	2,500 < MD ≤ 3,500	3,500 < MD ≤ 4,000	4,000 < MD ≤ 5,000	MD > 5,000	
2,500	$625				
3,000	$625				
3,500	$625	$2,500			
4,000	$625	$2,500	$3,125		$875,000
4,500	$625	$2,500	$3,125		$875,000
5,000	$625	$2,500	$3,125	$3,750	$875,000
5,000+	$625	$2,500	$3,125	$3,750	$875,000

4. Incremental Adjustment

Lengthening

- The incremental adjustment will only be applied if the current five years benefit term has not expired.
- The adjustment will be the difference between the new adjustment and the actual NGDDP adjustment provided to the royalty client.
- Any unused adjustment after the initial five year term will be lost.
- If the current five year adjustment term has expired, i.e. the well is in the 6th year after the first FDD then no incremental royalty adjustment will be granted.

Example of Lengthening

- First FDD: May 2009
- TVD = 2,900m
- MD = 3,400m

- FDD : May 2010
- TVD = 2,900m
- MD = 4,000m
- The additional royalty adjustment will be based upon the incremental 600m (4,000m – 3,400m).
- The well has 4 years remaining to receive this adjustment based on the first FDD of May 2009.

Deepening

- If the current five year term has not expired, a new adjustment will be calculated and a new FDD will be established from the date of deepening.
- Even if the current five year has expired, that is, the well is in the 6th year after the previous FDD, a new five year term will be established based on the new FDD and a new adjustment will be calculated.
- Any unused adjustment after the new five year term will be lost.
- The new royalty adjustment is the difference between the new adjustment at the new deeper MD less the previous actual adjustment received by the royalty client.

Example –Deepening

FDD: January 31, 2009

- TVD of 2,900m
- MD of 3,400m

FDD: February 2010

- TVD of 5,000m
- MD of 7,000m
- Incremental royalty adjustment will be based on the incremental 3,600 m of MD (7,000m – 3,400m).
- The well has five years to receive this adjustment from the new FDD of February 2010.

5. Implementation and Transition

Implementation

- The NGDDP is a well-based program.
- Royalty adjustments of a well will be distributed to all well events of that well.
- The distribution will be based on net royalty.
- Adjustments may not reduce the royalty rate of a
  - Gas well below the minimum of 5% pre-gas cost allowance,
  - Condensate may be allowed a minimum of 0%.

Transition

- There will be a transition of the DGRHP or the RAP wells prior to implementation of the NGDDP.
- Wells drilled on or after October 25, 2007, with production prior to December 31, 2008, may be eligible to receive DGRHP or RAP royalty adjustments.
- The DGRHP or RAP adjustments received up to December 31, 2008, will be deducted from the NGDDP royalty adjustments.

Example of Transition

- A DGRHP well drilled after October 25, 2007, is qualified for the NGDDP
- The total amount of royalty adjustment for this transition well = $3.0 million on January 1, 2009
- This well received $0.5 million as royalty exemption for the production months prior to January 1, 2009
- Therefore, the remaining eligible adjustment of $2.5 million ($3.0 -$0.5=$2.5) will be received over the five year period starting from January 1, 2009

6.Termination of the NGDDP

Termination of the NGDDP

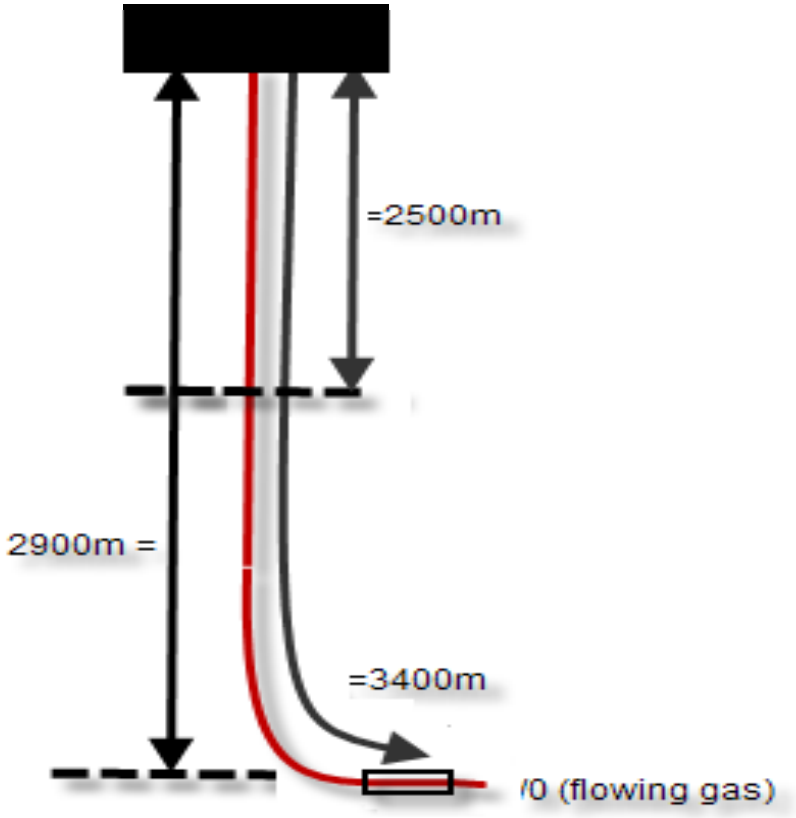
- The length of the program is five years.
- Wells with a spud date after December 31, 2013, will not qualify for this program.
- All royalty adjustments will terminate within five years of the FDD of the well or December 31, 2018, whichever occurs first, whether the full benefits have been realized or not.
- After December 31, 2018, no royalty adjustments will be granted under this program.

7. Examples

Example 1– Development Well

- TVD =2,900 m
- MD = 3,400 m

- This well qualifies



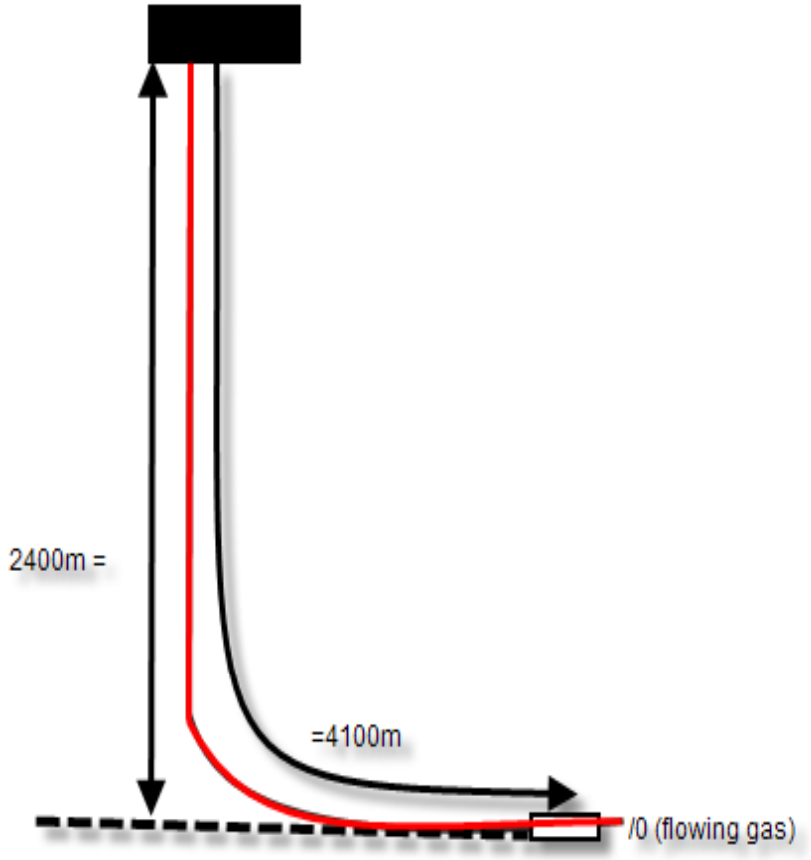
MD	Benefit per metre drilled in the depth range ($/m)				Supplemental Adjustment
	2,500 < MD ≤ 3,500	3,500 < MD ≤ 4,000	4,000 < MD ≤ 5,000	MD > 5,000	
2,500	$625				
3,000	$625				
3,500	$625	$2,500			
4,000	$625	$2,500	$2,500		$875,000
4,500	$625	$2,500	$2,500		$875,000
5,000	$625	$2,500	$2,500	$3,000	$875,000
5,000+	$625	$2,500	$2,500	$3,000	$875,000

= (3,400m – 2,500m) * $625.00/m
= (900m) * $625.00/m
= $ 562,500

Example 2 – Development Well

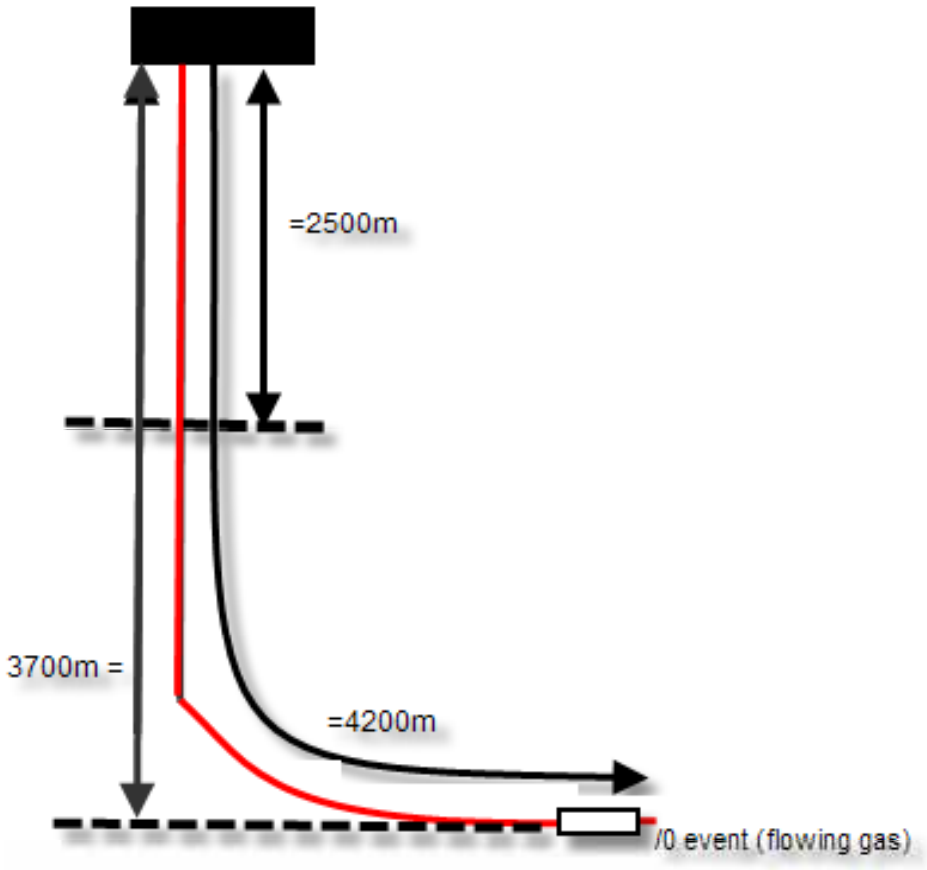
- TVD = 2,400 m and
- MD = 4,100 m

- This well does not qualify



Example 3 – Development Well

- TVD = 3,700 m
- MD = 4,200 m
- This well qualifies



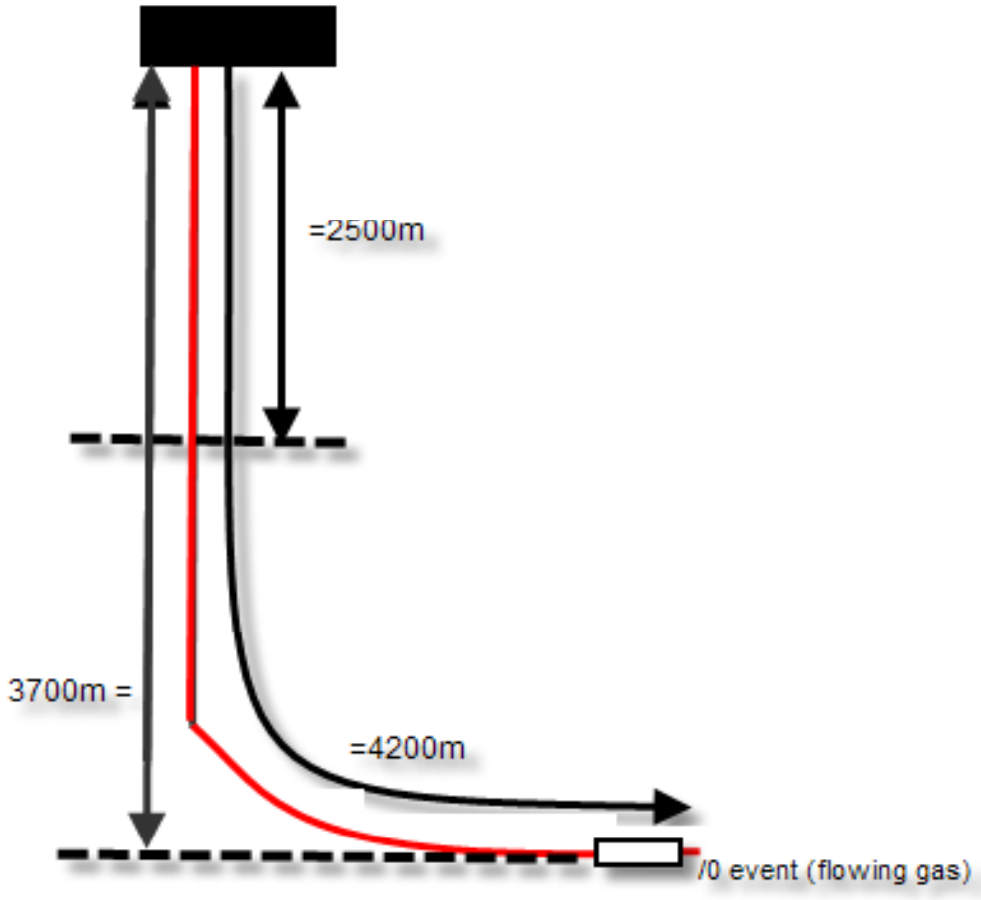
- For the MD between 2,500 < Depth ≤ 3,500:
  - = (3,500 m – 2,500 m) * $625.00/m = $625,000
- For the MD between 3,500 < Depth ≤ 4,000:
  - = (4,000 m – 3,500 m) * $2,500.00/m = $1,250,000
- For the MD between 4,000 < Depth ≤ 5,000:
  - = (4,200 m – 4,000 m) * $2,500.00/m = $500,000
- MD > 4,000 m the supplemental adjustment = $875,000

- The total royalty adjustment = $3,250,000

Example 4 – Exploratory Well

- TVD = 3,700 m
- MD = 4,200 m

- This well qualifies

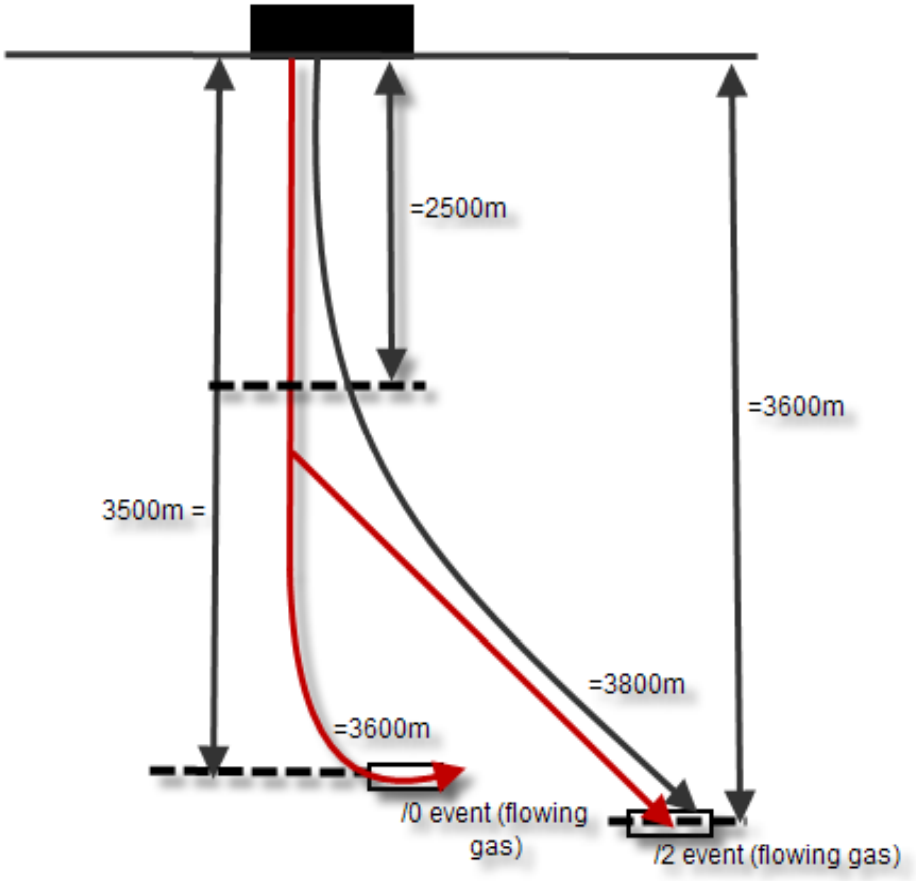


- For the MD between 2,500 < Depth ≤ 3,500:
  - = (3,500 m – 2,500 m) * $625/m = $625,000
- For the MD between 3,500 < Depth ≤ 4,000:
  - = (4,000 m – 3,500 m) * $2,500/m = $1,250,000
- For the MD between 4,000 < Depth ≤ 5,000:
  - = (4,200 m – 4,000 m) * $3,125/m = $625,000
- MD > 4,000 m the supplemental adjustment of = $875,000

- The total royalty adjustment = $3,375,000

Example 5 – Exploratory Well

- An well with 2 well events
- Well event /0
  - TVD = 3,500 m
  - MD = 3,600 m
- Well event /2
  - TVD = 3,600 m
  - MD = 3,800 m
- This well qualifies



MD = 3,800 m

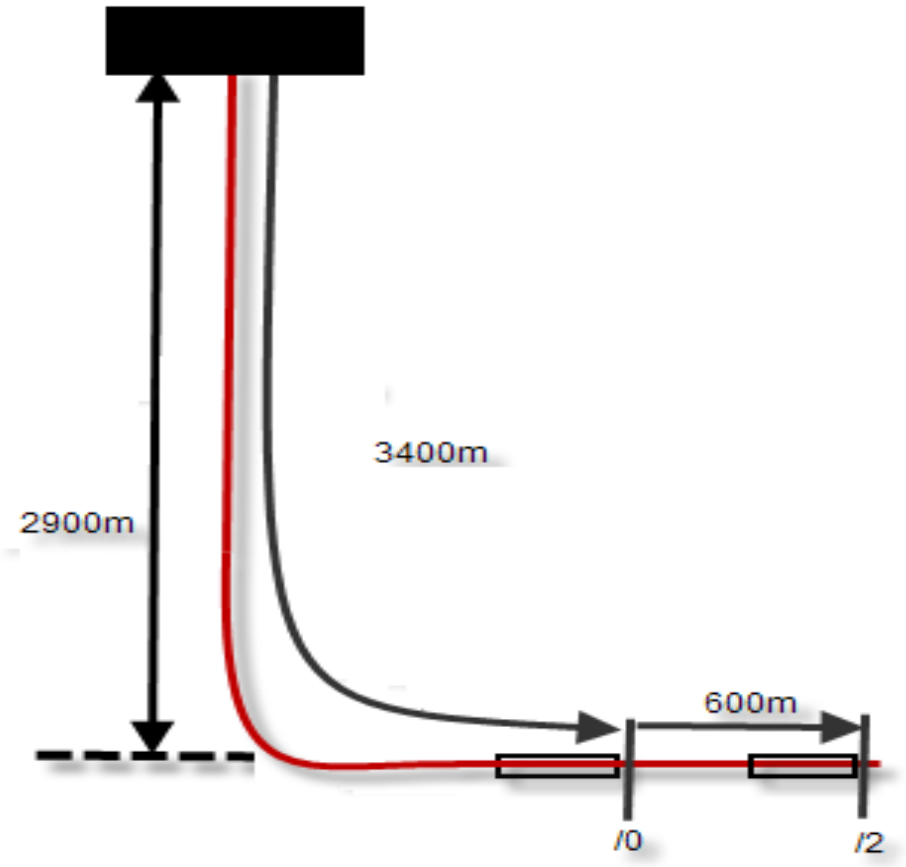
- For the MD between 2,500 < Depth ≤ 3,500
- = (3,500 m – 2,500 m) * $625.00/m = $625,000
- For the MD between 3,500 < Depth ≤ 4,000
- = (3,800 m – 3,500 m) * $2,500.00/m = $750,000

- The total royalty adjustment = $1,375,000

Example 6: Development Well – Lengthened

- / 0 event
- FDD January 2009
- TVD = 2,900 m
- MD = 3,400 m

- /2 event,
- FDD February 2010
- TVD = 2,900 m
- MD = 4,000 m



1. Royalty adjustment for event /0

- FDD January 2009
- TVD = 2,900 m
- MD = 3,400 m
- For the MD between 2,500 < Depth ≤ 3,500
- = (3,400 m – 2,500 m) * $625/m
- = $562,000

- Starting January 2009, this royalty adjustment will continue for five years until December 2013.

2. For the /2 event, royalty adjustment, FDD Feb. 2010, MD=4,000m

- For the MD between 2,500 < Depth ≤ 3,500,
- = (3,500 m – 2,500 m) * $625/m = $625,000
- For the MD between 3,500 < Depth ≤ 4,000
- = (4,000 m – 3,500 m) * $2,500/m = $1,250,000

MD > 4,000 m the supplemental adjustment =$875,000

The total royalty adjustment = $2,750,000

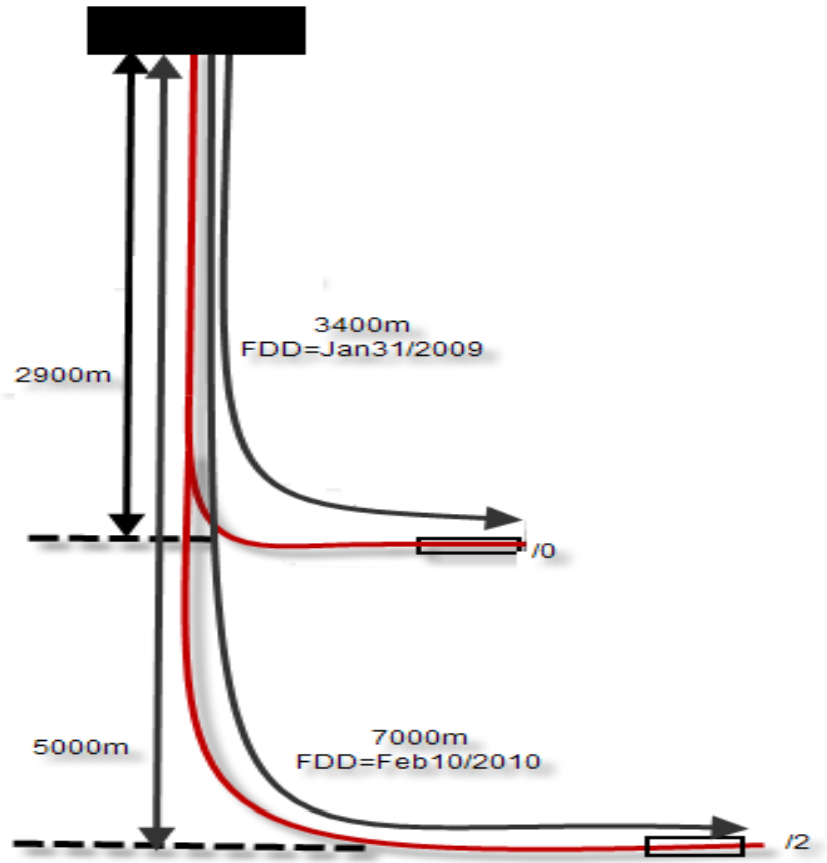
For the well event /0, assume that the client received $475,000, The adjustment ($2,750,000 – $475,000 = $2,275,000) will be received by the client within 4 years until December 2013.

Example 7: Development Well – Deepened

The /0 event

- FDD January 2009
- TVD = 2,900 m
- MD = 3,400 m

- The /2 event
- FDD of February 2010
- TVD =5,000 m
- MD of 7,000 m



1. The /0 event

- FDD January 2009
- TVD = 2,900 m
- MD = 3,400 m
- For the MD between 2,500 < Depth ≤ 3,500
- = (3,400 m – 2,500 m) * $625.00/m =$562,500

- Starting January 2009 and the well will continue to receive royalty adjustment for 5 years until December 2013.

The /2 event is a deepening situation.

- For the MD between 2,500 < Depth ≤ 3,500
- = (3,500 m – 2,500 m) * $625/m = $625,000
- For the MD between 3,500 < Depth ≤ 4,000
- = (4,000 m – 3,500 m) * $2,500/m = $1,250,000
- For the MD between 4,000 < Depth ≤ 5,000
- = (5,000 m – 4,000 m) * $2,500/m = $2,500,000
- For the MD between 7,000 < Depth ≤ 5,000
- = (7,000 m – 5,000 m) * $3,000/m = $6,000,000
- MD > 4,000 m the supplemental adjustment of = $875,000

- The total royalty adjustment = $11,250,000
- The maximum allowable adjustment = $8,000,000

- Assume that the well event /0, received $541,000 in royalty adjustment during the previous production months.
- As of February 2010, the royalty adjustment ($8,000,000 – $541,000= $7,459,000) will be received by the well until January 2015 (with a new FDD and a new five year term).

The End
Thank you