# Pemex Farmout Day 2017

## Cárdenas-Mora

## Attractive investment opportunities in partnership with Pemex July 2017





#### Introduction

Reserves

Wells drilled and additional technical details

Historical production

Infrastructure

Available seismic information



## Cárdenas-Mora offers significant potential to increase reserves and production

#### Two mature onshore fields



#### Proved reserves of ~92 mmboe<sup>1</sup>

- Upside production potential for secondary and tertiary recovery (current recovery factor of ~35%)
- Existing infrastructure with capacity to process additional production
- Partnership to operate field

1- Reserve information as of Jan 01 2016; for more detailed information on reserves, please visit the Data Room



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CÁRDENAS-MORA

## Cárdenas-Mora offers 91.9 mmboe of proven reserves (1P)<sup>1</sup>



1- Reserve information as of Jan 01 2016; for more detailed information on reserves, please visit the Data Room

- ~56% of the reserves are in Cárdenas
- ~40% of the reserves are oil
- The vast majority of the reserves (~99%) are proved reserves



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### There are 35 shut-in wells that could potentially be re-activated



 Cárdenas and Mora were discovered in 1980-1981

- Average initial production: 2,598 bd
- Initial production best well: 9,122 bd
- Well density at Cárdenas: 0.86 wells/km<sup>2</sup>
- Well density at Mora: 0.85 wells/km<sup>2</sup>



Note: Pemex Farmouts are offered through a public bidding process administered by CNH. To find out more about the Farmout process, please visit: <a href="http://www.rondasmexico.gob.mx">http://www.rondasmexico.gob.mx</a>

## Technical highlights

Technical data	Cárdenas	Mora
Depth (m)	5,600	5,400
Net Pay (m)	131	105
Porosity (%)	3-4	2-5
Permeability (md)	10	20
Oil Gravity (°API)	39	39
Viscosity (cP)	667-629	598
Initial Pressure (kg/cm <sup>2</sup> )	322-100	89
Current Pressure (kg/cm <sup>2</sup> )	159	139
Formation Type	Naturally fracture carbonates and dolomites	



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## Cárdenas and Mora were discovered between 1980 and 1981 and started production soon after discovery



- Reservoir pressure stays above 100 kg/cm<sup>2</sup> after more than 30 years of production
- GOR relatively stable
- The production level has stayed relatively stable for the last 10 years
- Water cut has remained low through the field's production history



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## There is existing infrastructure in Cárdenas-Mora with available capacity<sup>1</sup>



1- Existing infrastructure will be shared with other projects, independent of Farmout



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## The area has been 100% mapped with 3D seismic with different processes

#### Map of seismic available



#### Seismic data information

Seismic studies	Acquisition year	Bin size (m)	Type of processing PSDM
Mora	1998	35 x 50	PSTM <sup>1</sup>
Apompo	1999	40 x 40	PSDM <sup>2</sup>
Jacinto- Paredón- Tepeyil- Dorado	2003	25 x 25	PSTM
Unión Bellota- Mora- Chipilín	2010	75 x 75	PSTM and POSTSTM <sup>3</sup>

1: Pre-Stack Depth Migration 2: Pre-Stack Time Migration 3: Post-Stack Depth Migration



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## Prequalification Terms (CNH bidding process)

#### **PREQUALIFICATION TERMS - CÁRDENAS-MORA**

#### **EXPERIENCE**

- 1) Should prove its participation as Operator in exploitation projects in mature fields where:
  - a) Have implemented artificial production systems for exploitation of fields with depth equal or greater than 3,000 meters; and
  - b) Have participated in the design and execution of enhanced and improved recovery processes

#### PRODUCTION

2) Should prove to have operated fields with a minimum production during the last 5 years, of at least 10,000 BOED. This production level should have been reached during the last 5 years

#### FINANCIAL

- 4) Should prove that the Company has:
  - a) Shareholder's equity of at least US\$150 MM, or
  - b) Assets with a value of at least US\$500 MM and an investment grade rating according to Fitch Ratings, Moody's Investors Service, or Standard & Poors Rating Services.







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Please note that the official public bidding process is administered by CNH (Comisión Nacional de Hidrocarburos). For official information about the Farmout process, please visit: <u>http://www.rondasmexico.gob.mx</u>.





## To find out more about the Farmout process, please visit: http://www.rondasmexico.gob.mx

