

**U.S. DEPARTMENT OF THE INTERIOR**

**U.S. GEOLOGICAL SURVEY**

**Analytic Resource Assessment Method for Conventional Oil  
and Gas Accumulations – the “ASSESS” Method**

**by**

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## INTRODUCTION

The U.S. Geological Survey periodically assesses petroleum resources of areas within the United States and the world. The purpose of this report is to explain the development of an analytic probabilistic method and spreadsheet software system called Analytic Spreadsheet Energy Software System (ASSESS). The ASSESS method is based upon mathematical equations derived from probability theory. The ASSESS spreadsheet can be used to calculate estimates of the undiscovered conventional oil, gas, and NGL resources in an assessment unit or play. An assessment unit is a mappable volume of rock in a total petroleum system. First, the geologic assessment model is defined; second, the analytic probabilistic method is derived; and third, the spreadsheet ASSESS is described.

## GEOLOGIC ASSESSMENT MODEL

The geologic assessment model is called the Seventh Approximation and is described in Schmoker and Klett (1999). The geologic assessment model for an assessment unit consists of the following components (see figure 1 for additional descriptions):

- A. A set of four assessment-unit probabilities:
  - 1. Charge
  - 2. Rocks
  - 3. Timing
  - 4. Access
- B. A set of six random variables for oil fields and a similar set for gas fields (12 total):
  - 1. Number of undiscovered fields
  - 2. Sizes of undiscovered fields
  - 3. Ratio of coproduct A
  - 4. Ratio of coproduct B
  - 5. Percent allocation to parcel (or land entity)
  - 6. Percent allocation to offshore
- C. A set of three descriptive parameters for each of the 12 given random variables:
  - 1. Minimum (F100)
  - 2. Median (F50)
  - 3. Maximum (F0)

An example of the basic input data form for the Seventh Approximation is given in figure 1. The assessment unit, called Frio Rio Grande Embayment Gas, was assessed by Christopher J. Schenk as part of an assessment of the Padre Island National Seashore (Schenk and others, 1999).

# SEVENTH APPROXIMATION--BASIC INPUT DATA FORM

## IDENTIFICATION INFORMATION

Date: 2/3/98  
 Assessment Geologist: Chris Schenk  
 Region: Gulf Coast Number: 6  
 Province: Western Gulf Number: 047  
 Total Petroleum System: \_\_\_\_\_ Number: \_\_\_\_\_  
 Assessment Unit: Frio Rio Grande Embayment Gas Number: \_\_\_\_\_  
 Notes from Assessor: \_\_\_\_\_

## CHARACTERISTICS OF ASSESSMENT UNIT

What is the minimum field size?..... 1 mmboe grown (6000 cfg = 1 bo)

Oil (<20,000 cfg/bo overall) or Gas (≥20,000 cfg/bo overall):...

Number of discovered fields exceeding minimum size:..... Oil: \_\_\_\_\_ Gas: 44  
 Established (>13 fields) ✓ Frontier (1-13 fields) \_\_\_\_\_ Hypothetical (no fields) \_\_\_\_\_

Median size (grown) of discovered oil fields (mmbo):

1st 3rd discovered \_\_\_\_\_ 2nd 3rd \_\_\_\_\_ 3rd 3rd \_\_\_\_\_

Median size (grown) of discovered gas fields (bcfg):

1st 3rd discovered \_\_\_\_\_ 2nd 3rd \_\_\_\_\_ 3rd 3rd \_\_\_\_\_

## Assessment-Unit Probabilities:

### Attribute

### Probability of occurrence (0-1.0)

1. **CHARGE:** Adequate petroleum charge for an undiscovered field ≥ minimum size..... 1
2. **ROCKS:** Adequate reservoirs, traps, and seals for an undiscovered field ≥ minimum size..... 1
3. **TIMING:** Favorable geologic timing for an undiscovered field ≥ minimum size..... 1

**Assessment-Unit GEOLOGIC Probability** (Product of 1, 2, and 3):..... 1

4. **ACCESS:** Adequate location for necessary petroleum-related activities..... 1

## UNDISCOVERED FIELDS

**Number of Undiscovered Fields:** How many undiscovered fields exist that are ≥ minimum size?:  
 (uncertainty of estimating fixed but unknown values)

Oil fields:.....min. no. (>0) \_\_\_\_\_ median no. \_\_\_\_\_ max no. \_\_\_\_\_  
 Gas fields:.....min. no. (>0) 4 median no. 26 max no. 50

**Sizes of Undiscovered Fields:** What are the anticipated sizes (grown) of the above fields?:  
 (inherent natural variability in the sizes of undiscovered fields)

Oil in oil fields (mmbo)..... min. size \_\_\_\_\_ median size \_\_\_\_\_ max. size \_\_\_\_\_  
 Gas in gas fields (bcfg)..... min. size 6 median size 24 max. size 280

Figure 1. Example of the basic input data form for the Seventh Approximation model.

Assessment Unit (name, no.)

Frio**AVERAGE COPRODUCT RATIOS FOR UNDISCOVERED FIELDS**

(uncertainty of estimating fixed but unknown values)

Oil fields:	minimum	median	maximum
Gas/oil ratio (cfg/bo).....	_____	_____	_____
NGL/gas ratio (bngl/mmcf).....	_____	_____	_____
Gas fields:			
Liquids/gas ratio (bliq/mmcf).....	<u>20</u>	<u>27</u>	<u>40</u>
OR			
NGL/gas ratio (bngl/mmcf).....	_____	_____	_____
Oil/gas ratio (bo/mmcf).....	_____	_____	_____

**SELECTED ANCILLARY DATA FOR UNDISCOVERED FIELDS**

(inherent natural variability in the properties of undiscovered fields)

Oil fields:	minimum	median	maximum
API gravity of oil (degrees).....	_____	_____	_____
Sulfur content of oil (%).....	_____	_____	_____
Drilling depth (m) .....	_____	_____	_____
Depth (m) of water (if applicable).....	_____	_____	_____
Gas fields:			
Inert-gas content (%).....	_____	_____	_____
CO <sub>2</sub> content (%).....	_____	<u>0.36</u>	_____
Hydrogen-sulfide content (%).....	_____	_____	_____
Drilling depth (m).....	<u>8,000</u>	<u>16,000</u>	<u>22,000</u>
Depth (m) of water (if applicable).....	<u>0</u>	<u>20</u>	<u>40</u>

**ALLOCATION OF UNDISCOVERED RESOURCES TO LAND ENTITIES**

(uncertainty of estimating fixed but unknown values)

1. Padre Island represents 1.8 areal % of the assessment unit

Oil in oil fields:	minimum	median	maximum
Volume % in entity.....	_____	_____	_____
Portion of volume % that is offshore (0-100%).....	_____	_____	_____
Gas in gas fields:			
Volume % in entity.....	<u>1.35</u>	<u>3.6</u>	<u>5.4</u>
Portion of volume % that is offshore (0-100%).....	<u>30</u>	<u>40</u>	<u>50</u>

(repeat above sequence as necessary to include all land entities of interest)

Figure 1--Continued. Example of the basic input data form for the Seventh Approximation model.

## ANALYTIC PROBABILISTIC METHOD

The geologic assessment model Seventh Approximation is a description of a complex probability problem that needs to be solved for the estimates of the undiscovered petroleum resources. The method derived herein, called ASSESS, is a system that solves the problem. That is, the model Seventh Approximation is the problem, and the method ASSESS is a solution. Simply stated, ASSESS is a solution of Seventh Approximation.

The 12 given random variables are assigned probability distributions as probability models that are based on the descriptive parameters (F100, F50, and F0). That is, each given random variable is assigned a probability distribution with the specified descriptive parameters: minimum, median, and maximum. It is important to realize that the ASSESS method does not depend upon the assignment of probability distributions in that any assignment can be accommodated. The assignment is an operational decision. The following probability distributions were assigned to the set of six given random variables for oil fields and also for gas fields:

1. Number of undiscovered fields: Median-based triangular distribution
2. Sizes of undiscovered fields: Truncated shifted lognormal distribution
3. Ratio of coproduct A: Median-based triangular distribution
4. Ratio of coproduct B: Median-based triangular distribution
5. Percent allocation to parcel (or land entity): Median-based triangular distribution
6. Percent allocation to offshore: Median-based triangular distribution

The mathematical equations for the median-based triangular distribution are derived from probability theory in Crovelli (1999). The basic probability theory of the triangular distribution can be found in Law and Kelton (1991). The probability theory of the lognormal distribution is given in Aitchison and Brown (1957).

A probabilistic method must be derived that combines given random variables of the geologic assessment model to determine parameters (especially, the mean, standard deviation, F95, and F5) of new random variables of interest, which are functions of the given random variables. The new random variables of interest are the following measures of undiscovered petroleum resources:

- Oil in oil fields
- Gas in oil fields
- NGL in oil fields
- Gas in gas fields
- NGL in gas fields
- Oil in gas fields

A probabilistic method is required to compute the estimates in the form of parameters (especially, the mean for a point estimate, and fractiles F95 and F5 for an interval estimate) of a probability distribution. An analytic probabilistic method is a probabilistic method that uses mathematical equations from probability theory to obtain the estimates of the undiscovered petroleum resources in an assessment unit. The ASSESS method is an analytic probabilistic method that was developed by deriving the necessary mathematical equations based upon conditional probability theory and laws of expectation and variance. Two features of ASSESS are the following:

- ASSESS relates the parameters with mathematical equations.
- ASSESS computes the means, standard deviations, minimums, and maximums exactly.
- ASSESS computes the estimates instantaneously.

For example, in the case of oil in oil fields the following relationships are developed for the random variables:

$N$ : Number of undiscovered oil fields

$X$ : Size of undiscovered oil field (mmbo)

$Y$ : Oil in undiscovered oil fields (mmbo)

$$Y = \sum_{i=1}^N X_i$$

The random variable  $Y$  is equal to the sum of a random number of random variables (sizes of undiscovered oil fields). The mean and standard deviation of  $Y$  can be derived from the theory of conditional probability and conditional expectation (Ross, 1993). Several parameters of oil in oil fields are the mean, standard deviation, minimum, and maximum:

$$\mu_Y = \mu_N \mu_X$$

$$\sigma_Y = \sqrt{\mu_N \sigma_X^2 + \mu_X^2 \sigma_N^2}$$

$$\text{Min}(Y) = \text{Min}(N) \text{Min}(X)$$

$$\text{Max}(Y) = \text{Max}(N) \text{Max}(X)$$

Many of the mathematical equations for parameters of the new random variables of interest in the ASSESS method are derived using conditional probability theory in Crovelli (1992). A simplified flow chart of the analytic probabilistic method for resource assessment of conventional oil and gas accumulations – the ASSESS method – is displayed in figure 2.

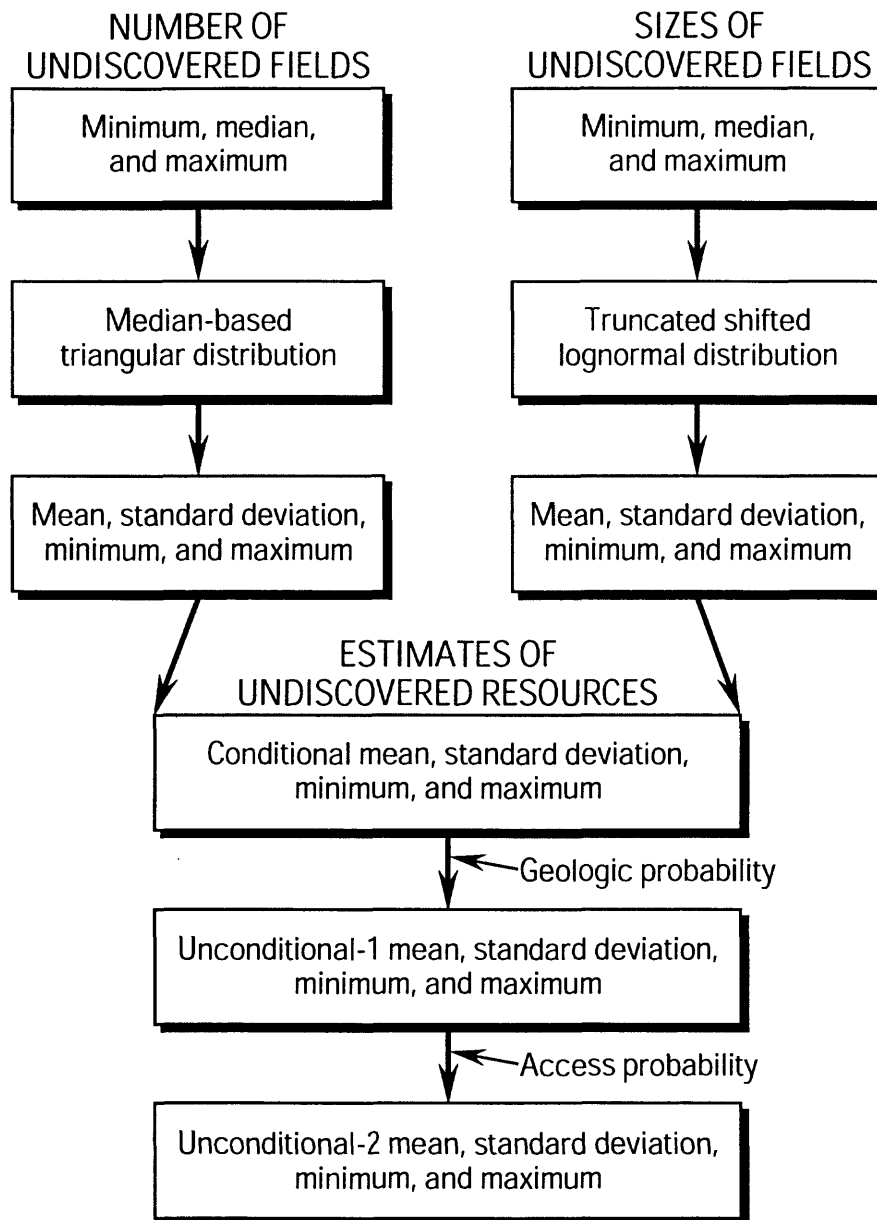


Figure 2. Simplified flow chart of the analytic probabilistic method for resource assessment of conventional oil and gas accumulations – the ASSESS method.

## SPREADSHEET SYSTEM

Given the geologic assessment model (the Seventh Approximation, figure 1), the analytic probabilistic method is used to create a spreadsheet probability system. The above analytic probabilistic method is incorporated into a spreadsheet software system called Analytic Spreadsheet Energy Software System (ASSESS). ASSESS consists of a series of 46 panels in the spreadsheet. A panel is a set of approximately 11 columns of related calculations. Because the total number of columns in ASSESS is approximately 500, it was necessary to construct ASSESS as a workbook with three worksheets called Cond, Unc1, and Unc2. Cond is comprised of Panels 1-22, Unc1 has Panels 23-34, and Unc2 has Panels 35-46. Worksheets Unc1 and Unc2 are linked to the worksheet Cond. The topics included in the worksheets Cond, Unc1, and Unc2 are the following:

- Worksheet Cond: Input data (Panels 1-4), probability distribution calculations (Panels 5-10), and conditional resource estimates (Panels 11-22).
- Worksheet Unc1: Unconditional-1 resource estimates using the geologic probability of the assessment unit.
- Worksheet Unc2: Unconditional-2 resource estimates using both the geologic and the access ("geoacc") probability of the assessment unit.

The individual panel numbers and contents of the spreadsheet ASSESS are given in Table 1.

A probability system is an orderly collection of random variables logically related in terms of their probability distributions and parameters. The spreadsheet probability system ASSESS includes:

Conditional (unrisked) and unconditional (risked) estimates of undiscovered petroleum resources in

- Assessment unit
- Parcel (or land entity)
- Offshore portion of parcel

The total number of new random variables or sets of estimates (mean, standard deviation, F95, and F5) per assessment unit:

- 72 ( $2 \times 4 \times 3 \times 3$ ) if one parcel
- 120 ( $2 \times 4 \times 3 \times 5$ ) if two parcels



For illustrative purposes, the ASSESS system is used to compute the undiscovered petroleum resource estimates in gas fields for four assessment units that were assessed by Christopher J. Schenk in an assessment of the Padre Island National Seashore (Schenk and others, 1999). The four assessment units are entitled: (1) Frio Rio Grande Embayment Gas, (2) Lower Miocene Rio Grande Embayment Gas, (3) Middle Miocene Rio Grande Embayment Gas, and (4) Vicksburg Rio Grande Embayment Gas. Note that the first assessment unit was used as an example of the basic input data form for the Seventh Approximation in Figure 1. The computer printout of the 46 panels in the ASSESS spreadsheet for this illustration is presented on following pages. The panel captions explain how the panels are related with respect to their calculations. For examples of particular interest, we have the following:

Panel 11. Conditional estimates of undiscovered resources in assessment unit: oil in oil fields and gas in gas fields. Mean, standard deviation, minimum, and maximum are computed by combining parameters from Panels 5 and 6. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

Note that the number of undiscovered oil fields (Panel 5) and the sizes of undiscovered oil fields (Panel 6) produce the oil in oil fields (Panel 11). Recall that the corresponding mathematical equations were given in the previous section.

Panel 23. Unconditional-1 estimates of undiscovered resources in assessment unit: oil in oil fields and gas in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying the geologic probability from Panel 23 to parameters from Panel 11. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

Note that the geologic probability (Panel 23) is applied to the conditional estimates (Panel 11) to generate the unconditional-1 estimates (Panel 23).

Panel 35. Unconditional-2 estimates of undiscovered resources in assessment unit: oil in oil fields and gas in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying the geoacc probability from Panel 35 to parameters from Panel 11. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

Note that the geoacc probability (Panel 35) is applied to the conditional estimates (Panel 11) to generate the unconditional-2 estimates (Panel 35).

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## REFERENCES

- Aitchison, J., and Brown, J.A.C., 1957, The lognormal distribution: Cambridge, Cambridge University Press, 176 p.
- Crovelli, R.A., 1992, Probabilistic methodology for estimation of undiscovered petroleum resources in play analysis of the United States: Nonrenewable Resources, v. 1, p. 153-162.
- Crovelli, R.A., 1999, Probabilistic method for subdividing petroleum resources into depth slices: U.S. Geological Survey Open-File Report 99-343, 9 p.
- Law, A.M., and Kelton, W.D., 1991, Simulation modeling and analysis: New York, McGraw-Hill, Inc., 2<sup>nd</sup> ed., 759 p.
- Ross, S.M., 1993, Introduction to probability models: New York, Academic Press, Inc., 5<sup>th</sup> ed., 556 p.
- Schenk, C.J., Charpentier, R.R., Crovelli, R.A., and Schmoker, J.W., 1999, Remaining oil and gas resources beneath Padre Island National Seashore; USGS Assessment Methodology: Administrative Report prepared for the U.S. National Park Service, 22 p.
- Schmoker, J.W., and Klett, T.R., 1999, U.S. Geological Survey assessment model for undiscovered conventional oil, gas, and NGL resources – the Seventh Approximation: U.S. Geological Survey Bulletin 2165, 7 p.

Table 1. Spreadsheet ASSESS panel numbers and contents.

- (1) Input data: Assessment-unit probabilities
- (2) Input data: Number and sizes of undiscovered fields
- (3) Input data: Ratios used to assess coproducts
- (4) Input data: Percent allocation to parcel and offshore portion of parcel
- (5) Number of undiscovered fields: Median-based triangular distribution
- (6) Sizes of undiscovered fields: Truncated shifted lognormal distribution
- (7) Ratios used to assess coproducts: Median-based triangular distribution
- (8) Ratios used to assess coproducts: Median-based triangular distribution
- (9) Percent allocation to parcel: Median-based triangular distribution
- (10) Percent allocation to offshore: Median-based triangular distribution
- (11) Cond. estimates in assessment unit: Oil in oil fields and gas in gas fields
- (12) Cond. estimates in assessment unit: Gas in oil fields and NGL in gas fields
- (13) Cond. estimates in assessment unit: NGL in oil fields and oil in gas fields
- (14) Cond. estimates in assessment unit: Total in oil fields and total in gas fields
- (15) Cond. allocation to parcel: Oil in oil fields and gas in gas fields
- (16) Cond. allocation to parcel: Gas in oil fields and NGL in gas fields
- (17) Cond. allocation to parcel: NGL in oil fields and oil in gas fields
- (18) Cond. allocation to parcel: Total in oil fields and total in gas fields
- (19) Cond. allocation to offshore: Oil in oil fields and gas in gas fields
- (20) Cond. allocation to offshore: Gas in oil fields and NGL in gas fields
- (21) Cond. allocation to offshore: NGL in oil fields and oil in gas fields
- (22) Cond. allocation to offshore: Total in oil fields and total in gas fields
- (23) Unc1. estimates in assessment unit: Oil in oil fields and gas in gas fields
- (24) Unc1. estimates in assessment unit: Gas in oil fields and NGL in gas fields
- (25) Unc1. estimates in assessment unit: NGL in oil fields and oil in gas fields
- (26) Unc1. estimates in assessment unit: Total in oil fields and total in gas fields
- (27) Unc1. allocation to parcel: Oil in oil fields and gas in gas fields
- (28) Unc1. allocation to parcel: Gas in oil fields and NGL in gas fields
- (29) Unc1. allocation to parcel: NGL in oil fields and oil in gas fields
- (30) Unc1. allocation to parcel: Total in oil fields and total in gas fields

- (31) Unc1. allocation to offshore: Oil in oil fields and gas in gas fields
- (32) Unc1. allocation to offshore: Gas in oil fields and NGL in gas fields
- (33) Unc1. allocation to offshore: NGL in oil fields and oil in gas fields
- (34) Unc1. allocation to offshore: Total in oil fields and total in gas fields
- (35) Unc2. estimates in assessment unit: Oil in oil fields and gas in gas fields
- (36) Unc2. estimates in assessment unit: Gas in oil fields and NGL in gas fields
- (37) Unc2. estimates in assessment unit: NGL in oil fields and oil in gas fields
- (38) Unc2. estimates in assessment unit: Total in oil fields and total in gas fields
- (39) Unc2. allocation to parcel: Oil in oil fields and gas in gas fields
- (40) Unc2. allocation to parcel: Gas in oil fields and NGL in gas fields
- (41) Unc2. allocation to parcel: NGL in oil fields and oil in gas fields
- (42) Unc2. allocation to parcel: Total in oil fields and total in gas fields
- (43) Unc2. allocation to offshore: Oil in oil fields and gas in gas fields
- (44) Unc2. allocation to offshore: Gas in oil fields and NGL in gas fields
- (45) Unc2. allocation to offshore: NGL in oil fields and oil in gas fields
- (46) Unc2. allocation to offshore: Total in oil fields and total in gas fields

# ASSESS

ASSESS: Analytic Spreadsheet Energy Software System				R.A. Crovelli		(Panel 1)		
PADRE ISLAND NATIONAL SEASHORE ASSESSMENT								
Assessment Unit			Assessment-Unit Probabilities					
Name	No.	Fields	Charge	Rocks	Timing	Geologic	Access	GeoAcc
Frio Rio Grande Embayment	10000001	Oil	0	0	0	0	0	0
Frio Rio Grande Embayment	10000001	Gas	1	1	1	1	1	1
Lower Miocene Rio Grande Embayment	10000002	Oil	0	0	0	0	0	0
Lower Miocene Rio Grande Embayment	10000002	Gas	1	1	1	1	1	1
Middle Miocene Rio Grande Embayment	10000003	Oil	0	0	0	0	0	0
Middle Miocene Rio Grande Embayment	10000003	Gas	1	1	1	1	1	1
Vicksburg Rio Grande Embayment	10000004	Oil	0	0	0	0	0	0
Vicksburg Rio Grande Embayment	10000004	Gas	1	1	1	1	1	1

Panel 1. Input data: assessment-unit name, number, and probabilities for charge, rocks, timing, and access. Geologic probability is the product of charge, rocks, and timing probabilities. "Geoacc" probability is the product of geologic and access probabilities.

# ASSESS

							(Panel 2)
							Sizes of Undiscovered Fields
Number of Undiscovered Fields				Oil (mmbo) and Gas (bcfg)			
No.	Fields	Minimum	Median	Maximum	Minimum	Median	Maximum
10000001	Oil	0	0	0	0	0	0
10000001	Gas	4	26	50	6	24	280
10000002	Oil	0	0	0	0	0	0
10000002	Gas	2	24	46	6	24	300
10000003	Oil	0	0	0	0	0	0
10000003	Gas	1	20	40	6	20	200
10000004	Oil	0	0	0	0	0	0
10000004	Gas	2	34	70	6	26	280

Panel 2. Input data: number and sizes of undiscovered oil and gas fields – minimum, median, and maximum.

ASSESS

								(Panel 3)
Oil fields:		Gas/oil ratio (cfg/bo)			NGL/gas ratio (bngl/mmcf)			
Gas fields:		NGL/gas ratio (bngl/mmcf)			Oil/gas ratio (bo/mmcf)			
No.	Fields	Minimum	Median	Maximum	Minimum	Median	Maximum	
10000001	Oil	0	0	0	0	0	0	
10000001	Gas	20	27	40	0	0	0	
10000002	Oil	0	0	0	0	0	0	
10000002	Gas	5	12	20	0	0	0	
10000003	Oil	0	0	0	0	0	0	
10000003	Gas	5	10	20	0	0	0	
10000004	Oil	0	0	0	0	0	0	
10000004	Gas	20	30	40	0	0	0	

Panel 3. Input data: ratios used to assess coproducts of undiscovered oil and gas fields – minimum, median, and maximum.

ASSESS

								(Panel 4)
Percent Allocation								
Parcel				Offshore				
Parcel	Fields	Minimum	Median	Maximum	Minimum	Median	Maximum	
Padre Is.	Oil	0	0	0	0	0	0	
Padre Is.	Gas	1.35	3.6	5.4	30	40	50	
Padre Is.	Oil	0	0	0	0	0	0	
Padre Is.	Gas	1	2.5	4	30	40	50	
Padre Is.	Oil	0	0	0	0	0	0	
Padre Is.	Gas	0	0.65	1.3	30	40	50	
Padre Is.	Oil	0	0	0	0	0	0	
Padre Is.	Gas	0	0.75	1.5	30	40	50	

Panel 4. Input data: percent allocation to parcel and offshore portion of parcel – minimum, median, and maximum.

ASSESS

										(Panel 5)
Number of Undiscovered Fields -- Median-Based Triangular Distribution										
No.	Flds	Min,F100	Med,F50	Midpoint	Mode			Max,F0	Mean	S.D.
10000001	Oil	0	0	0	0			0	0	0
10000001	Gas	4	26	27	24.9565			50	26.31884	9.402056
10000002	Oil	0	0	0	0			0	0	0
10000002	Gas	2	24	24	24			46	24	8.981462
10000003	Oil	0	0	0	0			0	0	0
10000003	Gas	1	20	20.5	19.4872			40	20.16239	7.96442
10000004	Oil	0	0	0	0			0	0	0
10000004	Gas	2	34	36	31.8824			70	34.62745	13.91433

Panel 5. Number of undiscovered fields: median-based triangular distribution. Midpoint, mode, mean, and standard deviation are computed.

ASSESS

										(Panel 6)
Sizes of Undiscovered Fields (mmbo and bcfg) -- Truncated Shifted Lognormal Distribution										
No.	Flds	Min,F100	Med,F50	Mu	Sigma	E(X)	E(X^2)	Max,F0	Mean	S.D.
10000001	Oil	0	0	#NUM!	#DIV/0!	#NUM!	#NUM!	0	#NUM!	#NUM!
10000001	Gas	6	24	2.890372	0.88115	26.22372	1397.23	280	32.22372	26.63732
10000002	Oil	0	0	#NUM!	#DIV/0!	#NUM!	#NUM!	0	#NUM!	#NUM!
10000002	Gas	6	24	2.890372	0.90395	26.74004	1502.605	300	32.74004	28.06376
10000003	Oil	0	0	#NUM!	#DIV/0!	#NUM!	#NUM!	0	#NUM!	#NUM!
10000003	Gas	6	20	2.639057	0.85074	19.89185	769.8654	200	25.89185	19.34372
10000004	Oil	0	0	#NUM!	#DIV/0!	#NUM!	#NUM!	0	#NUM!	#NUM!
10000004	Gas	6	26	2.995732	0.84705	28.32326	1550.94	280	34.32326	27.36298

Panel 6. Sizes of undiscovered fields: truncated shifted lognormal distribution. Mean and standard deviation are computed.

ASSESS

										(Panel 7)
Oil fields:		Gas/oil ratio (cfg/bo) -- Median-Based Triangular Distribution								
Gas fields:		NGL/gas ratio (bngl/mmcfg) -- Median-Based Triangular Distribution								
No.	Flds	Min,F100	Med,F50	Midpoint	Mode			Max,F0	Mean	S.D.
10000001	Oil	0	0	0	0			0	0	0
10000001	Gas	20	27	30	23.1			40	27.7	4.394504
10000002	Oil	0	0	0	0			0	0	0
10000002	Gas	5	12	12.5	11.4667			20	12.15556	3.071534
10000003	Oil	0	0	0	0			0	0	0
10000003	Gas	5	10	12.5	6.66667			20	10.55556	3.356402
10000004	Oil	0	0	0	0			0	0	0
10000004	Gas	20	30	30	30			40	30	4.082483

Panel 7. Ratios used to assess coproducts: median-based triangular distribution. Midpoint, mode, mean, and standard deviation are computed.

ASSESS

										(Panel 8)
Oil fields:		NGL/gas ratio (bngl/mmcfg) -- Median-Based Triangular Distribution								
Gas fields:		Oil/gas ratio (bo/mmcfg) -- Median-Based Triangular Distribution								
No.	Flds	Min,F100	Med,F50	Midpoint	Mode			Max,F0	Mean	S.D.
10000001	Oil	0	0	0	0			0	0	0
10000001	Gas	0	0	0	0			0	0	0
10000002	Oil	0	0	0	0			0	0	0
10000002	Gas	0	0	0	0			0	0	0
10000003	Oil	0	0	0	0			0	0	0
10000003	Gas	0	0	0	0			0	0	0
10000004	Oil	0	0	0	0			0	0	0
10000004	Gas	0	0	0	0			0	0	0

Panel 8. Ratios used to assess coproducts: median-based triangular distribution. Midpoint, mode, mean, and standard deviation are computed.



ASSESS

Percent Allocation of Undiscovered Resources by Volume to Parcel										(Panel 9)
Percent Resources in Oil/Gas Fields -- Median-Based Triangular Distribution										
Parcel	Flds	Min,F100	Med,F50	Midpoint	Mode			Max,F0	Mean	S.D.
Padre Is	Oil	0	0	0	0			0	0	0
Padre Is	Gas	1.35	3.6	3.375	3.85			5.4	3.533333	0.834249
Padre Is	Oil	0	0	0	0			0	0	0
Padre Is	Gas	1	2.5	2.5	2.5			4	2.5	0.612372
Padre Is	Oil	0	0	0	0			0	0	0
Padre Is	Gas	0	0.65	0.65	0.65			1.3	0.65	0.265361
Padre Is	Oil	0	0	0	0			0	0	0
Padre Is	Gas	0	0.75	0.75	0.75			1.5	0.75	0.306186

Panel 9. Percent allocation of undiscovered resources by volume to parcel: median-based triangular distribution. Midpoint, mode, mean, and standard deviation are computed.

ASSESS

Percent Allocation of Undiscovered Resources by Volume to Offshore										(Panel 10)
Percent Resources in Oil/Gas Fields -- Median-Based Triangular Distribution										
Parcel	Flds	Min,F100	Med,F50	Midpoint	Mode			Max,F0	Mean	S.D.
Padre Is	Oil	0	0	0	0			0	0	0
Padre Is	Gas	30	40	40	40			50	40	4.082483
Padre Is	Oil	0	0	0	0			0	0	0
Padre Is	Gas	30	40	40	40			50	40	4.082483
Padre Is	Oil	0	0	0	0			0	0	0
Padre Is	Gas	30	40	40	40			50	40	4.082483
Padre Is	Oil	0	0	0	0			0	0	0
Padre Is	Gas	30	40	40	40			50	40	4.082483

Panel 10. Percent allocation of undiscovered resources by volume to offshore portion of parcel: median-based triangular distribution. Midpoint, mode, mean, and standard deviation are computed.

ASSESS

CONDITIONAL ESTIMATES OF UNDISCOVERED RESOURCES IN ASSESSMENT UNIT (Panel 11)										
Oil in Oil Fields (mmbbl)										
Gas in Gas Fields (bcfg)										
No.	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
10000001	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
10000001	Gas	848.091	332.3625	24	424.0388	611.9227	789.62	1018.92	1470.385	14000
10000002	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
10000002	Gas	785.761	324.6063	12	378.0199	555.6456	726.231	949.1877	1395.196	13800
10000003	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
10000003	Gas	522.0418	223.7597	6	244.1794	363.7312	479.823	632.9675	942.8725	8000
10000004	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
10000004	Gas	1188.527	503.9984	12	560.5467	831.7306	1094.21	1439.526	2135.946	19600

Panel 11. Conditional estimates of undiscovered resources in assessment unit: oil in oil fields and gas in gas fields. Mean, standard deviation, minimum, and maximum are computed by combining parameters from Panels 5 and 6. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

CONDITIONAL ESTIMATES OF UNDISCOVERED RESOURCES IN ASSESSMENT UNIT (Panel 12)										
Gas in Oil Fields (bcfg)										
NGL in Gas Fields (mmbngl)										
No.	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
10000001	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
10000001	Gas	23.49212	10.03902	0.48	11.01388	16.38826	21.6023	28.47528	42.3702	560
10000002	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
10000002	Gas	9.551362	4.731609	0.06	3.960582	6.239969	8.55874	11.73915	18.49525	276
10000003	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
10000003	Gas	5.510441	3.035258	0.03	2.069798	3.410828	4.82666	6.830216	11.25554	160
10000004	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
10000004	Gas	35.65581	16.01218	0.24	16.07147	24.3604	32.5265	43.43014	65.82942	784

Panel 12. Conditional estimates of undiscovered resources in assessment unit: gas in oil fields and NGL in gas fields. Mean, standard deviation, minimum, and maximum are computed by combining parameters from Panels 7 and 11. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

CONDITIONAL ESTIMATES OF UNDISCOVERED RESOURCES IN ASSESSMENT UNIT (Panel 13)										
NGL in Oil Fields (mmbngl)										
Oil in Gas Fields (mmbo)										
No.	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
10000001	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
10000001	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
10000002	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
10000002	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
10000003	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
10000003	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
10000004	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
10000004	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0

Panel 13. Conditional estimates of undiscovered resources in assessment unit: NGL in oil fields and oil in gas fields. Mean, standard deviation, minimum, and maximum are computed by combining parameters from Panels 8 and 12 for NGL in oil fields and parameters from Panels 8 and 11 for oil in gas fields. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

CONDITIONAL ESTIMATES OF UNDISCOVERED RESOURCES IN ASSESSMENT UNIT (Panel 14)										
Total Resources in Oil Fields (mmbo & mmboe & mmbngl)										
Total Resources in Gas Fields (mmboe & mmbngl & mmbo)										
No.	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
10000001	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
10000001	Gas	164.8406	64.72408	4.48	82.30647	118.8528	153.437	198.0837	286.0384	2893.3
10000002	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
10000002	Gas	140.5115	58.10552	2.06	67.54711	99.32225	129.847	169.7533	249.6078	2576
10000003	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
10000003	Gas	92.5174	39.70099	1.03	43.23521	64.43072	85.02	112.1888	167.188	1493.3
10000004	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
10000004	Gas	233.7437	99.2597	2.24	110.1212	163.4801	215.148	283.1468	420.3448	4050.7

Panel 14. Conditional estimates of undiscovered resources in assessment unit: total resources in oil fields and total resources in gas fields. Mean, standard deviation, minimum, and maximum are computed by combining parameters from Panels 7, 8, and 11. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

CONDITIONAL ALLOCATION OF UNDISCOVERED RESOURCES TO PARCEL (Panel 15)										
Oil in Oil Fields (mmbo)										
Gas in Gas Fields (bcfg)										
Parcel	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	29.96588	13.98769	0.324	13.0817	20.12651	27.1533	36.63343	56.36142	756
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	19.64403	9.641597	0.12	8.212724	12.8906	17.6345	24.1241	37.86491	552
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	3.393271	2.094518	0	1.134101	1.968293	2.88749	4.235962	7.351738	104
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	8.913954	5.469259	0	2.998463	5.189317	7.59782	11.12417	19.25215	294

Panel 15. Conditional allocation of undiscovered resources to parcel: oil in oil fields and gas in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying parameters from Panel 9 to parameters from Panel 11. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

CONDITIONAL ALLOCATION OF UNDISCOVERED RESOURCES TO PARCEL (Panel 16)										
Gas in Oil Fields (bcfg)										
NGL in Gas Fields (mmbngl)										
Parcel	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	0.830055	0.413816	0.00648	0.342249	0.540622	0.74286	1.020743	1.612381	30.24
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	0.238784	0.135104	0.0006	0.087344	0.145654	0.20782	0.296531	0.494494	11.04
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	0.035818	0.025844	0	0.010014	0.018769	0.02905	0.04495	0.084248	2.08
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	0.267419	0.169542	0	0.086817	0.152602	0.22585	0.334266	0.587555	11.76

Panel 16. Conditional allocation of undiscovered resources to parcel: gas in oil fields and NGL in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying parameters from Panel 9 to parameters from Panel 12. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

CONDITIONAL ALLOCATION OF UNDISCOVERED RESOURCES TO PARCEL (Panel 17)										
NGL in Oil Fields (mmbngl)										
Oil in Gas Fields (mmbo)										
Parcel	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0

Panel 17. Conditional allocation of undiscovered resources to parcel: NGL in oil fields and oil in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying parameters from Panel 9 to parameters from Panel 13. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

CONDITIONAL ALLOCATION OF UNDISCOVERED RESOURCES TO PARCEL (Panel 18)										
Total Resources in Oil Fields (mmbo & mmboe & mmbngl)										
Total Resources in Gas Fields (mmboe & mmbngl & mmbo)										
Parcel	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	5.824369	2.722623	0.06048	2.539592	3.909406	5.27635	7.12126	10.96235	156.24
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	3.512788	1.725441	0.0206	1.467635	2.304292	3.15297	4.314212	6.773624	103.04
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	0.601363	0.371436	0	0.200848	0.348689	0.51164	0.750732	1.303334	19.413
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	1.753078	1.076468	0	0.589201	1.020084	1.49392	2.187845	3.787813	60.76

Panel 18. Conditional allocation of undiscovered resources to parcel: total resources in oil fields and total resources in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying parameters from Panel 9 to parameters from Panel 14. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

CONDITIONAL ALLOCATION OF UNDISCOVERED RESOURCES TO OFFSHORE (Panel 19)										
Oil in Oil Fields (mmbo)										
Gas in Gas Fields (bcfg)										
Parcel	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	11.98635	5.755656	0.0972	5.107918	7.947003	10.8052	14.69136	22.85712	378
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	7.85761	3.958755	0.036	3.209397	5.091599	7.01733	9.671403	15.34335	276
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	1.357309	0.853477	0	0.44463	0.778483	1.14903	1.695946	2.96936	52
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	3.565581	2.228976	0	1.175473	2.052373	3.02342	4.453906	7.776511	147

Panel 19. Conditional allocation of undiscovered resources to offshore portion of parcel: oil in oil fields and gas in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying parameters from Panel 10 to parameters from Panel 15. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

CONDITIONAL ALLOCATION OF UNDISCOVERED RESOURCES TO OFFSHORE (Panel 20)										
Gas in Oil Fields (bcfg)										
NGL in Gas Fields (mmbngl)										
Parcel	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	0.332022	0.169802	0.001944	0.133778	0.213559	0.29561	0.409177	0.653196	15.12
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	0.095514	0.05519	0.00018	0.034204	0.057581	0.0827	0.118777	0.199954	5.52
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	0.014327	0.010494	0	0.003933	0.007429	0.01156	0.017983	0.033966	1.04
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	0.106967	0.069038	0	0.034048	0.060364	0.08987	0.133812	0.237235	5.88

Panel 20. Conditional allocation of undiscovered resources to offshore portion of parcel: gas in oil fields and NGL in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying parameters from Panel 10 to parameters from Panel 16. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

CONDITIONAL ALLOCATION OF UNDISCOVERED RESOURCES TO OFFSHORE (Panel 21)										
NGL in Oil Fields (mmbngl)										
Oil in Gas Fields (mmbo)										
Parcel	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0

Panel 21. Conditional allocation of undiscovered resources to offshore portion of parcel: NGL in oil fields and oil in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying parameters from Panel 10 to parameters from Panel 17. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

CONDITIONAL ALLOCATION OF UNDISCOVERED RESOURCES TO OFFSHORE (Panel 22)										
Total Resources in Oil Fields (mmbo & mmboe & mmbngl)										
Total Resources in Gas Fields (mmboe & mmbngl & mmbo)										
Parcel	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	2.329748	1.120233	0.018144	0.99164	1.543654	2.09963	2.855861	4.445625	78.12
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	1.405115	0.708429	0.00618	0.573534	0.910166	1.25467	1.729568	2.744727	51.52
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	0.240545	0.151351	0	0.078744	0.137911	0.2036	0.300568	0.526411	9.706667
Padre	Oil	#NUM!	#NUM!	0	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!	0
Padre	Gas	0.701231	0.438701	0	0.230984	0.403444	0.59448	0.875968	1.529994	30.38

Panel 22. Conditional allocation of undiscovered resources to offshore portion of parcel: total resources in oil fields and total resources in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying parameters from Panel 10 to parameters from Panel 18. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

UNCONDITIONAL ESTIMATES OF UNDISCOVERED RESOURCES IN ASSESSMENT UNIT (Panel 23)											
Oil in Oil Fields (mmbo)											
Gas in Gas Fields (bcfg)											
Geologic	No.	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
0	10000001	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
1	10000001	Gas	848.091	332.3625	24	424.0388	611.9227	789.62	1018.92	1470.385	14000
0	10000002	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
1	10000002	Gas	785.761	324.6063	12	378.0199	555.6456	726.231	949.1877	1395.196	13800
0	10000003	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
1	10000003	Gas	522.0418	223.7597	6	244.1794	363.7312	479.823	632.9675	942.8725	8000
0	10000004	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
1	10000004	Gas	1188.527	503.9984	12	560.5467	831.7306	1094.21	1439.526	2135.946	19600

Panel 23. Unconditional-1 estimates of undiscovered resources in assessment unit: oil in oil fields and gas in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying the geologic probability from Panel 23 to parameters from Panel 11. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

UNCONDITIONAL ESTIMATES OF UNDISCOVERED RESOURCES IN ASSESSMENT UNIT (Panel 24)											
Gas in Oil Fields (bcfg)											
NGL in Gas Fields (mmbngl)											
No.	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0	
10000001	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0	
10000001	Gas	23.49212	10.03902	0.48	11.01388	16.38826	21.6023	28.47528	42.3702	560	
10000002	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0	
10000002	Gas	9.551362	4.731609	0.06	3.960582	6.239969	8.55874	11.73915	18.49525	276	
10000003	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0	
10000003	Gas	5.510441	3.035258	0.03	2.069798	3.410828	4.82666	6.830216	11.25554	160	
10000004	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0	
10000004	Gas	35.65581	16.01218	0.24	16.07147	24.3604	32.5265	43.43014	65.82942	784	

Panel 24. Unconditional-1 estimates of undiscovered resources in assessment unit: gas in oil fields and NGL in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying the geologic probability from Panel 23 to parameters from Panel 12. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.



ASSESS

UNCONDITIONAL ESTIMATES OF UNDISCOVERED RESOURCES IN ASSESSMENT UNIT (Panel 25)										
NGL in Oil Fields (mmbngl)										
Oil in Gas Fields (mmbo)										
No.	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
10000001	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
10000001	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
10000002	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
10000002	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
10000003	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
10000003	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
10000004	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
10000004	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0

Panel 25. Unconditional-1 estimates of undiscovered resources in assessment unit: NGL in oil fields and oil in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying the geologic probability from Panel 23 to parameters from Panel 13. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

UNCONDITIONAL ESTIMATES OF UNDISCOVERED RESOURCES IN ASSESSMENT UNIT (Panel 26)										
Total Resources in Oil Fields (mmbo & mmboe & mmbngl)										
Total Resources in Gas Fields (mmboe & mmbngl & mmbo)										
No.	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
10000001	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
10000001	Gas	164.8406	64.72408	4.48	82.30647	118.8528	153.437	198.0837	286.0384	2893.3
10000002	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
10000002	Gas	140.5115	58.10552	2.06	67.54711	99.32225	129.847	169.7533	249.6078	2576
10000003	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
10000003	Gas	92.5174	39.70099	1.03	43.23521	64.43072	85.02	112.1888	167.188	1493.3
10000004	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
10000004	Gas	233.7437	99.2597	2.24	110.1212	163.4801	215.148	283.1468	420.3448	4050.7

Panel 26. Unconditional-1 estimates of undiscovered resources in assessment unit: total resources in oil fields and total resources in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying the geologic probability from Panel 23 to parameters from Panel 14. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

UNCONDITIONAL ALLOCATION OF UNDISCOVERED RESOURCES TO PARCEL (Panel 27)										
Oil in Oil Fields (mmbo)										
Gas in Gas Fields (bcfg)										
Parcel	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	29.96588	13.98769	0.324	13.0817	20.12651	27.15332	36.63343	56.36142	756
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	19.64403	9.641597	0.12	8.212724	12.8906	17.63446	24.1241	37.86491	552
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	3.393271	2.094518	0	1.134101	1.968293	2.887493	4.235962	7.351738	104
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	8.913954	5.469259	0	2.998463	5.189317	7.597819	11.12417	19.25215	294

Panel 27. Unconditional-1 allocation of undiscovered resources to parcel: oil in oil fields and gas in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying the geologic probability from Panel 23 to parameters from Panel 15. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

UNCONDITIONAL ALLOCATION OF UNDISCOVERED RESOURCES TO PARCEL (Panel 28)										
Gas in Oil Fields (bcfg)										
NGL in Gas Fields (mmbngl)										
Parcel	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0.830055	0.413816	0.00648	0.342249	0.540622	0.74286	1.020743	1.612381	30.24
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0.238784	0.135104	0.0006	0.087344	0.145654	0.20782	0.296531	0.494494	11.04
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0.035818	0.025844	0	0.010014	0.018769	0.02905	0.04495	0.084248	2.08
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0.267419	0.169542	0	0.086817	0.152602	0.22585	0.334266	0.587555	11.76

Panel 28. Unconditional-1 allocation of undiscovered resources to parcel: gas in oil fields and NGL in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying the geologic probability from Panel 23 to parameters from Panel 16. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

UNCONDITIONAL ALLOCATION OF UNDISCOVERED RESOURCES TO PARCEL (Panel 29)										
NGL in Oil Fields (mmbngl)										
Oil in Gas Fields (mmbo)										
Parcel	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0

Panel 29. Unconditional-1 allocation of undiscovered resources to parcel: NGL in oil fields and oil in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying the geologic probability from Panel 23 to parameters from Panel 17. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

UNCONDITIONAL ALLOCATION OF UNDISCOVERED RESOURCES TO PARCEL (Panel 30)										
Total Resources in Oil Fields (mmbo & mmboe & mmbngl)										
Total Resources in Gas Fields (mmboe & mmbngl & mmbo)										
Parcel	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	5.824369	2.722623	0.06048	2.539592	3.909406	5.276352	7.12126	10.96235	156.24
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	3.512788	1.725441	0.0206	1.467635	2.304292	3.152968	4.314212	6.773624	103.04
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0.601363	0.371436	0	0.200848	0.348689	0.511636	0.750732	1.303334	19.4133
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	1.753078	1.076468	0	0.589201	1.020084	1.493916	2.187845	3.787813	60.76

Panel 30. Unconditional-1 allocation of undiscovered resources to parcel: total resources in oil fields and total resources in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying the geologic probability from Panel 23 to parameters from Panel 18. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

UNCONDITIONAL ALLOCATION OF UNDISCOVERED RESOURCES TO OFFSHORE (Panel 31)										
Oil in Oil Fields (mmbo)										
Gas in Gas Fields (bcfg)										
Parcel	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	11.98635	5.755656	0.0972	5.107918	7.947003	10.8052	14.69136	22.85712	378
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	7.85761	3.958755	0.036	3.209397	5.091599	7.01733	9.671403	15.34335	276
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	1.357309	0.853477	0	0.44463	0.778483	1.14903	1.695946	2.96936	52
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	3.565581	2.228976	0	1.175473	2.052373	3.02342	4.453906	7.776511	147

Panel 31. Unconditional-1 allocation of undiscovered resources to offshore portion of parcel: oil in oil fields and gas in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying the geologic probability from Panel 23 to parameters from Panel 19. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

UNCONDITIONAL ALLOCATION OF UNDISCOVERED RESOURCES TO OFFSHORE (Panel 32)										
Gas in Oil Fields (bcfg)										
NGL in Gas Fields (mmbngl)										
Parcel	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0.332022	0.169802	0.001944	0.1337784	0.2135595	0.2956071	0.4091766	0.6531964	15.12
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0.0955136	0.05519	0.00018	0.0342045	0.057581	0.0827002	0.1187773	0.1999539	5.52
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0.0143271	0.010494	0	0.0039332	0.0074289	0.0115584	0.0179833	0.0339665	1.04
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0.1069674	0.069038	0	0.0340481	0.0603639	0.0898743	0.1338116	0.2372346	5.88

Panel 32. Unconditional-1 allocation of undiscovered resources to offshore portion of parcel: gas in oil fields and NGL in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying the geologic probability from Panel 23 to parameters from Panel 20. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

UNCONDITIONAL ALLOCATION OF UNDISCOVERED RESOURCES TO OFFSHORE (Panel 33)										
NGL in Oil Fields (mmbngl)										
Oil in Gas Fields (mmbo)										
Parcel	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0

Panel 33. Unconditional-1 allocation of undiscovered resources to offshore portion of parcel: NGL in oil fields and oil in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying the geologic probability from Panel 23 to parameters from Panel 21. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

UNCONDITIONAL ALLOCATION OF UNDISCOVERED RESOURCES TO OFFSHORE (Panel 34)										
Total Resources in Oil Fields (mmbo & mmboe & mmbngl)										
Total Resources in Gas Fields (mmboe & mmbngl & mmbo)										
Parcel	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	2.329748	1.120233	0.018144	0.99164	1.543654	2.09963	2.855861	4.445625	78.12
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	1.405115	0.708429	0.00618	0.573534	0.910166	1.25467	1.729568	2.744727	51.52
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0.240545	0.151351	0	0.078744	0.137911	0.2036	0.300568	0.526411	9.70667
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0.701231	0.438701	0	0.230984	0.403444	0.59448	0.875968	1.529994	30.38

Panel 34. Unconditional-1 allocation of undiscovered resources to offshore portion of parcel: total resources in oil fields and total resources in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying the geologic probability from Panel 23 to parameters from Panel 22. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

UNCONDITIONAL ESTIMATES OF UNDISCOVERED RESOURCES IN ASSESSMENT UNIT (Panel 35)											
Oil in Oil Fields (mmbo)											
Gas in Gas Fields (bcfg)											
GeoAcc	No.	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
0	10000001	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
1	10000001	Gas	848.091	332.3625	24	424.0388	611.9227	789.62	1018.92	1470.385	14000
0	10000002	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
1	10000002	Gas	785.761	324.6063	12	378.0199	555.6456	726.231	949.1877	1395.196	13800
0	10000003	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
1	10000003	Gas	522.0418	223.7597	6	244.1794	363.7312	479.823	632.9675	942.8725	8000
0	10000004	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
1	10000004	Gas	1188.527	503.9984	12	560.5467	831.7306	1094.21	1439.526	2135.946	19600

Panel 35. Unconditional-2 estimates of undiscovered resources in assessment unit: oil in oil fields and gas in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying the geoacc probability from Panel 35 to parameters from Panel 11. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

UNCONDITIONAL ESTIMATES OF UNDISCOVERED RESOURCES IN ASSESSMENT UNIT (Panel 36)											
Gas in Oil Fields (bcfg)											
NGL in Gas Fields (mmbngl)											
No.	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0	
10000001	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0	0
10000001	Gas	23.49212	10.03902	0.48	11.01388	16.38826	21.6023	28.47528	42.3702	560	
10000002	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0	0
10000002	Gas	9.551362	4.731609	0.06	3.960582	6.239969	8.55874	11.73915	18.49525	276	
10000003	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0	0
10000003	Gas	5.510441	3.035258	0.03	2.069798	3.410828	4.82666	6.830216	11.25554	160	
10000004	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0	0
10000004	Gas	35.65581	16.01218	0.24	16.07147	24.3604	32.5265	43.43014	65.82942	784	

Panel 36. Unconditional-2 estimates of undiscovered resources in assessment unit: gas in oil fields and NGL in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying the geoacc probability from Panel 35 to parameters from Panel 12. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

UNCONDITIONAL ESTIMATES OF UNDISCOVERED RESOURCES IN ASSESSMENT UNIT (Panel 37)										
		NGL in Oil Fields (mmbngl)								
		Oil in Gas Fields (mmbo)								
No.	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
10000001	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
10000001	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
10000002	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
10000002	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
10000003	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
10000003	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
10000004	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
10000004	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0

Panel 37. Unconditional-2 estimates of undiscovered resources in assessment unit: NGL in oil fields and oil in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying the geoacc probability from Panel 35 to parameters from Panel 13. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

UNCONDITIONAL ESTIMATES OF UNDISCOVERED RESOURCES IN ASSESSMENT UNIT (Panel 38)										
		Total Resources in Oil Fields (mmbo & mmboe & mmbngl)								
		Total Resources in Gas Fields (mmboe & mmbngl & mmbo)								
No.	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
10000001	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
10000001	Gas	164.8406	64.72408	4.48	82.30647	118.8528	153.4367	198.0837	286.0384	2893.3
10000002	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
10000002	Gas	140.5115	58.10552	2.06	67.54711	99.32225	129.8472	169.7533	249.6078	2576
10000003	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
10000003	Gas	92.5174	39.70099	1.03	43.23521	64.43072	85.02004	112.1888	167.188	1493.3
10000004	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
10000004	Gas	233.7437	99.2597	2.24	110.1212	163.4801	215.1485	283.1468	420.3448	4050.7

Panel 38. Unconditional-2 estimates of undiscovered resources in assessment unit: total resources in oil fields and total resources in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying the geoacc probability from Panel 35 to parameters from Panel 14. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

UNCONDITIONAL ALLOCATION OF UNDISCOVERED RESOURCES TO PARCEL (Panel 39)										
Oil in Oil Fields (mmbo)										
Gas in Gas Fields (bcfg)										
Parcel	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	29.96588	13.98769	0.324	13.0817	20.12651	27.15332	36.63343	56.36142	756
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	19.64403	9.641597	0.12	8.212724	12.8906	17.63446	24.1241	37.86491	552
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	3.393271	2.094518	0	1.134101	1.968293	2.887493	4.235962	7.351738	104
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	8.913954	5.469259	0	2.998463	5.189317	7.597819	11.12417	19.25215	294

Panel 39. Unconditional-2 allocation of undiscovered resources to parcel: oil in oil fields and gas in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying the geoacc probability from Panel 35 to parameters from Panel 15. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

UNCONDITIONAL ALLOCATION OF UNDISCOVERED RESOURCES TO PARCEL (Panel 40)										
Gas in Oil Fields (bcfg)										
NGL in Gas Fields (mmbngl)										
Parcel	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0.830055	0.413816	0.00648	0.3422493	0.54062	0.74286	1.020743	1.61238	30.24
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0.238784	0.135104	0.0006	0.0873438	0.14565	0.20782	0.296531	0.49449	11.04
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0.035818	0.025844	0	0.0100142	0.01877	0.02905	0.04495	0.08425	2.08
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0.267419	0.169542	0	0.0868166	0.1526	0.22585	0.334266	0.58756	11.76

Panel 40. Unconditional-2 allocation of undiscovered resources to parcel: gas in oil fields and NGL in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying the geoacc probability from Panel 35 to parameters from Panel 16. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.



ASSESS

UNCONDITIONAL ALLOCATION OF UNDISCOVERED RESOURCES TO PARCEL (Panel 41)										
NGL in Oil Fields (mmbngl)										
Oil in Gas Fields (mmbo)										
Parcel	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0

Panel 41. Unconditional-2 allocation of undiscovered resources to parcel: NGL in oil fields and oil in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying the geoacc probability from Panel 35 to parameters from Panel 17. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

UNCONDITIONAL ALLOCATION OF UNDISCOVERED RESOURCES TO PARCEL (Panel 42)										
Total Resources in Oil Fields (mmbo & mmboe & mmbngl)										
Total Resources in Gas Fields (mmboe & mmbngl & mmbo)										
Parcel	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	5.824369	2.722623	0.06048	2.539592	3.909406	5.276352	7.12126	10.96235	156.24
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	3.512788	1.725441	0.0206	1.467635	2.304292	3.152968	4.314212	6.773624	103.04
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0.601363	0.371436	0	0.200848	0.348689	0.511636	0.750732	1.303334	19.4133
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	1.753078	1.076468	0	0.589201	1.020084	1.493916	2.187845	3.787813	60.76

Panel 42. Unconditional-2 allocation of undiscovered resources to parcel: total resources in oil fields and total resources in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying the geoacc probability from Panel 35 to parameters from Panel 18. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

UNCONDITIONAL ALLOCATION OF UNDISCOVERED RESOURCES TO OFFSHORE (Panel 43)										
Oil in Oil Fields (mmbo)										
Gas in Gas Fields (bcfg)										
Parcel	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	11.9864	5.75566	0.0972	5.107918	7.947003	10.8052	14.69136	22.85712	378
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	7.85761	3.95876	0.036	3.209397	5.091599	7.017329	9.671403	15.34335	276
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	1.35731	0.85348	0	0.44463	0.778483	1.149028	1.695946	2.96936	52
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	3.56558	2.22898	0	1.175473	2.052373	3.023421	4.453906	7.776511	147

Panel 43. Unconditional-2 allocation of undiscovered resources to offshore portion of parcel: oil in oil fields and gas in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying the geoacc probability from Panel 35 to parameters from Panel 19. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

UNCONDITIONAL ALLOCATION OF UNDISCOVERED RESOURCES TO OFFSHORE (Panel 44)										
Gas in Oil Fields (bcfg)										
NGL in Gas Fields (mmbngl)										
Parcel	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0.332022	0.1698021	0.001944	0.1337784	0.2135595	0.29560707	0.4091766	0.653196	15.12
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0.095514	0.0551903	0.00018	0.0342045	0.057581	0.08270018	0.1187773	0.199954	5.52
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0.014327	0.0104938	0	0.0039332	0.0074289	0.01155838	0.0179833	0.033966	1.04
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0.106967	0.0690376	0	0.0340481	0.0603639	0.08987429	0.1338116	0.237235	5.88

Panel 44. Unconditional-2 allocation of undiscovered resources to offshore portion of parcel: gas in oil fields and NGL in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying the geoacc probability from Panel 35 to parameters from Panel 20. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

UNCONDITIONAL ALLOCATION OF UNDISCOVERED RESOURCES TO OFFSHORE (Panel 45)										
NGL in Oil Fields (mmbngl)										
Oil in Gas Fields (mmbo)										
Parcel	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0

Panel 45. Unconditional-2 allocation of undiscovered resources to offshore portion of parcel: NGL in oil fields and oil in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying the geoacc probability from Panel 35 to parameters from Panel 21. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.

ASSESS

UNCONDITIONAL ALLOCATION OF UNDISCOVERED RESOURCES TO OFFSHORE (Panel 46)										
Total Resources in Oil Fields (mmbo & mmboe & mmbngl)										
Total Resources in Gas Fields (mmboe & mmbngl & mmbo)										
Parcel	Flds	Mean	S.D.	Min,F100	F95	F75	Med,F50	F25	F5	Max,F0
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	2.329748	1.120233	0.018144	0.99164	1.543654	2.09963	2.855861	4.445625	78.12
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	1.405115	0.708429	0.00618	0.573534	0.910166	1.25467	1.729568	2.744727	51.52
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0.240545	0.151351	0	0.078744	0.137911	0.2036	0.300568	0.526411	9.70667
Padre	Oil	#NUM!	#NUM!	0	0	0	0	0	0	0
Padre	Gas	0.701231	0.438701	0	0.230984	0.403444	0.59448	0.875968	1.529994	30.38

Panel 46. Unconditional-2 allocation of undiscovered resources to offshore portion of parcel: total resources in oil fields and total resources in gas fields. Mean, standard deviation, minimum, and maximum are computed by applying the geoacc probability from Panel 35 to parameters from Panel 22. Fractiles F95, F75, F50, F25, and F5 are approximated by a lognormal distribution.