

**FOCUS GROUP DISCUSSION**  
**South Jambi B Block**

*KAJIAN ASPEK PRODUKSI DAN RESERVOIR*  
*(Sub-Surface)*

**Yogyakarta-Jakarta, 26 Februari, 2021**  
**(Online)**

skmigas Jindi South Jambi B Co. Limited

## OUTLINE

- I. INTRODUCTION
- II. RESERVOIR DESCRIPTIONS
- III. RESERVE AND PRODUCTION FORECAST

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## II. RESERVOIR DESCRIPTIONS

### II. Reservoir Descriptions

- 2.1. Initial Conditions
- 2.2. Rock Characteristic
- 2.3. Fluid Properties
- 2.4. Well Testing
- 2.5. Gas Deliverability

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## II. RESERVOIR DESCRIPTIONS

### Availability Data

No.	Well	Laboratory Analysis											
		Routine Core Analysis / Rock Description		SCAL		Fracture Analysis		PVT					
		Hardcopy	Softcopy	Hardcopy	Softcopy	Hardcopy	Softcopy	Lab Data	Separator Data	Water Analysis	Mercury/H2S /CO2		
1	HARI-1	V											
2	HARI-2	V							V				
3	HARI-3	V								V			

No.	Well	Formation Evaluation Test				Well Test					
		RFT / MDT		DST		PBU		EMR		PLT	
		Raw Data	Summary	Raw Data	Summary	Raw Data	Summary	Raw Data	Summary	Raw Data	Summary
1	HARI-1	V			V		V				
2	HARI-2				V		V				
3	HARI-3				V		V			V	

No.	Well	Well Data						Production History (Summary of Field)			Reserves Report	Well Test Summary
		Survey Depth		Well Diagram		Completion History		Production History		Softcopy		
		Raw Data	Summary	Raw Data	Summary	Raw Data	Summary	Raw Data	Summary			
1	HARI-1			V		V		V				V
2	HARI-2			V		V		V				V
3	HARI-3			V		V		V				V

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## II. RESERVOIR DESCRIPTIONS

### Availability Data

Final Well Report			
No.	Well	File Name	Checklist
1	HARI-1	HARI-1_Final Well Report	V
2	HARI-2	HARI-2_Well Completion Report	V
3	HARI-3	HARI-3_Well Completion Report	V

## 2.1 INITIAL CONDITIONS

### From Well Test (Hari-2) and PVT Analysis (Hari-2)

**@Pi** = 2823.87 psia  
**Tres** = 232 deg-F  
**Bgi** = 0.00601 cf/scf  
**Gas Density** = 9.42 lb/ft<sup>3</sup>  
**Z-Factor** = 0.8701  
**Gas Viscosity** = 0.0206 cp

## 2.1 INITIAL CONDITIONS

### From Well Test

Pressure @ Datum			
DST Test	Depth		Pressure
	m (MD)	ft (MD)	psia
Hari-1 Test#4	1870.41	6136.50	2881.05
Hari-2 Test#1	1964.50	6445.21	2823.87
Hari-2 Test#2	1929.00	6328.74	2718.24

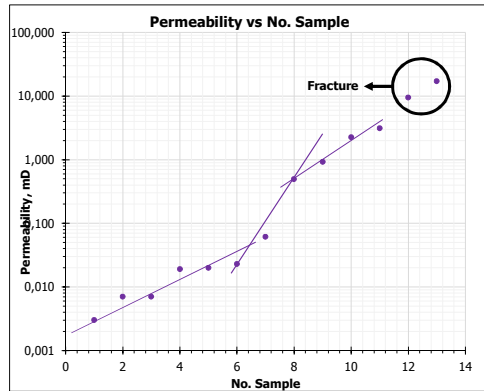
## 2.2 ROCK CHARACTERISTIC

### Routine Core Data HARI – 3 (Bottom Hole Core)

Well	No. Sample	Depth		Permeability	Porosity	Grain Density	Remarks
		ft	m	Kair mD			
Hari-3	1	6391.34	1948.08	0.003	1.6	2.715	
Hari-3	2	6400.92	1951.00	0.007	5.9	2.727	
Hari-3	3	6393.24	1948.66	0.007	1.9	2.752	
Hari-3	4	6395.80	1949.44	0.019	2	2.696	
Hari-3	5	6393.24	1948.66	0.020	2.3	2.752	
Hari-3	6	6400.92	1951.00	0.023	6.6	2.727	
Hari-3	7	6395.80	1949.44	0.061	2.2	2.696	
Hari-3	8	6397.11	1949.84	0.495	4.3	2.683	
Hari-3	9	6397.11	1949.84	0.927	4.7	2.683	
Hari-3	10	6394.59	1949.07	2.250	6.6	2.686	
Hari-3	11	6394.59	1949.07	3.100	7	2.686	
Hari-3	12	6392.42	1948.41	9.460	1.9	2.714	Fracture
Hari-3	13	6392.42	1948.41	17.100	2.4	2.714	Fracture

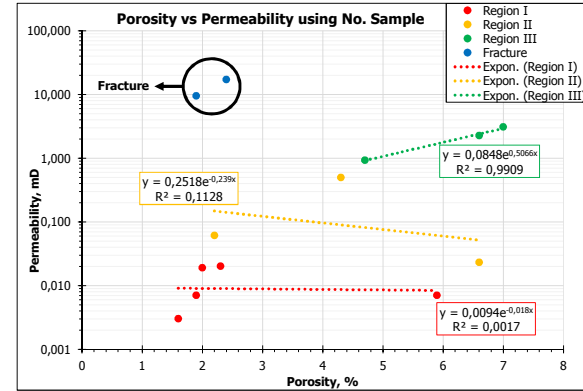
## 2.2 ROCK CHARACTERISTIC

### Bottom Hole Core HARI – 3 (Using Perm vs No. Sample)



## 2.2 ROCK CHARACTERISTIC

### Bottom Hole Core HARI – 3 (Using Perm vs No. Sample)



## 2.2 ROCK CHARACTERISTIC

### Routine Core Data HARI – 3 (Bottom Hole Core)

Well	No. Sample	Depth		Permeability Kair mD	Porosity %	Grain Density gm/cc	Remarks	Poro z	RQI	FZI	HFU
		ft	m								
Hari-3	1	6400.92	1951.00	0.007	5.9	2.727		0.0627	0.0108	0.1725	1
Hari-3	2	6400.92	1951.00	0.023	6.6	2.727		0.0707	0.0185	0.2623	1
Hari-3	3	6391.34	1948.08	0.003	1.6	2.715		0.0163	0.0136	0.8362	2
Hari-3	4	6393.24	1948.66	0.007	1.9	2.752		0.0194	0.0191	0.9841	2
Hari-3	5	6393.24	1948.66	0.020	2.3	2.752		0.0235	0.0293	1.2438	2
Hari-3	6	6395.80	1949.44	0.019	2	2.696		0.0204	0.0306	1.4996	2
Hari-3	7	6395.80	1949.44	0.061	2.2	2.696		0.0225	0.0523	2.3243	3
Hari-3	8	6397.11	1949.84	0.495	4.3	2.683		0.0449	0.1065	2.3711	3
Hari-3	9	6394.59	1949.07	2.250	6.6	2.686		0.0707	0.1833	2.5945	3
Hari-3	10	6394.59	1949.07	3.100	7	2.686		0.0753	0.2090	2.7762	3
Hari-3	11	6397.11	1949.84	0.927	4.7	2.683		0.0493	0.1395	2.8276	3
Hari-3	12	6392.42	1948.41	17.100	2.4	2.714	Fractured	0.0246	0.8382	34.0848	-
Hari-3	13	6392.42	1948.41	9.460	1.9	2.714	Fractured	0.0194	0.7006	36.1754	-

$$\phi_z = \left( \frac{\phi_e}{1 - \phi_e} \right) \quad RQI = 0.0314 \sqrt{\frac{k}{\phi_e}} \quad RQI = FZI \times \phi_z$$

## 2.3 FLUID PROPERTIES

### Gas Composition Hari-2 (Separator)

GULF RESOURCES (RAMBA) LTD.  
HARI - 2  
JFL 98051  
HYDROCARBON ANALYSIS OF GAS SAMPLE  
THROUGH UNDECANES PLUS

Component	Mol %	GPM
Hydrogen Sulfide	0.00	
Carbon Dioxide	5.03	
Nitrogen	0.43	
Methane	77.74	
Ethane	6.38	1.706
Propane	5.93	1.694
Iso-Butane	1.30	0.425
N-Butane	1.57	0.495
Iso-Pentane	0.52	0.190
N-Pentane	0.44	0.159
Hexanes	0.39	0.151
Heptanes	0.18	0.078
Octanes	0.08	0.038
Nonanes	0.01	0.005
Decanes	0.00	0.000
Undecanes plus	0.00	0.000
Total	100.00	4.879

Gas Gravity (air = 1.000)	0.770
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Gross Heating Value BTU / cubic foot of dry gas at 14.73 psia and 60 °F	1215
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Sampling Pressure	: 210 Paig
Sampling Temperature	: 128 °F
Sampling Time	: 04:30
Sampling Date	: 17-Apr-1998
Opening Pressure	: 210 Paig
Opening Temperature	: 140 °F
Cylinder No	: A-12487
Air Oxygen	: 0.05 % Mol
CO2 by ORSAT	: 5.1 % Vol.

### 2.3 FLUID PROPERTIES

#### Liquid Composition Hari-2 (Separator)

Gulf Resources (Rambe) Ltd.  
HARI - 2  
JPL 06561  
HYDROCARBON ANALYSIS OF SEPARATOR LIQUID (WIA-7054)  
TO EICOXANES PLUS

Component	Mol %	Weight %
Hydrogen Sulfide	0.00	0.00
Carbon Dioxide	0.47	0.18
Nitrogen	0.01	0.00
Methane	4.00	0.57
Ethane	1.49	0.40
Propane	9.87	1.82
iso-Butane	1.88	0.84
n-Butane	4.08	2.12
iso-Pentane	3.02	1.94
n-Pentane	3.45	2.22
Hexane	9.79	7.33
Heptane	19.23	11.93
Octane	17.80	16.81
Nonane	11.80	12.04
Decane	7.48	8.00
Undecane	4.70	6.15
Dodecane	2.80	4.22
Tridecane	2.46	3.82
Tetradecane	1.81	2.87
Pentadecane	1.33	2.03
Hexadecane	0.88	1.18
Heptadecane	0.64	0.85
Octadecane	0.18	0.39
Nineteenane	0.15	0.36
Eicoxanes plus	2.82	10.80
Total	100.00	100.00

#### Properties of Heptanes Plus

\*API Gravity at 60 °F 50.8  
Density, gm/cc at 60 °F 0.7783  
Molecular Weight 137

#### Properties of Undecanes Plus

\*API Gravity at 60 °F 41.4  
Density, gm/cc at 60 °F 0.8183  
Molecular Weight 204

#### Properties of Eicoxanes Plus

\*API Gravity at 60 °F 36.3  
Density, gm/cc at 60 °F 0.8333  
Molecular Weight 319

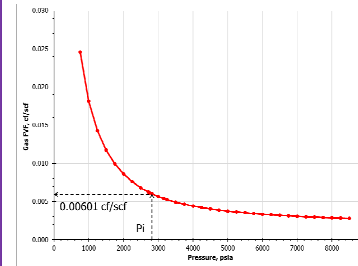
Average Total Molecular Weight of Sample = 132.1

\*API gravity at 60 °F of Stock Tank Oil = 54.0

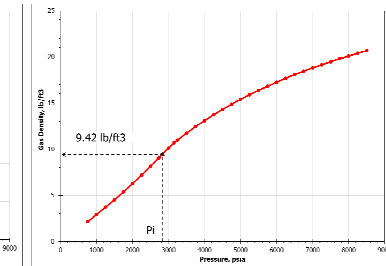
### 2.3 FLUID PROPERTIES

#### Fluid Properties from Hari-2

#### Gas FVF



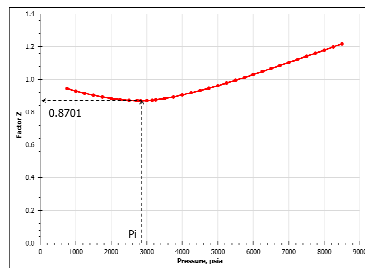
#### Gas Density



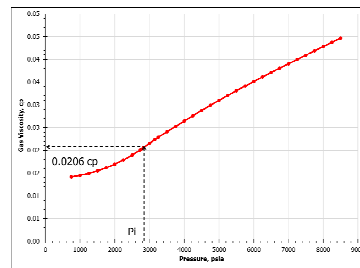
### 2.3 FLUID PROPERTIES

#### Fluid Properties from Hari-2

#### Factor Z



#### Gas Viscosity



### 2.4 WELL TESTING

#### Well : Hari - 1

Four (4) perforation intervals on the Hari-1 Well have been tested separately for the presence of hydrocarbons.

The perforated zones and test are identified as :

1. DST- 1A : 6562' – 6588'
2. DST- 2A : 6514' – 6529'
3. DST- 3A : 6423' – 6444', 6446' – 6454'
4. DST- 4A : 6123' – 6150'

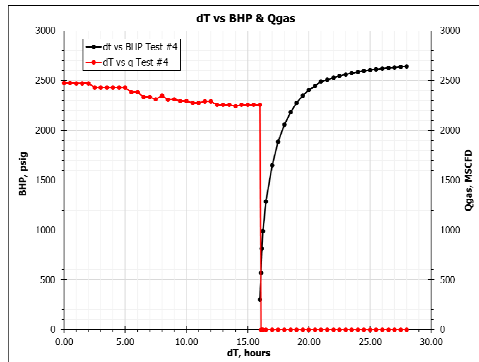
#### Chronological Description

- Zone#1 (DST-1A) and Zone#2 (DST-2A): acidized simultaneously and swab tested but showed little response
- Zone#3 (DST-3A): After acidizing approximately 90 bbl of new oil was recovered during intermittent swabbing over 3 days period.
- Zone#4 (DST-4A): After acidizing the was flowed gas at reported rates up to about 2.4 MM cfd.

From these testing results it is concluded that none of the zones tested shows promised of being commercial.

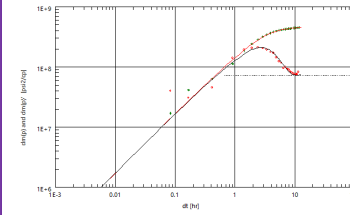
## 2.4 WELL TESTING

Hari-1 : Test # 4 : 1861 – 1869 m (6123' – 6150')



## 2.4 WELL TESTING

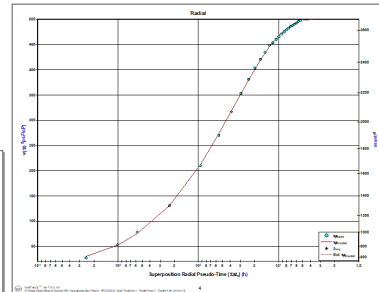
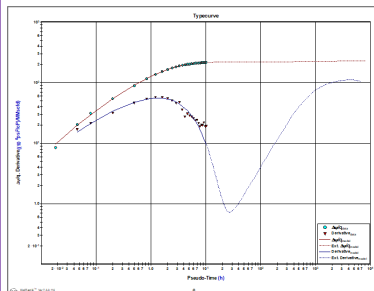
**Input Data :**  
 Bottom hole Temperature = 232 °F  
 Temperature standard condition = 60 °F  
 Porosity = 0.08



Selected Model	Standard Model	I & Wellbore parameters (Tested well)
Model Option	Vertical, Changing Storage (Hegeman)	C 0.331 bbl/psi
Well	Homogeneous	Cu/CF 0.61
Reservoir	Infinite	Alpha 17000
Boundary	Skin	Skin -2
Main Model Parameters		Reservoir & Boundary parameters
TMatch	0.757 [hr]-1	PI 2881.05 psia
PMatch	6.93E-9 [psi]/cp-1	k/h 16.4 md.ft
C	0.331 bbl/psi	k 0.624 md
Total Skin	-2	Derived & Secondary Parameters
k/h, total	16.4 md.ft	Radius 109 ft
k, average	0.624 md	Test. Vol. 7.89196E-5 bcf
PI	2881.05 psia	to P (Total Skin) -841.368 psi

## 2.4 WELL TESTING

Total Skin (s') -6.744  
 Skin Due to Damage (s<sub>d</sub>) -6.744  
 Wellbore Volume (V<sub>w</sub>) 60 bbl  
 D.in. Wellbore Storage Constant (C<sub>D</sub>) 933.713  
 Interporosity Flow Coeff. (λ) 0.000  
 Storativity Ratio (σ) 0.012  
 Flow Capacity (kh) 25.12 md.ft



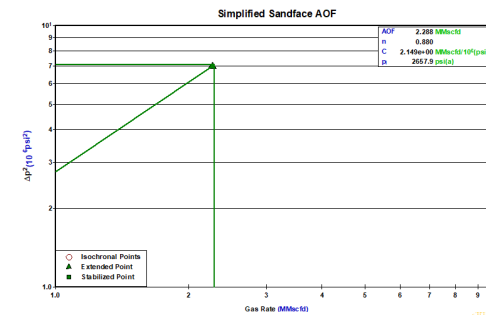
Final Gas Rate (q<sub>g final</sub>) 2.259 MMscfd  
 Total Cumulative Production Gas (Cum<sub>gas</sub>) 4.038 MMscf  
 Final Flowing Pressure (P<sub>wf0</sub>) 317.4 psi(a)  
 Final Measured Pressure (P<sub>wf1</sub>) 2657.9 psi(a)  
 Synthetic Initial Pressure (P<sub>i</sub> (syn)) 2741.3 psi(a)  
 Final Average Reservoir Pressure (P<sub>avg</sub>) 2737.6 psi(a)

## 2.5 GAS DELIVERABILITY

Well : Hari - 1

Gas Deliverability Curve using Well Test-Fekete  
 Hari-1 Test#4 Post Acidizing (1861 – 1869mKb)

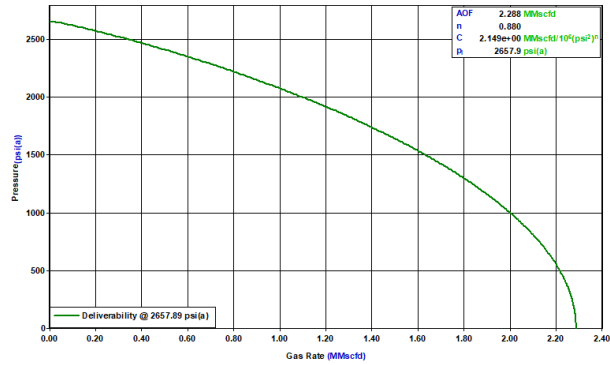
Gas Deliverability Curve using Well Test-Fekete



## 2.5 GAS DELIVERABILITY

### IPR Curve using Well Test-Fekete

Simplified Sandface IPR



## III. RESERVE AND PRODUCTION FORECAST

### III. Reserve and Production Forecast

- 3.1. Initialization
- 3.2. History Matching
- 3.3. Forecast/Prediction

## 3.1 INITIALIZATION

### OGIP Initialization

GAS INPLACE					
Category	Model	Interval	GIIP Static Model	GIIP Dynamic Model	Percent Different %
			BSCF	BSCF	
V2	Fracture	LTAF	-	-	-
		Metasediment	30.06	30.03	-0.10%
		Metamorphic	13.84	13.82	-0.12%
	Total		43.90	43.85	-0.11%
	Matrix	LTAF	110.41	111.02	0.55%
		Metasediment	197.01	195.61	-0.71%
Metamorphic		-	-	-	
Total		307.42	306.63	-0.26%	

TOTAL GAS INPLACE (MATRIX + FRACTURE)				
Category	Interval	GIIP Static Model	GIIP Dynamic Model	Percent Different %
		BSCF	BSCF	
V2	LTAF	110.41	111.02	0.55%
	Metasediment	227.07	225.64	-0.63%
	Metamorphic	13.84	13.82	-0.12%
	Total	351.32	350.47	-0.24%

## 3.1 INITIALIZATION

### OOIP Initialization

OIL INPLACE					
Category	Model	Interval	STOOIP Static Model	STOOIP Dynamic Model	Percent Different %
			MMSTB	MMSTB	
V2	Fracture	LTAF	-	-	-
		Metasediment	6.23	6.23	0.03%
		Metamorphic	6.78	6.80	0.31%
	Total		13.01	13.03	0.18%
	Matrix	LTAF	-	-	-
		Metasediment	82.58	82.61	0.04%
Metamorphic		-	-	-	
Total		32.71	32.79	0.26%	

TOTAL OIL INPLACE (MATRIX + FRACTURE)				
Category	Interval	STOOIP Static Model	STOOIP Dynamic Model	Percent Different %
		MMSTB	MMSTB	
V2	LTAF	0.00	0.00	-
	Metasediment	88.81	88.85	0.04%
	Metamorphic	6.78	6.80	0.31%
	Total	95.59	95.65	0.06%

### 3.1 INITIALIZATION

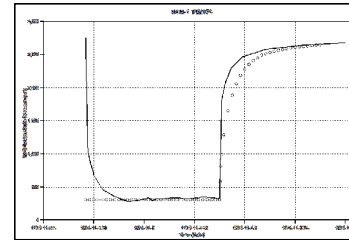
#### Pressure Matching

PRESSURE MATCH					
Category	Model	Interval	Pressure Well Test	PV Ave. Datum P	Percent Different
			psia	psia	%
V2	Fracture	LTAf	-	-	-
		Metasediment	2718.2	2771.1	1.94%
		Metamorphic	-	2780.9	-
	Matrix	LTAf	-	2765.4	-
		Metasediment	2718.2	2778.4	2.21%
		Metamorphic	-	-	-
	Field		2761	2774.9	0.50%

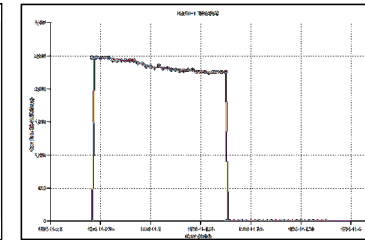
### 3.2 HISTORY MATCHING

#### History Matching

##### Hari-1 Test #4



Well Bottom Hole Pressure

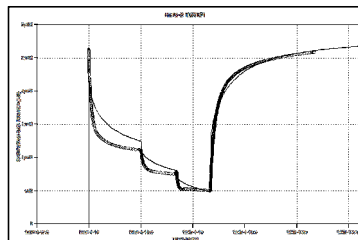


Gas Rate

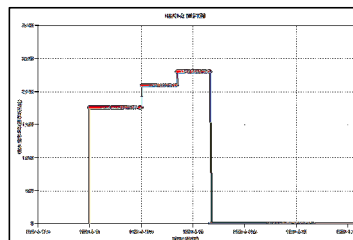
### 3.2 HISTORY MATCHING

#### History Matching

##### Hari-2 Test #1



Well Bottom Hole Pressure

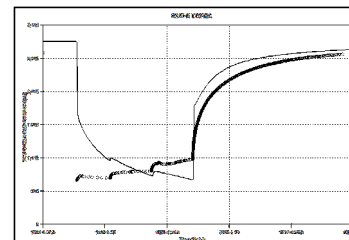


Gas Rate

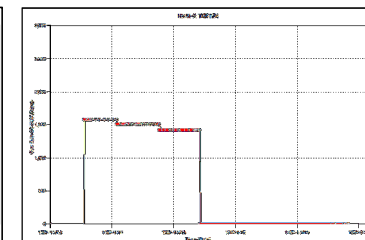
### 3.2 HISTORY MATCHING

#### History Matching

##### Hari-2 Test #2



Well Bottom Hole Pressure

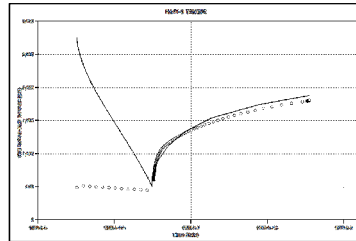


Gas Rate

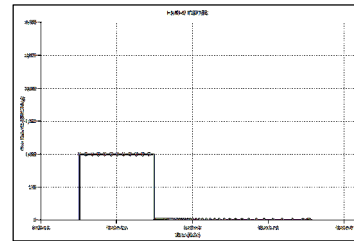
### 3.2 HISTORY MATCHING

#### History Matching

##### Hari-3 Test #2



Well Bottom Hole Pressure

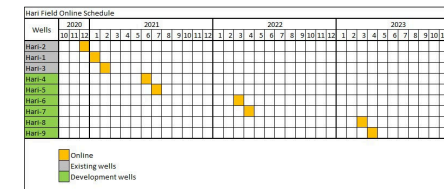


Gas Rate

### 3.3 FORECASTING

#### Forecasting

Scenario	Information
Basecase	Production with 3 existing well (Hari-1, Hari-2, and Hari-3)
Scenario II	Basecase + 6 Infill Well (Hari-4, Hari-5, Hari-6, Hari-7, Hari-8 and Hari-9) with WHP Constraint on each well is 500 psig
Scenario III	Production with 9 Well (Hari-1, Hari-2, Hari-3, Hari-4, Hari-5, Hari-6, Hari-7, Hari-8, and Hari-9) with WHP Constraint on each well is 352 psig



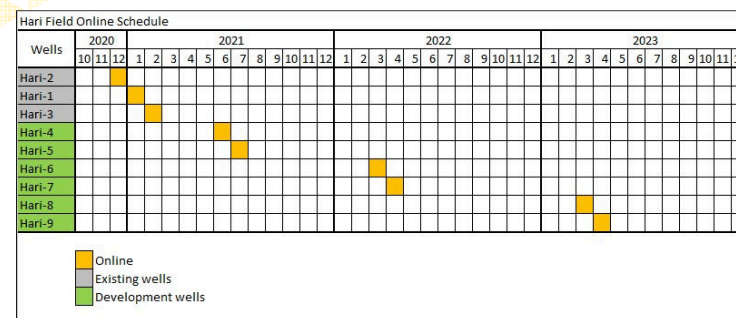
### 3.3 FORECASTING

#### Forecasting

No.	Scenario	Information
1	Basecase	Production with 3 Existing Well (Hari-1, Hari-2 and Hari-3) with WHP Constraint on each well is 350 psi
2	Scenario 1	A Production with 9 Well (Hari-1, Hari-2, Hari-3, Hari-4, Hari-5, Hari-6, Hari-7, Hari-8, and Hari-9) with WHP Constraint on each well is 350 psi also <b>gas rate target is 16 MMSCFD</b>
		B Production with 9 Well (Hari-1, Hari-2, Hari-3, Hari-4, Hari-5, Hari-6, Hari-7, Hari-8, and Hari-9) with WHP Constraint on each well is 350 psi also <b>gas rate target is 18 MMSCFD</b>
		C Production with 9 Well (Hari-1, Hari-2, Hari-3, Hari-4, Hari-5, Hari-6, Hari-7, Hari-8, and Hari-9) with WHP Constraint on each well is 350 psi also <b>gas rate target is 20 MMSCFD</b>
		D Production with 9 Well (Hari-1, Hari-2, Hari-3, Hari-4, Hari-5, Hari-6, Hari-7, Hari-8, and Hari-9) with WHP Constraint on each well is 350 psi also <b>gas rate target is 22 MMSCFD</b>
		E Production with 9 Well (Hari-1, Hari-2, Hari-3, Hari-4, Hari-5, Hari-6, Hari-7, Hari-8, and Hari-9) with WHP Constraint on each well is 350 psi also <b>gas rate target is 24 MMSCFD</b>

### 3.3 FORECASTING

#### Schedule

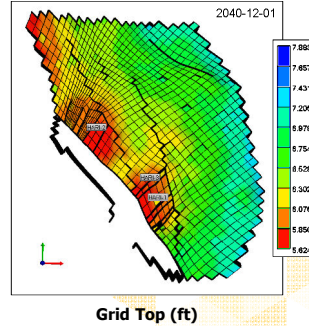




### 3.3 FORECASTING

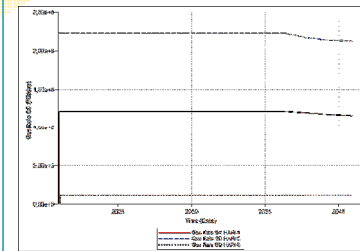
#### Basecase

No.	Well Name	Date	Coordinate (ft)			Perforation		
			X	Y	Z (TVD)	I	J	K
1	Hari-1	2-Nov-84	888810	32207000	6053 - 6080	40	7	152 - 156
2	Hari-2	17-Apr-98	877452	32219100	6193.3 - 6203.2	27	7	148 - 150
					6209.7 - 6242.6			152 - 159
		27-Apr-98	877452	32219100	6049 - 6085.1	27	7	113 - 122
					6094.9 - 6154			124 - 138
3	Hari-3	6-Jun-99	887353	32210500	5089.5 - 5842.3	27	7	1 - 3
					5962 - 5965.3			222 - 223
					5971.8 - 5994.8			224 - 228
					5998.1 - 6001.4			229
					6017.8 - 6021			232
					6030.9 - 6037.4			234 - 235

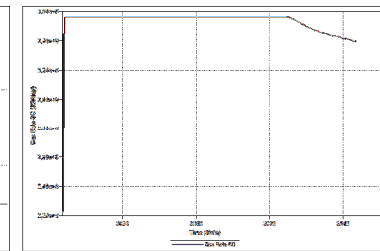


### 3.3 FORECASTING

#### Basecase



Gas Rate by Well

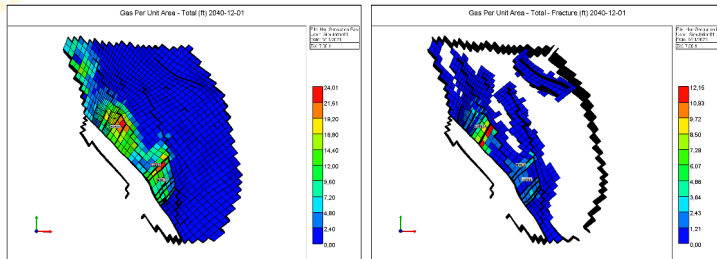


Gas Rate by Field

Basecase scenario got plateau rate at 3.56 MMSCFD from 3 existing well until March 2036

### 3.3 FORECASTING

#### Determining Infill Well

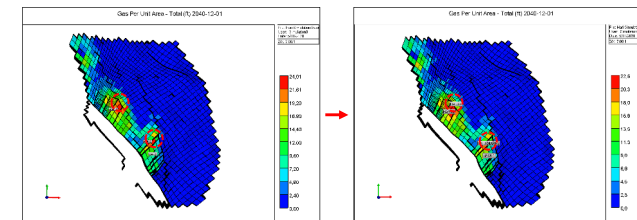


1. Check for Gas Per Unit Area Total Matrix also Fracture on Last Date Simulation (Dec 2040), then find the highest value from that properties, after that look at Gas Per Unit Area by Layer
2. Check Permeability Matrix also Fracture on the selected grid
3. Check Reservoir Pressure on the selected grid

### 3.3 FORECASTING

#### Determining Infill Well

Hari-4 and Hari-5

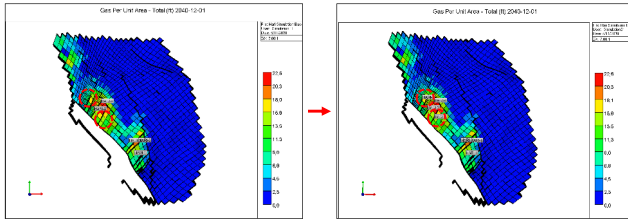


Well Name	Date	Coordinate (ft)			Perforation			Range		
		X	Y	Z (TVD)	I	J	K	GPU Layer	Perm (mD)	Res Pressure
Hari-4	01-Jun-21	879666	32221400	5993.3 - 6005.4	28	9	122 - 126	0.11 - 0.58	0.0005 - 23.43	2496 - 2498
				6017.5 - 6059.8			130 - 144			
				6087.9 - 6092.9			128 - 129			
				6105.3 - 6110.3			132			
Hari-5	01-Jul-21	890078	32210500	6125.2 - 6130.2	39	9	136	0.49 - 1.16	2.11 - 14.72	2436 - 2639
				6232.2 - 6242.2			157 - 159			
				6252.1 - 6267.1			161 - 164			

### 3.3 FORECASTING

#### Determining Infill Well

Hari-6 and Hari-7

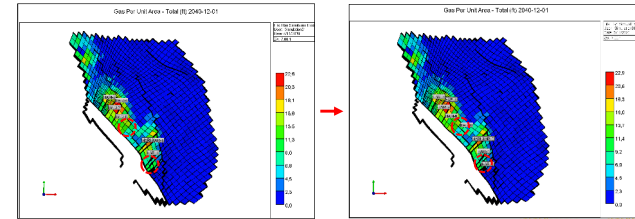


Well Name	Date	Coordinate (ft)		Z (TVD)	Perforation			Range		
		X	Y		I	J	K	GPU Layer	Perm (mD)	Res Pressure
Hari-6	01-Mar-22	879742	32216900	5853.4 - 5865.9	30	7	124 - 132	0.21 - 0.43	0.001 - 19.6	1678 - 1685
				5869.1 - 5875.3						
				6157 - 6159.8						
Hari-7	01-Apr-22	876216	32222200	6163.9 - 6169.3	21	8	161 - 163	0.03 - 0.44	0.48 - 20.2	1952 - 1982
				6174.8 - 6210.4						
				159						

### 3.3 FORECASTING

#### Determining Infill Well

Hari-8 and Hari-9



Well Name	Date	Coordinate (ft)		Z (TVD)	Perforation			Range		
		X	Y		I	J	K	GPU Layer	Perm (mD)	Res Pressure
Hari-8	01-Mar-23	884029	32214300	6221.9 - 6247.3	34	8	105 - 114	0.11 - 0.43	0.0009 - 6.58	2000 - 2001
				6278.3 - 6283.9						
				6289.6 - 6295.2						
Hari-9	01-Apr-23	889938	32203500	6139.7 - 6161.3	43	7	160 - 164	0.45 - 0.77	1.56 - 10.7	2157 - 2204

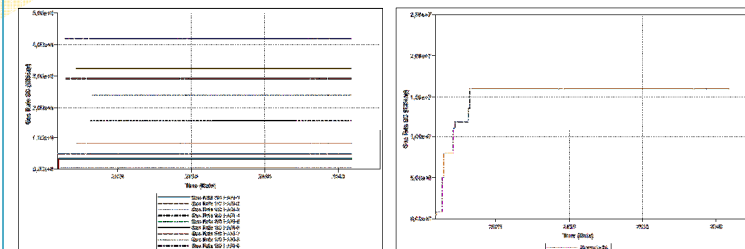
### 3.3 FORECASTING

#### Summary Infill Well

No.	Well Name	Date	Coordinate (ft)		Z (TVD)	Perforation		
			X	Y		I	J	K
1	Hari-4	01-Jun-21	879666	32221400	5993.3 - 6005.4	28	9	122 - 126
					6017.5 - 6059.8			130 - 144
					6087.9 - 6092.9			128 - 129
					6105.3 - 6110.3			132
2	Hari-5	01-Jul-21	890078	32210500	6125.2 - 6130.2	39	9	136
					6232.2 - 6242.2			157 - 159
					6252.1 - 6267.1			161 - 164
					5853.4 - 5865.9			124 - 132
3	Hari-6	01-Mar-22	879742	32216900	5869.1 - 5875.3	30	7	134 - 138
					6157 - 6159.8			159
					6163.9 - 6169.3			161 - 163
4	Hari-7	01-Apr-22	876216	32222200	6174.8 - 6210.4	21	8	165 - 178
					6221.9 - 6247.3			105 - 114
					6278.3 - 6283.9			125 - 127
5	Hari-8	01-Mar-23	884029	32214300	6289.6 - 6295.2	34	8	129 - 131
					6139.7 - 6161.3			160 - 164
6	Hari-9	01-Apr-23	889938	32203500	6139.7 - 6161.3	43	7	160 - 164

### 3.3 FORECASTING

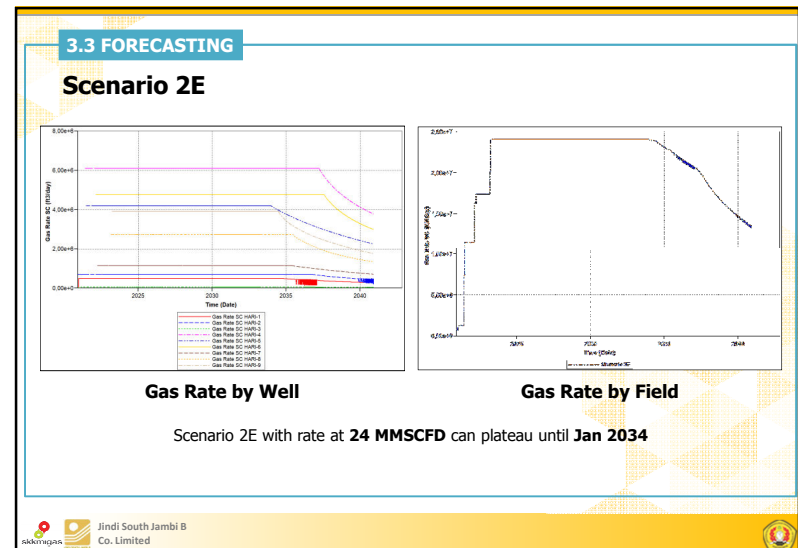
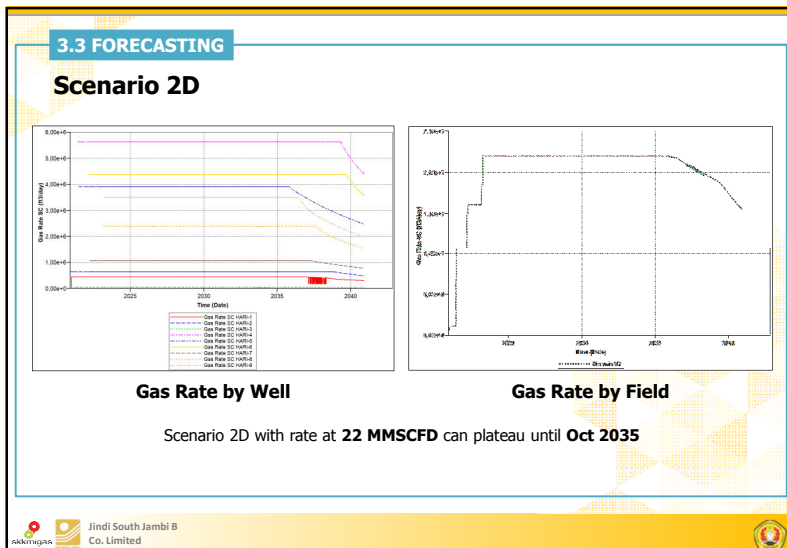
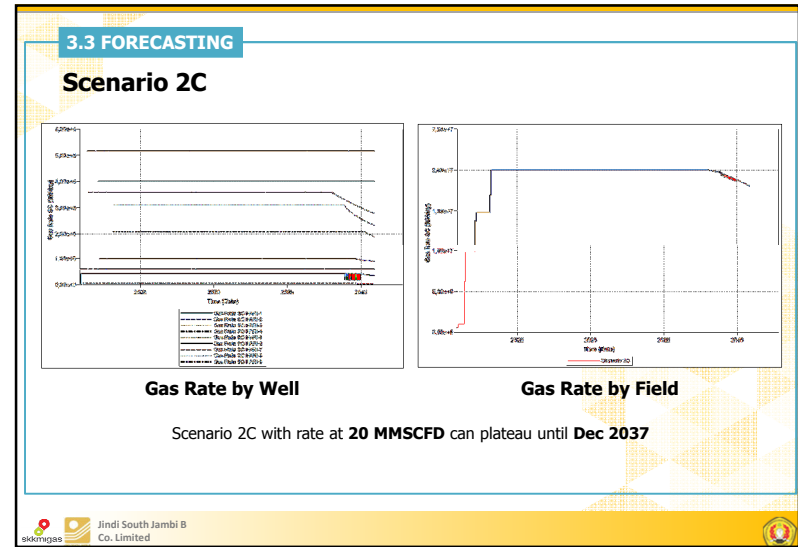
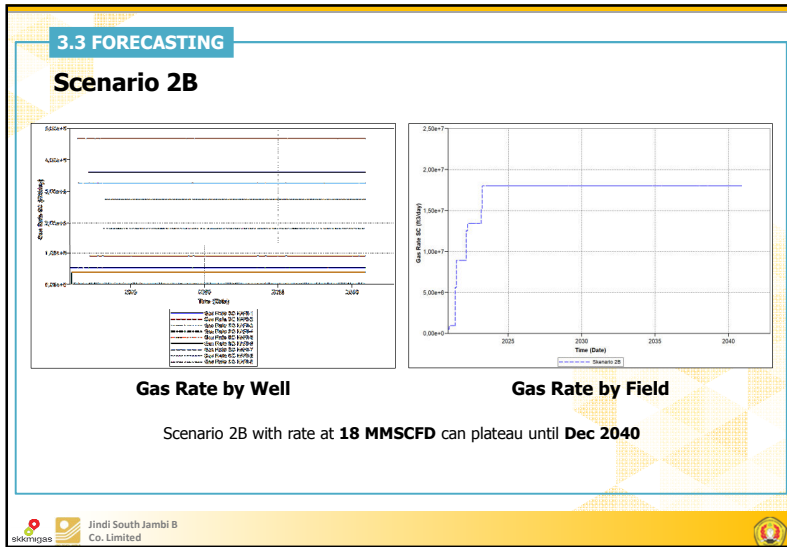
#### Scenario 2A



Gas Rate by Well

Gas Rate by Field

Scenario 2A with rate at 16 MMSCFD can plateau until Dec 2040



**Thank You**

