

DAFTAR ISI

Halaman

PERENCANAAN GAS LIFT SUMUR ANT-1 LAPANGAN AMSTERDAM SOUTHERN AREA WILAYAH KERJA EAST KALIMANTAN	i
LEMBAR PENGESAHAN	iii
PERNYATAAN KEASLIAN ILMIAH	iv
HALAMAN PERSEMPAHAN	v
PRAKATA.....	vi
RINGKASAN	vii
ABSTRACT	viii
DAFTAR ISI.....	ix
DAFTAR GAMBAR.....	xi
DAFTAR TABEL	xii
DAFTAR LAMPIRAN	xiii
DAFTAR SINGKATAN DAN LAMBANG	xiv
BAB I PENDAHULUAN.....	1
1.1. Latar Belakang	1
1.2. Maksud dan Tujuan.....	1
1.3. Batasan Masalah	2
1.4. Metodologi	2
1.5. Sistematika Penulisan	3
BAB II TINJAUAN LAPANGAN	5
2.1. Geometri Cekungan Kutai	6
2.2. Geologi Regional Cekungan Kutai	7
2.3. Stratigrafi Regional.....	8
2.4. Petroleum System Cekungan Kutai.....	11

DAFTAR ISI (LANJUTAN)

	Halaman
BAB III DASAR TEORI	15
3.1. Mekanisme Aliran Fluida Dalam Media Berpori	15
3.2. <i>Productivity Index</i>	16
3.3. <i>Inflow Performance Relationship</i>	18
3.4. Kinerja Aliran Fluida Dalam Pipa Vertikal	21
3.5. <i>Nodal System Analysis</i>	26
3.6. <i>Gas Lift</i>	28
3.7. <i>Gas Lift Design</i>	34
BAB IV PERENCANAAN <i>GAS LIFT</i> SUMUR ANT-1.....	43
4.1. <i>Profil Sumur ANT-1</i>	43
4.2. <i>Artificial Lift Screening Criteria</i> Sumur ANT-1	45
4.3. <i>Inflow Performance Relationship</i> Sumur ANT-1	46
4.4. Desain Perencanaan <i>Gas lift</i> Sumur ANT-1	48
BAB V PEMBAHASAN	57
BAB VI KESIMPULAN.....	61
DAFTAR PUSTAKA.....	62
LAMPIRAN.....	64
LAMPIRAN A (<i>Directional Trajectory Survey</i>)	65
LAMPIRAN B (<i>Well Completion</i>).....	66
LAMPIRAN C (<i>Petrophysics Data</i>)	67
LAMPIRAN D (<i>ANT-1 Memory Production Logging Tool</i>)	68

DAFTAR GAMBAR

	Halaman
Gambar I.1. <i>Flowchart</i> Perencanaan <i>Gas Lift</i> Sumur ANT-1	3
Gambar II.1. Peta Lapangan Amsterdam, <i>Offshore East Kalimantan</i>	5
Gambar II.2. Geologi Regional Cekungan Kutai	7
Gambar II.3. Korelasi Stratigrafi Cekungan Kutai - Barito	9
Gambar II.4. <i>Stratigraphy of Kutai Basin Within Southern Area Fields</i>	11
Gambar III.1. Kurva IPR Satu Fasa.....	18
Gambar III.2. Kurva IPR Dua Fasa	19
Gambar III.3. Kurva IPR Composite	21
Gambar III.4. <i>Location of Variant Nodes</i>.....	27
Gambar III.5. <i>Various Pressure Losses in the Production System</i>.....	28
Gambar III.6. <i>Continues Gas Lift</i>	30
Gambar III.7. <i>Intermittent Gas Lift</i>	31
Gambar III.8. Komponen Dasar Pada <i>Gas Lift</i>	32
Gambar III.13. <i>Injection Pressure (Casing) Operated Gas Lift Valve</i>	33
Gambar III.14. <i>Production Pressure (Fluid) Operated Gas Lift Valve</i>	33
Gambar III.11. <i>Weight of Gas Column Chart</i>	35
Gambar III.12. Penentuan Letak <i>Point of Injection</i>	36
Gambar III.13. Penentuan Letak <i>Unloading Valve</i>	38
Gambar III.14. Penentuan <i>Port Size</i>	39
Gambar IV.1. ANT-1 <i>Completion Diagram</i>	45
Gambar IV.2. Kurva IPR Sumur ANT-1	48
Gambar IV.3. <i>Gas Lift Design Curve</i> Sumur ANT-1	53
Gambar IV.4. <i>Nodal Analysis Matching</i>.....	54
Gambar IV.5. <i>Nodal Analysis</i> Sumur ANT-1	54
Gambar IV.6. <i>Gas Lift Performance Curve</i> Sumur ANT-1	56

DAFTAR TABEL

	Halaman
Tabel III-1. <i>Artificial Lift Screening Criteria</i>	29
Tabel III-2. <i>Temperature Correction Factor</i>	41
Tabel IV-1. Data Sumur ANT-1	43
Tabel IV-2. <i>Well Completion Data</i> Sumur ANT-1.....	44
Tabel IV-3. <i>Well Completion Jewellries</i> Sumur ANT-1.....	44
Tabel IV-4. <i>ANT-1 Last Well Test</i>	46
Tabel IV-5. Nilai <i>Flowrate</i> dengan P_{wf} Asumsi Sumur ANT-1	47
Tabel IV-6. <i>Gas Lift Design Parameter</i> Sumur ANT-1	48
Tabel IV-7. Perencanaan <i>Gas Lift Design</i> Sumur ANT-1	52
Tabel IV-8. <i>Gas Lift Design</i> Sumur ANT-1 Berdasarkan <i>Side Pocket Mandrel</i>	53
Tabel IV-9. <i>Nodal Sensitivity Analysis Gas Liquid Ratio</i>	55
Tabel IV-10. <i>Gas Lift Performance Curve Results</i>	56

DAFTAR LAMPIRAN

Halaman

LAMPIRAN A (<i>Directional Trajectory Survey</i>)	65
LAMPIRAN B (<i>Well Completion</i>).....	66
LAMPIRAN C (<i>Petrophysics Data</i>)	67
LAMPIRAN D (<i>ANT-1 Memory Production Logging Tool</i>)	68