

DAFTAR ISI

HALAMAN JUDUL	i
HALAMAN PENGESAHAN	ii
PERNYATAAN KEASLIAN KARYA ILMIAH	iii
HALAMAN PERSEMBAHAN	iv
PRAKATA	v
RINGKASAN.....	vi
<i>ABSTRACT</i>	vii
DAFTAR ISI	ix
DAFTAR GAMBAR	xi
DAFTAR TABEL	xiii
DAFTAR LAMPIRAN	xiv
DAFTAR SINGKATAN DAN LAMBANG	xv
BAB I PENDAHULUAN	1
1.1. Latar Belakang	1
1.2. Rumusan Masalah	2
1.3. Tujuan	2
1.4. Batasan Masalah	2
1.5. Lokasi Penelitian	4
1.6. Luaran Penelitian	5
1.7. Manfaat Penelitian	5
BAB II TINJAUAN PUSTAKA DAN LANDASAN TEORI	7
2.1. Tinjauan Pustaka	7
2.2. Landasan Teori.....	8
2.2.1. <i>Scatter Plot</i> dan Indeks Heteroginitas.....	8
2.2.2. Korelasi Sumur	8
2.2.3 <i>Wireline Logging</i>	9
2.2.2. <i>Lithology Tools</i>	10
2.2.5. <i>Resistivity Tools</i>	15
2.2.6. <i>Porosity Tools</i>	17

2.2.7. <i>Coring</i>	22
2.2.8. <i>Fractional Flow</i>	22
2.2.9. <i>Analisis Recover Factor</i>	24
2.2.10. <i>Pembuatan Well Model</i>	10
2.2.11. <i>Decline Curve Analysis</i>	31
BAB III METODOLOGI PENELITIAN	34
3.1. Metode Penelitian	34
3.2. Tahapan Penelitian	34
BAB IV PENGOLAHAN DATA DAN ANALISIS	37
4.1. Ketersediaan Data	37
4.2. <i>Production Performance</i> Formasi Talang Akar Lapangan “HAF” ...	37
4.3. <i>Decline Curve Analysis</i> Formasi Talang Akar Lapangan “HAF”	38
4.4. <i>Screening</i> Sumur Lapangan HAF pada Formasi Talang Akar	41
4.5. Korelasi Sumur Lapangan “HAF”	44
4.6. <i>Well Profile</i> Sumur Usulan Lapangan “HAF”	45
4.7. <i>Water Chan Diagnostic</i>	46
4.8. Analisis Petrofisik Sumur LL-107	48
4.9. <i>Analisis Fractional Flow</i>	51
4.10. Analisis <i>Pressure</i> Sumur LL-107	52
4.11. <i>Well Model</i> Sumur LL-107	53
4.12. <i>Decline Curve Analysis</i> Sumur LL-107	58
4.13. <i>Forecast</i> Sumur LL-107	59
BAB V PEMBAHASAN	61
BAB VI KESIMPULAN	66
DAFTAR PUSTAKA	67
LAMPIRAN	69

DAFTAR GAMBAR

Gambar 1.1.	Stratigrafi Regional Lapangan “HAF”	4
Gambar 1.2.	<i>Production Performance</i> Lapangan "HAF"	5
Gambar 2.1.	Sistem Rangkaian Peralatan <i>SP Log</i> Secara Umum	11
Gambar 2.2.	Respon <i>Gamma Ray Log</i> pada Litologi yang Berbeda	12
Gambar 2.3.	Respon <i>Caliper Log</i> pada Lubang Bor	14
Gambar 2.4.	Defleksi <i>Density Log</i>	18
Gambar 2.5.	Defleksi <i>Neutron Log</i>	19
Gambar 2.6.	Defleksi <i>Sonic Log</i>	22
Gambar 2.7.	Pengaruh Viskositas terhadap <i>Fractional FLow</i>	24
Gambar 2.8.	<i>General Design</i>	26
Gambar 2.9.	<i>Tubular Design</i>	27
Gambar 2.10.	<i>Downhole Equipment Design</i>	27
Gambar 2.11.	<i>Completion Design</i>	29
Gambar 2.12.	<i>Artificial Lift Design</i>	30
Gambar 2.13.	<i>Nodal Analysis Design</i>	30
Gambar 2.14.	IPR Vs VLP	31
Gambar 2.15.	Analisis <i>Decline Curve Analysis</i>	32
Gambar 2.16.	Hubungan Antara <i>Drive Mechanism</i> dengan Nilai <i>Decline</i>	33
Gambar 3.1.	Diagram Alir Metodologi Penelitian	36
Gambar 4.1.	WOR & GOR Vs N_p	39
Gambar 4.2.	<i>Decline Curve Analysis</i> Formasi Talang Akar Lapangan "HAF"	40
Gambar 4.3.	<i>Scatter Plot Screening</i> Sumuran Lapangan "HAF"	42
Gambar 4.4 .	<i>Depth Structure Map</i> Lapangan "HAF"	44
Gambar 4.5.	<i>Production Performance</i> Lapangan "HAF"	45
Gambar 4.6 .	<i>Well Profile</i> Sumur LL-107	46
Gambar 4.7.	WOR VS WOR <i>Derivative</i> Sumur LL-107	47
Gambar 4.8.	<i>Normal Dispelacement With High WOR</i>	48
Gambar 4.9.	<i>Chartlog</i> Sumur LL-107, LL-012, LL-086, LL-101	49
Gambar 4.10.	<i>Mudlog</i> Sumur LL-107	50

Gambar 4.11. <i>Fractional Flow</i>	52
Gambar 4.12. <i>Well Design</i> Sumur LL-107	54
Gambar 4.13. IPR Interval 933 - 934.5	56
Gambar 4.14. IPR Interval 968.5 - 971,5	56
Gambar 4.15. <i>Pump Design</i> Sumur LL-107	57
Gambar 4.16. <i>Nodal Analysis</i>	58
Gambar 4.17. <i>Decline Curve Analysis</i> Sumur LL-107	59
Gambar 4.18. <i>Forecast</i> Sumur LL-107	60

DAFTAR TABEL

Tabel 4.1.	Kumulatif Produksi Layer Formasi Talang Akar Lapangan “HAF”	38
Tabel 4.2.	Tabulasi Hasil Perhitungan <i>Decline Curve Analysis</i>	40
Tabel 4.3.	Tabulasi Hasil Perhitungan <i>Decline Curve Analysis</i> Tiap Layer.....	41
Tabel 4.4.	Kuadran <i>Scatter Plot</i> Lapangan “HAF”	42
Tabel 4.5.	Ketersediaan Data Sumuran Lapangan “HAF”	43
Tabel 4.6	Data Lumping Sumur LL-107	50
Tabel 4.7.	<i>Production Test Result</i>	51
Tabel 4.8.	<i>Special Core Analysis</i>	51
Tabel 4.9.	<i>Special Core Analysis</i> (Lanjutan)	52
Tabel 4.10.	<i>Well Scematic</i> Sumur LL-107	53
Tabel 4.11.	Data Input	54
Tabel 4.12.	Data Input (Lanjutan)	56
Tabel 4.13.	Data Input <i>Pump Design</i>	57

DAFTAR LAMPIRAN

Lampiran A	<i>Well History</i> Lapangan “HAF”	69
Lampiran B	IPR vs VLP Sumur LL-107	82
Lampiran C	<i>Forecast</i> Sumur LL-107	85
Lampiran D	DCA Sumur LL017 <i>by layer</i>	92

DAFTAR SINGKATAN DAN LAMBANG

SINGKATAN		Halaman
AOFP	Absolute Open Flow Potential	25
N _p	Kumulatif Produksi	30
FPR	Flowline Performance Relationship	31
GOR	Gas Oil Ratio	2
ID	Inside Diameter	27
IPR	Inflow Performance Relationship	31
DCA	Decline Curve Analyss	18
W _c	Watercut	26
VBA	Visual Basic Application	24
VLP	Vertical Lift Performance	1
AOFP	Absolute Open Flow Potential	25
BCR	Benefit to Cost Ratio	30
W _c	Water Cut	31
LAMBANG		
P_r	Reservoir Pressure	12
P_{wf}	Well flow pressure	15
P_{wh}	Well head pressure	12
Q	Fluid Rate	13
Q_{max}	Maximum Fluid Rate	15
P_r	Reservoir Pressure	12