

API Recommended Practice 19G9

Design, Operation, and Troubleshooting of Dual Gas-lift Wells

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This document provides recommended practices (RPs) for the selection, design, operation, surveillance, optimization, automation, and troubleshooting of dual gas-lift wells.

The purpose of this document is to present RPs, guidelines, and tools to help obtain optimum production from dual gas-lift wells. This document also contains practices that should be avoided to minimize problems and inefficiencies that can be associated with ineffective dual gas-lift operations. Compared to single completions, dual completions typically have more operating problems, are more difficult to work over, and can produce less efficiently.

It is not the purpose of this document to recommend the practice of dual gas-lift. In some cases, dual gas-lift is problematic and often ineffective. Often it is difficult or even impossible to effectively produce both completions in a dual well using gas-lift over the long term. Where there are other feasible alternatives to produce dual wells, they should be considered. However, many dually completed oil wells should be artificially lifted initially or after reservoir pressures have declined and/or water cuts have increased. In many cases, the only practical method of artificial lift for these wells is gas-lift. Therefore, every effort should be made to design and operate dual gas-lift systems as effectively as possible.

Annexes to this RP include:

- a) an overview of dual gas-lift systems,
- b) dual gas-lift mandrel spacing designs,
- c) dual gas-lift unloading valve design for production pressure operated (PPO) valves, and
- d) dual gas-lift practices not recommended.

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Contents

Page

1	Scope	1
2	Terms, Definitions, Acronyms, and Abbreviations	1
2.1	Terms and Definitions	1
2.2	Acronyms and Abbreviations	4
3	Benefits of Dual Wells	4
3.1	General	4
3.2	More Efficient Drilling	4
3.3	Dual Gas-lift Alternatives	4
4	Dual Gas-lift Practices	5
4.1	General	5
4.2	Practices That Are Recommended	5
4.3	Defining Unacceptable Wells	6
4.4	Considering Alternatives to Dual Gas-lift	6
4.5	Dual Gas-lift Well Design Issues	6
4.6	Dual Gas-lift Operations	7
4.7	Poor Candidates for Dual Gas-lift	8
4.8	Considering Artificial Lift Alternatives to Dual Gas-lift	8
5	Dual Gas-lift Well Designs	9
5.1	General	9
5.2	Mandrel Spacing	9
5.3	Gas-lift Mandrel Spacing Production Pressure Design Line Options	11
5.4	Gas-lift Mandrel Spacing Design Procedure	12
5.5	Installation Issues	14
5.6	When One Zone Is Much Deeper than the Other	14
5.7	PPO and IPO Gas-lift Valves Compared	16
5.8	Unloading Gas-lift Valves	19
5.9	Operating Unloading Gas-lift Valves	19
5.10	Designing for Dual Gas-lift if Mandrels Spaced Too Far Apart	20
5.11	Dual Gas-lift System Design Options	21
6	Dual Gas-lift Well Operations	22
6.1	General	22
6.2	Installing Dual Gas-lift Equipment	22
6.3	Dual Gas-lift Well Wireline Operations	24
6.4	Additional Recommended Wireline Procedures	25
6.5	Unloading Dual Gas-lift Wells	28
6.6	Kicking Off Dual Gas-lift Wells	30
6.7	Operating Dual Gas-lift Wells	31
6.8	Dual Gas-lift Well Optimizing	32
7	Dual Gas-lift Well Surveillance	34
7.1	General	34
7.2	Wireline Operations	34
7.3	Pressure/Temperature Surveys	35
7.4	Evaluating with Pressure/Temperature Surveys	36
7.5	Fluid Levels	38
7.6	Well Tests	38
7.7	CO2 Tracer	39

Contents

	Page
7.8 Continuous Monitoring and Control	39
8 Dual Gas-lift Diagnosis and Troubleshooting	41
8.1 General	41
8.2 Diagnostic Techniques	42
8.3 Locating Communication Problems	47
8.4 Dual Gas-lift Typical Problems	48
9 Dual Gas-lift Well Automation	50
9.1 General	50
9.2 Automation Logic	50
9.3 Key Measurement Parameters	51
9.4 Dual Gas-lift Controls	53
9.5 Responding to Gas-lift System Problems	53
10 Dual gas-lift Special Issues	54
10.1 General	54
10.2 Gas-lift and a Flowing Well in One Wellbore	54
10.3 Gas-lift and a Pumping Well in One Wellbore	55
10.4 Intermitting One or Both Zones	55
10.5 Important Consideration for Completing With or Without Mandrels	56
10.6 Transitioning from Flowing to Dual Gas-lift Operation	57
Annex A (informative) Overview of Dual Well Gas-lift Systems	59
Annex B (informative) Dual Gas-lift Mandrel Spacing Design	79
Annex C (informative) Dual Gas-lift Unloading Valve Design for PPO Valves	84
Annex D (informative) Dual Gas-lift Practices Not Recommended	88
Bibliography	89
Figures	
1 Mandrel with Injection String Beneath the Upper Packer	1
2 Gas-lift Response Curve	33
3 Flowing Pressure Survey	44
4 Inflow Performance Relationship	44
5 Gas-lift Response Curve	45
6 Gas-lift Response Curve Comparison	46
7 Production Rate vs Mandrel Depth	46
B.1 Gas-lift Mandrel Spacing	83
C.1 Graphical Method for Design	86
Tables	
1 Gas-lift Valve Installation Problems	28
B.1 Example Well Parameters	80
B.2 Example Gas-lift Characteristics	80
B.3 Calculated Long String Mandrel Depths	82
B.4 Calculated Short String Mandrel Depths	82
C.1 PPO Valve Calculations	87