



# Illinois Department of Natural Resources Office of Oil and Gas Resource Management

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## OG-31 Step Rate Test

62 IL.ADM.CODE SECTION 240.340(e)(2)(B)

Proposed Maximum Injection Pressure (MIP) - Alternate Compliance Method

### Test Well

Reference #:

Well Name:

### Uppermost Interval Open During Test

Formation Name:

Top Depth(ft.):

Bottom Depth(ft.):

### Items Required:

1. Is a copy of the ticket (record of each injection rate and the corresponding pressure and time, the table on page 2 may be used as the ticket) from the step rate test included: YES NO
2. Is a chart (identifying the rate and resulting pressure vs. time) from the step rate test included: YES NO
3. Provide a statement specifying the length of the shut-in period. (Prior to testing, shut in the well long enough that the bottom-hole pressure approximates the shut-in formation pressure, if less than 24 hours provide explanation of how the bottom-hole pressure and shut-in formation pressure were equivalent.)
4. Date Step Rate Test was conducted:
5. Was an initial zero injection rate (pressure stabilizing) step performed? YES NO
6. Was each rate step after the zero injection rate step at least 120% of the preceding rate? YES NO
7. Was each step of equal length and of at least 4 minutes in duration? YES NO
8. Was the formation fracture pressure (FFP) exceeded? YES NO
9. If the answer to #8 is "YES", were at least 3 rate steps below the FFP conducted? YES NO
10. If the answer to #8 is "YES", were at least 2 rate steps above the FFP conducted? YES NO
11. Was an existing fracture opened (if yes, no further rate steps are required)? YES NO
12. If the answer to #8 and #11 is "NO", were at least 5 rate steps conducted? YES NO
13. If the answer to #8 or #11 is "YES", was the shut-down pressure, instantaneous shut-in pressure and 5-minute shut-down pressure read and recorded? YES NO
14. If the answer to #13 is "YES" provide the following:
  - FFP or pressure at which an existing fracture opened: (PSI)
  - Shut-down pressure: (PSI)
  - Instantaneous Shut-in Pressure (ISIP): (PSI)
  - 5-minute shut-down pressure: (PSI)
15. Testing Company Information:
  - Company Name:
  - Contact Information:
  - Operator/Technician Name:

## Step Rate Test Ticket

Test Well Reference #:

<u>Step Number</u>	<u>Step Start Time (hh:mm)</u>	<u>Step End Time (hh:mm)</u>	<u>Injection Pressure (PSI)</u>	<u>Injection Rate (bbls/min)</u>	<u>Comments/Description</u>
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*Note*

- *Include the initial zero injection rate (pressure stabilizing) step in the "Ticket".*
- *Formation Fracture Pressure (FFP) - The pressure necessary to initiate a fracture in intact rock.*
- *Treating Pressure - The average wellhead pressure recorded during fracture propagation or the average wellhead pressure recorded while performing an acid treatment.*
- *Shut-down Pressure - Pressure recorded at the time the pumps are shut-down.*
- *Instantaneous Shut-In Pressure (ISIP) - the wellhead pressure immediately after pumps are shut down following a fracture treatment or step rate test. The ISIP is approximately equal to the treating or shut-down pressure minus wellbore and near-wellbore friction effects.*
- *5-minute Shut Down Pressure - Pressure recorded 5-minutes after the time the pumps are shut-down.*

Note this form is intended to accompany an OG-3 or OG-4 application.